

High Stakes: A Mental Health Perspective on Gambling in Canada

Insights from Our National Population Polling Initiative,
Understanding the Mental Health of Canadians



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Report:

Gustavo S. Betini, PhD – Senior Manager, Data Analytics

Michael Cooper – Vice-President, Development and Strategic Partnerships, MHRC

Special Thanks To:

Sheldon Mellis – Director, Strategic Engagement and Partnerships, MHRC

Brittany Saab - Senior Manager, Communications, MHRC

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Context

Gambling is an emerging public health issue in Canada, particularly in the wake of recent 2021 legislative changes that have expanded access and increased advertising. While gambling shares some similarities with other addictive behaviours, it also manifests in unique ways that make its identification and treatment a complex issue. Moreover, unlike alcohol, tobacco, and cannabis, each of which is addressed through national strategies and coordinated policy responses, Canada lacks a comparable framework for gambling.

This absence creates a significant policy gap, especially given the increasing availability of gambling and its well-documented negative impacts on mental health. In addition, the high levels of stigma adds to the fact that many individuals do not recognize or disclose their struggles until harms are severe. **To address these gaps, we must strengthen our understanding of how gambling affects mental health and develop more effective supports for individuals and communities.**

About This Report

This report explores the relationship between gambling and mental health in Canada. Through financial contribution from Health Canada, Mental Health Research Canada (**MHRC**) collected and analyzed data from its national population polling initiative, *Understanding the Mental Health of Canadians*. We thank Greo Evidence Insights (**Greo**) for their partnership and support in developing the questions about gambling for this report.

The information featured in this report is based on quantitative analysis of data from 9,219 Canadians aged 16 and older, from all provinces, who answered questions about their mental health. Participants agreed to take part in the survey but did not know the intention or subject matter of the survey in advance.

We also used quotes from our qualitative study on gambling conducted in December 2024 and March 2025. This study interviewed 51 individuals who also took part in the quantitative study and were identified as moderate to high risk of problem gambling according to the Problem Gambling Severity Index (**PGSI**).

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Executive Summary

Gambling has been associated with negative mental health outcomes, particularly among individuals who experience problems related to their gambling activities (here referred to as people with problem gambling or problem gambling). For these individuals, gambling can contribute to significant financial strain, social isolation, psychological distress, and in some cases, suicidal ideation.

Since regulatory changes in 2021 that granted provinces greater control over gambling operations, gambling opportunities and revenues have expanded considerably in Canada. This dual role, where governments act both as regulator and financial beneficiary, raises questions about how governments balance the short-term gain of revenue against longer-term public health issues caused by problem gambling.

Gambling is a known addictive behaviour with demonstrated links to both mental and physical health harms. Given that gambling opportunities are rapidly increasing in Canada, we need to measure and understand how this could affect the mental health of those who gamble. This knowledge could then inform policy decisions, reduce harm, and support population well-being.

Key findings

- **73.1%** of Canadians reported participating in some form of **gambling**.
- **9.1%** were classified as people with problem gambling, according to the **Problem Gambling Severity Index (PGSI)**.
- Higher rates of people with problem gambling were observed among **younger adults**, individuals who **identify as male**, those with **annual incomes under \$30,000**, **immigrants**, and those who identify as members of **racialized communities**.
- Those with problem gambling exhibited significantly worse mental health outcomes, including elevated scores on validated measures, such as the **GAD-7** and **PHQ-9**.

- People with problem gambling were **4 times** more likely to indicate symptoms of **anxiety** and **depression** according to the **GAD-7** and **PHQ-9** compared to those who gamble but were not at risk.
- Those with problem gambling were **4 times** more likely to **thought about suicide** and **7 times** more likely to have **planned a suicide** in the last 12 months.

"Yes, let's face it, it has some negative impacts. I will spend money on gambling that I had planned to spend on other things. Also, it does impact my relationships. When I lose money, I find it difficult to communicate with others in my life. I want to keep it private so I don't get judged." - ON, Male, aged 30-40

Policy Implications

Gambling can exhibit key features of other addictive behaviours, such as tobacco and alcohol use: compulsive engagement, escalating harm, and disproportionate impact on vulnerable populations. As access to gambling continues to grow, particularly through digital and mobile platforms, so too does the risk of widespread harm.

Addressing this challenge requires a coordinated public health strategy anchored in rigorous, independent research and real-time data. This would allow governments to monitor emerging trends, assess population-level impacts, or design policies that are both effective and equitable.

Evidence-based regulation, grounded in transparent, ongoing surveillance, is essential to reduce harm, guide responsible decision-making, and maintain public trust.

Background: Gambling and Mental Health, Why Does it Matter?

There is evidence that gambling and mental health challenges can be associated (Afifi et al., 2016; Corbeil et al., 2024; Huțul & Holman, 2023; Rash et al., 2016; Richard et al., 2020; Shaffer & Korn, 2002; Tulloch et al., 2022; Ukhova et al., 2024). Studies have shown that some individuals with problem gambling are more likely to suffer from depression, anxiety, suicidal thoughts, and substance use disorders (Afifi et al., 2016; Corbeil et al., 2024; Rash et al., 2016; Tulloch et al., 2022). In Alberta, for example, an estimated 10% of suicide attempts are gambling-related (Collier, 2013). In addition, problem gambling is often associated with financial problems and social isolation, meaning that the impact of problem gambling can extend beyond the individual gambler, often affecting families, workplaces, and communities (Tulloch et al., 2022).

While Canada has historically reported relatively low rates of problem gambling, recent trends suggest this may be changing. As of 2018, an estimated 0.6% of Canadians (approximately 250,000 individuals) were classified as having problems with gambling, with an additional 2.7% considered at-risk (Williams et al., 2021). However, newer data suggest a significant rise: in 2025, approximately 9% of Canadians, roughly 3.7 million people, were identified as having problems with gambling (Kim et al., 2025). By comparison, in Western Europe, around 50% of adults engage in gambling, with 1.3% classified as problem gamblers; global averages are similar, with 46% participating and 1.4% meeting the threshold for problem gambling (Tran et al., 2024).

