Illegal Gambling in Canada

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Abstract

Illegal gambling has historically been common in Western countries due to the fact that legalized forms have largely been prohibited. However, over the past 50 years most forms of gambling have been legalized. One of the main justifications for legalization is that it forces black-market operators to close and diverts money to governments that is then utilized for societal benefit. The purpose of this thesis is to investigate the validity of this premise. A brief review of the literature of legalizing alcohol, cannabis, and prostitution on black-market operators shows this premise to be largely true for alcohol, untrue for prostitution and intermediate for cannabis. A more comprehensive review of this issue was undertaken for gambling legalization in Canada. Four sources of data were examined: the rate of criminal charges for illegal gambling in Canada from 1977 to 2018; self-reported past-year involvement in illegal gambling in a national online panel sample of 10,199 adult gamblers in 2018; self-reported past-year involvement in age-restricted forms of gambling among adolescents aged 15-17 in 2002 and 2018 from the Canadian Community Health Survey; and the opinions of key informants. The results confirm that illegal gambling has substantially declined with legalization. However, the evidence also indicates that a) this decline was not immediate, but rather occurred over a period of 10-20 years, and b) illegal gambling still exists to a limited extent. Potential reasons are discussed.

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Throughout Canadian history, participation in illegal and unregulated gambling activities has been common because the majority of gambling activities have been prohibited (Smith, 2011). However, following amendments to the Criminal Code and subsequent gambling expansion, most forms of gambling are now legal (Campbell & Smith, 2003). A common argument presented by people and organizations who support legalization and expansion of gambling availability in Canada centres on the ability of governments to eliminate black market gambling opportunities and to capture money to use for the betterment for society (Campbell & Smith, 2003). The purpose of this thesis is to investigate the validity of this assumption. To achieve this, a brief review of evidence from similar industries (i.e., alcohol, marijuana, prostitution) will be completed to determine what consequences legalization has had on black-market operators within their respective industries. These industries were chosen for review because they were seen as most similar to gambling in terms of being historical 'vices' that have all been subsequently legalized to some extent. Following this review, a review of gambling legalization history will be discussed followed by what is currently known about the effects of gambling legalization and expansion on black-market operations. Following these reviews, an empirical analysis of four datasets will be conducted to determine the current state of illegal gambling participation in Canada. The final section of this thesis will summarize the evidence and discuss implications of these findings.

1.2 Evidence from Alcohol Legalization

Alcohol prohibition in the United States from 1920 to 1933 serves as a classic example for the potential negative outcomes which can occur when production of a popular vice becomes illegal. The origins of prohibition are found in the 19th century temperance movement (Levine,

1984; Levine & Reinarman, 1991). The Industrial Revolution prompted a mass exodus from rural communities to the urban environment, and with this, a rise in social unrest. Moralist groups attempted to explain this social unrest on participation in vice. One target was the consumption of alcohol which temperance advocates argued led to societal delinquency and would eventually lead to the dissolution of society. This view gained traction in the early 20th century during the first World War in which the Government of the United States used propaganda to stem the consumption of alcohol in an attempt to increase national unity (Levine & Reinarman, 1991). The prohibitionist groups also gained support of the business community for the purpose of making workers more productive (Hall, 2010). This led to the passing of the Volstead Act into the 18th amendment after Nebraska became the 36th state to ratify the amendment.

There were serious problems with the enforcement of prohibition. First, the consumption of alcohol was not necessarily prohibited, only the production of alcohol for the purpose of consumption (Hall, 2010). This forced manufacturers of alcohol for consumption to find alternative products to manufacture and sell or they would be forced to close their businesses. Second, the enforcement of the Volstead Act was not uniform in every state meaning some areas of the United States were more tolerant than other areas regarding illegal production of alcoholic beverages. Third, there was still a strong market for alcohol consumption which created lucrative revenue streams for black market operators (Blocker Jr., 2006; Hall, 2010; Miron, 2001; Recio, 2002; Tyrell, 2015). For example, many of the alcohol producers moved their operations to Mexico where alcohol production remained legal. These companies then illegally supplied the Southern United States with alcohol through bootlegging operations (Recio, 2002). Similarly, Canadian producers supplied the Northern United States with their own legally

manufactured alcohol. An example of this is the rum-running of the Detroit-Windsor border (Tyrell, 2015). There were also illegal manufacturers of alcohol within the United States. Consumption of this black-market alcohol was associated with poisoning and overdose due to lack of safety regulations (Miron, 2001). Further, the sale of this alcohol would fund other illegal operations related to violence, drug dealing, and other money-making operations.

The Great Depression combined with changing attitudes about the nature of alcohol problems being individual concerns rather than societal resulted in the re-legalization of alcohol in the United States in 1933 (Levine & Reinarman, 1991). The production of alcohol was once again legal which allowed governments to have access much needed taxable revenue from alcohol sales. The United States also gave business the ability to create a safe and regulated product. Alcohol is now widely available for legal purchase by adults. After prohibition ended, there is evidence which shows that many of the organized crime groups that were involved in the illegal manufacture and distribution of alcohol in the United States moved on to other opportunities (Haller, 1976). The prohibition of alcohol allowed the high-ranking members of these organized crime groups to make exorbitant profits which they could invest in other legal and illegal industry. Many of these organized crime groups no longer viewed illegal manufacture and distribution of alcohol as a profitable activity.

Today, there are some instances of small-market distributers providing prohibited forms of alcohol (Bell & Longchap, 2019; Canadian Broadcasting Corporation, 2010). In the United States the ability of adolescents to purchase alcohol from regulated institutions (e.g., liquor stores) has reduced from approximately 75% in the early 1990s to between 26 and 39% today (Erickson et al., 2014). The authors argues that one major reason for this decrease is increased enforcement and regulation of establishments who sell to adolescents. Research on the

worldwide availability of unrecorded alcohol consumption has found that although unrecorded

alcohol consumption is common, illegal smuggling is less common in countries which do not

prohibit the manufacture and sale of alcohol (Probst et al., 2018; Rehm et al., 2014). However,

one factor which may increase illegal alcohol smuggling in more developed countries is tax with

higher tax levels being associated with greater smuggling (Probst et al., 2018). This may be a

factor in Canada with reports of illegal alcohol smuggling from the United States being attributed

to lower prices of alcohol in the United States compared to Canada (MacDonald, Wells &

Giesbrecht, 1999). It is difficult to determine the actual rate of illegal cross-border smuggling to

Canada with experts estimating only 5% of smuggling occurrences are discovered. Still, despite

the apparent cross-border smuggling, tax revenue from the legal production of alcohol is

significant in both Canada and the United States. In Canada, Statistics Canada reports that

government revenues from alcohol sales in 2014 totaled $10.9 billion (Sherk, 2020). In the

United States, the Internal Revenue Agency reports excise taxes collected from alcohol in 2019

at $10,581,895. These numbers indicate that regulated alcohol manufacturing is a good source

of revenue for these governments.

1.3 Evidence from Prostitution Legalization

Currently in Canada, it is illegal to purchase sexual services or to operate a business

which profits from the transaction of sexual services (Department of Justice, 2018). However,

there are other countries which do not prohibit the purchase or selling of sexual services. For

example, the Netherlands, who have historically felt tolerant about the subject of prostitution,

allows people over the age of 18 to work in a registered sex house or brothel if certain conditions

are met (Bisschop, Kastoryano & van der Klaauw, 2017). These conditions include being

registered as sex workers with the government, paying taxes, and maintaining regular health

checks to protect both providers and consumers of sexual services. The rationale of the Government of the Netherlands regarding legalization of prostitutions in specific locations was that legal access to prostitution services lowers the risks associated with prostitution (e.g., human trafficking, abuse) (Huisman & Kleemans, 2014). Therefore, the Dutch Government has created a system which parallels the arguments made by people who support legal access to gambling: a system which collects taxable revenue from a regulated prostitution industry, and which replaces black-market operations.

Empirical evidence suggests places which allow prostitution are targets for human traffickers to sell their victims. For example, Jakobsson and Kotsadam (2013) found that human trafficking increases in countries which have made the decision to allow legal access to prostitution services. Comparatively, the human trafficking rates of countries which prohibit prostitution are significantly lower. The authors argue that legal prostitution laws make human trafficking more profitable for black market organizations. The Netherlands appears to not be an exception to this empirical finding with multiple reports indicating the Netherlands has a serious problem with human trafficking (Cho, Dreher & Neumayer, 2012; Huisman & Kleemans, 2014).

Whether consumers are purchasing sex from the legal market is contentious as many places do not keep consistent data. It is estimated that the sex industry in Germany makes 15 billion euros per year with 400,000 sex workers serving 1.2 million customers per day (Diu, 2013). However, out of those 400,000 employed sex workers, oly 33,000 are officially registered with the government of Germany (Douglas, 2020). Therefore, customers are likely purchasing sex in Germany illegally as many brothels do not ensure the sex workers are registered with the government (Diu, 2013). These brothels act more like short-term landlords who rent out rooms to sex workers at a flat rate for 24-hour periods. Reliable statistics on the

purchase of legal sex work are further jeopardized in Europe with the majority of members in the European Union advocating for the adoption of the Nordic Model of sex work control (Douglas, 2020; Vanwesenbeeck, 2017). The Nordic Model involves prohibiting the purchase of sex while allowing sex work to remain legal. The use of the model is associated with a decreased frequency of human trafficking (Vanwesenbeeck, 2017), but the purchase of sexual services still occurs in countries adopting this model (Deogan et al., 2020).

1.4 Evidence from Cannabis Legalization

The Government of Canada made the decision to legalize the recreational use of cannabis in 2018 (Cox, 2018). Similarly, a number of states in the United States have made the decision to legalize recreational use of cannabis despite the federal government continuing to prohibit recreational use nationally. Like gambling, proponents of recreational cannabis legalization make the case that legal access to cannabis creates a source of income for governments through taxation by eliminating black market sources of cannabis (Hao & Cowan, 2020). Research which has investigated the main tenets of the legalization argument has produced mixed results to date. For example, there is some evidence which shows that governments that have decided to adopt a legalization mandate have increased revenue streams through taxation efforts (State of Alaska, 2021; State of Oregon, 2020; Statistics Canada, 2019; Washington State Department of Revenue, 2020). There is also evidence from independent researchers that the availability of legalized cannabis has both reduced the demand for illegal cannabis (Amlung & MacKillop, 2018), and has reduced the frequency of illegal growing in some areas of the United States (Prestemon, Koch, Donovan & Lihou, 2019).

