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Gambling Ads in Canada

An Academic and Policy Study of the Ontario Model

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About

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GP Consulting is a boutique consulting firm led by Dr. Kahlil Philander that specializes in socio-economic analysis, policy studies, and expert witness services. Based in Vancouver, BC, our knowledge of gambling markets allows us to provide subject matter expertise across many product categories. Our global clients include gambling regulators, tribal governments, law firms, operators, sports franchises, private equity, and non-government organizations.

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EXECUTIVE SUMMARY

In the evolving Canadian gambling landscape, there is a growing interest to understand the role of marketing and the effectiveness of the advertising regulatory framework. This report, written by leading experts in the online gambling industry, aims to inform policy decisions through two processes: 1) A review of academic, peer-reviewed publications from the last 10 years on gambling advertising and its impact on consumers' gambling intentions and behaviours; and 2) A review of existing regulatory measures in Ontario and a comparison of those rules to other leading jurisdictions.

Our study team uniquely combines leading academic scholars in gambling research with industry analysts from the leading advisory firm in sports betting and online gambling. This combination of scholarly depth and industry-leading strategic insight provides a foundation for delivering nuanced, actionable recommendations that are well-aligned with both the current regulatory landscape and proactive in addressing future challenges in the changing gambling sector.

In aggregate, our findings highlight a distinct trend: regulatory policies are evolving at a faster rate than the accompanying evidence base. We caution that this misalignment may lead to regulations that are either overreaching relative to their intended goals or insufficiently nuanced, thus failing to address the subtleties of modern gambling advertising practices. However, we recognize that policy may serve multiple goals that extend beyond research topics. Policy can be aligned with fulfilling cultural expectations that depart from empirical findings or broader scientific theory, but policymakers should be made aware of where evidence ends, and social preferences begin.

As Ontario's gambling market expands, so too does the complexity of its regulatory challenges. The approach to regulation in Ontario was shaped in part by the necessity to integrate grey market operators into a regulated framework, ensuring that all market participants adhere to consistent standards of consumer protection and ethical advertising. Many considerations about the current state of the market are dynamic and may change without regulatory intervention.

RESEARCH EVIDENCE

We conducted a 'rapid review' of available academic literature on the impacts of gambling advertising – specifically in sports betting and online gambling – as they relate to responsible gambling policy. Rapid reviews are recognized by the World Health Organization and governments worldwide as efficient tools for informing health policy and communicating information to stakeholders. We considered academic, peer-reviewed publications from the last 10 years that researched exposure to gambling advertising and its impact on consumers' gambling intentions and behaviours. From a search strategy that led to 1,298 initial records, a total of 41 studies were included in our final review of the literature: 34 individual studies and 7 literature reviews.

Most individual studies reported positive relationships between certain advertising exposure measures and individuals' gambling intentions and behaviours. However, findings were often mixed, demonstrated a weak effect, and/or were not consistent across groups (e.g., by risk level and jurisdiction). Most of the quantitative research is cross-sectional and, therefore, reverse causation or other sources of bias create uncertainty about its interpretation in policy settings. For example, it is unclear whether greater exposure to gambling advertising leads to greater involvement and interest, or if those who are more involved are innately exposed to – or aware of – more advertising. This is a material question to policy that deserves more rigorous evidence.

While we are generally skeptical about the practical usefulness of much of the research, we do view the existing literature as helpful in informing responsible gambling policy and practices in several areas. Evidence supports the implementation of frameworks and interventions that can help protect vulnerable populations (e.g., adolescents and young adults) and those who may already be identified as at-risk of gambling problems. But considering the mixed results and limitations of the existing evidence base to Canada's model, we view support for future study as a critical priority for related stakeholders. Implementing the following targeted research agenda will

help form an evidence base that can better inform and shape public policy:

- I. *Responsible Gambling Advertising.* While research in this area remains unclear, promoting responsible gambling messages and providing accurate information about the risks and realities of gambling through advertising may help re-align false beliefs and reduce harmful behaviours.
- II. *Consistent measurement of exposure and outcomes.* Objectively measuring exposure and outcomes can be challenging and frameworks should be developed to promote consistency in measurement and reporting. Consistency would allow for the pooling of analyses and execution of meta-analyses that provide the gold standard in reporting quality.
- III. *Ecological validity.* There is a need to conduct designs in real-world settings. The digital platform provided by online gambling and sports betting offers an ideal laboratory for experimentation. This approach is commonly used in e-commerce and digital marketing strategy to gather insights about marketing efficacy but is absent in gambling research.
- IV. *Address cultural bias.* There is little diversity in the setting and demographic profile of study participants. This is particularly relevant for a jurisdiction like Ontario, where online gambling and sports betting are relatively new. Research from more established gambling markets with different product mixes should not be generalized to less mature markets.
- V. *Understanding direction of causality.* The current evidence base is predominantly characterized by cross-sectional studies, which, even if they provided a consensus on a positive relationship between advertising exposure and gambling outcomes, could still not establish causality.
- VI. *Objective measurement.* Future research must consider how both exposure to advertising and behavioural outcomes can be measured objectively. Broader advertising mediums such as television ads and sponsorships may be more challenging to measure objectively.
- VII. *Theoretical underpinnings.* Combining established theories from both the gambling (e.g., The

Pathways Model) and advertising (e.g., the AIDA model - Attention, Interest, Desire, Action) domains with longitudinal studies could help uncover causal pathways, understand advertisements' interaction with other factors, and explain subsequent contributions in the development of gambling harms.

- VIII. *Living systematic reviews.* Unlike traditional systematic reviews, which provide a snapshot of the literature at a single point in time (including this rapid review), living reviews are continuously updated to reflect the latest developments on a certain topic. This approach ensures that the body of evidence remains current, relevant, and useful, providing researchers, policymakers, and industry stakeholders with the most up-to-date knowledge available. Living reviews are particularly relevant when research evidence is evolving rapidly, lacks consensus, and/or new research has the potential to impact policy or practical decisions. For example, living reviews have been recently utilized to track and disseminate evidence related to COVID-19 transmission and interventions. Given the burgeoning interest in gambling advertising from both research and policy perspectives, such a review could become a valuable resource and knowledge hub to help maintain an up-to-date evidence base that can be leveraged by stakeholders.

POLICY LANDSCAPE

The regulatory infrastructure governing Canadian (specifically, Ontario) online gambling advertising includes guidance published by entities at the federal and provincial levels and both public and private institutions. At the federal level, the Competition Act provides general advertising guidance with which gambling operators must comply. At the provincial level, the Alcohol and Gaming Commission (AGCO), Ontario's gambling regulator, sets out advertising standards specific to internet gaming, which includes both online sports betting and online casino (alternatively, iGaming). Finally, independent organizations provide additional advertising guidance that goes beyond federal and provincial requirements. The organizations collaborate with industry and the

AGCO to promote self-regulation and, in some cases, provide additional layers of enforcement.

Among the independent organizations is the Responsible Gambling Council (RGC), a non-profit organization dedicated to the prevention of problem gambling. The RGC’s RG Check Accreditation program evaluates an online gambling operator’s compliance with RGC’s iGaming Standards and Criteria. Their measures are regularly reviewed against leading best practices and relevant literature. iGaming Ontario, a subsidiary of the AGCO, requires all online gambling platforms to attain RG Check accreditation within the first two years of launching to the public and maintain accreditation for the duration of their time as licensed operators.

Second, AdStandards Canada is a national not-for-profit advertising self-regulatory organization. Gambling operators are expected to comply with the organization’s Canadian Code of Advertising Standards, which contains detailed guidance on salient topics such as accuracy and clarity of advertisements, price and discount claims, and advertising to minors. Both the AGCO and AdStandards provide members of the public a complaint portal. As such, even after an advertisement has been distributed, any alleged violation of the above regulatory framework can be reported and investigated in a systematic manner.

Third, thinkTV is a marketing and research association dedicated to the advancement of commercial television. The organization’s thinkTV Clearance program works on behalf of broadcasters to evaluate and approve television and radio advertisements before they air. thinkTV’s guidelines for approval include a section specific to gambling advertising. All television and radio advertisements require a thinkTV preclearance approval prior to airing.

The combined frameworks across these institutions yields an extensive body of gambling advertising “rules”. To help frame the related content, we summarize the journey of a hypothetical sportsbook ad to be broadcast in Ontario in Figure 1, and we organized the rules into five broad categories, which we summarize in brief here:

- I. *Good taste/moral expectations.* The first theme includes some of the most proscriptive language across the large body of rules. For example, these rules state that advertising should not contain false or misleading content, portray gambling as a solution to personal issues, or suggest that it can enhance personal qualities. It emphasizes responsible participation and prohibits encouraging excessive play.
- II. *Advertising related to young or otherwise vulnerable persons.* Generally, advertising must not target or appeal

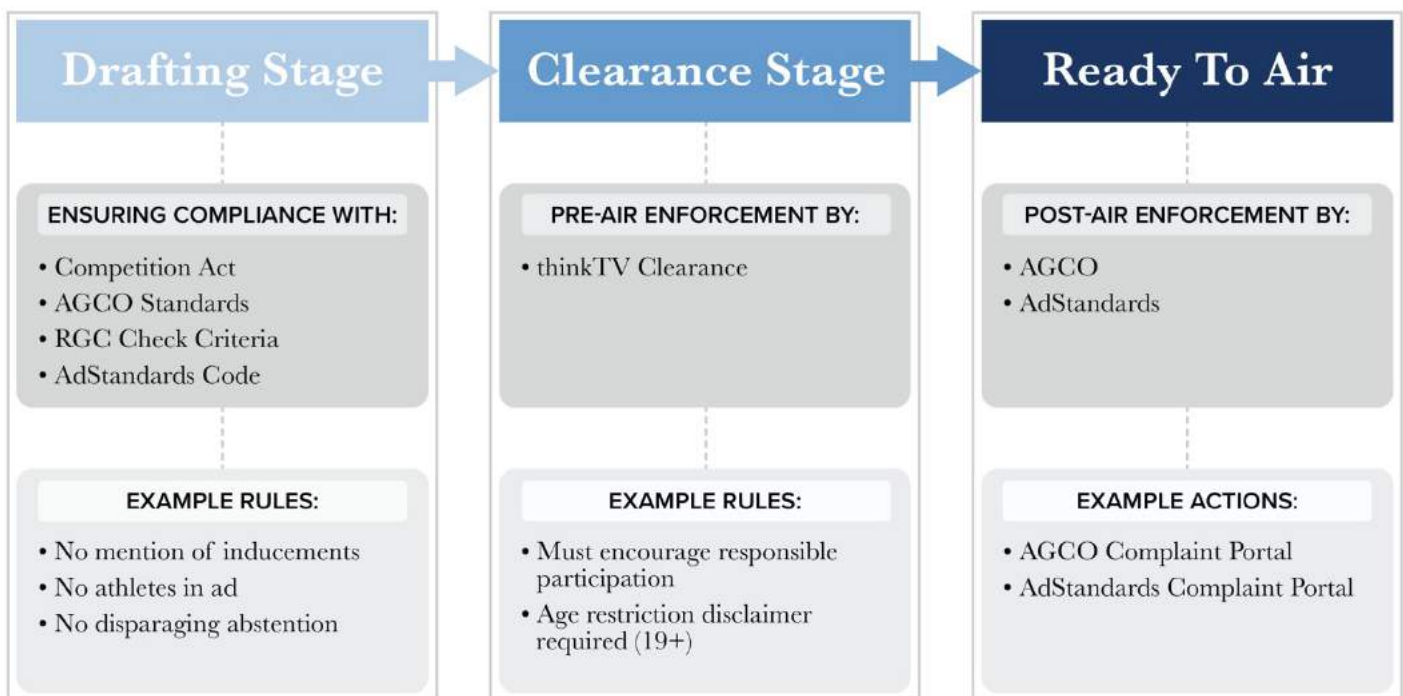


Figure 1 – Journey of a hypothetical sportsbook ad to be broadcast in Ontario

to minors, high-risk, or self-excluded individuals. It should not appear near youth-oriented locations or use figures likely to appeal to minors. Given their appeal to minors, the use of athletes in advertisements is also restricted.

- III. *Advertising related to sport or celebrities.* Regulations prohibit using active or retired athletes in advertising, except for promoting responsible gambling. Advertisements should avoid using notable figures or entertainers likely to appeal to minors.
- IV. *Online gambling promotions and direct marketing.* Public advertising of inducements, bonuses, and credits is banned, restricted to the operator's platform and opt-in *direct* marketing. Promotions must clearly disclose conditions and cannot be described as “free” or “risk-free” if the player must wager their own money.
- V. *Affiliate (third-party) marketing.* Licensed operators are responsible for the actions of affiliate marketers and must avoid contracts with entities marketing for unlicensed online gambling sites.

To benchmark Ontario's ruleset, we compared its regulatory framework and specific body of rules to four jurisdictions: the United Kingdom (U.K.), Denmark, Michigan and New Jersey, along with our rapid review findings. The selection of jurisdictions for comparison was driven by specific criteria that reflect Ontario's competitive and regulatory environment. New Jersey is the longest running North American jurisdiction with both gambling products—the state legalized iGaming in 2013 and single event online sports betting in 2018—and it is well known for its regulatory institutions. Our second American state, Michigan, is also one of the older United States' markets, having legalized both products in 2019, and has historical gambling-related ties to Ontario through its land-based casino market. Internationally, the U.K. was chosen for its extensive, mature market, and

sophisticated regulatory structure. Challenges in finding other suitable comparisons arose due to many markets lacking legal online gambling or being government-operated, which diverges from Ontario's competitive model. Denmark was ultimately selected for its competitive but distinct European approach to gambling, coupled with the availability of regulatory information in English.

Generally, the regulatory infrastructures governing our four comparison jurisdictions are quite similar to that in Ontario. Online gambling operators in each jurisdiction are subject to federal legislation and regulation; in Michigan and New Jersey, operators have additional rules set out by state legislators and regulators; and in all comparison jurisdictions independent organizations provide additional rules and/or layers of enforcement.

While the comparison jurisdictions exhibit a range of regulatory climates, we view the U.K. and Denmark as employing more rules, in absolute terms, as well as more severe restrictions than Michigan and New Jersey. Our initial review finds that, as a whole, online gambling advertising rules in Ontario are slightly more permissive than those in the U.K., substantively comparable to those in Denmark, and stricter than those in Michigan and New Jersey. Ontario also has novel policies not found elsewhere. We compare Ontario's rules to those in the comparison jurisdictions in each of five themes in Figure 2.

Our review finds that online gambling advertising rules in Ontario are slightly more permissive than those in the U.K., substantively comparable to those in Denmark, and stricter than those in Michigan and New Jersey, but in terms of what is substantiated by evidence from our review of academic literature, there is little difference between Ontario and leading jurisdictions. Ultimately, how empirical and theoretical evidence is interpreted in policymaking becomes a function of cultural preferences.

Figure 2 – Summary of Jurisdictional Comparison of Gambling Advertising and Marketing “Rules”

	Novel Ontario Rules	Comparison to Ontario Rules			
		United Kingdom	Denmark	New Jersey	Michigan
Good taste/moral expectations	N/A	Comparable	Less Restrictive Limited restrictions but uniquely prohibits ads appearing with payday loan ads	Less Restrictive Fewer restrictions but similar policy tone	Less Restrictive Fewer restrictions but similar policy tone
Advertising related to young or otherwise vulnerable persons	N/A	Different Restrictions U.K. operators implement a voluntary ban on TV ads before 9 PM	Less Restrictive Fewer restrictions but similar policy tone	Comparable	Comparable
Advertising related to sport or celebrities	Prohibition on athletes appearing in advertisements, except for advocating for responsible gambling	More Restrictive Quasi-“Whistle-to-whistle” TV ad ban (on live sports broadcasts before 9PM, including sponsorship)	Less Restrictive Prohibits celebrities from untruthfully implying gambling contributed to their success	Less Restrictive Permit athletes in ads	Less Restrictive Permit athletes in ads
Online gambling promotions and targeted marketing	Blanket ban on public advertising communicating inducements, bonuses, and credits	Different Restrictions U.K. operators implement a voluntary ban on TV ads before 9 PM	More Restrictive Denmark limits all promotions offered to an absolute maximum value of DKK 1,000 (~CAD 200)	Less Restrictive Targeted marketing is opt-out not opt-in	Less Restrictive Targeted marketing is opt-out not opt-in
Affiliate (third-party) marketing	N/A	Comparable	More Restrictive Denmark prohibits third-party marketing affiliates from direct marketing	Comparable	Comparable

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1 INTRODUCTION

In the evolving Canadian gambling landscape, there is a growing interest to understand the effectiveness and of the advertising regulatory framework. This interest follows Ontario's 2022 launch of a regulated and competitive market for internet gambling, allowing private-sector operators to legally offer online sports betting and casino games, and the passing of Bill C-218 in 2021, which legalized single-game sports betting across Canada.

The primary contribution of this report is a systematic review of evidence designed to inform policy discussions with a clear articulation of the strengths and weaknesses of Ontario's gambling advertising regulations compared to academic evidence and best practices by other leading or comparable jurisdictions. It is important to note that our role is not to advocate for specific policy outcomes regarding the preference for gambling ads by the Canadian public. Instead, our objective is to enhance the quality of decision making by ensuring that policymakers can make decisions based on well-understood and timely evidence.

There has been significant debate and discussion about the potential impacts of gambling advertising and the harms it may create. For example, white papers from BanAdsForGambling.ca outline a number of concerns (1). And a recent analysis by the University of Bristol, which examined gambling-related marketing during NBA and NHL games, surfaced concerns regarding the prevalence of advertising and potential exposure to children and other vulnerable groups (2). While these documents provide valuable insights, we do not view those documents as adequate to fully inform policy makers of related evidence, and perhaps more importantly, evidence gaps. The BanAdsForGambling.ca white papers did not employ a systematic and/or objective methodology for evidence selection, meaning crucial literature may have been omitted. Additionally, basing policy decisions on a single study, such as the Bristol analysis, does contribute useful insight but does not provide a sufficiently comprehensive evidence base.

This report, written by leading experts of the online gambling industry, aims to inform policy decisions through: 1) A review of academic, peer-reviewed publications from the last 10 years which had researched

exposure to gambling advertising and its impact on consumers' gambling intentions and behaviours; and 2) A review of existing regulatory measures in Ontario, and to contextualize Ontario's measures, a comparison of its regulatory framework and specific body of rules to four leading and/or comparable jurisdictions: the U.K., Denmark, Michigan, and New Jersey.