This shift could be explained by differences in sampling methodology given that online surveys tend to over represent people experiencing gambling harm (Sturgis & Kuha, 2022). However, it is also likely that Canada's evolving gambling landscape is having an impact on these numbers. In 2021, federal legislation changes allowed provinces and territories to manage and conduct single-event sports betting. This opened the door to increased involvement by private and international gambling companies, who have since introduced a wide range of legal gambling options and aggressive advertising campaigns (Young et al., 2024). As a result, gambling opportunities have rapidly expanded across the country. Canada now hosts over 70 casinos, 30,000 lottery outlets, and 96,000 electronic gaming machines (Tulloch et al., 2022).

Online gambling has also grown sharply; for instance, Ontario residents spent \$22.9 billion on online gambling in 2024, an increase of more than 400% from \$4.08 billion in 2022. This growth has largely occurred without robust public consultation or adequate assessment of the associated health risks. Evidence from other countries shows that such rapid gambling expansion often results in a rise in gambling-related harm (Tulloch et al., 2022; Ukhova et al., 2024).

It is important to notice that researchers from the Alberta Gambling Research Institute are conducting a follow-up study to the one in 2018 (Williamns et al. 2021). Once they release their results, we will learn more about changes in the prevalence of problem gambling in Canada since 2018 (Young et al. 2025).

A further concern is the new conflict of interest caused by the recent changes in the legislation mentioned above. Individuals with gambling problems contribute disproportionately to gambling revenue. In Alberta, for example, those with problem gambling account for an estimated 23.1% of gambling income nationally, and as much as 50% within the province (Collier, 2013). This creates a troubling conflict of interest, as provincial governments serve not only as regulators, but also as promoters, operators, and financial beneficiaries of gambling activities. Therefore, it is important to monitor the mental health impacts of gambling in Canada.

Research Questions

1 How prevalent is problem gambling in Canada, and are certain groups more at risk than others?

Is gambling a problem for Canadians? Are there certain groups of people who suffer more from gambling than others?

2 Does gambling have an impact on mental health?

Are individuals with gambling problems more likely to experience anxiety, depression, or suicidal thoughts?

3 Are some types of gambling worse for mental health?

Do individuals who engage in some types of gambling report worse mental health outcomes?

Results: How Common is Problem Gambling in Canada?

Three quarters of participants indicated that they do not gamble, or that gambling has no adverse effects on their lives (figure 1). However, for approximately **1 in every 10** participants (9.1%), **gambling** had **negative impacts**, such as spending more money than they could afford or feeling anxious or depressed due to their gambling activities.

- Slightly more than **half** of participants (54.4%) were classified as **gamblers**, but our data **did not indicate** any **adverse consequences** to their lives.
- Approximately **1 in 10** participants (9.8%) were classified as **low risk** (5.6%) or **moderate risk** (4.0%) gamblers, meaning that gambling had some adverse effects on their lives.

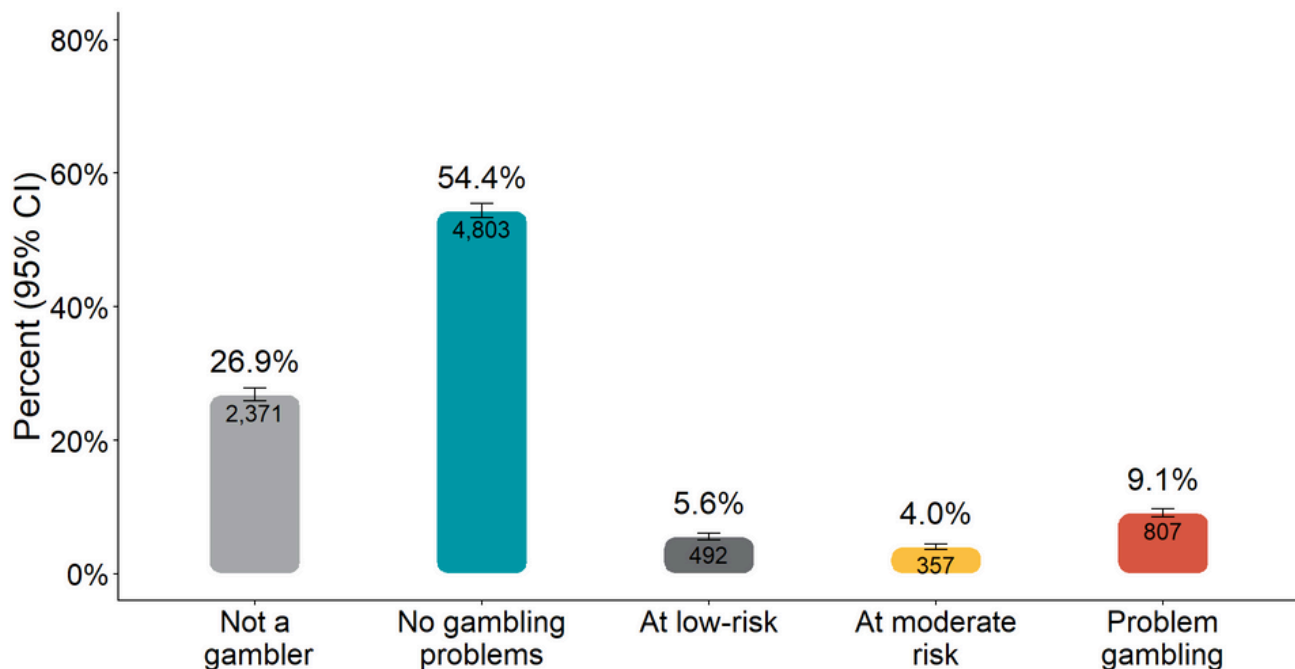


Figure 1. Number and percentage of participants classified in each of the five gambling categories according to the Problem Gambling Severity Index (PGSI). Bars are 95% confidence intervals calculated based on survey weights. Values are weighted according to the most recent census data in terms of gender, age, and region to ensure the total sample is representative of the general population. Sample size = 8,830.

Results: What Groups are More at Risk?

Although some groups were more likely to be identified as having issues with gambling, **younger adults** were by far the most impacted group (figure 2, Appendix B).

- **Younger adults** (between 16 and 34 years) were **12 times** more likely to have problem gambling compared to those 55+.
- **Males** were **3 times** more likely to have serious problems with gambling compared to females.
- Those making less than **\$30,000** yearly were **2 times** more likely to be a person with problem gambling than those making more than \$80,000 yearly.
- **Immigrants** and those who self-identified as part of a **racialized community** were about **2 times** more likely to experience problems with gambling.