Conversely, there is evidence that cannabis legalization has not completely disrupted the black market. For example, Rotermann (2020) details findings from a *Statistics Canada* study

which found that only 29.4% of self-reported cannabis users admitted accessing all of their cannabis from a legal source in 2019. Further, 40.1% of respondents admitted purchasing their cannabis from an illegal source for the purpose of recreational use. Evidence from research on black market activity in the United States shows that legalization has increased access to cannabis for illegal recreational use in states which have not legalized cannabis for recreational use (Hao & Cowan, 2019). Finally, Caulkins et al. (2019) found that official records of cannabis sales in Washington State did not match the estimated sales amount based off of self-report consumption data. Here, the authors conclude that it is apparent that some citizens of Washington State are accessing cannabis outside of the legal and regulated market. Based on the available evidence, it is apparent that although legal access to cannabis for recreational use has increased revenue streams for governments in North America, it has not completely eliminated black market influence on cannabis consumption.

1.5 History of Gambling Legalization in Canada

The conversation surrounding the legal status of gambling in Canada has shifted over time with changing themes regarding the role of gambling in influencing societal order (Campbell & Smith, 2003). Gambling legalization in Canada can be separated into three distinct timeframes: the colonial period (1497-1867), Confederation to modern times (1867-1969), and the gambling expansion period (1970-present) (Smith, 2011). During the colonial period, competition between the British and French over resource dominion in Canada occurred with the British claiming sovereignty over Canada in 1553 (Smith, 2011). However, due to the small and scattered population of Canada during this time, legislation was not a priority for the British including the control of gambling activity. A culmination of competition through the fur trade between the French and the British which was exacerbated by occurrences from the Seven

Years' War led to a key victory for the British in the Plains of Abraham battle. Following the defeat of the French, the British established the Québec Act which used English criminal law combined with French civil law as a precedent for making decisions on controlled behaviour. From the mid-1700s to the late 1800s, recreational gambling was popular among Europeans in Western Canada (Williams, Belanger & Arthur, 2011). These games included card games and dice games; betting on the outcome of horse racing and cockfights; and lotteries/raffles.

Between 1869 and 1892, the foundations of early federal gambling law were established (Williams et al., 2011). Following Confederation, British gambling law still applied as there was no official Canadian Criminal Code ratified by the federal government during this time (Smith, 2011). This early legislation prohibited gambling actions related to dice games, gaming houses, gambling among specific classes of people, lotteries, cheating during gambling, professional gambling, and the facilitation/encourage of betting on animal fighting (Williams et al., 2011). Further, the concept of amnesty for informants was introduced. This was a concept where people found participating at an illegal gaming house being able to escape a criminal charge for legally testifying against the keeper of the house. Also, the term 'wager' was replaced by the term 'bet' to coincide with the newly introduced betting house. Canada established the Indian Act in 1876 which legally put First Nations people under the control of the government for the purpose of assimilating them into the dominant society. Part of this assimilation was the control of traditional First Nation games of which these groups historically participated. These games included wagering on the outcomes of tobogganing, snowshoeing, canoe races, archery, spear throwing, and running races. Through the use of residential schools and reserves, the federal government prohibited all traditional forms of wagering for First Nations people with the view that these games were immoral.

During the time period following the adoption of British criminal law through Confederation, various stakeholders such as moralists, private gambling promoters, charitable organizations, provincial governments, research experts, and non-governmental organizations attempted to influence the legislation of gambling (Campbell & Smith, 2003). With the adoption of the Criminal Code of Canada in 1892, the federal government now had exclusive rights over legislation of criminal offenses in Canada. The Criminal Code prohibited gambling actions related to keeping a common gaming house, keeping a common betting house, keeping a disorderly house (bawdy, gaming, and betting house), gambling in public spaces, bookmaking, buying and selling/distributing lottery products, maintaining a cockpit, and cheating during a game. These actions were controlled under the section titled "Offenses against religion, morals, and public conveniences" (Campbell & Smith, 2003; Smith, 2011). Under these control measures, betting between individuals continued to be allowed so long as the bet was not made through a bookmaker charging a transaction fee (Smith, 2011). In addition, on-site horse-race betting was legally permitted at government-chartered racetracks and charity raffles with prizes of less than $50 values were allowed (Williams et al., 2011). Overall, these early gambling laws borrowed heavily from traditional English statutes, some of which had 16th century origins.

Despite these restrictive laws, evidence would suggest that participation in the prohibited gambling industry was common. Morality groups such as the Moral and Social Reform Council of Canada (MSRCC), who typically focussed lobbying efforts related to temperance, Sabbatarianism, and prostitution, then began focusing lobbying efforts related to on-track betting (Campbell & Smith, 2003). Arguments made by groups such as the MSRCC were quickly countered by members of the general population who enjoyed betting on events like horse racing, and the business community who owned various stakes in the track-racing industry.

Other groups which showed disdain towards the idea of a legal gambling industry included the wives of players who would lose their paycheques making bets, employers who viewed gambling as a distraction, and the general public when scandals occurred (Smith, 2011).

It is interesting to note that the arguments during this time period for or against gambling legalization never centred on the idea that excessive gambling caused problems through a disease process (Campbell & Smith, 2003). Instead, arguments about gambling legalization centred on morality, with the traditional view in Canada being that only morally corrupt people participated in gambling activities and that such actions would eventually lead to financial difficulties. To counteract these arguments, people from the horse racing community argued that betting on races was positive because it helped to keep them in business and helped them to purchase more horses. The purchase of more horses was argued as a positive for the country because, at this time, Canada had obligations as a member of the British Empire to provide military resources for British interests. As the British employed horses in their military campaigns, Canada may have been put in a position to send horses for military purposes. Therefore, businesses intimately involved with the early gambling industry began using arguments with nationalistic sentiments that implied legalizing gambling would add to the greater good of society. This greater good argument would become a central theme employed by pro-legalization gambling advocates throughout the 20th century. A short hiatus in the ability to make bets on horse races occurred from 1917 to 1920 because the act of gambling was viewed as antithetical to success in World War 1 (Smith, 2011).

Off-track horse race betting continued to be common despite its illegal status (Smith, 2011). Another popular form of prohibited gambling among the general public were the Irish Sweepstakes which involved betting on the outcome of horse races in Ireland. Prizes for these

races were large for the time period with totals often exceeding $100,000. Proceeds from the purchase of these tickets would go to funding of Irish hospitals. Established in 1930, the Irish Sweepstakes were popular among a wide variety of Canadians. For example, in 1938, up to one third of people living in Toronto purchased tickets priced from $2.50 to $3.00 a ticket. These tickets would be smuggled into the country and sold by volunteer local distributors who would be incentivised with a free ticket for every six that were sold. The competition process involved an initial draw in which the winning tickets would move to the second round. The second round would consist of the remaining tickets being paired with horses involved in the race. After the race, prizes would be divided based on the position of the horses finishing the race. The Irish Sweepstakes were influential to a point where the federal government considered modelling a lottery system after the Sweepstakes format during the Great Depression to raise money for struggling institutions (Campbell, & Smith, 2003).

By the 1920s the moralist argument against legalizing gambling was failing to have any legislative success (Campbell & Smith, 2003). This lack of success combined with the increasing "greater good" arguments from various stakeholders led to another amendment of the Criminal Code in 1925 (Campbell & Smith, 1998). This amendment, which was largely driven by agricultural stakeholders, allowed an exemption for agricultural fairs to offer games of chance during exhibitions. Following the passing of this amendment, the Prairie provinces began promoting 'carnival games' at multiple Midways and exhibitions (Campbell & Smith, 2003). These betting games were introduced and promoted largely to increase attendance at these agricultural fairs, which were designed to serve as a celebration of life in rural Canada. This celebration of rural Canada was intended to increase capital investment in Prairie business ventures, and to promote relocation to these rural areas. Therefore, similar to the arguments of

those promoting the ability to make bets on the outcome of races, agricultural fair organizers and promoters of Prairie prosperity defended the ability to legally gamble for the greater good, despite the apparent inherent immorality of gambling participation. Despite these legislative failings, the federal government decided to officially prohibit the use of automated gambling machines as the use of such machines constitutes the operation of an illegal gaming house (Williams et al., 2011).

Moving into the Great Depression, gambling began gaining higher respectability and tolerance because of increased exposure at charity and religious events offering bingo and at midways where they offered carnival games (Williams et al., 2011). Governments began seriously contemplating introducing legally accessible lotteries for the purpose of increasing revenues and creating employment (Campbell & Smith, 2003). These lotteries were to be employed to raise funds for struggling institutions such as hospitals and education centres to ensure they were not victims of economic depression. The lotteries were also going to be designed to help unemployed individuals. It was during this period where opponents of gambling legalization began using arguments comparing excessive gambling problems to a disease state. However, these comparisons were largely metaphorical in nature, as the idea that pathological forms of gambling could be a medical problem did not become popular in the literature until the 1980s. Any attempt to legalize these lotteries were ultimately defeated in parliament because it was the consensus of lawmakers that winning money was wrong because it was the antithesis of the Protestant work ethic (Williams et al., 2011). Despite this consensus, illegal gambling participation continued to grow during the 1930s with organized crime commonly offering these services.

In the aftermath of World War II, serious discussions regarding further amendments to the Criminal Code for increased legal gambling opportunities began to occur again in the 1950s. Specifically, the federal government constructed a Joint Committee in 1952 made up of members from the House of Commons and the Senate to determine the feasibility of allowing lotteries to occur within Canada (Williams et al., 2011). The Committee also researched the feasibility of allowing games like bingo and other games of chance for the purpose of raising funds for charity. A number of interest groups were allowed to submit opinions on the subject of liberalizing gambling laws in Canada with the opposing faction including the Canadian Council of Churches and the Canadian Welfare Council. Despite opposition from these groups, the Committee heard convincing information that despite gambling prohibition, many of these games were already occurring with revenues collected from these games being substantial. The laws controlling gambling at that point were also said to be vague leading to confusion in the application of these laws from both a policing and legal standpoint. Therefore, the Joint Committee recommended that the law controlling the practice and operation of gambling should be amended for the purpose of overriding this ambiguity, discarding the inconsistencies, and ensuring that the types of gambling that were allowed during that time period be clearly defined so that they can be controlled adequately. Further, full legalization was not recommended at this time because the Committee found that the laws pertaining to gambling at that time were leading to appropriate enforcement. Finally, the Committee recommended that the state should remain separate from any lotteries allowed for the funding of charity initiatives.