Our team uniquely combines leading academic scholars in gambling research with industry analysts from the leading advisory firm in sports and online betting. This combination of scholarly depth and industry-leading strategic insight provides a robust foundation for delivering nuanced, actionable recommendations that are well-aligned with both the current regulatory landscape and proactive in addressing future challenges in the changing gambling sector. More information about the report authors is provided in Appendix II.

1.1 STUDY FUNDING

We recognize contributions from the Canadian Gaming Association, whose funding enabled GP Consulting to retain the services of Dr. Kasra Ghaharian, Director of Research at the International Gaming Institute at University of Nevada, Las Vegas, Adam Krejcik, Principal at Eilers & Krejcik Gaming LLC, and Rebecca Giden, Director of Policy at Eilers & Krejcik Gaming LLC. Neither GP Consulting nor the Principal Investigator of this study, Prof. Kahlil Philander, retained any compensation for the development of this report.

1.2 CONTEXT ON THE ONTARIO MARKET

In aggregate, our findings highlight a distinct trend: regulatory policies are evolving at a faster rate than the accompanying evidence base. This misalignment may lead to regulations that are either overreaching relative to their intended goals or insufficiently nuanced, thus failing to address the subtleties of modern gambling advertising practices. However, we recognize that policy may serve multiple goals that extend beyond research topics. Policy can be reasonably aligned with fulfilling cultural expectations that depart from empirical findings or broader scientific theory.

As Ontario's gambling market expands, so too does the complexity of its regulatory challenges. The approach to regulation in Ontario was shaped in part by the necessity to integrate grey market operators into a regulated framework, ensuring that all market participants adhere to consistent standards of consumer protection and ethical advertising – we note that there was pervasive advertising prior to the introduction of Ontario's privatised model in 2022.

We recognize that academic literature has many limitations, most importantly its timeliness of evidence, and therefore designed this study to provide a pragmatic view of evidence and policy – we rigorously review recent research but also look to leading jurisdictions in gambling regulation to understand how Ontario compares to global best practices.

We note that advertising and marketing are closely related concepts but they serve distinct purposes. Marketing is a broader term that encompasses the entire process of promoting and selling products or services, including market research, product development, distribution, and pricing strategies. Advertising, on the other hand, is a

subset of marketing that specifically focuses on creating and disseminating messages to persuade an audience to take a particular action, such as purchasing a product. Although these disciplines are different, literature and discussions often conflate the two, using them interchangeably, which can lead to confusion about their specific roles and functions. Our focus predominantly relates to advertising but broader aspects of marketing, like promotions, are also discussed to provide a more complete discussion.

Last, we would like to highlight for readers that many considerations about the current state of the market are dynamic and likely to change without any new regulatory intervention. A common pattern in new gambling markets is that marketing and participation grows quickly after introduction but tapers off over longer periods of time. For example, a recent study by Nielsen and the American Gaming Association found that despite several markets becoming operational in 2023 (FL, ME, KY, OH, MA), gambling-related spending on television advertising decreased by 15% compared to 2022 in the United States, while digital advertising spending decreased by 17%.¹ We anticipate that similar patterns may emerge in Ontario.

¹ Gambling & Sports Betting Advertising Trends (April 2024). Available at: https://www.americangaming.org/wp-content/uploads/2024/04/AGA_2023-Ad-Spend_For-Release_Final.pdf

2 REVIEW OF ACADEMIC LITERATURE

To address gaps in the understanding of academic evidence, we conducted a rapid review to collect and examine a broader spectrum of available academic literature on the impacts of gambling advertising – specifically in sports betting and online gambling – as they relate to responsible gambling policy. Rapid reviews are recognized by the World Health Organization (WHO) and governments worldwide as efficient tools for informing health policy and communicating information to stakeholders (3). The parent of a rapid review, systematic reviews, are considered the gold standard for comprehensive and objective evaluation of evidence to inform policy. However, their substantial time and resource requirements often make them impractical for policy decision timelines. Rapid reviews maintain the rigor of a systematic review, but the steps are streamlined to produce evidence in a timely manner.

In line with best practices for rapid reviews (4), we detail our procedures here to demonstrate transparency and the scientific rigor of our methods, as well as the ability to reproduce the findings. We followed the Preferred Reporting Items for Systematic Reviews and Meta-

Analyses (PRISMA) to develop our methodology. In Appendix I we noted any streamlining approaches that were employed.

2.1 OBJECTIVES

We had three primary objectives for this rapid review:

1. To identify relevant academic literature on the impacts of gambling advertising – with a focus on sports betting and online gambling – as they relate to responsible gambling policy.
2. To critically analyze the quality of evidence from the identified literature.
3. To provide a narrative commentary of our analysis for communication to key stakeholders.

2.2 METHODS

2.2.1 ELIGIBILITY CRITERIA

To be included in the review, studies had to meet the criteria detailed in Table 1.

Table 1 - Eligibility Criteria

Criteria	Description
Publication date	Published between 2014 and 2024.
Language	Published in English.
Publication type	Published in peer-reviewed academic journals. Gray literature was not included.
Study type	Empirical studies, which involve systematic data collection and quantitative or qualitative analysis. We also included related systematic reviews to capture the broader discourse on gambling advertising.
Exposure	The intervention under study must be online gambling or sports betting advertising and/or marketing practices.
Outcome	The study must include some assessment of an actual health or behavioural outcome as a consequence of the intervention under investigation. For example, studies assessing consumer perceptions or the prevalence/content of advertising, without directly measuring outcomes associated with these factors, were not included.
Relevance	The impacts under study must have direct implications for responsible gambling policy. For example, a study that focuses solely on the economic profitability of different sports betting marketing strategies were not included.

With regards to the outcome criterion, we articulated this by referencing the methods from a recent review on gambling advertising in youth by Di Censo et al. (2023). In their study, Di Censo and colleagues adapted the AIDA model, a well-established framework that illustrates the hierarchical processes of purchase decisions: attention, interest, desire, and action. The adapted model identifies five levels of dependent variables (outcomes) that measure gambling advertising impacts, where each varies in its level of confidence. Higher-level variables, namely behaviours (both self-reported and verifiable) and intentions, are considered more reliable than lower order variables, such as attitudes and awareness, in assessing how advertising influences an individual’s gambling behaviours. Therefore, we chose to include studies addressing the top three levels: intentions, self-reported behaviour, and verifiable behaviour.

2.2.2 INFORMATION SOURCES

We constrained the number of information sources to streamline the review. The main database was Scopus, a comprehensive source that covers a wide range of disciplines including public health, advertising, and psychology. Scopus also indexes four specialist gambling journals: International Gambling Studies, Journal of Gambling Studies, Journal of Gambling Issues, and Critical Gambling Studies. Additionally, we manually searched the UNLV Gaming Research & Review Journal to ensure coverage of the available gambling literature. Finally, to help ensure that significant studies were not missed, we also conducted a search using Google Scholar, searching for key terms within the titles of articles to produce a manageable number of results.

2.2.3 SEARCH STRATEGY

The search was performed in April 2024. Table 2 presents the search terms used for each information source as well as the number of records retrieved from each.

Table 2 – Search term and number of results per information source

Information source	Search term	Results
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Scopus	TITLE-ABS-KEY ("online gam*" OR "on-line gam*" OR "sport* bet*" OR gambl*) AND TITLE-ABS-KEY (advert* OR marketing OR messag* OR promotion*) AND PUBYEAR > 2013 AND PUBYEAR < 2025 AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "re")) AND (LIMIT-TO (LANGUAGE , "English"))	1,004
UNLV Journal	advertising OR marketing OR promotions AND messaging AND messages	61
Google Scholar	allintitle: gambling advertising OR marketing OR promotions OR messages OR messaging	233

2.2.4 SELECTION AND SYNTHESIS

2.2.4.1 SELECTION PROCESS

Records were retrieved from the information sources, resulting in a total of 1,298 initial candidates. Candidate records were uploaded to Rayyan (a literature review management software application), where the software’s built-in automatic duplicate detection function was used to remove duplicates. Subsequently, an initial screening was conducted by one author, focusing exclusively on the titles of the articles. This was followed by a more detailed screening of both titles and abstracts for the remaining articles. The screening process for titles and abstracts was validated by randomly selecting a subset of papers for these initial two screening stages and supplying these to one of the authors. Cohen’s Kappa indicated very good agreement for the title screening stage and a moderate level of agreement for the title and abstract screening stage. After this preliminary screening, 56 records were subjected to a full-text review to determine their eligibility

for inclusion. The search and screening process, including the number of records identified, screened, and excluded at each stage, as well as the total number of records ultimately included, are provided in Figure 3.

2.2.4.2 DATA CHARTING AND SYNTHESIS

We designed a data extraction form to systematically gather pertinent data from the included studies including the author, year of publication, sample characteristics (size, age range, gender distribution, location), the study type, a description of the type of advertising under study, the exposure measure (e.g., self-reported exposure to advertising, recall of brands, etc.), the outcome measure (i.e., intentions or behaviour), and the key findings. This extraction process as well as repeated readings of the included literature facilitated the identification of emerging patterns and themes that were used to inform a critical analysis and synthesis of the results.

2.3 RESULTS

There were 41 studies included in the final review: 34 individual studies and 7 literature reviews. The inclusion of reviews was intentional and allowed us to provide a broader understanding of evidence that might not have

met our more stringent eligibility criteria for individual studies (e.g., literature that looked at lower order outcome variables such as awareness). Given the time constraints of this rapid review, we decided to only include reviews published after an umbrella review conducted by McGrane and colleagues (5), which provided a “review of reviews”. Below we provide a critical assessment of the 34 individual studies. After that, we provide a summary of findings from the 7 included reviews.

2.3.1 CRITICAL ANALYSIS OF INDIVIDUAL STUDIES

As noted by Di Censo et al. (6), research on gambling advertising utilizes a wide variety of study designs, making it challenging to apply standard quality assessment tools that are commonly used in systematic reviews. Therefore, we adapted the analysis criteria outlined by Di Censo et al. to facilitate a critical evaluation of the included literature according to the information we collected via our data charting process. We begin with an analysis of the sample characteristics before moving on to an assessment of the methods. A detailed summary of all the included studies is provided in Table 3.

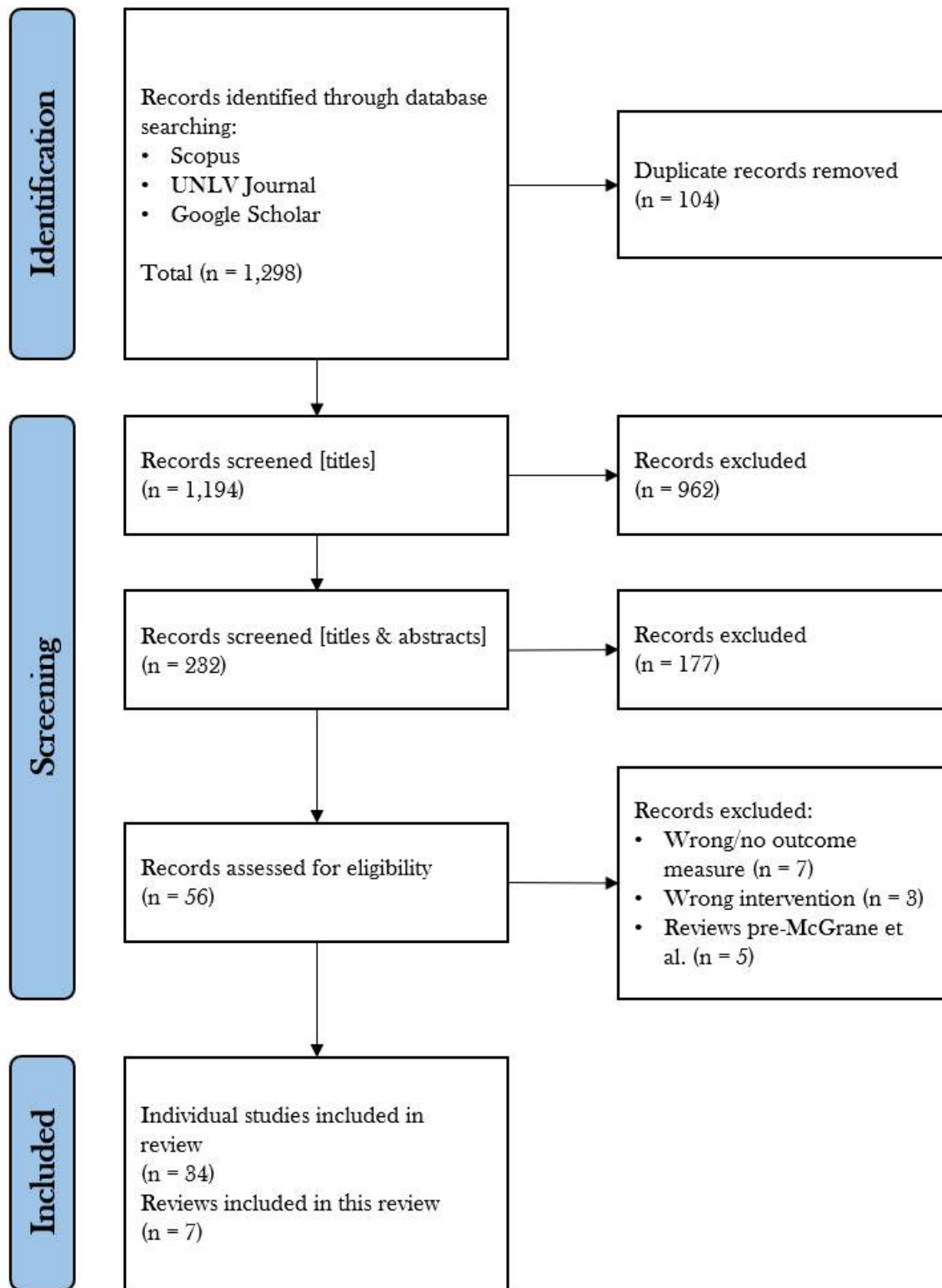


Figure 3 United States – PRISMA Flow Diagram

Table 3 – Individual study characteristics and key information

Author(s)	Method	Design	Country	Size	% Male	age	Advertising type	Exposure	Outcome	Key Findings
Bind & Rommilde (2019)	Quant	Cross-sectional study	Sweden	2163	NS	>22	3 questions. One specifically about "bonuses for online gambling" (other 2 were "big jackpots" and "advertising in general").	Not assessed	Self-reported behaviour	Yes = Multivariate regression (R^2 0.18) showed that negative influence from advertising was positively associated with PGSI, gambling monthly or more often, participating in online gambling, and being in the age group 30–49 years. No = Most respondents (86%) perceived no negative impact of advertising on their gambling.
Botella-Guijarro et al. (2020)	Quant	Longitudinal	Spain	1074	44.88%	13-18	Perception of exposure to advertising regarding sports betting and casino and online poker from different media outlets	Self-reported exposure	Intentions Self-reported behaviour	Yes = Perception of exposure to advertising associated with gambling onset and maintenance at year 1. Significant predictor of gambling behaviour at year 2 (univariate analysis). No = Exposure was not represented as a significant predictor in final multivariate analysis that estimated the probability of gambling behaviour at year 2.
Browne et al. (2019)	Quant	Longitudinal	Australia	597	90.16%	18-84	Race/sports wagering advertising and inducements.	Inferred exposure	Intentions Self-reported behaviour	Yes = Exposure to advertising associated with higher likelihood of betting, greater spend, and betting when not originally intending to do so. No = Exposure was not associated with intentions (except for direct advertising).
Clemens et al. (2016)	Quant	Cross-sectional study	Germany	4617	55.20%	13-25	Exposure to ten gambling advertisements was measured with masked ad images	Recall Self-reported exposure	Self-reported behaviour	Yes = High gambling ad exposure was positively related to all assessed gambling outcomes.
De Jans (2023)	Quant	Experimental	Belgium	150	41.33%	18-25	Including betting odds in digital gambling advertising for sports betting.	Verifiable exposure	Intentions	Yes = Odds advertising (compared to an ad not including odds) positively affected gambling intentions. No = Results were only true for men.
De Jans et al. (2023)	Quant	Experimental	Belgium	169 212	34.90% 22.20%	18-72 19-72	Advert of fictive brand and Instagram stories from well-known operator.	Verifiable exposure	Intentions	Harm prevention message ("gamble in moderation") in an ad increased gambling intentions amongst at-risk gamblers vs no message or other messages.
Deans et al. (2017)	Qual	Grounded theory	Australia	50	100%	20-37	Sports betting marketing	Self-reported exposure	Self-reported behaviour	Yes = Sports betting marketing perceived as effective in reducing feelings of risk, increasing intentions, and

Author(s)	Method	Design	Country	Size	% Male	age	Advertising type	Exposure	Outcome	Key Findings
										normalizing betting. Inducements linked to greater feelings of control.
Di Censo et al. (2023)	Quant	Cross-sectional study	UK Australia New Zealand	130	71.50%	18-24	Sports betting inducements (social media betting adverts)	Verifiable exposure	Intentions Self-reported behaviour	Yes = Those who are at a higher risk of gambling problems are more likely to believe that betting inducements exacerbate their problems ($R^2 < 0.32$, groups were shown different inducements, no group with no inducement).
Gainsbury et al. (2016)	Quant	Cross-sectional study	Australia	964	NS	NS	Gambling promotions and marketing content on social media	Recall	Intentions Self-reported behaviour	Yes = Moderate risk and problem gamblers were more likely to self-report that they had an increased desire to gamble vs. non-PG (42% vs 12%). No = 29% of at-risk gamblers reported that promotions increased their problems, with 63% reporting no change, and 7% a decrease.
Hanss et al. (2015)	Quant	Cross-sectional study	Norway	6034	51.20%	16-74	Gambling advertising on TV (Item 1), on the Internet (Item 2), in newspapers (Item 3), and in retail outlets (Item 4).	Inferred exposure	Intentions Self-reported behaviour	Yes = Individuals at risk were more likely to agree that advertising increased their involvement, but this was not attributable to difference in advertising exposure. No = Gambling advertising does not strongly influence attitudes, interest, and behaviours.
Hing et al. (2014)	Quant	Cross-sectional study	Australia	131	49.60%	12-17	Gambling promotions during televised sport	Inferred exposure Recall	Intentions	(Yes) = "Substantial minorities" agreed these promotions encouraged them to bet on the sport. Intention to gamble was correlated with exposure to gambling promotions during televised sport (but weak correlation = 0.20) No = On average, adolescents disagreed that gambling promotions during televised sport encouraged them to bet. Plus, participants overall did not plan to gamble once they turned 18 years. Exposure was not found to be predictive of intentions in multivariate analysis (R^2 0.42 and 0.45).
Hing et al. (2014)	Qual	Semi-structured interviews	Australia	81	87.65%	18-72	Advertising and promotion of Internet gambling	Not assessed	Intentions Self-reported behaviour	Yes = Participants provided stronger evidence that advertising increases gambling amongst existing gamblers (in treatment). No = No strong evidence that advertising converts non-gamblers to Internet gamblers. No "majority" in response to any themes investigated.