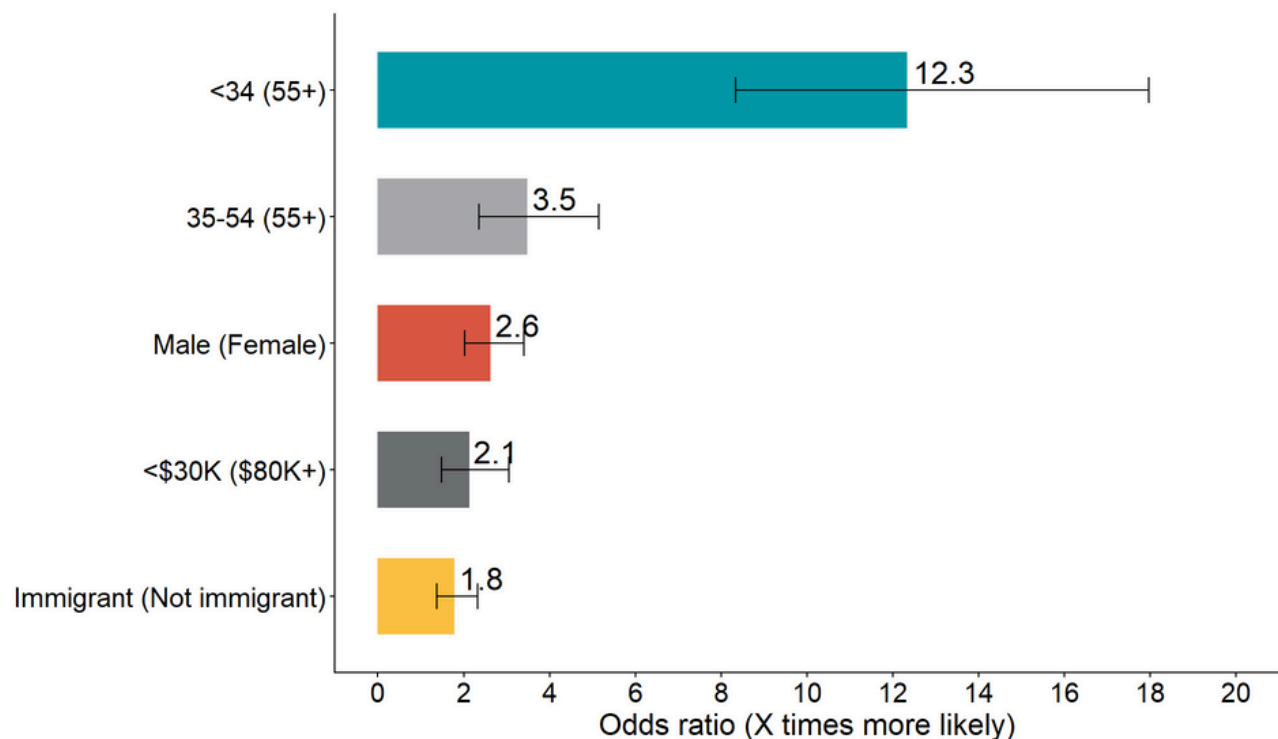


Figure 2. Bars show the odds of being classified as having problem gambling compared to the group in parentheses. Bars are 95% confidence intervals. Sample size (weighted) = 6,062 (those who did not gamble and who answered "I do not know" for income, education, immigration status, and gender were removed from this analysis).

Discussion: Understanding the Prevalence of Problem Gambling in Canada

Recent data suggest that the number of those with problem gambling in Canada may be significantly higher than previously reported. Earlier national estimates indicated that problem gambling was relatively rare, affecting approximately 0.6% of Canadians in 2018 (Williams et al., 2021), and about 1.1% in Ontario (Young et al., 2024). However, more recent studies point to a dramatic shift. A study conducted in British Columbia found that nearly 9% of participants exhibited signs of problem gambling, a rate consistent with the findings from our own research (Kim et al., 2025).

What changed?

A key turning point occurred in 2021, when changes to federal legislation allowed provinces and territories to manage gambling directly and open their markets to private operators. This decentralized model dramatically expanded access to gambling, particularly through online platforms (Young et al., 2024). For example, Ontario launched its regulated iGaming market in 2022, opening the door to dozens of private gambling websites and apps. Since then, spending on online gambling has increased by over 400%, from \$4.08 billion in 2022 to \$22.9 billion in 2024 (Williams et al., 2021).

"I saw an ad about 2 years ago. I didn't realize sports betting was available in BC. I know about sports, so I want to play my odds. Usually I bet on soccer, it's the sport I follow most."
- BC, Male, aged 30-40

Why online gambling may increase risk?

Online gambling presents several unique risk factors:

- 24/7 accessibility via smartphones, tablets, and computers;
- Aggressive advertising, especially during sports events, on social media, and streaming platforms;
- Legalization of single-event sports betting, which has increased the appeal of gambling, particularly among sports fans.

These factors have made gambling more visible, normalized, and widely accessible, especially among younger Canadians.

*“You can gamble online whenever you want. It is so easy. It doesn’t feel like real money, so you just play. And you get notifications of promotions, so you think ok look, I will go and check it out.” - **AB, Male, 20-30***

*“You can really lose track of time when in an online casino. It is very easy to do and the time just flies.” - **ON, Male, 40-50***

*“With online casinos, their odds are quite good when you start doing it. But then the more you play, the odds go down slowly. But it sucks you in and you end up spending all your money.” - **BC, Male, 30-40***

A review of 104 international studies found that online gamblers are nearly eight times more likely to become a person with problem gambling compared to those who did not gamble online (Allami et al., 2021). A study from **Greo** using our own data further supports this, indicating that 40% of online gamblers meet the criteria for problem gambling, and 20% report high levels of gambling-related harm (Young et al 2025 in preparation).

Who is most affected?

Some groups are disproportionately impacted by the rise in gambling-related harm. Our data show that young adults, particularly men aged 18–34, are at the highest risk of developing problem gambling behaviours. This is consistent with other Canadian studies, which found that this demographic is more likely to engage in online and sports-related betting (Guerrero & Barnes, 2022; Young et al., 2024).

What does this mean?

As more data about the prevalence of problem gambling becomes available in Canada, such as the follow-up study conducted by the Alberta Gambling Research Institute, we will be able to better understand whether recent changes in regulation are indeed changing rates of problem gambling in Canada.