The control of gambling behaviour in the first half of the 20th century may be described as a mixture of official intolerance with unofficial complacency (Smith, 2011). Due to this complacency, prohibited forms of gambling such as sports bets through a bookmaker remained

popular among the general population. In addition, the introduction of the New Hampshire state lottery in 1964 set the stage for expanded legal gambling in Canada (Campbell & Smith, 2003). Increasingly positive views towards gambling over the decade led to one of the most significant amendments in the history of Canadian gambling law in 1969: governments could now manage lottery schemes and allow religious and charity organizations to conduct their own lotteries with proper licensing (Campbell & Smith, 1998; Campbell & Smith, 2003). This amendment allowing governments to introduce licensing for lotteries marked the beginning of the first wave of gambling expansion in Canada. Following the passing of these Criminal Code amendments, lotteries began to be established country-wide with each province having attempted a lottery by 1976 (Campbell & Smith; Smith, 2011). Further, there was also a federally operated lottery. The federally operated lottery was a profitable venture as a revenue stream with funds collected helping to pay for events such as the 1976 Olympics held in Montréal, Québec (Smith, 2011).

Many provinces were also allowing agricultural fairs and exhibitions to host casino-related games such as blackjack and roulette (Campbell & Smith, 2003). These casino-related games attracted enough revenue where western Canadian charitable organizations requested to host their own casino-style games for the purpose of raising money for the benefit of broad public health measures. These requests were granted. There were restrictions established on religious/charitable organizations and individuals seeking licensing to run lottery schemes (Williams et al., 2011). For religious/charity organizations, these restrictions included the necessity of all proceeds being dedicated to charitable or religious purposes, participation tickets not costing great than 50 cents and winnings not amounting to more than $100. For individuals, the restrictions included these lotteries needing to be operated at places of entertainment, cost of tickets not exceeding 50 cents and winnings not exceeding $100.

A number of legal Canadian 'sports lottery' schemes were also established during the initial expansion period between 1969 and 1985 as well (Smith, 2011). These lotteries were established as an alternative to making bets with a bookmaker which remained illegal under the 1969 amendment. The sports lottery schemes established during this time period included: a Manitoba-based sports pool established in 1971 which focused on the results of *National Hockey League* (NHL) games; the Quebec quarte, established in 1972, which was a luck-based competition in which the bettor had to randomly assign 10 numbers in a certain order which would represent a blind prediction for the finishing order of a horse race. This scheme failed to attract significant revenue for the province of Québec and was abandoned after several years. A controversial hockey pool introduced by Loto-Québec which gave participants a 1 in 1190 chance of winning $500 and was accused of using the NHL name and logo without permission. This lottery scheme lacked public support and the idea was abandoned shortly after.

A second hockey-related lottery scheme established by Loto-Québec in 1982 was called *Hockey-Select* (Smith, 2011). This scheme was different from the previous sports lotteries established in Canada in that participants were asked to predict the results of 13 hockey games over a one-week period, which theoretically implied a player could improve their results with knowledge of the game. Despite the potential of *Hockey-Select,* the lottery scheme failed to remain established due primarily to sales dropping to under $20,000 per week by Spring 1983.

Finally, the Canadian Sports Pool Corporation, an organization established by the federal government in 1983, created a game in 1984 called *Sport Select Baseball* which focused on the outcomes of baseball games (Smith, 2011). This game also was not a successful venture due to a combination of competition from provincial sanctioned lotteries, objection from professional baseball leagues, and public disinterest. *Sport Select Baseball* produced one winner and ended

with a deficit of $45 million. In summary, none of the sport lottery schemes established by the federal government and the provinces during the initial gambling expansion period were able to make lasting impacts in the legal sports gambling industry.

Despite the provisions in the amendment allowing provinces to grant licenses to organizations to run lotteries and casino-style games, much of the potential expansion was stymied due to the inability of provincial governments to be directly involved in the operation of gambling industry (Campbell & Smith, 2003). Still, the ability to provide these licenses to various entities proved to be a modest form of revenue for the provincial governments during this time period. Further, tight government regulation of gambling through licensing increased the legitimacy of the industry meaning more people were willing to participate and/or support the operation of the gambling industry. Still, by the end of the 1970s, the majority of provincial governments felt that the continued involvement of the federal government in the operation of the gambling industry acted as a significant barrier towards collecting high revenues (Smith, 2011).

It was during the 1980s where the provincial governments formed a bloc against the federal government arguing for more control in the operations of gambling operations in their respective provinces. With pressure coming from a united provincial front, the federal government agreed to dissolve their operations in 1985 with the stipulations that the federal government would receive $100 million over three years for the purpose of bankrolling the 1988 Calgary Winter Olympics and would also receive an annual cut of $24 million based on the proportion of lottery sales (Smith, 2011). Thus, the second amendment of 1985 gave exclusive control of the legal gambling industry to the provinces within their respective provincial jurisdictions (Campbell & Smith, 2003). This amendment also allowed provinces to manage and

operate computer- and electronic-based gambling devices such as video-lottery terminals (VLTs) and slot machines. Further, this amendment removed the maximum winnings in charitable lottery schemes while increasing the maximum ticket price to $2 and increased the maximum winnings in lottery schemes operated by individuals to $500.

It should be noted that none of these amendments to the Criminal Code occurred with consultation from the general public (Campbell & Smith, 1998; Campbell & Smith, 2003; Smith, 2003). Instead, governments passed legislation under the rationale that strict prohibition of gambling is unenforceable, that the legal gambling industry keeps revenues in the community, that gambling revenues can be used to fund important social causes, and that gambling revenue could help pay government debts (Campbell & Smith, 1998).

Following the amendments of 1985, provinces had monopolies on the operation of legal gambling industry within their respective jurisdictions. However, the application of these monopolies was and is still not uniform from province to province due to the vagueness of the laws (Campbell & Smith, 1998). This lack of uniformity is a consequence of the provinces having different interpretations of how to appropriately implement the legal gambling occurring in their respective provinces, specifically with the language in the amendment regarding 'conduct and manage'. This ability to interpret how the gambling industry may operate has led to a variety of standard operation models employed across the country.

The first of these models is the complete government ownership and operation model (Campbell & Smith, 1998). This model is the design of choice for marketing, issuing, and distributing lotteries across Canada. In most of the country, lotteries are an inter-governmental operation. For example, lotteries conducted strictly within the Atlantic provinces are controlled and operated by the Atlantic Canada Lottery Corporation, a joint operation with representatives

from the four Atlantic provinces. Similarly, lotteries held in the Western provinces of Manitoba, Saskatchewan, and Alberta are controlled by the Western Canada Lottery Corporation. Ontario, British Columbia, and Québec also each have their own independent lottery system. Finally, there are national lottery options operated by a corporation represented by members of each province called the Inter-Provincial Lottery Corporation (i.e., Lotto 6/49, Lotto Max). Casino operations in Québec and Manitoba are also modelled after the government ownership and operation model with the use of crown corporations. Each province has their own rationale for monopolizing the casino industry: Québec because of strong public support for government intervention in the gambling industry, and Manitoba because of evidence that charity casino models were rife with corruption.

A second interpretation of the Criminal Code allowances is known as the 'joint venture model' (Campbell & Smith, 1998). This model sees the province claim ownership of the casino through an institution like a crown corporation with management being controlled by a private entity. This model is utilized in Ontario and was introduced with the opening of Casino Windsor in 1994. The private entity provides construction costs, capital investment, and overhead costs. The investment from the private entity is then recouped through charging an operating fee to the province and receiving a share of the winnings. This model has also been replicated in Nova Scotia in which the casino is owned by the province but managed by a private entity. Saskatchewan also employed a version of this model when building their casino in Regina. British Columbia offers a version of the joint venture model where private companies own the venues in which gambling occurs as well as provide employees to operate the venues (Smith, 2013). The British Columbia Lottery Corporation, the crown corporation responsible for the regulation of gambling in the province of British Columbia, supplies gambling equipment that is

used in these privately owned venues. One corporation which is currently involved in many of

the joint ventures in British Columbia, Ontario, and Nova Scotia is the Great Canadian Gaming

Corporation which operates casinos and on-track racing at various locations (Great Canadian

Corporation, 2021).

A third interpretation of the Criminal Code allowances is the 'charity model' which is

found in some form in all provinces of Canada (Smith, 2013). In this model, charity groups are

given the opportunity to apply for a special license whereby they can offer some gambling

formats to raise funds for charitable causes. This model is championed by the province of

Alberta, with this province being the only one which includes casinos within the charity

category. Here, privately owned entities supply a venue, equipment, and staff to run games.

Charities are then able to apply for short-term license to raise money from the games and provide

volunteers who collect and distribute chips for play.

The fourth model common in Canadian gambling operations is the various forms of

contracts that provinces create with First Nation communities to allow gambling ventures to

occur with First Nation oversight (Smith, 2013). When the federal government made the 1985

amendments to the Criminal Code which gave exclusive rights to the provinces in the operation

of gambling, it prevented First Nation communities from operating their own gambling

establishments without provincial government oversight (Campbell & Smith, 1998). Despite

many from First Nation communities being disappointed about being forced to apply to the

government to operate gambling institutions, many have formed cooperative relationships with

provincial governments. Typically, First Nation groups have established their own gambling

institutions through one of three ways: applying for a gambling license similar to charity

organizations; forming a contract with the province to operate casinos; or applying for a license

to operate a casino through a First Nations licensing group which has provincial government approval.

Following the amendment of 1985, governments continued experimenting with sport lottery models hoping to find a profitable formula (Smith, 2011). In 1990, the Western Canada Lottery Corporation began a pilot project called *Power Play* where participants could predict the outcomes of NHL games for the chance to win merchandise. This pilot project was used to measure the feasibility of operating a sports lottery in Canada (i.e., whether this option was attractive among sport fans). Following this pilot project, the Western Canada Lottery Corporation expanded this lottery scheme to a version called *Sport Select* which originally offered two versions. Out of these two versions, *Pro-Line* succeeded because it allowed variable bets between $2 and $1,000 with wagers related to the outcome between 3 and 6 NHL games. *Pro-Line* was so successful, the Western Canada Lottery Corporation expanded the sports which were available to include football and baseball in 1991. The success of *Pro-Line* introduced a model which other crown corporations could use to introduce their own sport lottery schemes. This marked an expansion of sport lotteries in Canada with games like *Over/Under, Point Spread,* and *Double Play* being introduced and sports like basketball, soccer, tennis, car racing, and golf being included in the lottery schemes. Today, sports lotteries make up a small portion of gambling revenues for Canadian provinces. Further, official games regulated by the provinces only offer options in which the participant must bet on the outcome of multiple games, usually whether a team wins or loses, how one team compares to a previously posted predicted score, or whether two teams go above or remain below a particular combined score. Single outcome predictions for sport lotteries are currently not available to Canadians.