Author(s)	Method	Design	Country	Size	% Male	age	Advertising type	Exposure	Outcome	Key Findings
Hing et al. (2015)	Quant	Cross-sectional study	Australia	544	63.60%	18-80	Promotion of gambling during televised sport	Inferred exposure	Intentions Self-reported behaviour	Yes = Problem gamblers reported most encouragement and influence from promotions. No = All other participants (non-PG) reported that promotions did not influence them.
Hing et al. (2015)	Quant	Cross-sectional study	Australia	1000	49.50%	18-85	Promoting sports betting during televised sports broadcasts	Inferred exposure	Intentions	Yes = Exposure to advertising was found to be a significant predictor of sports betting intention in the next 6-months ($R^2=0.51$, adding promotional variables improved model explainability by 0.02).
Hing et al. (2017a)	Quant	Cross-sectional study	Australia	455	71.50%	>18	Promotions for sports betting operators during televised sports matches	Inferred exposure	Self-reported behaviour	Yes = Respondents who perceived more impact on their betting behaviour were more likely to have higher PGSI scores. No = Exposure frequency was not a significant predictor of higher PGSI.
Hing et al. (2017)	Quant	Experimental	Australia	611	58.10%	>18	Different attributes of sports betting advertisements	Verifiable exposure	Intentions	The “bet attribute” of advertisements was found to be most important in terms of participants' self-reported intention to place a bet. Risk-free bet was found to be the most attractive bet type (no “control” group).
Hing et al. (2018)	Quant	Cross-sectional study	Australia	1813	68.90%	>18	Wagering inducements during sporting events.	Inferred exposure	Intentions Self-reported behaviour	Yes = Individual associations found between exposure measures and outcome measures. No = When performing multivariate analysis ($R^2 < 0.25$) the significance and directionality became less clear, e.g., less frequent use of inducements and less-frequent exposure to marketing was predictive of higher impulsivity.
Hing et al. (2019)	Quant	Longitudinal	Australia	722	88.90%	18-84	Wagering inducements during sporting events.	Inferred exposure	Self-reported behaviour	7-16% of sports bettors reported at least “somewhat” perceived influence across 9 types of advertisements. Direct messages were perceived as most influential.
Houghton et al. (2023)	Qual	IPA	United Kingdom	10	90.00%	20-32	Gambling marketing	Not assessed	Self-reported behaviour	Yes = Participants expressed that they feel tempted to gamble by certain types of gambling marketing.
Killick & Griffiths (2020)	Qual	Thematic analysis	United Kingdom	19	89.47%	21-32	Marketing techniques used by the gambling industry	Not assessed	Self-reported behaviour	Yes = Advertisements perceived to increase feelings of control and reduce feelings of risk, and impulsiveness. Also, participants perceived social media marketing as intrusive and that the frequency of advertising has contributed to the normalization of betting.

Author(s)	Method	Design	Country	Size	% Male	age	Advertising type	Exposure	Outcome	Key Findings
Kristiansen & Severin-Nielsen (2021)	Quant	Cross-sectional study	Denmark	1137	49.50%	12-16	Gambling advertisements	Self-reported exposure	Intentions	Yes = Association between self-perceived impact and gambling frequency, spend, problem gambling severity. No = Overall, participants did not perceive advertising to have an impact on gambling behaviour.
Lopez-Gonzalez & Griffiths (2021)	Quant	Cross-sectional study	Spain	659	74.20%	>18	Gambling advertising in relation to sports betting behaviour.	Self-reported exposure	Self-reported behaviour	Yes = Perceived impact of advertising showed statistically significant relationship with PGSI.
McGee (2020)	Qual	Multi-phased	United Kingdom	32	100.00%	18-35	Online sports gambling	Not assessed	Intentions Self-reported behaviour	Yes = Participants perceive incentivization strategies and in-play promotions as misleading and negatively impacting gambling behaviours.
Noble et al. (2022)	Quant	Cross-sectional study	Australia	6377	44.00%	12-17	Different gambling promotion types.	Recall	Self-reported behaviour	Yes = Multivariate analysis indicated that online ads were a significant predictor of gambling in the last 30 days and being an at-risk or a problem gambler. No = Multivariate analysis indicated that online ads do not significantly predict engagement in hard gambling activities. Plus, all other ad types (TV, billboards, at sporting events, etc.) had no impact on any outcome variable.
Nyemcsok et al. (2018)	Mixed methods	Interviewer assisted surveys	Australia	111	59.46%	11-16	Recall of sports betting brands. Influence of different promotional strategies.	Recall Verifiable exposure	Intentions	No = Advertising was not identified as a reason for the minority (22.5%) that did intend to gamble when 18.
Oksanen et al. (2021)	Quant	Cross-sectional study	USA Korea Spain Finland	4816	50.17%	15-25	Exposure to online pop-up advertisements	Self-reported exposure	Self-reported behaviour	Yes = Regression models for USA, Spain, and Korea showed that those who were exposed to pop-up gambling advertisements on a weekly basis reported higher problem gambling than others. No = But not in Finland for weekly exposure. Monthly exposure (several times a month or less) was not significant predictor of PG.
Parrado-González & León-	Quant	Cross-sectional study	Spain	1174	53.60%	12-20	Gambling advertising	Self-reported exposure	Self-reported behaviour	Yes = (Weak) correlations (0.2) between exposure to advertising and gambling frequency and PG. These direct effects were lower than the indirect effects mediated through attitudes and normative perception.

Author(s)	Method	Design	Country	Size	% Male	age	Advertising type	Exposure	Outcome	Key Findings
Jariego (2020)										
Pitt et al. (2017)	Qual	Interviews	Australia	48	85.40%	8-16	Sports betting advertising	Self-reported exposure	Intentions	No = Most children did not indicate an intention to use these promotions
Rawat et al. (2019)	Quant	Longitudinal	Australia	212	93.40%	20-84	Direct messages from wagering operators (sports and race)	Verifiable exposure	Self-reported behaviour	Participants' betting behaviour was not related to the content of messages. (No control, i.e., no group that was not delivered messages or messages without any inducements).
Roderique-Davies et al. (2020)	Quant	Experimental	United Kingdom	60	58.30%	>18	Embedded gambling promotions during televised football	Verifiable exposure	Intentions	Yes = Video with embedded promotions resulted in higher urges to gamble.
Russell et al. (2018)	Quant	Longitudinal	Australia	202	93.55%	20-74	Direct messages from wagering operators (sports and race)	Verifiable exposure	Intentions Self-reported behaviour	Yes = relationship between direct messaging from wagering operators and both self-reported intentions to bet, as well as self-reported betting behaviour, including amount bet.
Syvetsen et al. (2021)	Quant	Cross-sectional study	Norway	5830	51.50%	16-74	Gambling advertising	Self-reported exposure	Intentions Self-reported behaviour	Yes = Multivariate analysis indicated a small overall effect for internet, retail, and direct advertising on involvement. No = In multivariate analysis TV advertising had a significant negative effect.
Torrance et al. (2021)	Qual	Thematic analysis	United Kingdom	62	79.03%	18-29	Gambling advertising	Self-reported exposure	Self-reported behaviour	Yes = Participants perceived that advertising increased intent and participation in gambling.
Wardle et al. (2022)	Quant	Cross-sectional study	United Kingdom	3549 (Emerging adults) 3195 (Regular sports bettors)	54.90% 78.30%	18-24 >18	Gambling marketing	Self-reported exposure	Self-reported behaviour	Yes = Receipt of direct marketing in the past month was associated with unplanned spend. No = Recall of marketing in past month was not associated with unplanned spend.

2.3.1.1 SAMPLE CHARACTERISTICS

Countries

Twelve countries were represented across the included literature. Half of the studies ($n = 16$) were conducted using samples drawn from Australia. Seven studies drew samples from the United Kingdom and five analyzed samples from Spain. Other countries that were less well represented in the included literature are as follows: Belgium ($n = 2$), Norway ($n = 2$), USA ($n = 2$), Sweden ($n = 1$), Denmark ($n = 1$), Germany ($n = 1$), Finland ($n = 1$), and Korea ($n = 1$).

Australia and the United Kingdom, which account for over two-thirds of the samples in the included literature, are mature gambling markets. Within these jurisdictions, sports betting and/or online gambling have been regulated products for over twenty years and, correspondingly, advertising has been a constant presence during this period (online casino games are not available in Australia). Given this, findings from this literature base may not be generalizable to other markets, particularly those where sports betting and online gambling are less mature.

Gender

The percentage of males in the study samples ranged from 22% to 100%. Only eight studies had samples with a larger number of females, while sixteen studies had samples comprising over 70% males. Considering our focus on assessing the impact of sports betting advertising, it is not surprising that many studies predominantly included males. Sports betting tends to appeal to younger males (18-34 years of age) (7).

Several studies reported different impacts for males versus females on various outcome measures. For example, Hanss et al. (8) found that male gamblers reported stronger impacts from advertising on gambling-related attitudes, interest, and behaviour, as well as their knowledge about gambling options and providers. Hing et al. (9) found that young male Internet sports bettors who hold positive attitudes towards gambling sponsors and promotional techniques were especially vulnerable to gambling problems. Kristiansen and Severin-Nielsen (10) found that adolescent males reported higher gambling advertising awareness than females. And De Jans (11)

found the inclusion of betting odds in digital advertising for sports betting affected gambling intentions for men but not women. Evidence suggests that males may be more aware and receptive to gambling advertising (6,10), which might help explain the differences in relative impacts between genders.

Age: Findings regarding youth and emerging adults

The impact of gambling advertising on youth and emerging adults has been a popular area of research, as evidenced by the fact that over a third ($n = 12$) of the included individual studies focused on samples of adolescents and young adults (8-25 years). Findings across these studies were generally mixed.

With respect to qualitative studies, Pitt et al. (12) found no evidence that Australian children intended to use promotions contained within televised sports betting advertisements. On the other hand, Torrance et al. (13) studied young adult gamblers in the UK, and participants reported that gambling advertising increased both their intention and participation in gambling. And in a mixed methods study, Nyemcsok et al. (14) found that a minority of 111 Australian adolescents (22%) intended to gamble when they turned 18 and that advertising was not identified as a reason for their intention to gamble once they came of age.

Cross-sectional quantitative work ($n = 8$) also reveals mixed findings. Clemens et al. (15) measured self-reported advertising exposure and gambling behaviour amongst a sample of 4,617 German students (13-25 years of age). Using multivariate analysis, the researchers revealed an association between exposure to gambling advertisements and all gambling behaviours measured (i.e., lifetime gambling, past 12-month gambling, current gambling, and pathological gambling as measured by the South Oaks Gambling Screen (SOGS)). Associations were calculated by comparing odds ratios between quartiles of the sample based on self-reported advertising exposure (measured dichotomously for ten advertisements as “never seen” or “seen at least once”). It should be noted that the type of gambling engagement was not differentiated, and most of the sample was aged between 17 and 21 years (78%). Additionally, highest exposure rates were found for bwin (an online gambling company) and lottery advertisements, with lower rates for Tipico

and Bet at home (providers of online gambling and sports betting).

Di Censo et al. (16) investigated how 130 young people (aged 18-24) perceived the impact of four different types of sports betting inducements on their gambling behaviours. Their results suggest that individuals at a higher risk of experiencing gambling problems are more likely to perceive that inducements worsen their problems. Participants were regular bettors, gambling an average of twice per month. This study reveals important findings regarding the impact of different inducements. However, it does not provide insight into the impact of inducements versus no inducements, as participants were asked specifically about each type of inducement rather than being assessed against other measures (or no) exposures.

Hing et al. (17) examined 131 adolescents' (aged 12-17) exposure to promotions during televised sport and the associations between this exposure and their intentions to gamble once of legal age. The authors note that "substantial minorities" agreed that promotions encouraged them to bet on sport, but, overall, the findings do not indicate a meaningful association. On average, adolescents disagreed that gambling promotions during televised sports encouraged them to bet and most participants did not plan to bet on sports or engage in other gambling activities once they turned 18 years old. Additionally, in multivariate models, exposure to gambling promotions was not found to be predictive of intentions to gamble (on sports or other gambling activities) at age 18, as indicated by stepwise regression models.

Kristiansen and Severin-Nielsen (10) revealed mixed findings when analyzing a sample of 1,137 Danish adolescents (aged 12-16). Their results revealed that a meaningful portion of the sample were aware of advertising (43%). However, the results indicated that the average self-perceived impact of advertising was low, i.e., respondents, on average, reported below the neutral category (neither agree nor disagree) on a 5-point Likert scale. At the same time, in multivariate models, self-perceived impact of advertising was predictive of gambling frequency, spend, and problem gambling severity.

Noble et al. (18) assessed the impact of exposure to gambling advertising in Australian secondary school

students across three outcome variables. Using multivariate models, Noble et al. found that exposure to online ads was a significant predictor of participation (measured by asking respondents whether they had gambled in the last 30 days) and being at-risk or a problem gambler (as assessed by the Problem Gambling Severity Index (PGSI)). However, exposure to online ads was not associated with engagement in "hard" gambling activities (i.e., casino games, sports betting, race betting, poker machines, etc.). Notably, for all other advertising types (TV, billboards, at sporting events, etc.) there was no significant relationship found with any of the measured outcome variables.

Oksanen et al. (19) carried out surveys across four different countries and found that for three countries (USA, Korea, and Spain) those who were exposed to pop-up gambling advertisements on a weekly basis reported higher problem gambling than others. However, this result did not hold true for a sample from Finland. Additionally, exposure to pop-up advertising on a less than weekly basis (i.e., several times a month or less) was not found to be a significant predictor of problem gambling.

Parrado-González and León-Jariego (20) found that exposure to gambling advertising had direct effects on gambling frequency amongst a sample of 1,174 Spanish adolescents (aged 12-20), but the correlation reported was relatively weak (0.216). However, when modeling for the indirect effects of attitudes and normative perception, the effect became stronger. Furthermore, perceived social support from family lessened the effects of advertising.

Wardle et al. (21) examined the association between gambling marketing and unplanned gambling spend among emerging UK adults (aged 18-24), finding that the receipt of direct marketing in the past month was associated with unplanned spend, but not recall of marketing in the past month.

There was one longitudinal study of adolescents conducted by Botella-Guijarro et al. (22), and their results also displayed mixed findings. Surveys were conducted one-year apart. Perceptions of exposure to advertising were associated with gambling onset and maintenance at year 1 and was found to be a significant predictor of gambling behaviour at year 2 in univariate analysis.

However, self-reported exposure to advertising was not represented as a significant predictor variable in their final multivariate models, which estimated the probability of gambling behaviour at year 2.

The mixed results here in terms gambling advertising's impacts on adolescents and emerging adults are consistent with findings from other reviews: the current evidence base demonstrates unconvincing evidence that gambling advertising influences intentions amongst youth populations (6,23). In their critical review of the literature, Di Censo et al. (6) highlight two important methodological limitations that apply here as well:

“... studies often rely on intention measures that assume that gambling is a planned behaviour, but given the evidence that gambling is associated with impulsivity measures ... this may not be the case”, and “... advertising exposure was shown to be associated with gambling in studies using self-reported data. However, it can be difficult to infer the causality or directionality of the relationship, namely whether people who gamble more often are exposed to more advertising or whether the advertising drives differences in behaviour.”

These and other limitations highlight a need for improved methodologies in future research to better inform advertising policy pertaining to adolescents and emerging adults.

2.3.1.2 METHODOLOGICAL CHARACTERISTICS

Study Type

The included studies comprised a broad mix of methodologies including quantitative studies ($n = 26$), qualitative studies ($n = 7$), and mixed methods ($n = 1$). The large majority (65%) of quantitative studies utilized cross-sectional designs, primarily through administered surveys. While useful, cross-sectional designs have significant limitations, particularly their inability to infer causality, i.e., whether gambling engagement leads to increased advertising exposure or vice versa. More robust study designs capable of identifying causal pathways were notably less common, with only four experimental and five longitudinal studies identified.

Cross-sectional studies (n =17)

Cross-sectional designs involve observing a defined population at a single point in time. Because data is collected at only one time point, cross-sectional studies cannot infer causality. Despite this limitation, they are valuable for hypothesis development and providing a foundation for future research that can corroborate the findings through other methodological approaches like longitudinal or experimental studies.

Eight of the cross-sectional studies examined adolescent and emerging adult populations (detailed above in sections 4.1.1). Cross-sectional studies that focused on adult populations included representation across five countries – Australia ($n = 5$), Norway ($n = 2$), Spain ($n = 1$), Sweden ($n = 1$) and the UK ($n = 1$) – and sample sizes ranged from 455 to 6,034. Findings across the studies were generally mixed, but some consistency did emerge where advertising appears to have more of an influence on those classified as at-risk or as problem gamblers.

For example, Gainsbury et al. (24) examined the impacts of gambling promotions and content on social media. Their findings suggest that this type of advertising may have a higher likelihood of impacting moderate-risk and problem gamblers as compared to low-risk and non-problem gamblers. Amongst moderate-risk and problem gamblers, 29% reported that promotions on social media increased their problems (8% “greatly” and 21% “somewhat”), 63% reported no change, and 7% reported a decrease.

Hans et al. (8) found that the perceived impacts of gambling advertising were relatively weak among their sample of 6,034 Norwegians. But similar to Gainsbury et al. (24), the authors found that those at-risk were more likely to agree that advertising had increased their gambling involvement, however, this was not attributable to differences in exposure levels.

This lack of effect from exposure was also reported by Hing et al. (9) who found that while Internet sports bettors with higher PGSI scores responded more positively to promotions during televised sports, multivariate models indicated that the frequency of exposure was not a significant predictor higher PGSI scores.

Finally, Bind and Romnild (33) found that most respondents (86%, $n = 2,163$) perceived no impact of advertising on their gambling behaviour, with only 2% reporting repeated negative influence of gambling advertising. Multivariate modeling indicated that negative influence of advertising was positively associated with PGSI score and measures of gambling involvement, however, the model explained only a modest amount of variance (18%) and statistical testing indicated that the model fit did not meet conventional thresholds for significance (i.e., $p = 0.052$).