Until then, taken together, our results point to an increase in problem gambling in Canada, likely driven by policy changes, the expansion of online gambling, and the normalization of sports betting. Given that gambling can be addictive, governments should better understand the effects of this rapid expansion to the health of those more likely to be affected.

Results: Gambling and Mental Health

Our results indicate a clear **association** between **gambling** and self-reported **mental health indicators** (figure 3 and Appendix C).

- Those classified as experiencing **problem gambling** were about **4 times** more likely to report **high levels of anxiety and depression symptoms** compared to those who gamble but did not indicate that gambling affected their lives.
- People with problem gambling were also about **3 times** more likely to report **having thought about suicide** in the last 12 months and **8 times** more likely to report having **planned a suicide** than those who reported no problems with gambling.

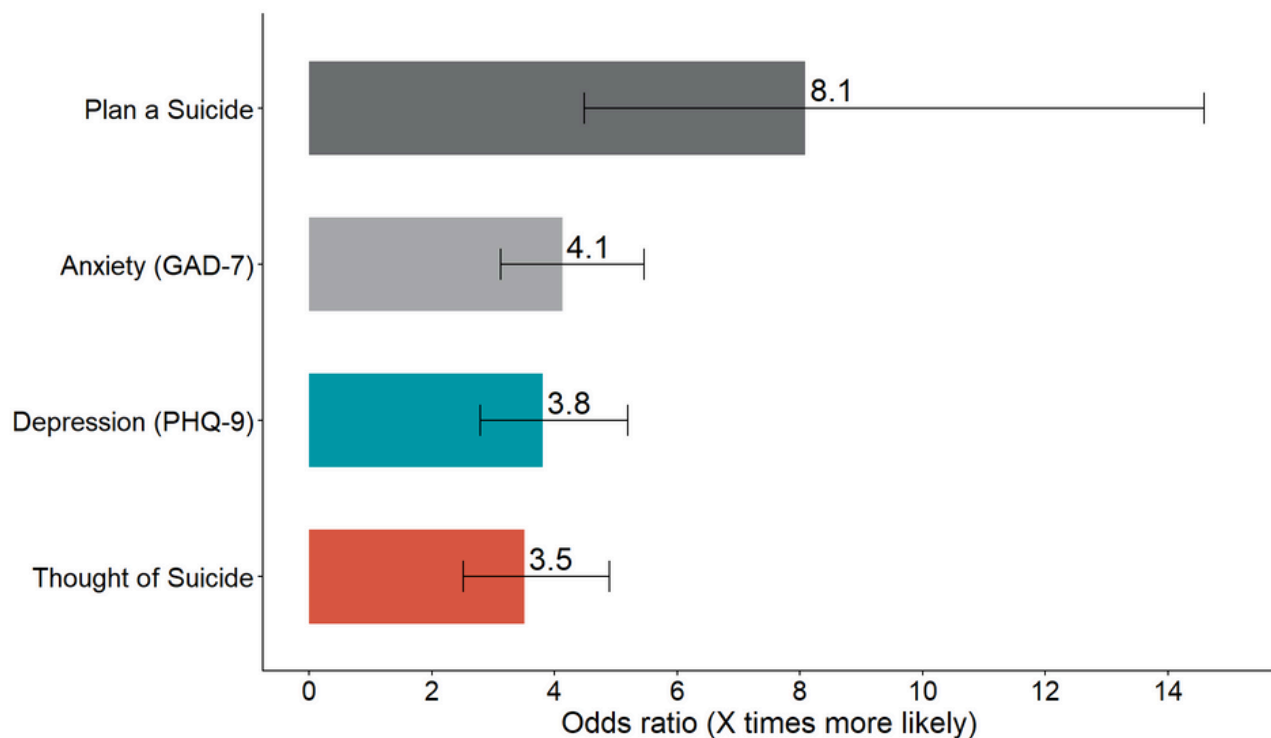


Figure 3. Odds of those with problem gambling to score high in 4 mental health indicators. Sample size (weighted) = 6,062 (those who did not gamble and who answered “I do not know” for income, education, immigration status, and gender were removed from this analysis).

Anxiety: moderate to high levels of anxiety in the last 2 weeks (score 10 or more in the GAD-7)

Depression: moderate to high levels of anxiety in the last 2 weeks (score 15 or more in the PHQ-9)

Suicidal ideation: in the last 12 months

Results: Types of Gambling and Mental Health

All types of **gambling** were associated with our **poor mental health indicators**. Less frequent types of gambling were the ones with the highest association.

- Buying **loot boxes** when playing video games and those who engage in **less conventional** types of gambling were more likely to report high levels of anxiety and depression symptoms, and suicidal ideation compared to those who gambled but never bought loot boxes (figure 4 and Appendix D).
- They were also **2 times** more likely to report thoughts about **suicide** and **5 times** more likely to report that they had planned a suicide in the last 12 months.