1.6 Evidence from Gambling Legalization

The Canadian Criminal Code regulates gambling behaviour by barring independent and privately owned entities from operating any lottery or gambling operation and deeming this activity as a criminal act punishable with a prison sentence of not more than two years (Nadeau et al., 2014). As indicated, there is an exception to this prohibited operation rule which allows the provinces to operate lotteries and gambling endeavours and allow provinces to extend licenses to charitable and religious organizations for the purpose of raising money for charitable causes. This prohibition exception also extends to online gambling. Therefore, according to stipulations set out in the Criminal Code, people who participate in online gambling do so legally when the website is hosted and operated by the province in which a person resides. However, if a person in Ontario decided to access online gambling in Québec, that action would be prohibited as defined by the Criminal Code.

As mentioned above, some major reasons the federal government and subsequent provincial governments have moved forward with gambling legalization without general population consensus are because prohibited gambling is difficult to enforce and because legal gambling offerings are collected to be used for the greater good and away from black market entities. A consequence of these assumptions of allowing legal gambling participation is that people would choose to participate in the legal gambling market instead of the illegal gambling market. Does evidence exist which corroborates the excuses and assumptions promoted by the provincial and federal governments in Canada? Evidence for this topic in the country of Canada is currently sparse with little empirical evaluations of illegal gambling behaviour. However, the evidence is pretty clear that provincial governments are collecting substantial revenues from the legal gambling industry which implies that people are using the legal gambling market (Smith, 2013).

Although a comprehensive analysis regarding the current prevalence of illegal gambling activity in Canada is not currently available, various academic and non-academic reports appear to indicate the continued existence of illegal gambling behaviour in some Canadian provinces. For example, a report by Nadeau et al. (2014) for the province of Québec suggests that despite the legal availability of online gambling hosted through the Loto Québec crown corporation, citizens of that province potentially patronize over 2000 different illegal online gambling platforms, over 500 which are offered in French.

There are also various stories detailed by major news organizations which show that police are shutting down illegal gambling operations at different locations around the country. For example, police near Toronto, Ontario recently raided a mansion in which various illegal activities were operating, including illegal casino operations (Canadian Broadcasting Corporation, 2020a). Further, there was an incident in Richmond, British Columbia in which two people were charged for operating an illegal gaming house (Canadian Broadcasting Corporation, 2020b). Also, a Royal Canadian Mounted Police (RCMP) report from 2009 indicated that the British Columbia government may have employed an individual within their gambling crown corporation who had connections with Chinese organized crime (Cooper, 2020). This occurrence was further associated with a disbandment of the RCMP unit which created the report for the British Columbia government. The report is also troubling when considering that there are concerns about extensive money laundering from the profits of underground illegal gambling operations within legal casinos in British Columbia. There are also reports of extensive money laundering occurring in the provinces of Alberta, Ontario, Saskatchewan, and Manitoba (Wiens, 2019). Finally, Urquhart and Boyton (2019) reported about an RCMP raid for a possible cockfighting ring in British Columbia.

According to Smith, Wynne and Hartnagel (2003), the expansion of legal gambling will inevitably lead to the expansion of organized crime within the legal gambling industry, especially within casinos. However, they note that illegal gambling behaviour is difficult to track in Canada, which may be related to the monitoring and control of illegal gambling being a low priority for town and municipal police forces. Further, anecdotal remarks from members of western Canadian police forces suggest that some forms of illegal gambling are allowed to flourish because of greater acceptance of gambling participation and because law enforcement and justice system officials overlook the issue. Therefore, despite the lack of available court documented evidence portraying illegal gambling behaviour as an important issue, the state of missing data is at such a level where this characterization is not appropriate. Further, anecdotal accounts from front line officials appear to support the idea that illegal gambling behaviour is more common than what is shown on the official record. Therefore, an empirical analysis describing the extent of current illegal gambling behaviour is necessary to determine an accurate assessment of illegal gambling occurring in Canada. In the next section of this thesis, an empirical analysis is performed which describes the prevalence, nature and the demographic profile of those Canadians who self-admit to participating in different illegal gambling activities. These gambling activities include accessing illegal online gambling platforms hosted and operated outside of the province of residence, placing bets on the outcomes of illegal animal contests, and accessing illegal underground casinos to gamble.

2 Methods

2.1 Gaming and Betting House Criminal Charges

This research project takes data from 4 different sources. The first source is data collected by Statistics Canada of illegal gaming house and betting house criminal charges

between 1977 and 2018 (Statistics Canada, 2010; Statistics Canada, 2018). The purpose of using this data source is to view trends in illegal gambling behaviour rates as they relate to the introduction of legalized gambling. The laws set out by the Government of Canada regarding participation in gaming house and betting house are set in the Criminal Code (RSC, 1985, c. C-46). The Government of Canada (2021) defines an illegal betting house as a place which is operated for the purpose of: 1. Encouraging patrons to make a bet with themselves or with the betting house operator; or 2. Encourage any person to assist with the operations of the betting house. In general, betting houses are for making illegal sports bets.

Illegal gaming house is defined as a place: 1. Kept for gain where patrons can play games; or 2. Kept or used for playing games: i. Where a bank is kept by some but not all of the players; ii. Where a portion or all of the bets made to participate in a game is directly or indirectly paid to the operator of the gaming house; iii. Patrons are directly or indirectly charged a fee for accessing games or equipment at the gaming house; and iv. Where the chances for winning are not equally favoured for all persons accessing games and equipment. In general, gaming houses are where people participate in illegal casino table games and/or electronic gambling machines.

Any person found to be operating a gaming or betting house is: 1. Guilty of an indictable offence and is responsible of serving an imprisonment of 2 years or less; 2. Or a punishment of summary offence. Anyone who is found: 1. In a betting or gaming house without lawful reason; or 2. Operating or owning a place and knowingly allowing illegal gambling is guilty of an offence which is punishable by summary conviction. For this analysis, the rate of illegal gaming and betting house criminal charges per 100,000 people by year was assessed to determine if there is a connection between the rate of illegal gambling charges and legal gambling expansion.

2.2 Baseline Online Panel Survey

The second source of data comes from the Baseline Online Panel Survey (BOPS), an online panel of 10,199 Canadian adults, collected from August to October 2018 as part of the Alberta Gambling Research Institute's National Project (ANP) (see Appendix C) (Williams et al., 2019). This is a comprehensive national survey of gambling behaviour, which includes a detailed assessment of illegal gambling activities (i.e, online gambling on sites which are not hosted or operated by the province, illegal animal contests, illegal casino access). This data was collected from an online survey hosted on LegerWeb, Canada's largest online panel with approximately 400,000 members. The BOPS is the first time that the prevalence and nature of illegal gambling in Canada has ever been assessed.

The Leger panel is constructed in such a way that participants are demographically and geographically representative of the adult Canadian population as determined by the previous Canadian census. However, because the recruitment of surveys hosted on LegerWeb is volunteer based instead of being subject to random assignment, there are potential sampling biases which are not controlled making the samples dissimilar to the Canadian population in some ways. An advantage of using online panels such as BOPS is that due to the opt-in recruitment process, the panels may have up to 3-4 times more heavy gamblers compared to the general population giving researchers greater access to this specific group (Williams et al., 2019). This advantage is accentuated even more when considering that participation in the BOPS was conditional on admittance of participation in gambling activities at least once a month in the past year. However, this advantage turns into a disadvantage when making extrapolations of behaviours to the general population (Williams, 2020).

To overcome this disadvantage, all analyses conducted on the BOPS were corrected using a weighting variable to match the BOPS data with identical data on once/month gamblers collected by Statistics Canada in the 2018 Gambling Module of the Canadian Community Health Survey (CCHS) (Statistics Canada, 2020) (see Appendix F for details on this weighting procedure). The CCHS is an appropriate survey to establish a weighting variable because both the BOPS and the CCHS ask nearly identical gambling frequency questions, but the CCHS is a more representative sample (see below). Although the CCHS is more representative, the BOPS is much more comprehensive as it also assesses gambling expenditure, time spent gambling, and, most important to this thesis, participation in illegal forms of gambling. One additional limitation of the BOPS is that up to 9% of Canadians 15 years of age or older did not use the internet the year data was collected (Williams, 2020).

The obtained weighted population prevalence figures of illegal gambling in the BOPS were further adjusted to account for the adults who did not gamble at all and people who gambled less than once a month (it was assumed that people who gambled less than once a month did not engage in illegal gambling, an assumption supported by the Results). There were no prevalence measures for the Territories because the CCHS Gambling Module was not administered in the Territories, precluding a weighting variable being calculated for these jurisdictions.

The illegal gambling behaviours measured in the BOPS were: 1) Illegal online gambling (defined here as gambling on online gambling platforms which are hosted and operated outside of the province where the purchaser is accessing these services); 2) Illegal underground casino/cardrooms (or any other location where casino games are played which are not operated and regulated by the province), and 3) Illegal animal contests (defined as betting on the outcome

of dog racing, dog-fighting, cockfighting, or other animal events not specified). A demographic profile of those endorsing any major category of illegal gambling was also constructed. Specifically, the demographic variables of interest included gender distribution, age, educational attainment, household income, percentage of those born in Canada versus those who are immigrants, race and ethnicity. Some additional gambling-related variables were also assessed: the average number of different types of gambling engaged in, the average total combined frequency of gambling, the average total gambling expenditure, and the type of gambler (i.e., Recreational, At-Risk, Problem, or Pathological) as measured by the Problem and Pathological Gambling Measure (PPGM) (Williams & Volberg, 2014) (see Appendix E for a copy of this measure).

2.3 Canadian Community Health Survey 2018 Gambling Module

The third data source comes from the 2018 CCHS Gambling Module. The CCHS is an annual survey conducted by Statistics Canada. The purpose of the CCHS is to collect information from a target sample of 65,000 Canadians aged 12+ who reside in one of the 10 provinces of Canada or one of the 3 territories of Canada (Williams et al., 2020). Each province is separated into clusters of 100-600 dwellings; a number of dwellings are sampled in each cluster with an individual at each dwelling being randomly selected. Before the surveys were conducted, introductory letters were sent to each selected dwelling explaining the purpose of the study. Surveys were either conducted using computer-assisted telephone interviewing or computer-assisted face-to-face interviewing. Although the general CCHS was conducted between January and December of 2018, the Gambling Module was available only for a six-month period between July and December 2018. Further, the Gambling Module was only

available in the 10 provinces of Canada and not available in any of the Territories. A final response rate of 58% was achieved (Statistics Canada, 2020).