Longitudinal studies (n = 5)

Longitudinal study designs can provide valuable insights into how gambling behaviours and attitudes evolve by tracking the same individuals across multiple points in time. This allows researchers to observe changes in variables over time, which can help identify potential causal relationships and long-term trends. In terms of gambling advertising, longitudinal designs can offer a more comprehensive understanding of how exposure to gambling advertising might influence behaviour (as well as intentions and attitudes) over time. Unfortunately, extant literature using longitudinal designs is scant.

Over the course of two time points, Botella-Guijarro et al. (22), according to univariate analysis, found that perceived advertising exposure at year-1 was predictive of gambling at year-2, however, this association was not demonstrated in multivariate analysis.

Four of the five longitudinal studies employed ecological momentary assessment (EMA) methodology: Browne et al. (25), Hing et al. (26), Rawat et al. (27), and Russell et al. (28). In these EMA studies, participants self-reported their behaviour and exposure over a one-week period. Browne et al. (25) found exposure to advertising was generally not associated with intentions but was associated with a higher likelihood of betting, greater spend, and betting when not originally intending to do so. Hing et al. (26) found 7-16% of sports bettors perceived some level of influence across nine types of wagering advertisements and inducements, but the results did not vary by risk group. Rawat et al. (27) found participants' betting behaviour was not related to the differing content of direct messages from sports betting operators. And Russell et al. (28) found a relationship between direct messaging from wagering operators and

both self-reported intentions to bet, as well as self-reported betting behaviour, including the amount bet.

EMA has both advantages and disadvantages. The method allows for “real-time” data collection, which can help reduce recall bias and provides a more accurate measure of participants' behaviours and exposures. On the other hand, the short time course of data collection (the included studies here were typically one week in duration) may not be representative of longer-term behaviours and trends. Particularly noteworthy here is that these studies relied on self-reported outcomes, which may not accurately reflect actual behaviour. Despite these limitations, the included EMA studies provide valuable insights with respect to short-term impacts.

Experimental studies (n = 4)

Experimental designs allow researchers to manipulate variables and control conditions to investigate causal relationships. Experiments can provide more robust evidence about the effects of specific interventions or exposures, such as gambling advertising, by comparing outcomes between experimental and control groups. Through random assignment and controlled settings, experimental studies can isolate the impact of advertising content on gambling outcomes, providing insights that observational studies may not capture. However, the quality of experiments (and the level of confidence we can put into the results) relies on factors such as sample size, participant selection, group allocation, and the duration and setting.

De Jans (11) found that betting odds in digital gambling advertising for sports betting positively affected gambling intentions among men but not women. The experiment was conducted in an online environment and used a sports betting advertisement that included branding from an actual gambling operator.

De Jans et al. (29) revealed an interesting finding while investigating the effect of harm prevention messages on gambling advertising on consumers' gambling intentions where the message “gamble in moderation” actually *increased* gambling intentions amongst at-risk gamblers. The experiment was conducted online and exposed participants to stimuli that included a fictitious gambling

brand as well as Instagram stories from an actual gambling operator.

Hing et al. (30) explored the impacts of different attributes of sports betting advertisements, finding that bet attributes were most important for participants' self-reported intentions to gamble and that risk-free bets were the most attractive bet type. To conduct the study, the researchers created twenty mock TV advertisements produced by a professional film company using paid actors.

Roderique-Davies et al. (31) performed a pilot study with sixty undergraduate students in a laboratory environment where participants were exposed to actual videos of soccer matches with varying degrees of advertising promotions. They found videos with embedded gambling promotions resulted in higher urges to gamble.

Unfortunately, the amount of experimental work on gambling advertising is limited, and the literature included here does have some limitations. For example, the study settings (typically online survey platforms and in laboratories) may not be indicative of what happens in real-world environments, and the self-reported nature of the designs can introduce biases such as social desirability.

Qualitative studies (n = 7)

Qualitative research provides rich, detailed insights that quantitative methods might overlook. These studies often involve interviews, focus groups, and thematic analysis to understand the nuances of participants' experiences and perspectives. However, qualitative studies typically have smaller sample sizes and may not be generalizable to larger populations.

Qualitative studies included in this review were conducted with participants from the UK ($n = 4$) and Australia ($n = 3$). The sample sizes ranged from ten to eighty-one, and the large majority of participants were male (79-100%). Oftentimes we found it difficult to determine precisely how participants were asked about their level of exposure to advertising. We did find that study participants generally indicated that gambling advertising influences their intentions and self-reported behaviours ($n = 5$). Another consistent theme across the studies was that advertising normalizes gambling.

However, some studies reported contrary findings. For example, Hing et al. (32) found no strong evidence that advertising converts non-gamblers to Internet gamblers, but did find that gambling advertising appears to increase gambling amongst existing gamblers. And Pitt et al. (14) found that while children could recall details about sports betting advertisements, most did not indicate any intention to use sports betting promotions.

Given the findings from studies focused on young males in the UK and Australia, the findings may not be applicable to other countries or demographics. Additionally, the subjective nature of qualitative data and potential researcher bias can also affect the interpretation of results. Despite these limitations, the included qualitative literature highlight the public's concern regarding the amount and impacts of gambling advertising.

Exposure measure

Five studies were not clear or did not state precisely how they measured the level of exposure of advertising. Most studies ($n = 11$) used participants' self-reported assessment of their exposure to advertising. Eight studies inferred exposure of advertising by asking participants to evaluate exposure to advertising during a specified period of time, for example, a number of studies asked respondents to state the frequency of watching eight televised sports during the most recent season (identified as the most heavily sponsored by gambling operators). Participants' ability to recall specific elements of advertisements was used as a measure of exposure by five studies, and seven studies used a verifiable measure of exposure. For example, EMA studies retrieved the emails and texts sent to participants by gambling operators. And experiments, by virtue of their design, were able to verify exposure to the experimental manipulation, i.e., the advertising materials.

The variability in measures of exposure across studies has significant implications for the interpretation and comparability of research findings on the impact of gambling advertising. Self-reported assessments are subject to recall bias and may not accurately reflect actual exposure levels. Studies that infer exposure based on self-reported behaviours, such as the frequency of watching televised sports, also rely on participants' memory (and

honesty). The ability to recall specific elements of advertisements as a measure of exposure can offer insights into the salience and memorability of ads but does not necessarily correlate with the amount of exposure. Verifiable measures of exposure, such as those used in the EMA and experimental studies, provide more reliable data. Ultimately, there is a need for standardization in measurement across studies (particularly those employing the same design), as well as the implementation of objective metrics (e.g., clickstream data, money spent on advertising) to more accurately capture advertising exposure.

The level of detail in the description of the exposure under study varied across the included literature (see “Advertising Type” column in Table 3). Some studies provided a greater level of detail regarding the type of advertising, the entity provisioning the advertisement, the placement, and the type of gambling being advertised. For example, Hing et al. described their exposure measure in a specific manner as “promotions for sports betting operators during televised sports matches”. Other studies provided far less detail, using broader terms like “gambling advertising” or “gambling marketing”. These less specific descriptions make it challenging to understand the impacts of different advertising and marketing practices, which can vary significantly.

Outcome measure

Nine studies assessed outcomes (or *impact*) as self-reported gambling intentions. This included asking under-age gamblers about their intentions to gamble once they turned legal age or asking participants the extent to which they agree (typically using a Likert type scale) that advertising will impact their intention to gamble. Fourteen studies measured advertising impacts by assessing participants’ self-reported behaviour. Eleven studies measured both intentions and self-reported behaviour. Self-reported behaviour was measured in a variety of ways. Several studies evaluated gambling involvement and problem gambling severity via validated survey instruments (i.e., PGSI, SOGS) and several studies measured gambling behaviour by asking questions about frequency of involvement (e.g., selecting from a range of options such as “once a month”, “once a week”, etc.).

Like the variability in measures of exposure, the different assessments of outcomes make it challenging to compare and summarize study findings at an aggregate level. The reliance on self-reported data introduces potential biases, and the use of different scales and instruments to measure gambling intentions and behaviours further complicates direct comparisons across studies. In future work, incorporating objective measures, such as tracking actual gambling activities via online platforms, could complement self-reported data and provide a more objective measure of advertising impacts.

It should also be noted that some studies, to facilitate their analyses, would “bucket” responses together for both the exposure and outcome measures, typically due to a low response rate for the extreme categories. For example, Bind and Romild (33) measured participants’ “negative influence of gambling advertising” on a three-point scale (“no”, “sometimes”, “several times”) and, in their multivariate analysis, dichotomized the variable because only 2% responded with “several times”. Similarly, Hing et al. (26) measured the perceived influence of advertising on a 3-point scale (“not at all”, “somewhat”, “a lot”) and recoded responses into “no influence” and “influence” (“somewhat” or “a lot”) due to low responses in the “a lot” category. Clemens et al. (15) rated advertising exposure on a 4-point scale (0 = “never”, 1 = “1 to 4 times”, 2 = “5 to 10 times”, and 3 = “more than 10 times”) and dichotomized values into “never seen” and “seen at least once” for analysis. Wardle et al. (21) measured unplanned spending on gambling prompted by marketing activities on a 4-point scale (1 = “very often”, 4 = “never”) and dichotomized responses into those who did not report any unplanned spending (“never”) and those who reported at least some (“occasionally”, “often”, or “very often”).

This practice highlights the need for caution when interpreting results, as a binary measure of impact could include the majority reporting a light effect (e.g., “somewhat”) with only a small proportion reporting an extreme effect (e.g., “a lot”). This aggregation can obscure the distribution of the data, leading to potentially misleading conclusions about the true extent of the impact.

2.3.2 FINDINGS FROM PREVIOUS REVIEWS

We considered the inclusion of reviews in our rapid review to gain a broader perspective on the topic, given our strict search criteria focusing solely on intentions or behaviour as outcomes of advertising.

During our systematic search and screening, we identified twelve relevant review articles. Among them was a 2023 umbrella review by McGrane et al. (5), examining eight existing reviews on the impact of gambling-related advertising on harm. To streamline our rapid review, we summarized findings from seven of the twelve reviews identified, including McGrane et al.'s work and six reviews published afterward or that would not have been included due to indexing timelines.

2.3.2.1 MCGRANE ET AL. (2023)

McGrane et al. identified eight reviews to better understand the relationship between gambling advertising and gambling attitudes, intentions, and behaviours. Six of the reviews were published in peer reviewed journals (23,34–36), two were gray literature. The authors make two main conclusions from their review of the evidence. First, that:

“Included studies ... consistently support the existence of a causal relationship between exposure to advertising ... and more positive attitudes to gambling, greater intentions to gamble and increased gambling activity at both individual and population level.”

And second, that:

“There is evidence of a ‘dose–response’ effect; greater advertising exposure increases participation which leads to a greater risk of harm.”

It is important to frame these statements considering the limitations of the analyzed literature, which were highlighted by McGrane and colleagues within their article and are consistent with our critical evaluation of our included literature: the evidence base largely relies on cross-sectional and qualitative studies, with a severe dearth of longitudinal evidence. These are critical limitations and make it challenging to determine causal effects and rule out the possibility of reverse causation. The authors also note that the evidence appears strongest

for those already at some level of risk and there is more evidence on impacts for children and young people. Additionally, one of the included reviews focused on migrant communities, which found evidence that gambling advertising may be targeted towards these populations to encourage participation. These campaigns have been reported to use cultural events and portray people as cultural symbols to better appeal to ethnic minorities.

Moreover, McGrane et al. highlight further limitations and potential sources of bias of the primary studies within each review article they included, namely: reliance on self-reported exposure and outcomes (23,35,36), a lack of high quality research (23,37), poor methodological and statistical reporting (23,34,38), gender and cultural biases (23,34–36,38,39), lack of breadth in advertising types (34), qualitative studies lacking depth (38), and that studies are mostly retrospective (36).

2.3.2.2 KILLICK AND GRIFFITHS (2021)

Killick and Griffiths (40) conducted a systematic review on the influence of sports betting advertising on attitudes, intentions, and behaviours. The authors reviewed twenty-two individual studies and, overall, found a positive relationship between advertising and outcomes. Their findings align with another review assessing all types of gambling advertising (23). However, limitations in the literature include reliance on cross-sectional designs, self-report measures, and various author-defined methods for defining outcome measures. The issue of causality is also emphasized, with the authors noting that self-reported exposure to advertising may be influenced by existing betting behaviours and preferences for sports:

“[b]ecause advertising exposure is predominantly self-reported and based on factors such as the frequency of watching specific televised sports that contain gambling advertising and the amount of attention paid to sports betting advertising, it is probable that engaging in sports betting determined exposure to advertising (the attention paid to the adverts), or other factors (such as preferences for sports shows), which when combined, determine exposure and sports betting behaviours.”

The authors indicate that certain inducements were most popular amongst sports bettors, namely risk-free bets, cashback offers, bonus bets, and better odds. But it is unclear whether inducements *cause* effects in behaviours. They also found that problem gamblers tend to exhibit more positive attitudes toward sports betting advertising and promotions, noting that “[i]n some cases, problem gamblers perceived that sports betting promotions increased their gambling behaviour, whereas low-risk, moderate-risk, and non-problem gamblers did not”. They found evidence to suggest that advertising exposure may result in impulses to gamble, particularly via mediums like email, SMS, and the display of live odds during sporting events. But, once again, reliance on cross-sectional designs hinders the ability to infer causal direction. Killick and Griffiths also make an important note regarding the advertising mediums studied, stating that “[m]any of the studies examined advertising during televised sport ... [with] only one study examining social media sports betting promotion”, which makes it challenging to make decisions about advertising policy across advertising channels. Additionally, as we have noted here, Killick and Griffiths note that “[t]here is a paucity in research conducted in countries where sports betting and associated advertising have recently been liberalized, such as the US and Canada”. Overall, Killick and Griffiths make a call for further research that addresses gaps to inform policy and regulation.

2.3.2.3 DE JANS ET AL. (2023)

De Jans et al. (41) conducted a systematic review to understand the effects of gambling sponsorships. They found a large majority of the extant research focused on sports sponsorships by gambling companies. Consistent with other reviews and our own critical assessment of the evidence base, the authors note:

“Although a positive association between exposure to gambling sports sponsorships and consumers’ gambling attitudes and intentions may be assumed, causal and longitudinal research investigating the impacts of gambling sponsorships is limited.”

The authors also point out that there is currently a lack of theoretical underpinnings to elucidate consumer responses to gambling sponsorships. Therefore, they

developed a theoretical framework to help guide future research and address this gap in this evidence.

Regarding the association between exposure to gambling sponsorships and gambling behaviour, the authors found evidence that exposure to sponsorships increased intentions to gamble. However, they note that adolescents generally have negative views of promotions during televised sports, and problem gamblers may be more affected due to more frequent exposure and more positive attitudes toward sponsorships.

2.3.2.4 DI CENSO ET AL. (2023)

Di Censo et al. (6) performed a critical review and analysis of the methodologies of studies assessing the impacts of gambling advertising on young people (aged 15 to 24). Regarding gambling intentions, they found little evidence to support an impact from gambling advertising. While studies using self-reported data indicate an impact from exposure to advertising, inferring causality is challenging due to methodological limitations. The authors highlight several issues, including samples that include people above and below the legal gambling age, reliance on self-reported exposure and outcome measures, outcome measures that do not necessarily indicate gambling behaviour or harm, and a lack of experimental and longitudinal research designs.

2.3.2.5 KILLICK AND GRIFFITHS (2023)

Killick and Griffiths (42) systematically reviewed fifteen empirical studies that performed content analysis of sports betting advertising. This evidence base focuses on analyzing the content and messages within sports betting advertisements, aiming to identify consistent patterns and themes as well as the underlying meaning of the content, rather than the impacts of advertising on consumers’ attitudes, intentions, and behaviours. The authors found that these studies are relatively recent (published in the last ten years), predominantly focus on television advertisements, and are mostly conducted in Australia, Spain, and the UK. Advertising narratives typically focus on humor, friendship, excitement, and fun, which could contribute to the “normalization” of gambling and reduce feelings of risk. With regards to responsible gambling, the included individual studies found very few of these types of messages on Twitter and at sports stadiums.

2.3.2.6 SINGER AT AL. (2024)

Singer et al. (43) systematically reviewed the existing evidence on gambling operators' use of advertising strategies on social media, identifying twelve studies. Five of the studies suggest impacts on gambling behaviours from social media advertising. One study found that reduced advertising spend was associated with a self-reported reduction in gambling, although this occurred during a COVID-19 pandemic lockdown in the UK. Frequent use of inducements was found to be associated with increased gambling frequency, with a more pronounced effect on at-risk gamblers. Another study examined the influence of “tipsters” on students in Spain, finding them to be particularly influential. Gaps and limitations in this evidence base were consistent with those identified in other reviews.

2.3.2.7 GARZOLA (2024)

Garzola (44) reviewed twenty-five studies that focused on the relationship between marketing and sports betting perceptions and behaviours. Fifteen of the studies were conducted in Australia. From the included literature, Garzola concludes that marketing contributes to the normalization of sports betting and that while children may be especially vulnerable, more research is needed to understand the impacts of advertising on this population. The author makes several policy recommendations based on the findings, suggesting that sports gambling companies should be required to provide statistical information (e.g., probabilities) in promotional materials and include warning messages to accompany advertisements. Additional recommendations include restrictions on content and frequency of sports betting advertisements, restricting advertising to hours that would reduce exposure to children (e.g., after 8pm), and controls on the number of emails and texts messages sports gambling companies can administer.

2.4 RAPID REVIEW SUMMARY AND RECOMMENDATIONS

This rapid review collected academic literature related to the impacts of gambling advertising on consumers, focusing specifically on intentions and behaviours rather than attitudes and awareness. The evidence base we identified included a variety of study designs and samples

from diverse jurisdictions. Although some studies suggest an association between gambling advertising and intentions or self-reported gambling behaviours, the overall findings are mixed, providing limited support for a consensus. Several studies did find a positive relationship between advertising exposure and gambling intentions or behaviours, particularly among at-risk or problem gamblers. However, the evidence base is inundated by significant limitations, including a heavy reliance on self-reported cross-sectional data and a prominent cultural bias, with most studies conducted in Australia and the UK.