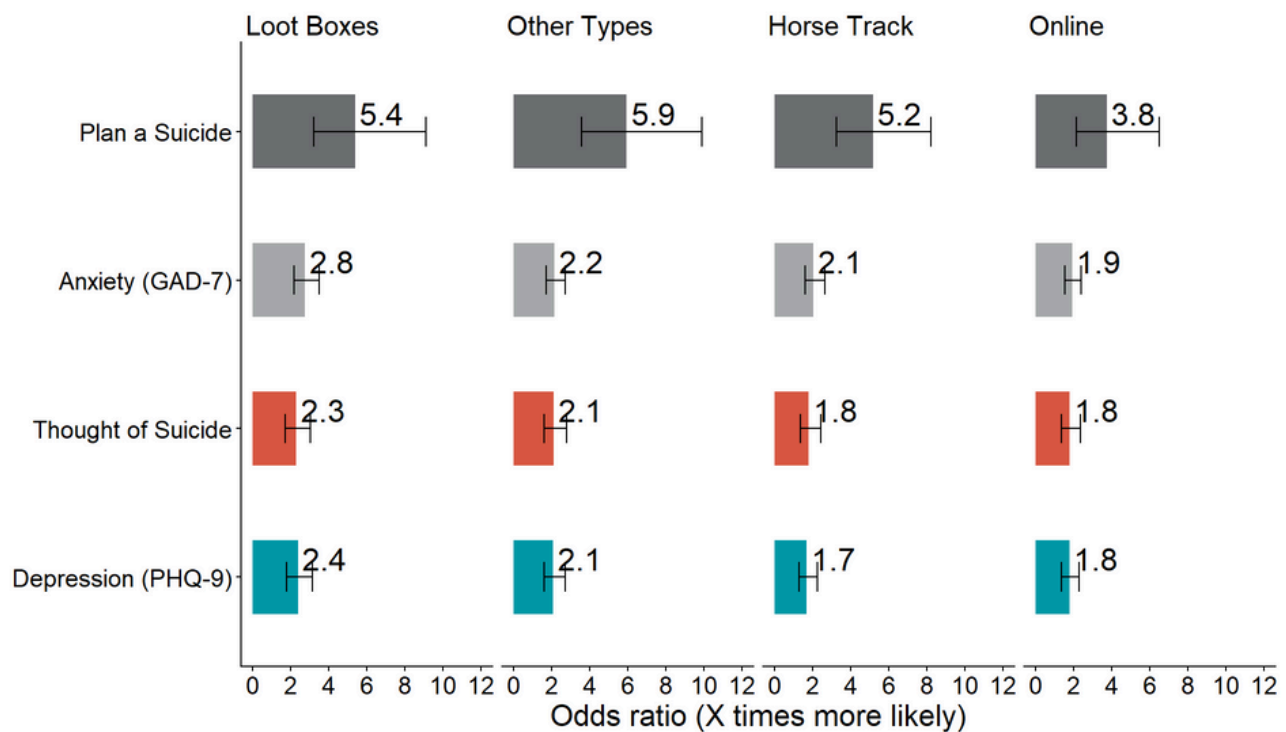


Figure 4. Odds of reporting moderate to high levels of anxiety and depression and having suicidal thoughts or planning a suicide in the as 12 months according to different types of gambling (see appendix C for a complete list). Sample size (weighted) = 6,062 (those who did not gamble and who answered “I do not know” for income, education, immigration status, and gender were removed from this analysis). In the statistical model, the mental health indicator was the response variable and the type of gambling was the predictor. Results are from 16 different weighted logistic regressions, representing a combination of 4 mental health indicators and 4 types of gambling.

Discussion: Understanding the Link Between Gambling and Mental Health

Our findings align with a well-established body of research demonstrating a link between problem gambling and poor mental health outcomes. A large population-based study in Manitoba found that individuals with gambling problems were twice as likely to have major depressive disorder compared to those without gambling issues (Afifi et al., 2016). Additional studies have found links between problem gambling and suicidal behaviour, including research in Alberta (Hodgins et al., 2006; Newman & Thompson, 2003). One study from Sweden reported that individuals with gambling disorders had a 15-fold higher suicide mortality rate compared to the general population (Karlsson & Håkansson, 2018).

“You feel like an idiot (when you lose). You can see where you made the wrong decisions. But then you don’t want to feel like that, so you chase the win. That can be difficult. You have to make sure you don’t do that. But it can be difficult.” - BC, Male, 30-40

“Losing is frustrating, it’s upsetting. I will spend the rest of the night thinking about it, going over my decisions. But by the next day, I’m over it.” - AB, Male, 30-40

“Losing doesn’t really affect me. It is just a game. I can see how some people could be really influenced by gambling. But not me.” - BC, Male, 30-40

Why do those with problem gambling have poor mental health?

There are multiple pathways through which gambling and poor mental health are linked. Up to 96% of individuals with lifetime gambling problems also experience co-occurring mental health conditions (Rash et al., 2016). These associations can be explained by a range of social, emotional, and behavioural factors:

- **Financial Strain:** People with gambling addiction often lose control over their spending, sometimes using savings, retirement funds, or even personal assets such as their home or car to finance gambling activities. These losses can quickly lead to financial collapse and chronic stress (Koomson et al., 2022).

- Relationship breakdowns: Gambling-related secrecy and financial losses often lead to conflict with family and friends. Erosion of trust, guilt, and shame can cause gamblers to withdraw socially. People with problem gambling experience higher rates of divorce, which may be both a cause and consequence of gambling-related distress (Syvertsen et al., 2023).
- Neglect and family violence: Individuals with gambling problems may neglect important responsibilities, including childcare, employment, and household duties. Moreover, violence is often an issue among those with problem gambling. A 2008 Canadian study found that 56% of adults with gambling problems had committed physical assault, injury, or sexual coercion against an intimate partner in the past year (Korman et al., 2008)
- Legal Issues: In some cases, individuals turn to illegal activities to finance their gambling or participate in unregulated gambling operations. This can result in criminal charges, financial penalties, and incarceration.

*"I had to reduce my gambling spending. I was spending too much. One month in particular, I had a hard time paying my bills. I knew I had to cut back." - **ON, Male, aged 20-30***

*"I was having some financial hardships, struggles with my job...it led to even more gambling as a coping mechanism." - **AB, Male, aged 40-50***

*"Yes, let's face it, it has some negative impacts. I will spend money on gambling that I had planned to spend on other things. Also, it does impact my relationships. When I lose money, I find it difficult to communicate with others in my life. I want to keep it private, so I don't get judged." - **ON, Male, aged 30-40***

*"Occasionally gambling causes fights between myself and my spouse, when I lose more than I intended." - **NB, Male, aged 40-50***

Does gambling cause mental health problems?

The relationship between gambling and mental health is complex and not necessarily one-directional. While gambling can contribute to mental health challenges (Afifi et al., 2016), some studies suggest that pre-existing mental health conditions may also increase the risk of developing gambling problems (Hartmann & Blaszczynski, 2018). For example, individuals experiencing depression, anxiety, or trauma may turn to gambling as a form of escape or self-medication. This suggests a bidirectional relationship, where mental health issues and problem gambling reinforce one another.

Some good news

Breaking this cycle typically requires professional intervention that addresses both the gambling behaviour and the underlying or co-occurring mental health conditions. The good news is that there is strong evidence that psychological intervention can greatly improve the lives of those with gambling problems (Eriksen et al., 2023). Although there is still much to learn in this area, a recent review of 30 studies found that the most efficient form of treatment was face-to-face delivered intervention, especially cognitive behavioral therapy (Eriksen et al., 2023).