The Gambling Module consisted of two parts. The first part was focused on measuring the past year frequency of 8 different types of gambling of which this analysis is interested. These types of gambling included: instant lottery tickets (scratch tickets, break-open/pull-tabs, instant online games), lottery or raffle tickets, electronic gambling machines (EGMs, slot machines, VLTs, electronic blackjack, electronic roulette, video poker), casino table games (poker, blackjack, baccarat, roulette), sports betting (horse race betting, sports lottery tickets, fantasy sports, bets between friends), bingo, other gambling forms, and speculative financial market activities (day trading, penny stocks, shorting, options, currency futures). Answer options for participants were: never, less than once a month, once a month, once a week, and several times a week.

As mentioned, the CCHS Gambling Module did not assess illegal types of gambling. However, it did assess participation in legal forms of gambling by underage Canadians Specifically, interest is directed towards the subset of Canadians aged 15-17 in the CCHS to determine their level of participation in age-prohibited gambling activities (i.e, lotteries, instant lotteries, bingo, and electronic gambling machines (slot machines and video lottery terminals)). Of the 24,982 Gambling Module surveys collected, 1030 belonged to Canadians aged 15-17. This data is also compared with the comparable CCHS prevalence rates from 2002 to determine whether any difference in participation has occurred over a 16-year period. See Appendix xx for a copy of the 2018 CCHS Gambling Module used in this analysis.

2.4 ANP Key Informant Survey

The final data source is a supplemental qualitative data source stemming from the ANP. This data is a key informant survey of major provincial stakeholders of the legal gambling industry in Canada (Williams et al., 2019) (see Appendix D). The major provincial stakeholders targeted in this survey include the provincial regulators, the provincial managers of legal gambling, the provincial regulators in charge of responsible gambling, casino owners, and the administrators of problem gambling treatment in each province. The key informant survey used in this analysis was designed to gauge the attitudes and opinions of these key informants concerning current gambling laws in this country. Of particular interest for this analysis are the opinions of the provincial regulators and the Chief Executive Officer (CEO) of these provincial regulators as these individuals are responsible for the implementation of legal gambling in their respective provinces.

3 Results

3.1 Rate of Criminal Charges, 1977 – 2018

3.1.1 Betting House

Figure 3.1 shows the rate per 100,000 of betting house criminal charges by year collected by Statistics Canada from 1977 to 2018. Data from the above chart indicates that incidence and prevalence of participation in and/or operating an illegal betting house has been steadily declining from the year data started being collected. There is a significant drop in the early 1990s which occurs just after widespread availability of the legal sports betting business in Canada. As mentioned earlier, provinces had been attempting manufacture legitimate sports betting organizations since federal gambling legalization in 1969. However, none of the legal sports gambling ventures by the provinces were viable enough to make a profit (Smith, 2011). In 1990, The Western Canada Lottery Corporation began a pilot project called *Power Play* to test

the viability of a provincially mandated sports betting market using data from NHL games. This project was an initial success which prompted a more permanent fixture of two betting options called *Excel* and *Pro-line*. *Excel* failed to remain a viable option for consumers which left *Pro-line* remaining. With the success of *Pro-line* for betting on National Hockey League games, the Western Canada Lottery Corporation soon expanded to allow betting on Canada and United States pro football games. With the success of Pro-line for the Western Canada Lottery Corporation, other provinces soon adopted this model leading to the first viable legal sports wagering option. Since about 2000 there is very little indication of any significant current participation or operation of illegal betting houses in Canada.

3.1.2 Gaming House

Figure 3.2 represents the rate per 100,000 of illegal gaming house criminal charges occurring between the years of 1977 to 2018. Similar to betting houses, the data indicates that the incidence and prevalence of participation in illegal gaming house operations has been steadily declining since data collection on this issue was initiated. A noticeably significant drop occurs between 1992 and 1993. This significant drop occurred shortly after legal casino operations started becoming widespread in Canada (Eadington, 1999). Provinces had been given a mandate by the Federal government to run publicly run lotteries since the 1970s, and temporary casinos were established by Western Canadian provinces as a means of raising money for charities and non-profit organizations. Despite the legality of publicly owned gambling operations, the provinces in Canada did not establish widespread permanent casino operations until the 1990s. Between 1990 and 1997, a variety of publicly owned casino monopolies were established in various urban and destination areas. These areas include Montreal, Halifax, Winnipeg, Hull, Niagara Falls, Regina, and Windsor. Further, Huang, Humphreys, and Zhou

(2018) state that government casinos were established in Alberta and Saskatchewan as early as

the mid 1980s. Again, similar to betting houses, this graph implies that there is little evidence

that participation or operation of illegal gaming houses in Canada since about 2000.

3.2 Self-Reported Illegal Gambling Behaviour

3.2.1 Prevalence

Table 3.1 depicts the illegal gambling prevalence rates in six of the Canadian provinces.

The Atlantic provinces of Nova Scotia, New Brunswick, Prince Edward Island (PEI), and

Newfoundland and Labrador are grouped together in one category. The provincial prevalence

rates were calculated using all adults (18+) within each province as the denominator. This

calculation procedure is true for the federal illegal gambling prevalence rates as well with all

cases within the study being used as the denominator minus 145 self-identified nongambling

individuals.

The results from the table show that the participation in illegal gambling activities is very

low across Canada. This lack of participation is evident both at the provincial level and at the

federal level. The low participation is most apparent in categories related to both illegal casino

use and illegal animal contests where prevalence rates were less than 0.3% across these two

major categories and between provinces. By comparison, participation in legal forms of

gambling ranges from 2.3% to 64.8% in 2018 (Williams et al., 2020). The category which

contained the highest prevalence rates of illegal gambling participation both provincially and

federally was illegal online gambling participation with vendors who have registered operations

outside of provincial jurisdiction. Provincial prevalence rates range from 0.69% in Québec to

4.98% in Saskatchewan, with a Canada-wide prevalence of 1.5%.

Figure 3.1 Rate of Betting House Criminal Charges per 100,000 people from 1977-2018
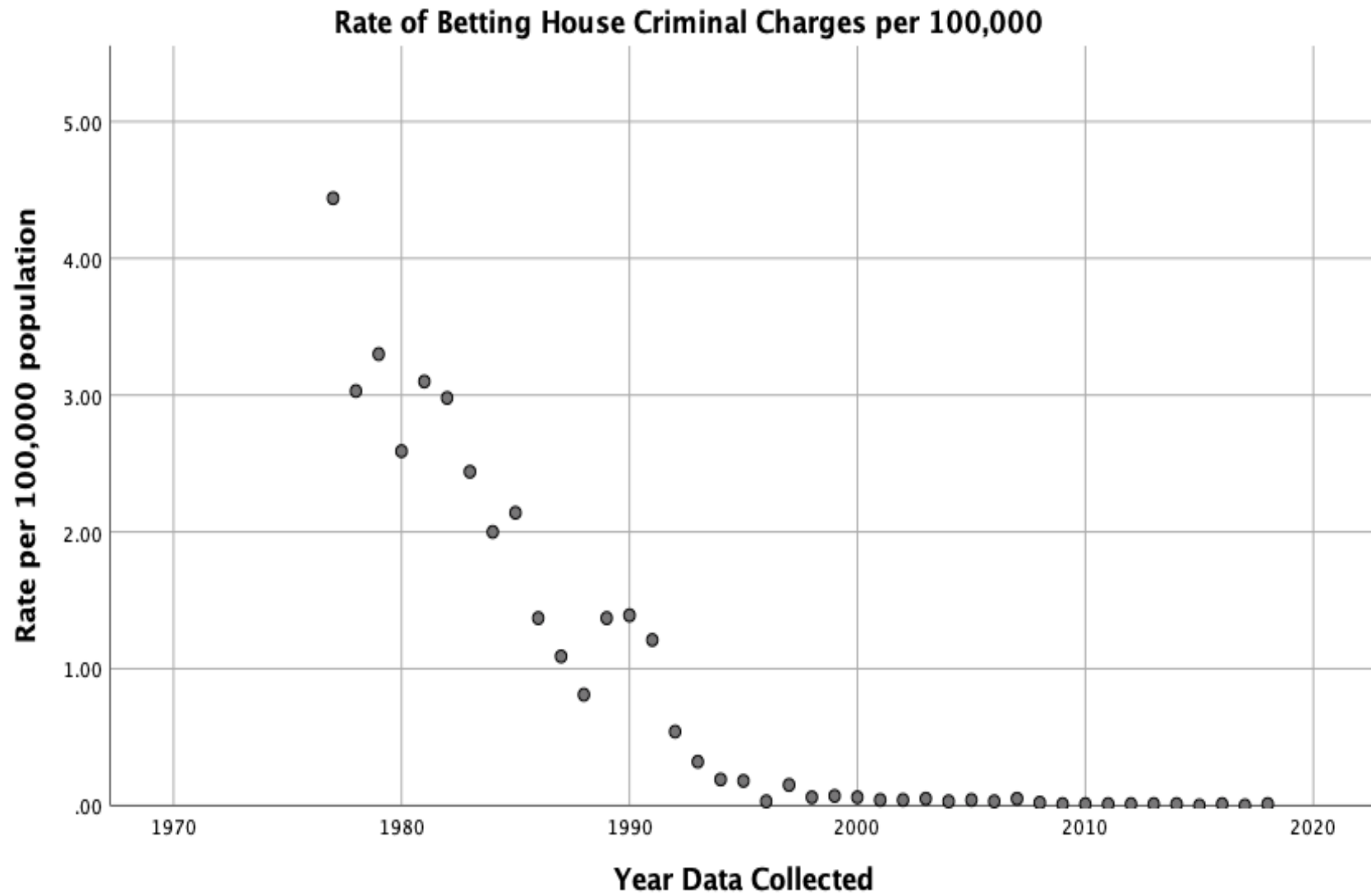
Figure 3.2 Rate of Gaming House Criminal Charges per 100,000 people from 1977-2018
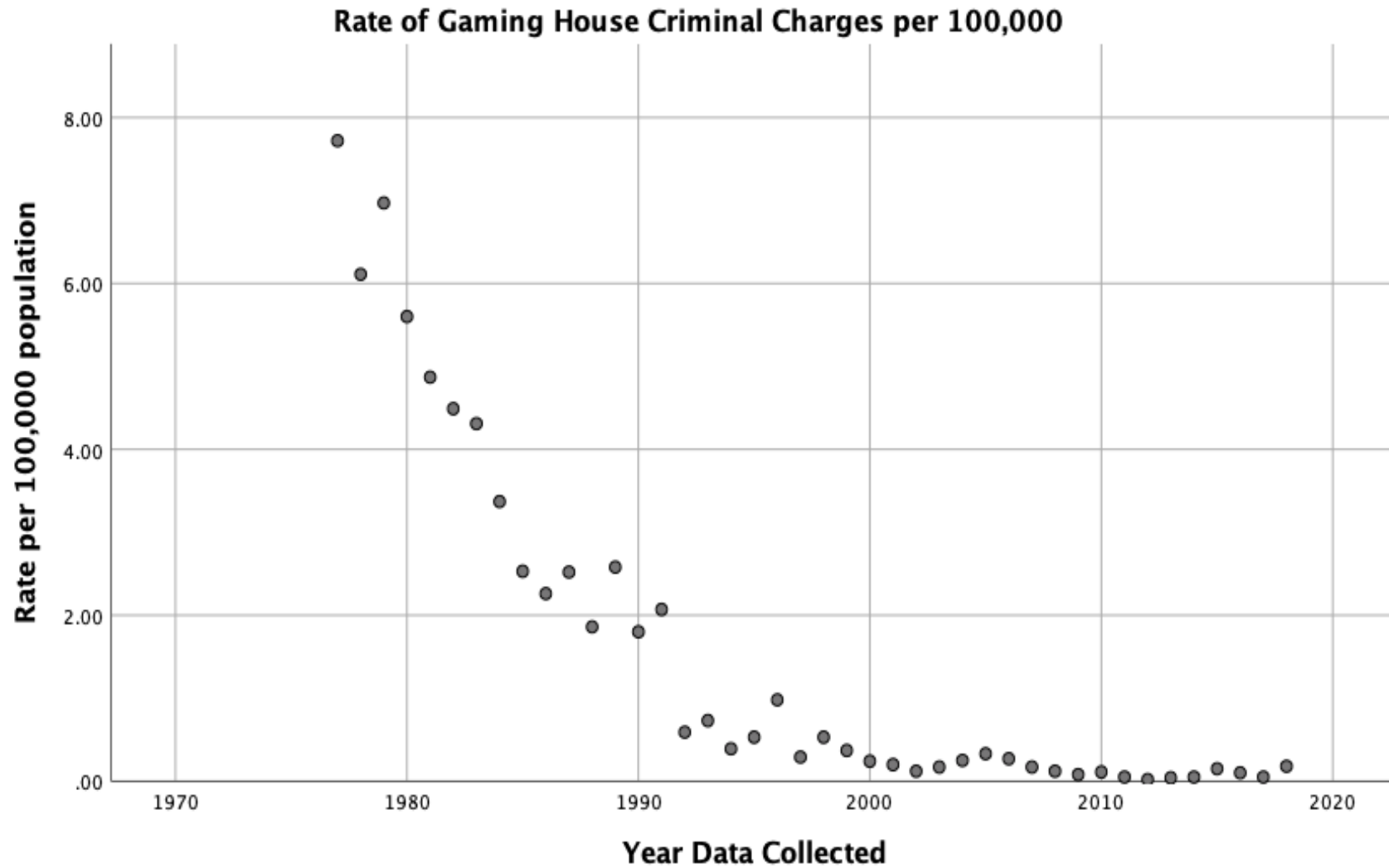
Table 3.1 also indicates that the province of Saskatchewan has the highest prevalence rates of illegal gambling participation compared to other provinces in multiple categories. These categories include: online lottery tickets purchased outside of the province (2.17%), online instant lottery ticket/games outside of the province (0.72%), online EGMs outside of home province (0.81%), EGMs in illegal/underground casinos (0.11%), online table games outside of home province (0.47%), table games in underground/illegal casinos (0.08%), online sports betting outside of home province (1.67%), online bingo outside of home province (0.16%), betting money on cockfights (0.04%), betting money on dog fights (0.04%), and betting money on other animal contests (0.12%). These categories also include the overall general categories located at the bottom of Table 3.1. These prevalence rates were: Illegal animal contests (0.22%), illegal casinos/cardrooms (0.19%), illegal online gambling (4.98%), and any illegal gambling (5.24%). The only categories where Saskatchewan does not lead is illegal sports betting with a bookie (0.04%), betting money on dog racing (0.06%), non-specified online gambling outside of province (0.13%), and non-specified gambling at an underground illegal casino (0.01%). Furthermore, Saskatchewan does not have the lowest prevalence rate in any illegal gambling category measured in this analysis.