Additionally, positive associations identified require careful scrutiny. Exposure and outcome variables were sometimes transformed into binary formats to facilitate analysis, potentially oversimplifying the data. For example, categorizing responses as “no impact” versus “somewhat or a lot” may not be adequately captured important distinctions. Some associations and multivariate models should also be interpreted cautiously due to low correlation values and limited explanatory power. Furthermore, a lack of objective measures for exposure and outcomes, combined with inconsistencies in how these measures are defined, further complicates interpretation. Thus, while there is evidence of a relationship between gambling advertising and behavioural outcomes, these findings should not be overly generalized without considering the methodological limitations.

2.4.1.1 ADVERTISING AND THE PATHWAYS MODEL OF PROBLEM GAMBLING

The etiology of gambling harms is complex, and it is important to consider how advertising contributes to individuals' engagement in the activity and how it may progress into levels that contribute to experiencing harms. The Pathways Model of problem gambling (45) describes ecological factors – availability, accessibility, acceptability – as the “starting block” that is common across three groups of those with gambling problems. The model explains the complex interplay between these ecological factors, which are necessary for an individual to initiate the activity and develop problem gambling, and its interactions with genetic, biological, and psychological factors. Critically, these pathways are developmental pathways, meaning they attempt to characterize the progression from initial engagement with gambling to the

emergence of problematic behaviours and gambling-related harms.

A considerable body of evidence supports the existence of three distinct clusters of gamblers according to risk factors consistent with the pathways described in the model; i.e., behaviourally conditioned, emotionally vulnerable, and impulsive individuals (46). These findings have implications for advertising policy, as, dependent on risk level, gamblers may be impacted by advertising differently and/or different exposures may have varying levels of appeal and effect (47). For example, Di Censo et al. (16) found that inducements may have particular effects on problem gamblers, and Singer et al. (43) found that while frequent use of inducements was associated with increased gambling frequency, there was a more pronounced effect on at-risk gamblers. Given recent advances in digital tracking of player behaviour and technologies that facilitate the identification of individual risk levels (48), advertising and marketing policies tailored according to risk level are now feasible; i.e., restricting the number of promotions and/or inducements according to risk level. Such a policy would allow those who enjoy gambling responsibly and appreciate promotions, are not excluded from the benefits such materials provide. Additionally, interweaving promotional frequency and distribution into existing predictive modeling solutions could provide important insights into how (if at all) promotions contribute to individuals' progression through risk levels. Policy could also mandate the sharing of such valuable data to facilitate independent research that could further investigate and validate such relationships.

The Pathways Model also that posits preexisting comorbidities and individual differences and circumstances contribute to an increased risk of developing problems (49). Accordingly, researchers have called for additional longitudinal research that can understand the emergence and influence of ecological factors as well as better explain how comorbidities play out over time. This is particularly important to consider in the context of this report. Research indicates that the availability of gambling is associated with increased participation, which may lead to a higher prevalence of problem gambling rates in a population (50,51). Most pertinent to this paper, a recent study analyzed monthly calls to the Ontario Problem Gambling Helpline from

June 2021 to January 2023 before and after the expansion of online gambling and advertising in the province in April 2022 (52). The authors found a significant effect, with calls increasing after April 2022. However, it is important to note a key limitation of the study, which the authors themselves note as well, in that the impact of the legislation of online gambling and the associated heavy marketing of online gambling cannot be separated because these two changes happened simultaneously. Unfortunately, as we have noted, there is a scarcity of longitudinal studies to help determine the impacts of gambling. The cross-sectional data may suggest that advertising influences intentions and participation in gambling, but there is no way to rule out reverse causality. Furthermore, while some of the included studies attempt to understand and control for individual differences and comorbidities, the reliance on cross-sectional work makes it difficult to ascertain any actionable information.

2.4.1.2 RECOMMENDATIONS FOR FUTURE RESEARCH

Considering the mixed results and limitations of the existing evidence base, we propose the following recommendations for future research. Following through with such a research agenda could help form an evidence base that can better inform and shape public policy as it pertains to gambling advertising for online gambling and sports betting:

1. Address cultural bias: There is a desperate need for greater diversity in the setting and demographic profile of study participants. This is particularly pertinent for a jurisdiction such as Ontario, where online gambling and sports betting are relatively new. Research from more established gambling markets should not be generalized to less mature markets.
2. Understanding direction of causality: The current evidence base is predominantly characterized by cross-sectional studies, which, even if they provided a consensus on a positive relationship between advertising exposure and gambling outcomes, could still not establish causality. It remains unclear whether gambling participation leads to greater exposure to gambling advertising or vice versa.

3. **Objective measurement:** This overarching issue with the current evidence base will remain a limitation of any future work if not addressed. Future research must consider how both exposure to advertising and behavioural outcomes can be measured objectively. The digitization of the gambling product can assist with this through geo experiments combined with tracking behavioural data and certain marketing activities (e.g., inducements sent by operators via digital channels). However, broader advertising mediums such as TV ads and sponsorships may be more challenging to measure objectively.
4. **Consistent measurement of exposure and outcomes:** Objectively measuring exposure and outcomes can be challenging. Given this, frameworks should be developed to promote consistency in the measurement and reporting of exposure and outcomes. While the limitations of non-objective measures would still apply, consistency would allow for the pooling of analyses and execution of meta-analyses that provide the gold standard in reporting quality. This would facilitate comparisons across studies and enhance the reliability of findings, ultimately leading to more informed and effective gambling advertising policies.
5. **Ecological validity:** While there is some experimental evidence, there is a need to conduct such designs in real-world settings. The digital platform provided by online gambling and sports betting offers an ideal laboratory for experimentation. This approach is commonly used in e-commerce and digital marketing strategy to gather insights about marketing efficacy. Similar methods could be applied to understand the potential negative impacts of gambling advertising as well.
6. **Advertising “for good”:** While research in this area is still emerging, advertising could play a crucial role in shaping public perceptions and combating misconceptions about gambling. By promoting responsible gambling messages and providing accurate information about the risks and realities of gambling, advertising could help re-align false beliefs and reduce harmful behaviours.
7. **Theoretical underpinnings:** Combining established theories from both the gambling (e.g., The Pathways Model) and advertising (e.g., AIDA) domains with longitudinal studies could help uncover causal pathways, understand advertisements’ interaction with other factors, and explain subsequent contributions in the etiology of gambling harms.
8. **Living systematic reviews:** Unlike traditional systematic reviews, which provide a snapshot of the literature at a single point in time (including this rapid review), living reviews are continuously updated to reflect the latest developments on a certain topic. This approach ensures that the body of evidence remains current, relevant, and useful, providing researchers, policymakers, and industry stakeholders with the most up-to-date knowledge available. Living reviews are particularly relevant when research evidence is evolving rapidly, lacks consensus, and/or new research has the potential to impact policy or practical decisions (53). For example, living reviews have been recently utilized to track and disseminate evidence related to COVID-19 transmission and interventions (54–57). Given the burgeoning interest in gambling advertising from both research and policy perspectives, such a review could become a valuable resource and knowledge hub to help maintain an up-to-date evidence base that can be leveraged by stakeholders.

3 POLICY ANALYSIS

3.1 CANADA

3.1.1 OVERVIEW OF CURRENT REGULATORY INFRASTRUCTURE

The regulatory infrastructure governing Canadian (specifically, Ontario) online gambling advertising is comprehensive, with guidance published by entities at the federal and local levels and in both the public and private spheres. At the federal level, the Competition Act provides general guidance with which gambling operators must comply (58). At the province level, the Alcohol and Gaming Commission (AGCO), Ontario's gambling regulator, sets out advertising standards specific to internet gambling, which includes both online sports betting and online casino, or iGaming (59). Finally, independent organizations provide additional guidance that goes beyond federal and provincial requirements. The organizations also work closely with industry and the AGCO to promote self-regulation and, in some cases, provide additional layers of enforcement. Below, we detail three organizations whose guidance and enforcement are referenced in this review.

First, the Responsible Gambling Council (RGC) is a non-profit organization dedicated to the prevention of problem gambling (61). The RGC's RG Check Accreditation program evaluates an online gambling operator's compliance with RGC's iGaming Standards and Criteria (61). There are a total of 48 criteria, or specific, measurable goals, for various aspects of operations, each of which is regularly reviewed against leading best practices from existing literature and the RGC's own research term. The criteria are grouped into nine categories, or standards (e.g., website design, employee training, marketing communications) (62).

iGaming Ontario, a subsidiary of the AGCO, requires all online gambling platforms to attain RG Check accreditation within the first two years of launching to the public and maintain accreditation (re-accreditation occurs every two years) for the duration of their time as licensed operators (63).

Second, AdStandards Canada is a national not-for-profit advertising self-regulatory organization (64). Gambling operators are expected to comply with the organization's Canadian Code of Advertising Standards, which contains detailed guidance on salient topics such as accuracy and clarity of advertisements, price and discount claims, and advertising to minors (65).

Third, thinkTV is a marketing and research association dedicated to the advancement of commercial television (66). The organization's thinkTV Clearance program works on behalf of broadcasters to evaluate and approve television and radio advertisements before they air (67). thinkTV's guidelines for approval include a section specific to gambling advertising (68). All television and radio gambling advertisements require a thinkTV preclearance approval prior to airing.

Finally, both the AGCO and AdStandards provide members of the public a complaint portal (111,112). As such, even after an advertisement has been distributed, any alleged violation of the above regulatory framework can be reported and investigated in a systematic manner (111,112).

In Figure 4, we provide a summary of the regulatory infrastructure governing Ontario online gambling advertising. In the next section, we review Ontario's online gambling advertising rules in detail.

Figure 4 – Regulatory Infrastructure Governing Ontario Online Gambling Advertising

Level	Entity	Rules	Pre-Distribution Enforcement	Post-Distribution Enforcement
National	Legislature	✓		
Provincial	Alcohol and Gaming Commission of Ontario (AGCO)	✓		✓
Independent	Responsible Gambling Council (RGC)	✓	✓	
	AdStandards Canada	✓		✓
	thinkTV	✓	✓	

Note: RGC’s evaluation of marketing communications, including advertisements, is performed prior to platform launch, and every two years thereafter, but not before each individual advertisement is distributed (between evaluations).

3.1.2 ANALYSIS OF CURRENT ADVERTISING RULES

The above infrastructure yields an extensive body of online gambling advertising rules. We’ve sorted the language into five major themes: good taste and moral expectations, advertising related to young or otherwise vulnerable persons, advertising related to sport or celebrities, online gambling promotions and direct marketing, and affiliate (third-party) marketing.

Theme 1: Good Taste and Moral Expectations

The first theme, good taste and moral expectations, includes some of the most proscriptive language across the large body of rules. General prohibitions on false or misleading content abound, appearing in federal legislation, provincial regulation, and standards set by the RGC, AdStandards, and thinkTV (58, 59, 62, 65, 68). More specifically, the AGCO Standards include more than a dozen rules describing how gambling may *not* be portrayed in advertising content. A few examples: advertising must not suggest that gambling is a rite of passage, an alternative to employment, a financial

investment, or an escape from personal or professional problems (59). Additionally, advertising must not disparage abstinence or suggest that gambling can enhance personal qualities (e.g., improve self-image or self-esteem) or allow one to achieve superiority, recognition, or admiration (59). Further, both AGCO and thinkTV standards prohibit advertisements from encouraging irresponsible or excessive play (59, 68). The entities also require advertising to incorporate positive messages encouraging responsible participation (59, 68).

Theme 2: Advertising Related to Young or Otherwise Vulnerable Persons

The second theme addresses advertising related to young or otherwise vulnerable persons and includes similarly thorough guidance. Generally, operators are strictly prohibited from targeting high-risk, underage, or self-excluded persons (59, 62, 68). Advertising materials may not be based on themes, or use language, intended to appeal primarily to minors. The AGCO further indicates that promotion of gambling shall not use individuals who are, or appear to be, minors (59, 65, 68). thinkTV’s guidelines go further by strongly recommending that television and radio gambling advertisements, which must

be approved by the entity prior to airing, not feature anyone below the age of 25 (113). Additionally, advertising shall not appear on any physical display directly adjacent to schools or other primarily youth-oriented locations. Similarly, advertising shall not appear in media and venues, including on websites, and in digital or online media, directed primarily to minors, or where most of the audience is reasonably expected to be minor (59). Last, materials shall not use or contain cartoon figures, symbols, role models, social media influencers, celebrities, or entertainers who would likely be expected to appeal to minors (59). Lastly, the AGCO recently banned the use of active or retired athletes because the group was “considered to appeal to minors” (69). For more detail on this rule, see theme 3.

Theme 3: Advertising Involving Sport or Celebrities

The third theme speaks to advertising involving sport or celebrities. Earlier this year, the AGCO added regulations prohibiting the use of active or retired athletes, who have an agreement or arrangement made directly or indirectly between an athlete and an operator or gambling-related supplier, in advertising and marketing except for the exclusive purpose of advocating for responsible gambling practices (59, 69). As noted in the second theme, operators must take particular care not to use in their advertising notable or recognizable figures, including cartoon figures, role models, and entertainers, that are likely to be expected to appeal to minors (59).

Theme 4: Promotions and Direct Marketing

The fourth theme concerns online gambling promotions and direct marketing and is materially restrictive. To begin, the AGCO imposes a blanket ban on public advertising communicating inducements, bonuses, and

credits. Such advertising may only be available on an operator’s gambling platform and through direct marketing (59). As an additional layer of protection, direct marketing must be opt-in, rather than opt-out. In other words, players must actively consent to receive direct marketing prior to receiving such marketing. Players must also be provided a method to withdraw their consent at any time (59). Regarding promotions themselves, operators must disclose material conditions and limitations of the offer at its first presentation, with all other conditions and limitations no more than one click away. Further, promotions must not be described as “free” if the player must risk or lose their own money or if there are conditions attached to their own money. Similarly, promotions must not be described as “risk-free” if the player needs to incur any loss or risk their own money to use or withdraw winnings from the “risk-free” bet (59).

Theme 5: Affiliate Marketing

The fifth and final category of online gambling advertising rules addresses affiliate marketing. As a threshold matter, the AGCO holds licensed operators responsible for the actions of third parties advertising on their behalf, including affiliate marketers. Additionally, to reduce the reach of illegal gambling platforms that are not subject to Ontario’s regulatory infrastructure, operators are prohibited from entering affiliate marketing contracts with any entity that also markets for unlicensed online gambling sites facilitating or accepting wagers from players in Ontario (59).

With the regulatory infrastructure and specific body of rules in mind, we provide Figure 5, which illustrates the journey of a hypothetical sportsbook television advertisement from creation to airing in Ontario.

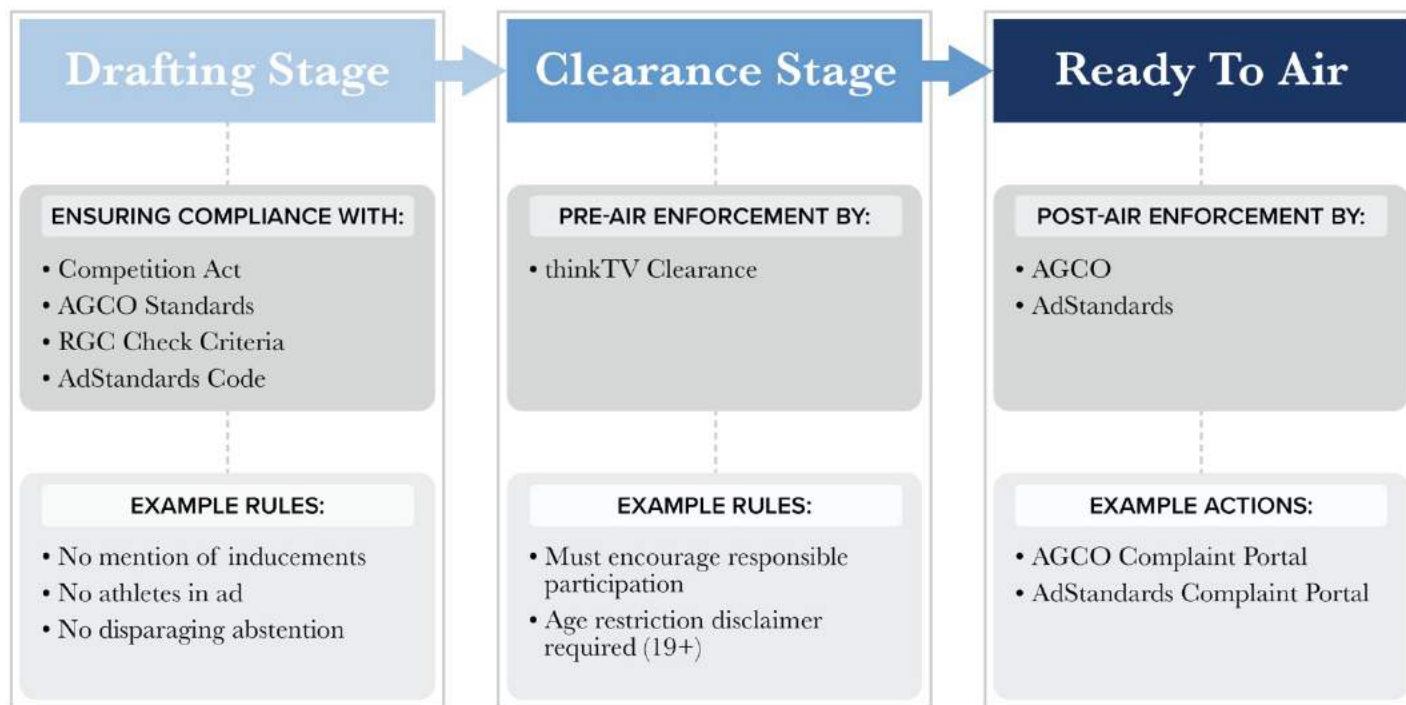


Figure 5 – Journey of a hypothetical sportsbook ad to be broadcast on television in Ontario

3.1.3 COMPARISON TO RAPID REVIEW FINDINGS

Our rapid review found significant limitations to the existing literature exploring gambling marketing and advertising’s effect on consumer gambling intentions and behaviour, including mixed and uncertain evidence, an inability to determine directionality or causality, and a lack of objective measurement. Even with the limitations, however, we noted several instances in which study findings and/or recommendations could be connected to Ontario’s existing body of online gambling advertising rules. Below, we provide examples, organized by theme. The reviewed literature was relatively thin and inconclusive on theme 3, advertising involving sport or celebrities. We do, however, address some of Ontario’s rules in this theme that are closely related to rules addressed in other themes. Finally, the reviewed literature did not address affiliate marketing specifically, but the rule that the AGCO holds licensed operators responsible for the actions of third parties advertising on their behalf,

including affiliate marketers, effectively adds all rules addressed in themes 1-4 to theme 5.