Types of gambling and mental health

Our findings indicate that all forms of gambling were associated with poor mental health. The strongest negative outcomes were observed among participants who:

- Purchased loot boxes (in-game purchases in video games that offer randomized rewards for a fee); and
- Participated in “other” forms of gambling not listed in our predefined categories.

*“Sure, all the games have loot boxes, but I don’t buy them. I am not interested in that game currency.” - **BC, Male, aged 40-50***

*“I have heard bad things about those games...people whose kids spend too much or get hacked. I don’t trust it.” - **BC, Male, aged 30-40***

*“The competitive streak wants to win. So you buy the in-game purchases. You have to. You can only get so far in the game without it. You need to beat the game. It’s a waste of money sort of, but not really. You put something into it and get something out of it.” - **BC, Male, aged 40-50***

Interestingly, these forms of gambling were also less common among participants. One possibility is that individuals engaging in less conventional or “other” types of gambling may be participating in unregulated or illegal gambling, which may be an indication that their gambling addiction is out of control.

It’s also possible that individuals with severe gambling problems engage in multiple forms of gambling, including both conventional and less common types. Research has shown that the number of gambling activities someone engages in is itself a strong predictor of mental health problems (Bischof et al., 2016).

The relationship between loot boxes and mental health is particularly complex. While it's not clear whether video gaming alone leads to poor mental health, some studies suggest that gambling-like mechanics in video games, such as loot boxes, may be a gateway to more serious gambling behaviours (Brooks and Clark 2019). This raises important questions about regulation, especially for youth and young adults, who are more likely to engage in gaming-related spending.

Need for Further Research

The relationship between specific types of gambling and mental health outcomes are not well understood. For instance, a Canadian study found that electronic gaming machines, casino games, and online gambling were associated with the highest risk of problem gambling (Gooding & Williams, 2024). The Canadian Centre on Substance Use and Addiction (CCSA) developed Lower-Risk Gambling Guidelines, suggesting that faster pace games, such as electronic gaming machines and online poker, represent greater risks of problem gambling (<https://gamblingguidelines.ca/>). However, another study reported that only those who gambled on electronic machines were significantly more likely to attempt suicide, whereas gambling on casino games or sports was not linked to suicide risk (Bischof et al., 2016).

These mixed findings underscore the need for more targeted research to better understand which gambling behaviours are most harmful, for whom, and under what conditions. Such knowledge is essential to guide evidence-informed policies and prevention strategies aimed at minimizing gambling-related harm and protecting mental health.

Conclusions and Policy Recommendations

Our findings indicate that individuals meeting criteria for problem gambling according to the PGSI are significantly more likely to report mental health issues, including symptoms of anxiety, depression, and suicidal ideation. These associations were particularly pronounced among specific groups, such as younger adults, men, people with low incomes, immigrants, and members of racialized communities, and were especially strong in relation to less common gambling activities like loot boxes.

These results underscore the urgent need for **high-quality data** to inform evidence-based responses. As gambling becomes more accessible across Canada, particularly through online platforms, public health strategies must be grounded in **reliable data** that captures not just gambling participation, but its mental health consequences across different populations and gambling types.

To this end, we recommend the following actions:

1. Strengthen National Surveillance Using Validated Mental Health Measures

Develop a national monitoring systems that track both gambling behaviours and associated mental health symptoms.

2. Focus Research on Disproportionately Affected Populations

Prioritize data collection and analysis for subgroups shown to be at elevated risk, such as younger adults, men, low-income individuals, immigrants, and racialized communities.

3. Require Data-Driven Evaluation of Policy Changes

Ensure that any new gambling expansions or regulations are accompanied by independent evaluations that measure mental health impacts, particularly in vulnerable populations identified by the data.

A sustained, well-funded infrastructure for independent data collection, analysis, and reporting is essential. Evidence-based regulation, built on transparent and timely data, is not only a public health imperative, but also a matter of public accountability.

Limitations

While our findings highlight an association between problem gambling and poor mental health symptoms, some limitations should be considered when interpreting the results.

First, data were collected through online surveys, which may introduce social desirability bias, as participants might respond in ways that reflect positively on themselves.

Additionally, recall bias may have affected how accurately respondents reported past behaviours or experiences.

Because the survey was conducted online, individuals with limited or no internet access may have been excluded, limiting the representativeness of the sample, particularly among older adults, low-income populations, or those living in remote areas.

Finally, online surveys, like ours, are more likely to include people who gamble online and gamble more frequently, which can result in higher estimates of problem gambling (Sturgis & Kuha, 2022). However, the online survey does not affect the association between mental health symptoms and gambling, which was the main goal of our study.

Despite these limitations, the consistency of our findings with existing research strengthens confidence in the observed associations and the importance of addressing gambling as a public health issue.

Methods

Data

The information featured in this report represents 9,219 Canadians 16 years of age and older who answered questions about their mental health. From this total, 4,208 individuals participated in our Canada-wide online survey (October 24 to November 12, 2024). Additional samples were obtained in British Columbia (4,005 participants in the same period) and in New Brunswick (1,006 participants between January 6 and January 12, 2025). Participants who did not answer at least one PGSI question were removed from the sample (416). Therefore, the final sample size was 8,803 individuals (4,040 from the national survey, 3,796 from BC and 967 from NB).

We also used quotes from our qualitative study on gambling. This study interviewed 51 individuals between December 2024 and March 2025 who were identified as moderate to high problem gambling according to the PGSI in our quantitative study. 26 of these participants were from British Columbia and the remaining 25 across Canada.

Data collection

Data was collected using a panel sampling approach, meaning that respondents were part of a pre-recruited group of individuals who had agreed to participate in research studies. For each poll, individuals from the pre-recruited group were invited to participate and can accept or reject the invitation. Participants are unaware of the survey's subject beforehand (blind survey). Response rates varied around 20%.

The inclusion criteria are to be a person 16 years of age and older and reside in Canada at the time of the survey. The exclusion criteria include those who work in a media outlet (that is, TV, radio, newspapers, magazines, or online media), a public opinion or market research firm or a public relations, branding, or advertising firm.

The sample is controlled at intake for age, gender, and region to ensure it is representative of the national population and reduces the need for weighting. Nevertheless, weights were used in all analyses based on the most current census data in terms of gender, age, and region.