No other provinces come close to the number of leading prevalence rates established for Saskatchewan. Québec, Manitoba, and British Columbia each have the second highest amount of leading prevalence occurrences with two each. The categories in which Québec has the highest prevalence includes non-specified online gambling outside of province (0.14%), and betting money on dog racing (0.08%). Manitoba matches the highest prevalence rate with Québec for betting money on dog racing (0.08%), and also leads in the non-specified gambling at an underground illegal casino category (0.06%). British Columbia leads in betting money on

cock fights (0.04%) and placing an illegal sports bet with a bookie (0.08%). Finally, Ontario and Alberta both have the highest prevalence in one category each. Ontario has the highest prevalence in betting money on cock fights (0.04%), and Alberta has the highest prevalence in betting money for online bingo hosted outside the province (0.16%). The only province which does not have the highest prevalence rate in any illegal gambling category is the Atlantic provinces group variable.

The province which has the greatest number of lowest prevalence rates among all categories is Québec with eight. Québec has the lowest prevalence rates in online lottery purchase outside home province (0.22%), online table games outside home province (0.15%), table games in underground/illegal casinos (0.04%), online sports betting outside of the province (0.12%), betting money in non-specified animal contests (0.01%), unspecified illegal gambling in underground illegal casinos (0%), general illegal online gambling (0.69%), and any illegal gambling (0.08%). Ontario follows Québec regarding highest number of lowest prevalence categories. Ontario is lowest in purchasing online instant lottery tickets/games outside of the province (0.05%), using EGMs in underground/illegal casinos (0.01%), using table games in underground/illegal casinos (0.04%), illegal sports betting with a bookie (0.02%), online bingo outside of home province (0.03%), non-specified online betting outside of the province (0.05%), and the use of underground/illegal casinos generally (0.04%). The Atlantic province group variable follows Ontario, with the lowest prevalence rates occurring in online EGMs outside of home provinces (0.14%), betting money on dog racing (0.02%), and participation in illegal animal contests generally (0.07%). Both Manitoba and Alberta have the lowest prevalence rate in two categories. Manitoba has the lowest prevalence rate in betting money on cockfights (0.01%), and betting money on non-specified animal contests (0.01%). Alberta has the lowest

prevalence rate in use of EGMs in underground/illegal casinos (0.01%), and betting money on dog fights (0.01%). Both British Columbia, and Saskatchewan do not have the lowest prevalence in any illegal gambling category measured.

3.1.2 Demographics

Table 3.2 depicts the demographic and gambling profile of people who admitted to participating in illegal gambling activities in the BOPS. These profiles are represented through the four main categories of illegal gambling measured in this study: illegal animal contests, illegal casinos, illegal online gambling, and any illegal gambling. Any illegal gambling represents the endorsement of any of the categories mentioned previously. In this table the denominator is all those who answered positively to participating in an illegal gambling category. As before, data in these calculations were weighted with the CCHS weighting variable as described previously. Green represents highest prevalence; red represents lowest prevalence

Gender

Those participants who identify as male consistently outnumber those participants who identify as female in every general category measured in this study. In the overall 'any illegal gambling' category, males outnumber females at about a 3:1 ratio. This 3:1 ratio is consistent within the illegal online gambling category. For illegal animal contests, the percent difference between males and females is even higher with males constituting 77.3% of participants. For illegal casino participation, the ratio in favour of male participation begins to approach a 4:1 ratio.

Age

There is a relatively even spread of participation between age groups in the illegal animal contests category. All four age groups are around 25% participation, with the 18-29 age group

Table 3.1 Provincial and Federal prevalence of illegal gambling behaviour

PROVINCIAL AND CANADIAN POPULATION PREVALENCE OF ILLEGAL GAMBLING	Alberta Adjusted Prevalence	B.C. Adjusted Prevalence	Manitoba Adjusted Prevalence	Atlantic Adjusted Prevalence	Ontario Adjusted Prevalence	Quebec Adjusted Prevalence	Sask Adjusted Prevalence	CANADA Adjusted Prevalence
b_G1c_4: online lottery purchase outside home province	1.47%	0.35%	0.39%	0.37%	0.28%	0.22%	2.17%	0.49%
b_G2c_4: online instant lottery tickets/games outside home province	0.17%	0.13%	0.08%	0.20%	0.05%	0.10%	0.72%	0.12%
b_G3c_6: online EGMs outside home province	0.54%	0.51%	0.38%	0.14%	0.53%	0.23%	0.81%	0.43%
b_G3c_7: EGMs in underground/illegal casino or some other underground/illegal location	0.01%	0.02%	0.05%	0.02%	0.01%	0.05%	0.11%	0.02%
b_G4c_5: online table games outside home province	0.33%	0.20%	0.18%	0.22%	0.36%	0.15%	0.47%	0.27%
b_G4c_6: table games in underground/illegal casino, card room, or other venue	0.05%	0.07%	0.06%	0.06%	0.04%	0.04%	0.08%	0.05%
b_G5c_3: online sports betting outside home province	1.22%	0.57%	0.40%	0.27%	0.74%	0.12%	1.67%	0.61%
b_G5c_5: sports betting at illegal/underground betting shop or bookmaker	0.04%	0.08%	0.03%	0.06%	0.02%	0.07%	0.04%	0.05%
b_G6c_4: online bingo outside home province	0.16%	0.06%	0.07%	0.08%	0.03%	0.10%	0.16%	0.08%
b_G7b_4: bet money on cock fights	0.02%	0.04%	0.01%	0.03%	0.04%	0.03%	0.04%	0.03%
b_G7b_5: bet money on dog racing	0.05%	0.06%	0.08%	0.02%	0.03%	0.08%	0.06%	0.05%
b_G7b_6: bet money on dog fights	0.01%	0.03%	0.02%	0.02%	0.03%	0.02%	0.04%	0.02%
b_G7b_7: bet money on other animal contests	0.04%	0.05%	0.01%	0.03%	0.09%	0.01%	0.12%	0.05%
b_G7c_6: online 'other type' of gambling outside home province	0.10%	0.07%	0.08%	0.11%	0.05%	0.14%	0.13%	0.09%
b_G7c_7: 'other type' of gambling at underground/illegal casino, card room or other venue	0.02%	0.03%	0.06%	0.03%	0.04%	0.00%	0.01%	0.02%
b_ILLEGAL_ANIMAL_CONTESTS (b_G7b_4 or b_G7b_5 or b_G7b_6 or b_G7b_7)	0.09%	0.16%	0.10%	0.07%	0.14%	0.11%	0.22%	0.13%
b_ILLEGAL_CASINOS, CARD ROOMS or OTHER LAND-BASED VENUES (b_G3c_7 or b_G4c_6)	0.05%	0.08%	0.10%	0.07%	0.04%	0.09%	0.19%	0.07%
b_ILLEGAL_ONLINE_GAMBLING (b_G1c_4 or b_G2c_4 or b_G3c_6 or b_G4c_5 or b_G5c_3 or b_G6c_4 or b_G7c_6)	3.34%	1.47%	1.27%	1.02%	1.50%	0.69%	4.98%	1.59%
b_ILLEGAL_GAMBLING_ANY (endorsement of any of the above)	3.42%	1.56%	1.40%	1.17%	1.60%	0.88%	5.24%	1.72%