Theme 1: Good Taste and Moral Expectations

On the theme of good taste and moral expectations, a Killick and Griffiths review remarks on the prevalence of advertising with narratives focused on humor, friendship, excitement, and fun, which the authors suspect could contribute to “normalizing” gambling by reducing feelings of risk (42). Ontario’s rules prohibiting advertising from suggesting that winning is a probable outcome of gambling, or that the chances of winning increase the longer one plays or the more one spends, appear to work against the “reduction of feelings of risk” that Killick and Griffith posit may contribute to the “normalization” of gambling (2, 42, 59). To a similar end, Ontario’s rules prohibiting online gambling advertising from suggesting that gambling is a rite of passage, that there exists peer pressure to gamble, or that gambling can provide an

escape from personal problems, ostensibly combat the “normalization” of gambling directly (59).

Theme 2: Advertising Related to Young or Otherwise Vulnerable Persons

Ontario’s extensive rules on the theme of advertising related to young or otherwise vulnerable persons mirror the high degree of attention paid to this theme by researchers. First, Ontario’s prohibition on advertising appearing on billboards or other outdoor displays directly adjacent to schools or other primarily youth-oriented locations is supported by recommendations made in the Garzola review, which advised restricting advertising in such a way as to reduce children’s exposure (e.g., time-based restrictions) (44, 59). Garzola’s recommendation similarly supports an Ontario rule prohibiting advertising from appearing in media and venues, including on websites, and in digital or online media, where most of the audience is reasonably expected to be minors (44, 59). De Censo et al.’s review indicating that exposure to advertising impacts young people’s (aged 15-24) sports betting perceptions and behaviours, though marked by methodological limitations, broadly supports Ontario’s above rules because they are designed to reduce children’s exposure in both the physical and digital spheres (6). Moreover, Ontario’s numerous rules restricting online gambling advertising content (e.g., thinkTV’s recommendation that advertisements not include persons under the age of 25; the AGCO’s rule that advertising not be based on themes or use language intended to appeal primarily to minors), by reducing the advertisements’ appeal to children, are aligned with the above recommendations and findings (59, 113).

Regarding otherwise vulnerable persons, Ontario’s rules prohibiting advertising from extolling the virtues of gambling or targeting high-risk or self-excluded persons, as well as a requirement that operators put in place measures to limit marketing communications to known high-risk players, are all supported by evidence indicating that these persons may have more positive attitudes toward advertising and that, for them, exposure to advertising may result in impulses to gamble (40, 59). Additional examples of Ontario rules supported by evidence related to vulnerable persons’ advertising

exposure are provided in theme 4: promotions and direct marketing.

Theme 3: Advertising Involving Sport or Celebrities

Though the literature was relatively thin and inconclusive on this theme, we note that the AGCO’s stated rationale for its ban on athletes appearing in advertisements was that such figures were “considered to appeal to minors” (69). As such, the purpose of the rule, to reduce gambling advertising’s appeal to children, and consequently reduce children’s exposure to such advertising, is supported by Garzola’s recommendations and De Censo et al.’s findings discussed in theme 2 (6, 44, 69). Additionally, the rule requiring operators to limit marketing communications to at-risk persons, also addressed in theme 2, is supported by evidence gleaned from studies exploring the impact of this group’s exposure to gambling promotions, including during sporting events (40). Finally, Ontario’s broad ban on specific inducements, addressed in theme 4, is underpinned by literature indicating that inducements offered, including during televised sport, may result in impulses to gamble (40). Indeed, though the ban does not extend to all advertisements during sporting events, it does prohibit operators from offering boosted or special odds at any time, including sporting events, which generally aligns with Killick and Griffiths’ finding that displays of live odds during a sporting event may be particularly associated with impulses to gamble (40).

Theme 4: Promotions and Direct Marketing

On the theme of promotions and direct marketing, Ontario’s broad ban on public advertisement of inducements and bonuses is supported by multiple studies and reviews, including those that found that inducements were particularly effective at increasing frequency of gambling, with a more pronounced effect on those experiencing or at risk of experiencing gambling problems (43). Similarly, Di Censo et al.’s results suggest that persons currently experiencing, or at higher risk of experiencing, gambling problems, were more likely to perceive inducements as worsening such problems (16). The province’s strict requirement that direct marketing be opt-in, rather than opt-out, is an additional layer of protection supported by the aforementioned evidence. Separately, evidence indicating that media including email and text message are particularly associated with

impulses to gamble supports requiring operators to take the extra step of obtaining the express, advance consent of the customer prior to sending such marketing (40).

Ontario's rules restricting advertisement language, including the use of terms like "risk-free," are supported by Hing et al., who found that bet attributes were most important for participants' self-reported intentions to gamble, and that risk-free bets were the most attractive bet type (30, 59). Further, Ontario's requirement that promotions communicate all material conditions and limitations at their first presentation mirrors Garzola's recommendation that companies be required to disclose statistical information (e.g., probabilities)—similarly pertinent information—in promotional materials (44, 59).

Theme 5: Affiliate Marketing

The literature did not address any specific affiliate marketing strategies or structures, instead focusing on the advertisements themselves. We note, however, that the AGCO holds licensed operators responsible for the actions of third parties advertising on their behalf, including affiliate marketers, effectively adding all rules addressed in themes 1-4 to this category.

3.2 COMPARISON JURISDICTIONS

3.2.1 RATIONALE FOR SELECTION

To contextualize Ontario, we compare its regulatory framework and specific body of rules to four jurisdictions: the United Kingdom (U.K.), Denmark, and two American states, Michigan and New Jersey.

Though the United States has quickly become one of the largest online sports betting markets, it has a limited selection of truly comparable comparison jurisdictions to Ontario because of the limited availability of iGaming. Though there are currently 39 jurisdictions with legal online sports betting, just 8 also have some form of iGaming. We removed Nevada because it only offers online poker, rather than full iGaming (110). We then removed jurisdictions that are served by a monopoly provider on behalf of the government (e.g., Rhode Island, Delaware) or restrict operators to a degree as to be effectively uncompetitive (e.g., Connecticut authorizes just two operators) and thus, are poor comparisons to

Ontario (107, 108, 109). American states could only begin legalizing online sports betting in May 2018 when the United States Supreme Court overturned the Professional and Amateur Sports Protection Act (PASPA), a federal ban on sports betting enacted in 1992 (101). As such, all sports betting markets are slightly, but not materially, older than Ontario's. We selected New Jersey as our first United States comparison market because it is the longest running jurisdiction with both products—the state legalized iGaming in 2013 and online sports betting in 2018—and an influential one (93, 94). Our second American state, Michigan, is also one of the older United States markets, having legalized both products in 2019, and has close proximal ties to the Ontario market, as it borders the province (97, 98).

The U.K. was selected as it is among the world's largest and longest running competitive markets with a plethora of online sports betting and iGaming operators, and it is also regarded as one of the most sophisticated, from a regulatory infrastructure perspective. As such, the U.K. offers a useful point of comparison to Ontario.

Efforts to find additional comparison jurisdictions proved challenging, however, as many online gambling markets do not include legal iGaming (e.g., Australia, Cyprus, France), or have one or both products operated by the government itself (e.g., Austria, Finland, Poland, Slovenia, Switzerland), making them poor comparisons to Ontario (102, 103). Finally, constraints specific to this review, including availability of information in English, disqualify additional potential comparison markets (e.g., Germany) (106). In selecting Denmark as our fourth comparison market, we choose a market with both online sports betting and iGaming, that operates relatively competitively but still offers a distinctly European perspective on gambling advertising, and whose gambling regulator publishes all information in English.

3.2.2 OVERVIEW OF CURRENT REGULATORY INFRASTRUCTURE

Generally, the regulatory infrastructures governing our four comparison jurisdictions are quite similar to that in Ontario. Online gambling operators in the U.K., Denmark, Michigan, and New Jersey are all subject to federal legislation and regulation. In Michigan and New Jersey, operators have additional rules set out by local

(state) legislators and regulators. Finally, as in Ontario, there exist in all comparison jurisdictions independent organizations providing additional rules and/or layers of enforcement. Below, we summarize the specific entities comprising the regulatory infrastructure in each of the four comparison jurisdictions.

In the U.K., the Gambling Act of 2005 provides federal legislative guidance on gambling advertising. Also at the federal level, the Gambling Commission, the U.K. gambling regulator, publishes a thorough body of advertising rules specific to online gambling. Independent organizations providing guidance above and beyond federal law and regulations and/or additional layers of enforcement include the Advertising Standards Authority (ASA) and the Betting and Gaming Council's (BGC) Industry Group for Responsible Gambling (IGRG). The Gambling Commission explicitly requires operators to abide by the ASA's Broadcast Advertising (BCAP) Code and Non-Broadcast Advertising and Direct and Promotional Marketing Code (CAP Code) (15). The ASA's Clearcast, a broadcast preclearance program, is required for online gambling radio and television advertisements (78, 79). Finally, the Gambling Commission strongly encourages operators to comply with the IGRG's Code for Socially Responsible Advertising (90).

Denmark's regulatory infrastructure includes the federal Consolidated Danish Act on Gambling and the Danish Marketing Practices Act (81, 82). The federal gambling regulator, the Danish Gambling Authority (DGA), administers the two acts and sets out advertising rules for online gambling operators (83). Spillebranchen, an independent industry organization, publishes a Code of Conduct that provides guidance above and beyond the federal rules (86).

Operators in both Michigan and New Jersey must comply with federal legislation, including the Federal Trade Commission Act and the Communications Act of 1934, and the respective regulatory agencies administering the acts, the Federal Trade Commission (FTC) and Federal Communications Commission (FCC) (87, 88, 89, 90). In both states, however, most of the online gambling-specific infrastructure is at the state level. Michigan's state sports betting and internet gambling laws are implemented and enforced by the state gambling regulator, the Gaming

Control Board (GCB) (97, 98, 99, 100). Similarly, New Jersey's state sports betting and internet gambling laws are implemented and enforced by the state gambling regulator, the Division of Gaming Enforcement (DGE) (93, 94, 95, 96). Last, the American Gaming Association (AGA), a trade group for the United States casino industry, counts most of the licensed operators in both states as members. Members agree to abide by the AGA's Responsible Gambling Code of Conduct and the Responsible Marketing Code for Sports Wagering, which set out additional rules (91, 92).

3.2.3 ANALYSIS OF CURRENT ADVERTISING RULES

While the comparison jurisdictions exhibit a range of regulatory climates, the U.K. and Denmark employ more rules, in absolute terms, as well as more severe restrictions than Michigan and New Jersey, in our view. Our initial review finds that, as a whole, online gambling advertising rules in Ontario are slightly more permissive than those in the UK, substantively comparable to those in Denmark, and stricter than those in Michigan and New Jersey. Below, we compare Ontario's rules to those in the comparison jurisdictions in each of five themes: good taste/moral expectations, advertising related to young or otherwise vulnerable persons, advertising related to sport or celebrities, online gambling promotions and direct marketing, and affiliate (third-party) marketing.

Theme 1: Good Taste and Moral Expectations

Regarding the first theme, good taste/moral expectations, recall that Canada's rules are both numerous and materially restrictive. We find the U.K.'s rules comparable in both number and tenor, Michigan's and New Jersey's rules slightly less comparable (less strict), and Denmark's considerably less comparable. We note, however, that all jurisdictions provide general prohibitions on false, misleading, or deceptive advertising (76, 81, 82, 86, 89, 92).

Like Ontario's, the U.K.'s rules have over a dozen explicit prohibitions related to depictions of gambling. Examples include: marketing communications must not suggest that gambling can provide an escape from personal, professional, or educational problems, a solution to financial concerns, an alternative to employment, or a

way to achieve financial security. Communications must not suggest that gambling is a rite of passage or exploit cultural beliefs about gambling or luck. Additionally, marketing must not condone excessive consumption or feature gambling in a working environment (72). Michigan's and New Jersey's rules have fewer prohibitions, but the content of the rules is similar in tone. Rules prohibit content from promoting irresponsible participation or suggesting that social, financial, or personal success is guaranteed (91). Additional rules prohibit operators from advertising with such intensity and frequency that the activity represents saturation of that medium or becomes excessive, though neither "saturation" nor "excessive" are defined (92). Additionally, the New Jersey DGE encourages, but does not currently require, operators to submit all advertisements and promotions to the regulator prior to use (96). Denmark has fewer than five rules in this category, among them requirements that marketing present the chances of winning in a balanced way and offer games as entertainment only. Further, marketing must not give the impression that participation is a solution to financial problems or gives the player social acceptance (83). Denmark rules do include a novel provision prohibiting gambling advertising from appearing in the same advertising blocks as quick loan or payday loan advertisements (86).

Theme 2: Advertising Related to Young or Otherwise Vulnerable Persons

On the second theme, advertising related to young or otherwise vulnerable persons, Ontario's rules are comparable to the U.K.'s, and stricter than Michigan's and New Jersey's. Denmark's guidance on this topic is least like Ontario's.

First, and notably, U.K. operators have implemented a voluntary ban on television gambling advertising before 9 PM, ostensibly to limit children's exposure to advertising (80). More details on the ban are provided in theme 4. In our view, Ontario's broad ban on any public advertisement of specific inducements/bonuses is comparable because, although it does not ban all advertisements, it applies to all media, rather than just television, and always applies, rather than being time-restricted (59). Further, the prohibition on mentioning bonuses specifically reduces the advertisements' appeal to

young and vulnerable persons, two groups that have been shown to be more responsive to these types of ads (6, 40, 43, 59).

U.K. rules further state that online gambling marketing shall not be likely to be of strong appeal to children or young persons, especially by reflecting or being associated with youth culture (76). U.K. employs similar television advertisement restrictions to Ontario, though using slightly stronger language. Specifically, the U.K., which has a legal online gambling age of 18, prohibits by rule anyone who is or seems to be under 25 years old from gambling in an advertisement, while Ontario's thinkTV, which must approve all television advertisements prior to airing, recommends that actors in those advertisements are, or appear to be, 25 or older (76, 113). As an additional step, U.K. rules also prohibit online gambling branding or logos from appearing in areas of sports franchises' businesses that are more likely to be frequented by minors, including the junior sections of club websites or youth-targeted merchandise (e.g., youth-sized replica shirts) (107).

Both Michigan and New Jersey employ similar, though not identical, language to Ontario on this topic. Specifically, United States rules prohibit advertising from depicting cartoon characters or entertainers, athletes, influencers, or music that appeals primarily to audiences under the age of 21 (91). We note that this restriction is slightly narrower than an analogous rule in Ontario that prohibits any content that would likely be expected to appeal to an underage audience (59). United States rules also state that anyone appearing in advertising should be at least 21 years old, which is slightly less strict than Ontario's rule that advertising shall not use individuals who are, or appear to be, minors (59, 65, 68, 91). Further, United States rules urge advertising to be placed in broadcast, cable, radio, print, or digital communications where at 73.6% of the audience is reasonably expected to be at least 21 years old (91). Related to colleges, advertising should not be placed in college or university-owned news assets or on college campuses. Additionally, the rules discourage operators from entering name, image, and likeness (NIL) partnerships with amateur athletes (91).

We note the verbs used here, "should" and "discourage," are less strict than the "must not" or "shall not" often used by similar rules in Ontario and the U.K. Denmark's rules

include a general prohibition against online gambling marketing targeting children and young people, including a specific prohibition against logos or marketing messages from being displayed on merchandise targeted or designed for children only, but notably lacked the volume of specific guidance found in the other four jurisdictions (83, 86).

Theme 3: Advertising Involving Sport or Celebrities

On the third theme, advertisements involving sport or celebrities, the U.K.'s rules are the strictest of the five jurisdictions, with Ontario in a close second, followed by the two American states and Denmark. The U.K.'s IGRG Code for Socially Responsible Advertising bans television gambling advertising prior to 9 PM. The ban notably includes a version of the "whistle-to-whistle" advertising ban. Specifically, the rules prohibit television gambling advertising from five minutes before a broadcast live sporting event starts until the earlier of five minutes after the event ends or 9 PM (80). Additionally, during this period, sports betting operators cannot sponsor the relevant television program. These provisions extend to live streaming of a televised sports broadcast on mobile devices (80). Ontario's broad ban on specific inducements includes bonuses and boosted or special odds, and applies to all media and at all times, including during sporting events (59). As such, it can be viewed as a variant of the U.K.'s quasi-whistle-to-whistle ad ban. Specific to theme 3, however, we find Ontario's ban on inducements slightly less restrictive than the U.K.'s quasi-whistle-to-whistle ad ban.

As described in the second theme, U.K. rules also include specific guidance for sports franchises to limit minors' exposure to gambling branding and logos (80, 104). Of note, though not enacted by a regulatory body, the Premier League, England's highest level of professional soccer, announced it would voluntarily withdraw gambling sponsorship from the front of clubs' matchday shirts. The agreement will come into force at the end of the 2025-2026 season (105).

None of the four comparison jurisdictions have a rule like Ontario's prohibition on active or retired athletes appearing in advertisements, except for the exclusive purpose of advocating for responsible gambling (59, 69). United States rules, applicable to New Jersey and

Michigan, employ notably softer language than either Ontario or the U.K., both permitting athletes to appear in advertisements and declining to strictly require them to be of legal online gambling age, stating that athletes appearing in gambling advertisements *should be* at least 21 years of age (the legal age for gambling) (91). Finally, Denmark's rules only prohibit celebrities appearing in advertising from untruthfully implying that participation in gambling has contributed to their success (81).

Theme 4: Promotions and Direct Marketing

On the fourth theme, promotions and direct marketing, Ontario's rules are comparable to the U.K.'s and Denmark's, and significantly stricter than either of the two American states. To begin, Denmark limits all promotions offered to an absolute maximum value of DKK 1,000; we have not seen any other regulator unilaterally limit the monetary value of promotions operators can offer (84). Similarly unique is a voluntary U.K. ban on television online gambling advertising before 9 PM (80). The ban excepts sports betting advertising around televised broadcasts of live sporting events, though not from five minutes prior to a live sporting event until the earlier of five minutes after the event ends or 9 PM (i.e., a quasi-whistle-to-whistle advertising ban). Additionally, no advertisement otherwise permitted before 9 PM may include sign-up offers targeted solely at new customers (80). Ontario's broad ban on any public advertisement of a specific inducement/bonus, which is not time-restricted and applies to all media, can be seen as a comparable variation of the U.K.'s voluntary ban on television advertising before 9 PM.