We also partner with Pollara Strategic Insights, an accredited GoldSeal member of the Canadian Research Insights Council (CRIC) for data collection and analysis. Pollara

adheres to the CRIC Canadian Code of Market, Opinion, and Social Research and Data Analytics, as well as the CRIC Public Opinion Research Standards and Disclosure Requirements. For more information on the ethical standards and frameworks we follow, visit [CRIC Standards](#).

Mental health indicators

Mental health symptoms were assessed using two validated self-reported clinical screeners. For symptoms of anxiety, we used the Generalized Anxiety Disorder (GAD-7) and for symptoms of depression, we used the Patient Health Questionnaire (PHQ-9).

We also investigate suicidal ideation in the last 12 months.

GAD-7

A 7-item questionnaire categorizing the severity of anxiety symptoms based on criteria from the Diagnostic and Statistical Manual of Mental Disorders (DSM). Scores range between 0-21, where scores above 10 indicate moderate symptoms and scores above 15 indicate severe symptoms⁶.

PHQ-9

A 9-item questionnaire used to categorize the severity of depression symptoms based on DSM criteria. Scores range between 0-27, where scores above 15 are moderately severe, and those above 20 are severe⁷.

Suicide Ideation

Participants were asked if they had thought about suicide in the last 12 months and if they had made a plan to attempt suicide in the 12 months, with possible answers being yes or no.

Identification of those with problem gambling

To understand whether gambling had a negative impact in the lives of participants, we used the Problem Gambling Severity Index (**PGSI**), which is a 9-item self-report questionnaire designed to measure the severity of gambling-related problems in the general population (please see Appendix A to see the 9 questions).

The PGSI assesses the impact of gambling on various aspects of a person's life over the past 12 months. Each response is scored on a four-point scale, leading to a total score that classifies individuals into different risk categories (see figure 5).

The PGSI was developed in Canada and is widely used in population surveys, policymaking, and gambling harm prevention efforts.

Non-Problem Gambling	Low-Risk Gambling	Moderate-Risk Gambling	Problem Gambling
0	1-2	3-7	8+

Figure 5. Problem gambling severity index (PGSI) scores and classifications of risk categories.

Types of gambling investigated

For each participant, we asked:

“In the past 12 months, how often did you participate in each of the following? (either in person or online)”

- Lottery:** Purchasing lottery, scratch or raffle tickets.
- Machines:** Electronic gaming machines (including slot machines, video lottery terminals, electronic racing machines).
- Sports:** Sports betting (including professional sporting events, sports pools, fantasy sports betting, e-sports).
- Horse:** Betting on horse racing or other animal racing.
- Casino:** Casino table games (including poker, black-jack, baccarat, roulette, etc.).
- Bingo:** Bingo.
- Online:** Online Gambling (including online casinos, poker rooms, sports betting sites, etc.).
- Loot boxes:** Purchasing loot boxes for a price when playing video games.
- Market:** Any speculative financial market activities such as day trading, penny stocks, shorting, options, currency futures, etc.
- Other:** Bet or spent money on any other forms of gambling that have not been mentioned.

The possible answers varied from weekly to never. The ones who answered “never” for all 10 types of gambling listed above were considered a non-gambler.

The 9 PGSI questions were only asked to those who indicated that they participated in some gambling activity, regardless of the frequency.

Data analysis

For **research question 1**, we compared percentages based on weighted data by the most current census data in terms of gender, age, and region to ensure the total sample is representative of the general population.

For research questions 2 and 3, we used a method called **weighted multiple regression**. This is a statistical tool that helps us understand how different factors, such as gender, income, and province, are each linked to mental health outcomes, while accounting for their overlap.

To illustrate why this matters: suppose we find that people who are younger than 34 and identify as male have higher rates of problem gambling. It might be unclear whether this is because they are young, male, or both. Multiple regression allows us to separate the effects of each factor. In other words, it helps us see whether being male still matters even after accounting for age, income, education, and other variables. Therefore, if our results show that males are more likely to have problem gambling, this finding reflects an effect that holds true while accounting for other characteristics we considered, including age, income, province, education level, immigration status, and racialized identity.

As with our first research question, we also applied statistical weights to ensure our findings reflect the Canadian population. These weights are based on the most recent census data for gender, age, and region.

Sample sizes are presented as weighted values. We also present 95% Confidence intervals for all sample sizes. For research questions 2 and 3, regressions were conducted after excluding those who did not gamble and those who answered “I do not know” or “Prefer not to answer” in one of the variables investigated (age, income, education, immigrant status, gender, racialized identity, and Province). ‘Atlantic’ includes Newfoundland and Labrador, New Brunswick, Nova Scotia, and Prince Edward Island and ‘Prairies’ includes Manitoba, Saskatchewan and Alberta.

All statistical analyses were conducted in R (R Core Team 2025). Weighted regressions were conducted with the `svyglm` function from the `survey` package (Lumley 2024).

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Appendix A

PGSI Questions (Thinking about the last 12 months):