Note: Green indicates highest prevalence and red indicates lowest prevalence

have the highest participation at 27.2% and the 65+ age group having the lowest participation at 23.4%. However, for illegal casino participation, the data shows a marked trend from greater involvement in younger participants, with people aged 18-29 making up 55.3% of this population. The age group which follows the 18-29 age group is the 30-49 age group which make up 25.7% of this population. The age group with the lowest participation within the illegal casino category is the 65+ age group at 6.6%. The age group which has the highest representation among the illegal online gambling cohort is the 30-49 age group (42.6%). The 65+ age group also has the lowest overall representation within the illegal online gambling category (10.6%). Overall, the 30-49 age group has the highest representation among people who endorse any category of illegal gambling participation at 40.5%. This level of representation is followed by the 50-64 age group at 27.4% and the 18-29 age group at 20.3%. Overall, the group with the lowest representation in the endorsement of any illegal gambling category is the 65+ age group at 11.8%.

Educational Attainment

Overall, participants who have at least a post-secondary certificate or diploma have the highest representation in all general illegal gambling categories, including a high of 45.27% representation in illegal animal contest participation and 35.9% representation in endorsement of any illegal gambling participation. The group with the next highest representation overall is those participants who have completed secondary school. The only category in which the secondary cohort were underrepresented is the illegal casino category. Of the participants who endorse participation in illegal casino operations, 5.4% have, at most, completed secondary school. The secondary school cohort has increased representation in both illegal animal contests (24.79%) and illegal online gambling (25.6%) making their representation within the

endorsement of any illegal gambling category at 25.4%. The level of educational attainment with the next highest concentrated representation are those participants who have achieved a bachelor's degree. This cohort has relatively equal representation across all four general categories, with a high of 18% representation among illegal online gambling participants and a low of 15.6% among illegal casino participants. Further, the bachelor's degree cohort represents 17.3% of all participants who endorse at least one form of illegal gambling participation.

The educational cohort with the second lowest representation among all participants who endorse at least one category of illegal gambling measured is participants who have not completed secondary school with a representation of 14.4%. The less-than-secondary cohort holds this low position despite having the second highest representation in illegal casino participation (26.2%). However, due to illegal casino participation having a low prevalence rate both provincially and federally, the low representation of people who have not completed secondary school is driven by low participation in illegal online gambling at 14.1%. The educational group with the lowest overall participation is those participants with an advanced degree. This cohort represents 7% of those participants who endorse any illegal gambling category. The category in which the advanced degree category had greatest representation is illegal casino participation at 14.4%. However, this group had low representation in two other general categories with 8.65% in illegal animal contests, and 6.9% in illegal online gambling.

Household Income

Overall, there is no level of household income which carries significant representation among participants who endorse at least one category of illegal gambling. The highest representation among participants who endorse at least one category of illegal gambling are those participants who have a household income of between $20,000 and $39,999 per year at

16.6%. The lowest representation in this category are those participants with a household income of less than $20,000 per year at 13%. However, there are interesting outliers in this analysis. For example, those participants with a household income of between $20,000 and $39,999 per year have elevated representation in illegal animal contests and illegal casino participation with 30.7% and 34.2% respectively. The next highest percent representation in both illegal animal contests and illegal casino participation in the household income category comes from participants who have a household income of between $40,000 to $59,999 per year. This cohort has 16.8% representation in illegal animal contests, and 16.1% in illegal casino participation, both of which are quite low compared to the 30.7% and 34.2% mentioned above. There are also household income cohorts which are low outliers in certain illegal gambling categories. For example, the $60,000 to $79,999 cohort has 7.7% representation in illegal animal contests, and 4.1% representation in illegal casino participation, both of which are the lowest for all cohorts. These numbers are comparable to the under $20,000 cohort who represent 8% of the illegal animal contest participants, and 6.2% of the illegal casino participants. For illegal online gambling, no category represents a significant portion compared to another. This equality among illegal online gambling likely explains the equality seen within the endorsement of any illegal gambling category as the prevalence of illegal online gambling is much higher compared to the prevalence of both illegal animal contests and illegal casino participation.

Immigrant Status

People born in Canada have higher representation rates in all illegal gambling categories compared to participants who were not born in Canada. This high representation among Canadian-born individuals is highest within the illegal online gambling category, and the endorsement of any illegal gambling activity category at 84.9% for both categories. The

category in which the difference between Canadian-born participants and immigrants is smallest is in the illegal animal contest category where Canadian-born participants represent 72.9% of individuals who endorse participating in activities in this category. Both illegal casino participation and illegal online gambling have a 4:1 ratio of Canadian-born participants compared to immigrant participant representation.

Race/Ethnicity

Participants who identify as having western and northern European origins represent the majority of participants who answered positively to gambling on illegal animal contests, as well as illegal online gambling at 53.8% and 64.2% respectively. Consequently, people of western and northern European heritage represent the majority of participants (64.1%) who endorse at least one type of illegal gambling category. The only illegal gambling category where western and northern European participants do not have majority representation is participation in illegal casino operations. Here, western and northern Europeans only constitute 23% of participants. Other race and ethnic groups which make significant representation rates in this category are participants who identify as South Asian, African, and/or Indigenous North American at 13.1%, 21.4%, and 22.5% respectively. The elevated representation among South Asian, African, Indigenous North American regarding participation in illegal casino operations are outliers compared to representation among the other illegal gambling categories. For example, the analysis for illegal animal contest participation indicates that representation for South Asian participants is 5%, for African participants is 7.3%, and for Indigenous North American participants is 2.4%. Further, the analysis for illegal online gambling indicates that representation for South Asian participants is 6%, for African participants is 6.9%, and for Indigenous North American is 4.9%.

Participants who identify as having eastern European origins are the group with the second highest representation, both in endorsement of at least one gambling category, and participation in the other categories. This includes 14.8% representation in the any gambling category, 11.9% representation in the illegal animal contests, 7.5% representation in illegal casino participation, and 15.3% representation in illegal online gambling.

Notably, participants who identify as Middle Eastern and Arab, central and northern Asian, east Asian, and Latin American do not constitute a large portion of participants who endorse at least one category of illegal gambling with 1%, .4%, .3%, and 1.3% representation respectively. A common characteristic between these racial and ethnic cohorts is that they all have lower levels of participation in illegal online gambling compared to their participation in illegal online contests and illegal casino operations. Further, other than western and northern Europeans, eastern Europeans, south Asian, and Indigenous North American, all racial and ethnic cohorts have lower participation in illegal online gambling compared to participation in illegal animal contests and illegal casino operations. However, it should be noted that Middle Eastern/Arab, central and northern Asian, east Asian, and Latin American participants have low sample representation. Therefore, it is not surprising that the prevalence of these ethnicities in illegal gambling categories are low compared to other ethnic identities.

Gambling Profile

People who participate in illegal gambling have very high levels of overall gambling participation. Those who participate in illegal casino gambling have the highest average number of different types of gambling participation over the last 12 months with an average of 5.59 different gambling types. This compares to 1.91 (1.04 SD) for Canadian gamblers generally (Williams et al., 2020). Those who participate in illegal animal contests have the second highest

average with participation in 5.42 different types of gambling. Those who endorse illegal online

gambling admit to participating in an average of 3.4 different types of gambling, while those

participants who endorse at least one type of illegal gambling category admit to participating in

an average of 3.44 different types of gambling.

Participants who endorse illegal casino activity also have the highest average combined

frequency for all types of gambling with 15.46. Illegal animal contest participants have the

second highest average combined frequency with a score of 13.27. This score is followed by

endorsement of at least one category of illegal gambling with an average combined frequency

score of 8.49 followed closely by those illegal online gambling participants who have an average

combined frequency of 8.44.

Both the average total monthly loss and the median total monthly loss were calculated

during analysis for all four illegal gambling categories. All calculations regarding average in this

analysis indicate that the data is positively skewed. Illegal casino participants experience the

highest average monthly monetary loss at $1,710.32. Conversely, the median loss among illegal

casino participants is the lowest among illegal gambling categories at $30.00. Illegal animal

contest participants have the second highest average monthly loss at $933.83 while also posting

the highest median monthly loss at $64.00. Illegal online gambling participants lose an average

of $599.66 per month while participants who endorse at least one illegal gambling category lose

an average of $632.72 per month. Participants in both of the latter categories have median

monthly losses of $60.00 per month.