Regarding promotional language, all five jurisdictions are similar. Ontario's rules are similar to Denmark's, which require operators to disclose all material conditions and limitations of any offer directly alongside the offer, with all other conditions no more than one click away from access (84). Denmark's rules also require terms and conditions to be presented in a way that makes them readable and understandable (e.g., font size, color) and listed in order according to their significance (84). Further, the promotion itself must be described in a balanced way in terms of advantages and disadvantages (84). The U.K. similarly requires promotions to communicate all significant conditions and restrictions. Per New Jersey's and Michigan's rules, offer terms shall be stated in clear

and unambiguous language and readily accessible to the customer (95, 100). Restrictions like Ontario’s, which govern the use of “free” and “risk-free,” are also present in the U.K., Denmark, and both American states (76, 84, 91, 92)

Ontario’s requirement that direct marketing be opt-in, rather than opt-out, is also used in the U.K. and Denmark, but not by either American state (72, 84). The U.K. Gambling Commission recently finalized rules to further restrict direct marketing by requiring operators to obtain consent for each product type and channel, rather than a general consent to direct marketing. For example, if a customer gives consent to receive online sports betting emails, operators are not permitted to send any other product type or channel (e.g., iGaming emails, online sports betting text messages) (74). Denmark also has additional guidance on direct marketing—a novel rule prohibiting any third-party marketing affiliate from direct marketing at all. In Denmark, customers use their citizen registration numbers to self-exclude, rather than their names, and while gambling operators have access to the registry, marketing affiliates do not. Without a reliable way for affiliates to know who is self-excluded and, as such,

should not receive direct marketing, the gambling regulator prohibits such entities from engaging in direct marketing altogether (84). United States rules, applicable to Michigan and New Jersey, only require that direct marketing offer customers a way to unsubscribe from future communications (91, 92).

Theme 5: Affiliate Marketing

On the fifth and final theme, affiliate marketing, Denmark is likely the strictest, as it prohibits the entities from direct marketing at all (see theme 4 for details). Next, Ontario and the U.K. are similar, as both jurisdictions hold online gambling operators legally responsible for the actions of third parties advertising on their behalf, increasing the likelihood that affiliates also comply with the advertising rules (59, 73, 80). Denmark opts for a less stringent, general statement indicating that all advertising rules also apply to affiliates (84). Finally, Ontario’s rule prohibiting operators from entering affiliate marketing contracts with any entity that also markets for unlicensed online gambling sites facilitating or accepting wagers from players in Ontario mirrors a Michigan rule requiring each

Figure 6 – Summary of Jurisdictional Comparison of Gambling Advertising and Marketing “Rules”

	Novel Ontario Rules	Comparison to Ontario Rules			
		United Kingdom	Denmark	New Jersey	Michigan
Good taste/moral expectations	N/A	Comparable	Less Restrictive Limited restrictions but uniquely prohibits ads appearing with payday loan ads	Less Restrictive Fewer restrictions but similar policy tone	Less Restrictive Fewer restrictions but similar policy tone
Advertising related to young or otherwise vulnerable persons	N/A	Different Restrictions U.K. operators implement a voluntary ban on TV ads before 9 PM	Less Restrictive Fewer restrictions but similar policy tone	Comparable	Comparable
Advertising related to sport or celebrities	Prohibition on athletes appearing in advertisements, except for advocating for responsible gambling	More Restrictive Quasi-“Whistle-to-whistle” TV ad ban (on live sports broadcasts before 9PM, including sponsorship)	Less Restrictive Prohibits celebrities from untruthfully implying gambling contributed to their success	Less Restrictive Permit athletes in ads	Less Restrictive Permit athletes in ads
Online gambling promotions and targeted marketing	Blanket ban on public advertising communicating inducements, bonuses, and credits	Different Restrictions U.K. operators implement a voluntary ban on TV ads before 9 PM	More Restrictive Denmark limits all promotions offered to an absolute maximum value of DKK 1,000 (~CAD 200)	Less Restrictive Targeted marketing is opt-out not opt-in	Less Restrictive Targeted marketing is opt-out not opt-in
Affiliate (third-party) marketing	N/A	Comparable	More Restrictive Denmark prohibits third-party marketing affiliates from direct marketing	Comparable	Comparable

affiliate marketer to certify that it does not promote or market unlicensed online gambling platforms (59, 99).

In Figure 6, we compare Ontario's rules to those in the four comparison jurisdictions in each of the five themes.

3.3 POLICY LANDSCAPE SUMMARY

Our review of the policy landscape governing Ontario online gambling advertising reveals a web of regulatory infrastructure that includes federal, provincial, and independent entities. The entities publish and enforce a thorough body of rules across a variety of themes, including good taste/moral expectations, advertising related to young or otherwise vulnerable persons, advertising related to sport or celebrities, online gambling promotions and direct marketing, and affiliate (third-party) marketing. The rules themselves number into the

dozens, and many are supported by evidence from studies we reviewed in our rapid review.

A review of the online gambling advertising policy landscape in four comparison jurisdictions, the U.K., Denmark, and the two American states of Michigan and New Jersey, indicates that the activity is subject to substantively similar regulatory infrastructure, with guidance and enforcement provided by federal, local, and independent entities. On each of the five themes, each individual jurisdiction's rules vary in number and tenor. Considered as a whole, however, we find the U.K.'s rules the strictest / least permissive, followed by Denmark's, followed by Michigan's and New Jersey's. Relative to the four comparison jurisdictions, we find Ontario's rules to be slightly less strict than those in the U.K., about as strict as those in Denmark, and materially stricter than those in Michigan and New Jersey.

4 REFERENCES

1. BanAdsForGambling.ca [Internet]. [cited 2024 May 30]. Official BAFG White Paper #1. Available from: <https://www.banadsforgambling.ca/resources-white-paper>
2. Wheaton J, Rossi R, Moxey M, Tozzi E, Moradipour S. An Analysis of the Prevalence of Marketing Across Televised and Social Media Coverage of NBA and NHL in Ontario. 2024;
3. Tricco AC, Langlois EtienneV, Straus SE, Alliance for Health Policy and Systems Research, World Health Organization. Rapid reviews to strengthen health policy and systems: a practical guide [Internet]. Geneva: World Health Organization; 2017 [cited 2024 Jun 2]. Available from: <https://iris.who.int/handle/10665/258698>
4. Garritty C, Gartlehner G, Nussbaumer-Streit B, King VJ, Hamel C, Kamel C, et al. Cochrane Rapid Reviews Methods Group offers evidence-informed guidance to conduct rapid reviews. *J Clin Epidemiol*. 2021;130:13–22.
5. McGrane E, Wardle H, Clowes M, Blank L, Pryce R, Field M, et al. What is the evidence that advertising policies could have an impact on gambling-related harms? A systematic umbrella review of the literature. *Public Health*. 2023;215:124–30.
6. Di Censo G, Delfabbro P, King DL. The impact of gambling advertising and marketing on young people: A critical review and analysis of methodologies. *Int Gambl Stud* [Internet]. 2023; Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85161422556&doi=10.1080%2f14459795.2023.2199050&partnerID=40&md5=8c0ee7da6d7e986ca536c6741c0bbb5b>
7. Russell AMT, Hing N, Li E, Vitartas P. Gambling Risk Groups are Not All the Same: Risk Factors Amongst Sports Bettors. *J Gambl Stud*. 2019 Mar 1;35(1):225–46.
8. Hanss D, Mentzoni RA, Griffiths MD, Pallesen S. The Impact of Gambling Advertising: Problem Gamblers Report Stronger Impacts on Involvement, Knowledge, and Awareness Than Recreational Gamblers. *Psychol Addict Behav*. 2015;29(2):483–91.
9. Hing N, Russell AMT, Lamont M, Vitartas P. Bet Anywhere, Anytime: An Analysis of Internet Sports Bettors' Responses to Gambling Promotions During Sports Broadcasts by Problem Gambling Severity. *J Gambl Stud*. 2017;33(4):1051–65.
10. Kristiansen S, Severin-Nielsen MK. Adolescent gambling advertising awareness: A national survey. *Int J Soc Welf*. 2022;31(2):263–73.
11. De Jans S. The effectiveness of betting odds in digital gambling advertising for sports betting. *Int Gambl Stud* [Internet]. 2022; Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85131586506&doi=10.1080%2f14459795.2022.2079705&partnerID=40&md5=d2bfd5abf2e50d77c5760d078b1deaff>
12. Pitt H, Thomas SL, Bestman A, Daube M, Derevensky J. What do children observe and learn from televised sports betting advertisements? A qualitative study among Australian children. *Aust N Z J Public Health*. 2017;41(6):604–10.
13. Torrance J, Roderique-Davies G, Thomas SL, Davies N, John B. “It’s basically everywhere”: Young adults’ perceptions of gambling advertising in the UK. *Health Promot Int*. 2021;36(4):976–88.
14. Nyemcsok C, Thomas SL, Bestman A, Pitt H, Daube M, Cassidy R. Young people’s recall and perceptions of gambling advertising and intentions to gamble on sport. *J Behav Addict*. 2018;7(4):1068–78.

15. Clemens F, Hanewinkel R, Morgenstern M. Exposure to Gambling Advertisements and Gambling Behaviour in Young People. *J Gambl Stud.* 2017;33(1):1–13.
16. Di Censo G, Delfabbro P, King DL. Young People’s Perceptions of the Effects and Value of Sports Betting Inducements. *Int J Ment Health Addict [Internet].* 2023; Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85173943609&doi=10.1007%2fs11469-023-01173-0&partnerID=40&md5=351ca14a025acd4d9ec2fff027b4e0e8>
17. Hing N, Vitartas P, Lamont M, Fink E. Adolescent exposure to gambling promotions during televised sport: an exploratory study of links with gambling intentions. *Int Gambl Stud.* 2014;14(3):374–93.
18. Noble N, Freund M, Hill D, White V, Leigh L, Lambkin D, et al. Exposure to gambling promotions and gambling behaviours in Australian secondary school students. *Addict Behav Rep [Internet].* 2022;16. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85132215203&doi=10.1016%2fj.abrep.2022.100439&partnerID=40&md5=0447185e47f4506a33ded8696ef4c39f>
19. Oksanen A, Sirola A, Savolainen I, Koivula A, Kaakinen M, Vuorinen I, et al. Social Ecological Model of Problem Gambling: A Cross-National Survey Study of Young People in the United States, South Korea, Spain, and Finland. *Int J Environ Res Public Health.* 2021 Jan;18(6):3220.
20. Parrado-González A, León-Jariego JC. Exposure to gambling advertising and adolescent gambling behaviour. Moderating effects of perceived family support. *Int Gambl Stud.* 2020 May 3;20(2):214–30.
21. Wardle H, Critchlow N, Brown A, Donnachie C, Kolesnikov A, Hunt K. The association between gambling marketing and unplanned gambling spend: Synthesised findings from two online cross-sectional surveys. *Addict Behav [Internet].* 2022;135. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85135875121&doi=10.1016%2fj.addbeh.2022.107440&partnerID=40&md5=eb194453093db822c29557421b823f38>
22. Botella-Guijarro Á, Lloret-Irles D, Segura-Heras JV, Cabrera-Perona V, Moriano JA. A Longitudinal Analysis of Gambling Predictors among Adolescents. *Int J Environ Res Public Health.* 2020 Jan;17(24):9266.
23. Bouguettaya A, Lynott D, Carter A, Zerhouni O, Meyer S, Ladegaard I, et al. The relationship between gambling advertising and gambling attitudes, intentions and behaviours: a critical and meta-analytic review. *Curr Opin Behav Sci.* 2020 Feb 1;31:89–101.
24. Gainsbury SM, King DL, Russell AMT, Delfabbro P, Derevensky J, Hing N. Exposure to and engagement with gambling marketing in social media: Reported impacts on moderate-risk and problem gamblers. *Psychol Addict Behav.* 2016;30(2):270–6.
25. Browne M, Hing N, Russell AMT, Thomas A, Jenkinson R. the impact of exposure to wagering advertisements and inducements on intended and actual betting expenditure: An ecological momentary assessment study. *J Behav Addict.* 2019;8(1):146–56.
26. Hing N, Russell AMT, Thomas A, Jenkinson R. Wagering Advertisements and Inducements: Exposure and Perceived Influence on Betting Behaviour. *J Gambl Stud.* 2019;35(3):793–811.
27. Rawat V, Hing N, Russell AMT. What’s the Message? A Content Analysis of Emails and Texts Received from Wagering Operators During Sports and Racing Events. *J Gambl Stud.* 2020;36(4):1107–21.
28. Russell AMT, Hing N, Browne M, Rawat V. Are direct messages (texts and emails) from wagering operators associated with betting intention and behaviour? An ecological momentary assessment study. *J Behav Addict.* 2018 Dec 1;7(4):1079–90.

29. De Jans S, Cauberghe V, Hudders L, Rys F. An Experimental Study to Examine Whether and How Flemish and Dutch Harm Prevention Messages on Gambling Advertising Affect Consumers' Gambling-Related Beliefs and Intentions. *Psychol Addict Behav.* 2023;37(6):771–84.
30. Hing N, Vitartas P, Lamont M. Understanding persuasive attributes of sports betting advertisements: A conjoint analysis of selected elements. *J Behav Addict.* 2017;6(4):658–68.
31. Roderique-Davies G, Torrance J, Bhairon T, Cousins A, John B. Embedded Gambling Promotion in Football: An Explorative Study of Cue-Exposure and Urge to Gamble. *J Gambl Stud.* 2020;36(3):1013–25.
32. Hing N, Cherney L, Blaszczynski A, Gainsbury SM, Lubman DI. Do advertising and promotions for online gambling increase gambling consumption? An exploratory study. *Int Gambl Stud.* 2014 Sep 2;14(3):394–409.
33. Binde P, Romild U. Self-Reported Negative Influence of Gambling Advertising in a Swedish Population-Based Sample. *J Gambl Stud.* 2019;35(2):709–24.
34. Guillou-Landreat M, Gallopel-Morvan K, Lever D, Le Goff D, Le Reste JY. Gambling Marketing Strategies and the Internet: What Do We Know? A Systematic Review. *Front Psychiatry [Internet].* 2021;12. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85102386953&doi=10.3389%2ffpsy.2021.583817&partnerID=40&md5=8208f971c2792b2d90aba80286836a9c>
35. Labrador F, Estupiñá F, Vallejo-Achón M, ... Exposure of adolescents and youth to Gambling advertising: a systematic review. 2021; Available from: ["<https://revistas.um.es/analesps/article/download/428921/295511/1568131>", "<https://revistas.um.es/analesps/article/download/428921/295511/1568131>"]
36. Newall PWS, Moodie C, Reith G, Stead M, Critchlow N, Morgan A, et al. Gambling Marketing from 2014 to 2018: a Literature Review. *Curr Addict Rep.* 2019;6(2):49–56.
37. Livingstone C, Rintoul A, Lacy-Vawdon C de, Borland R, Dietze P, Jenkinson R, et al. Identifying effective policy interventions to prevent gambling-related harm. 2019 Jun 21 [cited 2024 May 25]; Available from: <https://research.monash.edu/en/publications/identifying-effective-policy-interventions-to-prevent-gambling-re>
38. Wardle H. Perceptions, people and place: Findings from a rapid review of qualitative research on youth gambling. *Addict Behav.* 2019 Mar 1;90:99–106.
39. Wardle H, Bramley S, Norrie C, Manthorpe J. What do we know about gambling-related harm affecting migrants and migrant communities? A rapid review. *Addict Behav.* 2019 Jun 1;93:180–93.
40. Killick E, Griffiths MD. Impact of Sports Betting Advertising on Gambling Behaviour: A Systematic Review. *Addicta Turk J Addict.* 2021;8(3):201–14.
41. De Jans S, Hudders L, Constandt B. #Sponsored: A Systematic Literature Review and Theoretical Framework of Gambling Sponsorship Research. *J Advert [Internet].* 2023; Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85181197588&doi=10.1080%2f00913367.2023.2288829&partnerID=40&md5=3a96cb25f2624ee6bde3fb6e1819f2b5>
42. Killick EA, Griffiths MD. Sports Betting Advertising: A Systematic Review of Content Analysis Studies. *Int J Ment Health Addict.* 2023 Oct 1;21(5):3076–102.
43. Singer J, Wöhr A, Otterbach S. Gambling Operators' Use of Advertising Strategies on Social Media and Their Effects: A Systematic Review. *Curr Addict Rep [Internet].* 2024; Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85187948748&doi=10.1007%2fs40429-024-00560-4&partnerID=40&md5=4bacb3d889dbd5b4dace83d1e90cef40>

44. Garzola GCQ. The Relevance of Marketing in Sports Betting Perceptions and Behaviours Across Different age Groups. *J Gambl Stud* [Internet]. 2024; Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85189879291&doi=10.1007%2fs10899-024-10295-6&partnerID=40&md5=46a380c37f2e58997ff48408c8a2e318>
45. Blaszczynski A, Nower L. A pathways model of problem and pathological gambling. *Addiction*. 2002;97(5):487–99.
46. Nower L, Blaszczynski A, Anthony WL. Clarifying gambling subtypes: the revised pathways model of problem gambling. *Addiction*. 2022;117(7):2000–8.
47. Mader J, Christensen DR, Williams RJ. An evaluation of the pathways model using the Quinte Longitudinal dataset. *Int Gambl Stud*. 2019 Sep 2;19(3):417–31.
48. Ghaharian K, Abarbanel B, Phung D, Puranik P, Kraus S, Feldman A, et al. Applications of data science for responsible gambling: a scoping review. *Int Gambl Stud*. 2022 Nov 8;1–24.
49. Delfabbro P, King D. Conceptual and methodological issues in pathways model research. *Int Gambl Stud*. 2022 May 4;22(2):211–21.
50. Abbott MW. The changing epidemiology of gambling disorder and gambling-related harm: public health implications. *Public Health*. 2020;184:41–5.
51. Abbott M, Stone CA, Billi R, Yeung K. Gambling and problem gambling in Victoria, Australia: Changes over 5 years. *J Gambl Stud*. 2016;32:47–78.
52. Turner NE, Sinclair L, Matheson FI. Brief Report: The Rise of Online Betting in Ontario. *J Gambl Stud* [Internet]. 2023 Dec 13 [cited 2024 May 29]; Available from: <https://doi.org/10.1007/s10899-023-10268-1>
53. Elliott JH, Synnot A, Turner T, Simmonds M, Akl EA, McDonald S, et al. Living systematic review: 1. Introduction—the why, what, when, and how. *J Clin Epidemiol*. 2017 Nov 1;91:23–30.
54. Negrini S, Ceravolo MG, Côté P, Arienti C. A systematic review that is “rapid” and “living”: A specific answer to the COVID-19 pandemic. *J Clin Epidemiol*. 2021;138:194–8.
55. Neil-Sztramko SE, Belita E, Traynor RL, Hagerman L, Akaraci S, Burnett P, et al. What is the specific role of schools and daycares in COVID-19 transmission? A final report from a living rapid review. *Lancet Child Adolesc Health* [Internet]. 2024 [cited 2024 May 29]; Available from: [https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642\(23\)00312-7/abstract](https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642(23)00312-7/abstract)
56. Michelen M, Manoharan L, Elkheir N, Cheng V, Dagens A, Hastie C, et al. Characterising long COVID: a living systematic review. *BMJ Glob Health*. 2021;6(9):e005427.
57. Siemieniuk RA, Bartoszko JJ, Zeraatkar D, Kum E, Qasim A, Martinez JPD, et al. Drug treatments for covid-19: living systematic review and network meta-analysis. *bmj* [Internet]. 2020 [cited 2024 May 30];370. Available from: <https://www.bmj.com/content/370/bmj.m2980.abstract>
58. Competition Act, R.S.C., c. C-34. [1985]. Available from: <https://laws-lois.justice.gc.ca/PDF/C-34.pdf>
59. Alcohol and Gaming Commission [Internet]. [cited 2024 May 15]. Registrar’s Standards for iGaming. Available from: <https://www.agco.ca/en/lottery-and-gaming/responsibilities-and-resources/guides/registrars-standards-internet-gaming>
60. Responsible Gambling Council [Internet]. [cited 2024 May 15]. About RGC. Available from: <https://www.responsiblegambling.org/about-rgc/>