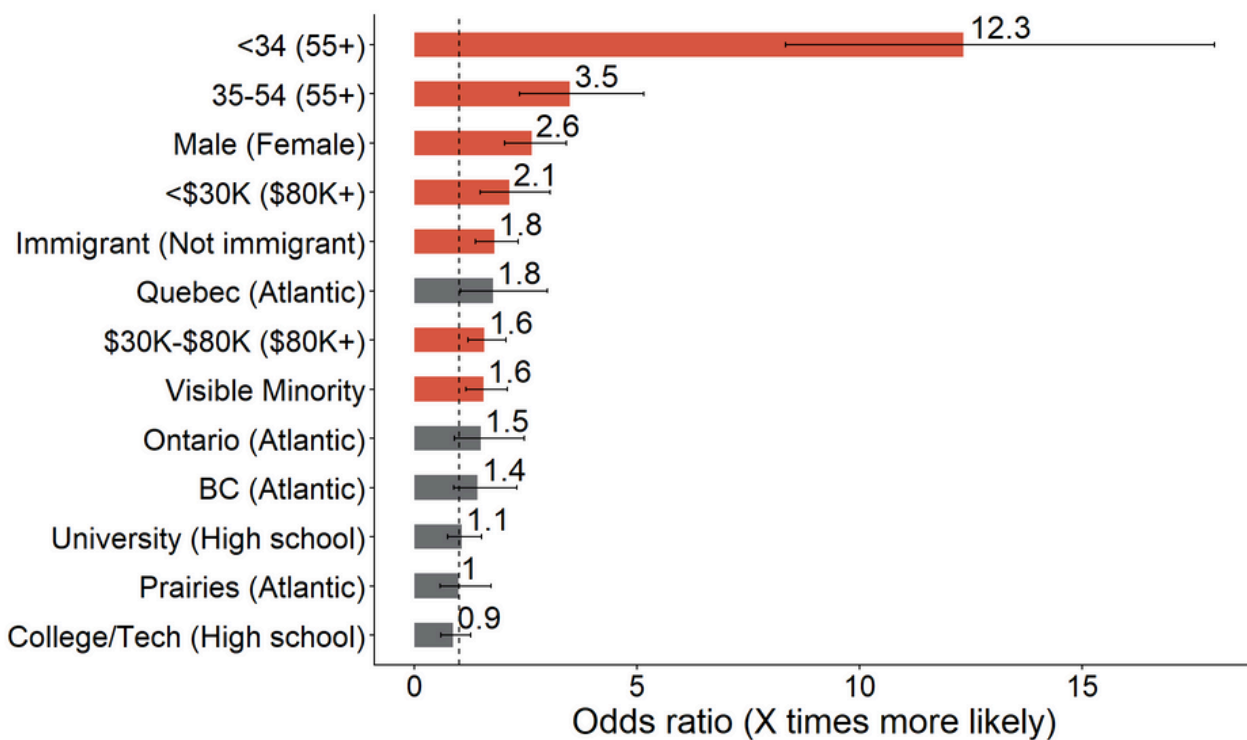
1. Have you bet more than you could really afford to lose?
2. Have you needed to gamble with larger amounts of money to get the same feeling of excitement?
3. When you gambled, did you go back another day to try and win back the money you lost?
4. Have you borrowed money or sold anything to get money to gamble?
5. Have you felt that you might have a problem with gambling?
6. Has gambling caused you any health problems, including stress or anxiety?
7. Have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?
8. Has your gambling caused any financial problems for you or your household?
9. Have you felt guilty about the way you gamble or what happens when you gamble?

Scores for each response:

- Never = 0
- 1-2: Low-risk gambler (experiences a low level of problems with few or no negative consequences)
- 3-7: Moderate-risk gambler (experiences a moderate level of problems leading to some negative consequences)
- 8 or more: Problem gambler (gambles with negative consequences and a possible loss of control)

Appendix B

Figure B1. Bars show the odds of being classified as problem gamblers compared to the group in parentheses. Orange bars indicate statistical difference between group and reference group and grey indicate no statistical difference. Bars are 95% confidence intervals. Sample size (weighted) = 6,062 (those who did not gamble and who answered “I do not know” for income, education, immigration status, and gender were removed from this analysis).



Appendix C

Table C1. Odds ratio for 4 mental health outcomes comparing those with problematic gambling and those without. Numbers between parenthesis represent 95% CI. We highlighted in red the top three highest odds ratio in each mental health outcome.

Mental Health Indicators	Odds (X times more)
Moderate to High Anxiety (GAD-7)	4.14 (3.13, 5.49)
Moderate to High Depression (PHQ-9)	3.83 (2.81, 5.23)
Suicidal Thoughts (past 12 months)	3.54 (2.53, 4.95)
Suicide Plan (past 12 months)	8.12 (4.50, 14.65)

Appendix D

Table D1. Odds ratio for 4 mental health outcomes and all types of gambling investigated. Numbers between parenthesis represent 95% CI. We highlighted in red the top three highest odds ratio in each mental health outcome.

	Anxiety	Depression	Thought of suicide	Plan suicide
Lottery	1.64 (1.18, 2.26)	1.60 (1.09, 2.34)	1.38 (0.93, 2.07)	3.36 (1.34, 8.47)
Machines	1.72 (1.4, 2.1)	1.63 (1.29, 2.06)	1.55 (1.2, 1.99)	3.04 (1.8, 5.14)
Sports	1.87 (1.49, 2.34)	1.51 (1.16, 1.97)	1.53 (1.15, 2.03)	3.33 (1.99, 5.55)
Horse	2.06 (1.61, 2.64)	1.70 (1.29, 2.24)	1.81 (1.35, 2.44)	5.18 (3.26, 8.21)
Casino	1.83 (1.47, 2.27)	1.61 (1.26, 2.07)	1.76 (1.33, 2.33)	3.17 (2.03, 4.95)
Bingo	1.79 (1.45, 2.2)	1.83 (1.44, 2.32)	1.5 (1.14, 1.96)	3.02 (1.81, 5.02)
Online	1.94 (1.55, 2.41)	1.79 (1.39, 2.30)	1.81 (1.37, 2.39)	3.76 (2.17, 6.51)
Loot boxes	2.75 (2.16, 3.5)	2.37 (1.79, 3.15)	2.28 (1.71, 3.04)	5.38 (3.19, 9.08)
Market	1.62 (1.29, 2.01)	1.25 (1.17, 1.96)	1.77 (1.33, 2.34)	3.91 (2.32, 6.59)
Other	2.16 (1.72, 2.71)	2.08 (1.60, 2.70)	2.12 (1.6, 2.8)	5.93 (3.56, 9.89)

Note: statistical models had mental health outcome as response variable, type of gambling as explanatory variable and age, income, education, immigration status, gender, Province, and whether participants identified themselves as visible minority as covariates. Results are from 40 different regressions, i.e., for each response variable (i.e., 4 mental health indicators), we ran a different regression for each type of gambling and the above covariates.

Lottery: Purchasing lottery, scratch or raffle tickets

Machines: Electronic gaming machines (including slot machines, video lottery terminals, electronic racing machines)

Sports: Sports betting (including professional sporting events, sports pools, fantasy sports betting, esports)

Horse: Betting on horse racing or other animal racing

Casino: Casino table games (including poker, black-jack, baccarat, roulette, etc.)

Bingo: Bingo

Online: Online Gambling (including online casinos, poker rooms, sports betting sites, etc.)

Loot boxes: Purchasing loot boxes for a price when playing video games

Market: Any speculative financial market activities such as day trading, penny stocks, shorting, options, currency futures, etc.

Other: Bet or spent money on any other forms of gambling that have not been mentioned