61. Responsible Gambling Council [Internet]. [cited 2024 May 15]. RG Check Gold Standards: Reaching New Heights. Available from: <https://www.responsiblegambling.org/for-industry/rg-check-accreditation/rg-check-gold-standard-reaching-new-heights/>
62. Responsible Gambling Council [Internet]. [cited 2024 May 15]. Standards & Criteria for iGaming. Available from: <https://www.responsiblegambling.org/for-industry/rg-check-accreditation/igaming-standards-criteria/>
63. iGaming Ontario [Internet]. [cited 2024 May 15]. Operator FAQs. Available from: <https://igamingontario.ca/en/operator/operator-faqs>
64. AdStandards [Internet]. [cited 2024 May 15]. About Us. Available from: <https://adstandards.ca/about/>
65. AdStandards [Internet]. [cited 2024 May 15]. The Canadian Code of Advertising Standards. Available from: <https://adstandards.ca/code/the-code-online/>
66. thinkTV [Internet]. [cited 2024 May 15]. About Us. Available from: <https://thinktv.ca/about-us/>
67. thinkTV [Internet]. [cited 2024 May 15]. thinkTV Clearance. Available from: <https://thinktv.ca/think-clearance/>
68. thinkTV [Internet]. [cited 2024 May 15]. Clearance Guidelines. Available from: https://thinktv.ca/wp-content/uploads/2024/04/thinktv_clearance_Telecaster_GUIDELINES_2024.pdf
69. Alcohol and Gaming Commission [Internet]. [cited 2024 May 15]. AGCO releases guidance to support implementation of revised Standard for igaming. Available from: <https://www.agco.ca/en/news/agco-releases-guidance-support-implementation-revised-standard-igaming>
70. Gambling Act 2005, c.19. [2005]. Available from: <https://www.legislation.gov.uk/ukpga/2005/19/contents>
71. U.K. Gambling Commission [Internet]. [cited 2024 May 16]. Advertising and marketing rules and regulations. Available from: <https://www.gamblingcommission.gov.uk/licensees-and-businesses/guide/advertising-marketing-rules-and-regulations>
72. U.K. Gambling Commission [Internet]. [cited 2024 May 16]. Online LCCP Provision 5. Marketing. Available from: <https://www.gamblingcommission.gov.uk/licensees-and-businesses/lccp/2/5>
73. U.K. Gambling Commission [Internet]. [cited 2024 May 16]. Online LCCP Provision 16.1.1 - Responsible placement of digital adverts. Available from: <https://www.gamblingcommission.gov.uk/licensees-and-businesses/lccp/condition/16-1-1-responsible-placement-of-digital-adverts>
74. U.K. Gambling Commission [Internet]. [cited 2024 May 16]. New rules boosting safety and consumer choice. Available from: <https://www.gamblingcommission.gov.uk/news/article/new-rules-boosting-safety-and-consumer-choice#:~:text=Direct%20marketing%20%2D%20improving%20consumer%20choice&text=The%20aim%20is%20to%20empower,force%20on%2017%20January%202025.>
75. Advertising Standards Authority [Internet]. [cited 2024 May 16]. Broadcast Code. Available from: <https://www.asa.org.uk/codes-and-rulings/advertising-codes/broadcast-code.html>
76. Advertising Standards Authority [Internet]. [cited 2024 May 16]. Non-broadcast Code. Available from: <https://www.asa.org.uk/codes-and-rulings/advertising-codes/non-broadcast-code.html>

77. Advertising Standards Authority [Internet]. [cited 2024 May 16]. Particularly Appealing Guidance for Gambling Operators, Not Children. Available from: <https://www.asa.org.uk/news/particularly-appealing-guidance-for-gambling-operators-not-children.html>
78. Advertising Standards Authority [Internet]. [cited 2024 May 16]. Clearcast – The clearance body for TV ads in the UK. Available from: <https://www.asa.org.uk/resource/clearcast-the-clearance-body-for-tv-ads-in-the-uk.html>
79. Clearcast [Internet]. [cited 2024 May 16]. Clearcast – The clearance body for TV ads in the UK. Available from: <https://clearcast.co.uk/clearance-and-regulation/>
80. Betting & Gaming Council [Internet]. [cited 2024 May 16]. Industry Group for Responsible Gambling. Available from: <https://bettingandgamingcouncil.com/members/igrig>
81. The Danish Gambling Act. [2005]. Available from: <https://www.retsinformation.dk/eli/lta/2020/1303>
82. The Danish Marketing Practices Act. [1994]. Available from: <https://www.forbrugerombudsmanden.dk/media/14553/markedsfoeringsloven-lbkg-2013.pdf>
83. Spillemyndigheden [Internet]. [cited 2024 May 22]. Gambling advertising. Available from: <https://www.spillemyndigheden.dk/en/gambling-advertising>
84. Spillemyndigheden [Internet]. [cited 2024 May 22]. The Danish Gambling Authority’s guide on sales promotion. Available from: <https://www.spillemyndigheden.dk/uploads/2024-03/The%20DGA%27s%20guide%20on%20sales%20promotion.pdf>
85. Spillemyndigheden [Internet]. [cited 2024 May 22]. The Danish Gambling Authority’s guide on duty of disclosure regarding marketing of gambling. Available from: <https://www.spillemyndigheden.dk/uploads/2024-03/The%20DGAs%20guide%20on%20duty%20of%20disclosure%20when%20marketing%20and%20advertising%20gambling.pdf>
86. Spillebranchen [Internet]. [cited 2024 May 22]. The Gambling Industry’s Code of Conduct. Available from: <https://spillebranchen.dk/spilindustriens-adfaerdskodeks/?lang=en>
87. Federal Trade Commission Act, 15 U.S.C. §§ 41-58. [1914]. Available from: <https://uscode.house.gov/view.xhtml?req=granuleid%3AUSC-prelim-title15-chapter2-subchapter1&edition=prelim>
88. Communications Act of 1934, 47 U.S.C. § 609. [1934]. Available from: <https://transition.fcc.gov/Reports/1934new.pdf>
89. Federal Trade Commission [Internet]. [cited 2024 May 22]. Business Guidance: Advertising and Marketing. Available from: <https://www.ftc.gov/business-guidance/advertising-marketing>
90. Federal Communications Commission [Internet]. [cited 2024 May 22]. Broadcast Contests, Lotteries, and Solicitation of Funds. Available from: <https://www.fcc.gov/consumers/guides/broadcasting-contests-lotteries-and-solicitation-funds>
91. American Gaming Association [Internet]. [cited 2024 May 22]. Responsible Marketing Code for Sports Wagering. Available from: <https://www.americangaming.org/responsible-marketing-code-for-sports-wagering/>

92. American Gaming Association [Internet]. [cited 2024 May 22]. AGA Responsible Gaming Code of Conduct. Available from: https://www.americangaming.org/wp-content/uploads/2020/11/AGA-Responsible-Gaming-Code-of-Conduct_Nov-2020.pdf
93. Casino Control Act, P.L.2013, c.27 [C.5:12-95.17 et al.]. [2013]. Available from: https://pub.njleg.gov/bills/2012/PL13/27_.HTM
94. Casino Control Act, P.L.2018, c.33 [C.5:12A-10 et al.]. [2018]. Available from: <https://www.nj.gov/oag/ge/docs/SportsBetting/SportsWageringLawPL2018c33.pdf>
95. Division of Gaming Enforcement [Internet]. [cited 2024 May 22]. New Jersey Casino Control Act and Regulations. Available from: <https://www.njoag.gov/about/divisions-and-offices/division-of-gaming-enforcement-home/new-jersey-casino-control-act-and-regulations/>
96. Division of Gaming Enforcement [Internet]. [cited 2024 May 22]. Advertising Standards. Available from: <https://www.nj.gov/oag/ge/docs/BestPractices/AdvertisingBestPractices.pdf>
97. Lawful Internet Gaming Act, M.C.L. § 432.301-432.322 [2019]. Available from: <https://www.legislature.mi.gov/documents/mcl/pdf/mcl-Act-152-of-2019.pdf>
98. Lawful Sports Betting Act, M.C.L. § 432.401-432.419 [2019]. Available from: <https://www.legislature.mi.gov/documents/mcl/pdf/mcl-Act-149-of-2019.pdf>
99. Gaming Control Board [Internet]. [cited 2024 May 22]. Internet Gaming Rules. Available from: https://www.michigan.gov/mgcb/-/media/Project/Websites/mgcb/Internet-Gaming-and-Fantasy-Contests/ActsandRules/Internet_Gaming_Rules_2020-8-26.pdf?rev=201afb4aef8d44e5b32c01cfead1898b&hash=75EC6E986535BBA93C230B9B45FEC4A3
100. Gaming Control Board [Internet]. [cited 2024 May 22]. Internet Sports Betting Rules. Available from: https://www.michigan.gov/mgcb/-/media/Project/Websites/mgcb/Internet-Gaming-and-Fantasy-Contests/ActsandRules/Internet_Sports_Betting_Rules_2020-8-26doc.pdf?rev=77bca98d24ff45138501c6b5daf6d4ff&hash=B00735216B263464FCD3BB02C0378D5F
101. Professional and Amateur Sports Protection Act, 28 U.S.C. ch. 178. [1992]. Available from: <https://uscode.house.gov/view.xhtml?path=/prelim@title28/part6/chapter178&edition=prelim>
102. NSW Office of Responsible Gambling [Internet]. [cited 2024 May 22]. Online gambling. Available from: <https://www.gambleaware.nsw.gov.au/learn-about-gambling/how-gambling-works/online-gambling>
103. European Gaming and Betting Association [Internet]. [cited 2024 May 22]. Europe Is Well On Its Way Towards Full Multi-Licensing For Online Gambling – New Analysis. Available from: <https://www.egba.eu/news-post/europe-is-well-on-its-way-towards-full-multi-licensing-for-online-gambling-new-analysis/>
104. UK Gambling Commission [Internet]. [cited 2024 May 22]. Advertising and sponsorship in sport. Available from: <https://www.gamblingcommission.gov.uk/licensees-and-businesses/guide/page/advertising-and-sponsorship-in-sport>
105. Premier League [Internet]. [cited 2024 May 22]. Premier League statement on gambling sponsorship. Available from: <https://www.premierleague.com/news/3147426>

106. Joint Gambling Authority of the States [Internet]. [cited 2024 May 22]. Media library and downloads. Available from: <https://gluecksspiel-behoerde.de/de/mediathek-downloads>
107. EGR Global [Internet]. [cited 2024 May 28]. Rhode Island becomes seventh US state to launch regulated igaming. Available from: <https://www.egr.global/northamerica/news/rhodes-island-becomes-seventh-us-state-to-launch-regulated-igaming/>
108. EGR Global [Internet]. [cited 2024 May 28]. Rush Street Interactive CEO lauds potential boost from Delaware expansion. Available from: <https://www.egr.global/northamerica/news/rush-street-interactive-ceo-lauds-potential-boost-from-delaware-expansion/>
109. American Gaming Association [Internet]. [cited 2024 May 28]. AGA Gaming Regulatory Fact Sheet - Connecticut. Available from: https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Connecticut-2022.pdf
110. American Gaming Association [Internet]. [cited 2024 May 28]. AGA Gaming Regulatory Fact Sheet - Nevada. Available from: https://www.americangaming.org/wp-content/uploads/2019/07/AGAGamingRegulatoryFactSheet_Nevada-2022.pdf
111. Alcohol and Gaming Commission [Internet]. [cited 2024 June 3]. Feedback and Complaints. Available from: <https://www.agco.ca/about-agco/contact-us/feedback-and-complaints>
112. AdStandards [Internet]. [cited 2024 June 3]. How to Submit a Complaint. Available from: <https://adstandards.ca/complaints/how-to-submit-a-complaint/>
113. thinkTV [Internet]. [cited 2024 June 17]. Responsible Advertising For iGaming. Available from: <https://thinktv.ca/research/responsible-advertising-for-igaming/>

APPENDIX I – STREAMLINING OF SYSTEMATIC REVIEW PROCEDURES

Review step	Streamlining approach
Information sources	Search constrained to one main database, one specialist gambling journal, and Google Scholar.
Search strategy	Key terms were searched within the title, abstract, and/or keywords of articles in the main database. For Google Scholar, we searched for key terms in the titles of the articles.
Screening	Performed by a single author (KG).
Data extraction	Performed by a single author (KG).
Synthesis	Excluded reviews that were published prior to McGrane et al. umbrella review.

APPENDIX II – TEAM BIOGRAPHIES

4.1 KAHLIL PHILANDER

Kahlil S. Philander, Ph.D. is a renowned academic specializing in the fields of gambling behaviour, responsible gambling policies, and the economic impacts of gambling. He currently serves as an Associate Professor at Washington State University in the Carson College of Business.

Prof. Philander's research interests focus on normative and abnormal gambling behaviour, with applications to the management of gambling businesses. He explores behavioural data to understand psychological phenomena that lead to financial risk-taking. His work includes the development and validation of tools like the Positive Play Scale, examining the impact of casino proximity on gambling problems, and analyzing how maladaptive thoughts affect risk-taking. His research has influenced public policy and responsible gambling initiatives globally.

Prof. Philander has held various positions, including Director of Social Responsibility at BCLC, where he led a team responsible for executing responsible gambling strategies in British Columbia, and as the first Senior Policy Researcher at the Responsible Gambling Council of Canada where he led the initial design of the RG Check iGaming program. His industry experience includes consulting roles where he provided economic and financial modeling for the sport, gambling, and travel industries. He has advised the governments worldwide on policy and provided expert opinions for multiple courts.

Prof. Philander's work has earned him several accolades, including the Research of the Year Award from the National Council on Problem Gambling in 2015 and 2021. His expertise is frequently featured in major media outlets such as the New York Times, CNBC, Financial Times, and Forbes. Dr. Philander holds a Ph.D. in Hospitality Administration from the University of Nevada, Las Vegas (2012), an M.A. in Economics from the University of Toronto (2007), and a B.Com with Honours in a double specialization of Finance and Commerce & Economics from the University of British Columbia (2005).

4.2 KASRA GHAHARIAN

Dr. Kasra Ghaharian is Director of Research at the University of Nevada, Las Vegas, International Gaming Institute. Dr. Ghaharian's research interests include artificial intelligence, machine learning, consumer protection, and payments modernization in the gambling field.

Dr. Ghaharian completed his Ph.D. and M.S. at the University of Nevada, Las Vegas, William F. Harrah College of Hospitality. His Ph.D. research explored the implications of payment modernization for the gambling industry specifically, for his dissertation he applied machine learning to payments transaction data to characterize gamblers and identify payment-related behavioural risk indicators. During his Master's Dr. Ghaharian published "A Mathematical Approach for Optimizing the Casino Slot Floor: A Linear Programming Application," the first study to apply mathematical methods to the age-old task of optimizing the casino floor. Prior to beginning his Ph.D, Dr. Ghaharian worked in industry for several years at two of the largest casino-hotel companies in the world.

His scholarly work has been published across leading academic journals in technology, psychology, hospitality, and gambling including Computers in Human Behaviour, Data in Brief, International Gambling Studies, International Hospitality Review, and Tourism Analysis. He also serves as Editor for the UNLV Gaming Research & Review Journal, a leading academic journal publication within the gambling field. Dr. Ghaharian has presented his research at prestigious conferences including the Global Gaming Expo, the International Center for Responsible Gambling Conference, the National Council on Problem Gambling Conference, and the International Conference on Gambling & Risk Taking.

4.3 ADAM KREJCIK

Adam Krejcik is a Co-Founder & Partner at Eilers & Krejcik Gaming, LLC and head of the firms Sports Betting & Digital Gaming practices. Eilers & Krejcik Gaming is a leading independent research and advisory firm with over 40 employees and branches in Orange County, California and Las Vegas, Nevada. The firm's focus is on product, market, and policy analysis related to the global gaming market, inclusive of regulated real money gambling, social gaming, and a variety of adjacent verticals. Mr. Krejcik has over 20 years of market and equity research experience primarily covering the gaming & interactive entertainment industry. He's appeared on CNBC, Bloomberg, and is a frequent guest speaker at industry conferences. Mr. Krejcik also currently serves as an independent Board Member at Catena Media, a publicly listed affiliate gaming company. Mr. Krejcik started his career at Bank of America Securities, as an Equity Analyst and was most recently a Sr. Analyst at Roth Capital Partners. Mr. Krejcik graduated from the University of California Santa Barbara with a BA in Business/Managerial Economics.

4.4 REBECCA GIDEN

Rebecca Giden is Director of Policy at Eilers & Krejcik Gaming, LLC's Sports Betting & Emerging Verticals practice, where she performs legislative tracking, economic modeling, and market performance tracking and analysis. Her research has been cited by national media sources, including The Economist and Politico. Prior to joining Eilers & Krejcik Gaming, Ms. Giden was an economist with the Commonwealth of Massachusetts Department of Public Utilities, where she specialized in utility ratemaking mechanics and public policy.