Finally, illegal gamblers also have very high rates of problem gambling. As seen in

Table 3, this ranges from 43.9% for people who participate in illegal animal contests to 14.7%

Table 3.2 Illegal Gambling Demographic Profile

DEMOGRAPHIC AND GAMBLING PROFILE OF CANADIAN ILLEGAL GAMBLERS		ILLEGAL ANIMAL CONTESTS	ILLEGAL CASINOS, CARD ROOMS or OTHER LAND-BASED VENUES	ILLEGAL ONLINE GAMBLING	ANY ILLEGAL GAMBLING
GENDER	male	77.30%	78.30%	75.80%	75.90%
	female	22.70%	21.70%	24.20%	24.10%
AGE	18-29	27.20%	55.30%	20.60%	20.30%
	30-49	24.30%	25.70%	42.60%	40.50%
	50-64	25.10%	12.40%	26.20%	27.40%
	65+	23.40%	6.60%	10.60%	11.80%
EDUCATIONAL ATTAINMENT	less than secondary	5.42%	26.20%	14.10%	14.40%
	secondary school	24.79%	5.40%	25.60%	25.40%
	post-secondary certificate/diploma	45.27%	38.40%	35.40%	35.90%
	bachelor degree	15.87%	15.60%	18.00%	17.30%
	certificate/diploma/degree > bachelors	8.65%	14.40%	6.90%	7.00%
HOUSEHOLD INCOME	<$20,000	8.00%	6.20%	12.80%	13.00%
	$20K - 39.9K	30.70%	34.20%	15.80%	16.60%
	$40K - 59.9K	16.80%	16.10%	16.30%	15.90%
	$60K - 79.9K	7.70%	4.10%	14.20%	13.40%
	$80K - 99.9K	11.50%	7.40%	14.00%	13.90%
	$100K - 139.9K	14.40%	13.90%	14.10%	13.90%
	>$140K	10.90%	18.10%	12.80%	13.30%
BORN IN CANADA	Yes	72.90%	79.80%	84.90%	84.90%
	No	27.10%	20.20%	15.05%	15.10%
RACE/ETHNICITY	Western and Northern European	53.80%	23.00%	64.20%	64.10%
	Eastern European	11.90%	7.50%	15.30%	14.80%
	Southern European	5.60%	3.70%	3.40%	3.30%
	Middle Eastern and Arab	2.70%	3.30%	1.00%	1.00%
	Central and Northern Asian	1.30%	1.40%	0.40%	0.40%
	Chinese	7.90%	4.00%	3.00%	3.00%
	South Asian	5.00%	13.10%	6.00%	6.00%
	Sout-East Asian	6.20%	3.20%	2.90%	2.90%
	East Asian	2.00%	2.80%	0.20%	0.30%
	Latin American	2.40%	3.30%	1.40%	1.30%
	African	7.30%	21.40%	6.90%	6.60%
	Indigenous North American	2.40%	22.50%	4.90%	4.60%
	Other	12.20%	11.30%	3.40%	4.30%
GAMBLING	Average Number of Types Engaged In	5.42	5.59	3.40	3.44
	Average Frequency of Gambling	13.27	15.46	8.44	8.49
	Average Total Monthly Loss	$933.83	$1,710.32	$599.66	$632.72
	Median Total Monthly Loss	$64.00	$30.00	$60.00	$60.00
	% PPGM Problem or Pathological Gamblers	43.90%	33.14%	14.70%	15.02%

for those who participate in illegal online gambling. By comparison, the prevalence rate of problem gambling in the general population in 2018 was 0.6% (Williams et al., 2020).

3.3 Adolescent Gambling Prevalence

Table 3.3 depicts results from the CCHS regarding gambling behaviour among Canadians aged 15-17 in 2018. The results are consistent with the other evidence presented within this paper in that youth are not participating in illegal gambling activities to any significant degree. However, that said, the widespread legality of gambling activities in Canada has also not completely eliminated illegal gambling behaviour. The topic surrounding youth gambling behaviour is different from gambling behaviour regarding grown legal adults in that any gambling behaviour in which youth participate is usually by definition an illegal act. There are some exceptions to this definition of legality when discussing subject such as sports betting or casino table games.

The CCHS Gambling Module did not differentiate between illegal adolescent participation in sports betting (i.e., purchase of sports lottery tickets) and legal forms (bets between individuals). Similarly, it did not differentiate between illegal adolescent participation in casino table games (i.e., table games conducted at a casino) and casino table games conducted in a private residence between individuals (e.g., poker games). Therefore, although there appears to be a significant number of youths participating in sports betting compared with other forms of gambling behaviour, this fact does not necessarily add evidence to the idea that youth are participating in regulated and licensed gambling ventures in high volume. Further, the statistic depicting 16.5% of youths participating in any past year gambling combines both legal and illegal gambling behaviour into one category. This combination means illegal and legal past year gambling behaviour cannot be differentiated as single categories so the inclusion of such a

combined category as evidence that youths are participating in illegal gambling behaviour at high rates is irrelevant.

For comparison, Table 3.4 depicts the prevalence rates of past year gambling among Canadians aged 15-17 during the year 2002 (Statistics Canada, 2002). Compared to the prevalence rates of past year gambling from 2018, it is clear that Canadians aged 15-17 have reduced their participation in most types of gambling, both illegal and types of unknown legal status. This reduced participation includes a significant drop in any past year gambling; a difference of 24% between 2002 and 2018. Further, all confirmed prohibited forms of gambling that youth may participate in showed declines from 2002 to 2018 except for speculative financing which remained constant at .8% over 16 years.

3.4 Opinions of Key Informants

Finally, Table 3.5 depicts the opinions of various key representatives of the regulated gambling industry in Canada regarding the satisfaction of the enforcement of gambling laws in their respective provinces. Table 3.6 depicts the response rate of the Key Informants Survey. The survey had a strong response rate of 67.3% with 31 people responding out of 46 people requested. Generally, more people responding to this survey are somewhat satisfied with the enforcement of gambling laws in their provinces than any other category. Most of the dissatisfaction with the enforcement of gambling laws is expressed by individuals involved with problem gambling prevention and treatment, and gambling research. The provincial regulators of gambling and the CEO of the provincial government gambling provider expressed general satisfaction with the enforcement of gambling laws in their provinces. The expression of satisfactory opinions regarding the enforcement of gambling laws by these provincial

government members are consistent with the data indicating that there are low levels of

participation in illegal gambling operations currently in Canada.

Table 3.3 Adolescent gambling prevalence 2018

Type of Gambling	N	%	Comment
Instant Lottery Tickets	30847	3.0%	Illegal
Lottery or Raffle Tickets	27808	2.7%	Illegal
Electronic Gambling Machines	Data suppressed due to small sample (as per Stats Canada data suppression rules		Illegal
Casino Table Games	12155	1.2%	Not necessarily illegal, because could be poker, etc. outside casino
Sports Betting	98796	9.5%	Not necessarily illegal, because could be bets between individuals
Bingo	12293	1.2%	Illegal
Other Types	28541	2.8%	Probably not illegal
Speculative Financial	8549	0.8%	Illegal
Any Past Year Gambling	170487	16.5%	Combines legal with illegal, so not that relevant
Online Gambling	29130	2.8%	Illegal

Table 3.4 Adolescent gambling prevalence 2002

		Instant Lottery Tickets	Lottery or Raffle Tickets	EGMs	Casino Table Games	Sports Betting	Bingo	Other Types	Spec Finance	Past-Year Gambling	Online Gambling
Canada	%	12.6%	9.3%	3.5%	1.0%	19.4%	4.8%	22.0%	0.8%	40.5%	5.3%
	CI	10.6, 14.7	7.4, 11.3	2.1, 5.0	0.3, 1.6	16.8, 22.1	3.6, 6.0	19.2, 24.9	0.2, 1.3	37.2, 43.8	3.6, 6.9

Table 3.5 Opinions of key informants regarding current gambling laws in Canada

How satisfied are you with the enforcement of gambling laws in your province? * Please indicate which category of Key Informant you are: Crosstabulation

Count

		Please indicate which category of Key Informant you are:						Total
		Provincial regulator	CEO of provincial operator	Provincial director of responsible gambling (employed by the provincial operator)	Casino owner/manager	Problem gambling prevention/treatment administrator	Gambling Research and/or Knowledge Transfer	
How satisfied are you with the enforcement of gambling laws in your province?	Very satisfied	2	0	3	1	0	0	6
	Somewhat satisfied	1	5	3	3	2	1	15
	Neutral	0	1	0	0	3	0	4
	Somewhat dissatisfied	0	1	0	0	3	2	6
Total		3	7	6	4	8	3	31

Table 3.6 Response rate of key informant survey (67.3%)

Provincial Government Gambling Regulator	CEO or Board Chair of Provincial Government Gambling Provider	Commercial, Non-Government Casino Owner or Manager	Provincial Government Director of Responsible Gambling (working for Provincial Govt. Provider)	Head of Provincial Problem Gambling Prevention & Treatment (or equivalent)	Jurisdictional Director of Gambling Research &/or Gambling Knowledge Translation	TOTAL
3/9	7/9	4/7	6/7	8/11	3/3	31/46 (67.3%)

4 Discussion

4.1 Summary of Results

The purpose of this study was to investigate the contention that providing legal gambling opportunities eliminates black-market options and diverts that money to provincial operators for the general benefit of society. To investigate this issue, four main sources of data were utilized: 1. Betting and gaming house criminal charges in Canada from 1977 to 2018 compiled by Statistics Canada; 2. The BOPS, a comprehensive national survey of gambling behaviour conducted between August and October 2018 as part of the ANP; 3. The Statistics Canada CCHS Gambling Module with specific focus on self-reported gambling activity of Canadians aged 15-17; and 4. Self-reported opinions of current gambling laws by key informants within the legal gambling industry.

The results of this analysis provide fairly strong support to the contention that legalized gambling substantially reduces illegal gambling. Since 1977, official charges related to operating or participating in an illegal gaming or betting house have been dropping steadily with the largest decrease occurring in the early 1990s following greater expansion of the legal gambling industry beginning with the amendments in 1985. Regarding self-report participation in illegal gambling activities, the prevalence data suggests that most adults do not participate in gambling opportunities outside of the legal industry (<5% federally and less than <6% provincially). Of those who have admitted to participating in illegal gambling activities, the majority indicated that gambling illegally online was their method of choice with significantly less people choosing to access illegal underground casinos and/or betting on the outcomes of illegal animal contests. Similarly, Canadian adolescents aged 15-17 report low participation rates within the legal gambling industry in 2018. Furthermore, Canadian adolescent self-report

participation in all forms of gambling. (i.e., legal and illegal) has declined significantly since las assessed in 2002. Finally, key provincial industry informants, particularly provincial regulators and CEOs of gambling crown corporations, appear to agree with the notion that current regulatory laws which control the gambling industry are working adequately.

Although the data collected for this study indicates that participation in illegal forms of gambling has steadily declined following the introduction of gambling legalization and that such participation has remained low, some interesting questions arise regarding the prevalence of illegal gambling participation.

First, it should be noted that although official records indicate charges related to illegal gaming and betting houses have been declining steadily over a 40-year period, these charges may not be an accurate depiction of actual cases of illegal gambling operation and/or participation. Aside from the fact that a large portion of crime is not detected, prosecution of illegal gambling may not be a priority. There is also evidence of anecdotal accounts from members of local and federal police organizations which indicate that clandestine illegal gambling organizations are running profitable operations in major city centres. Members of these police organizations further explicitly state that they lack funding to interrupt these organizations allowing them to continually operate. Further, there is evidence which suggests that the enforcement of gambling laws varies from province to province (Nadeau et al., 2014; Smith et al., 2003). This lack of uniformity in the enforcement of gambling laws may increase the probability for illegal gambling operations to flourish in provinces which choose not to dedicate substantial resources to the control of gambling.

Another possible determining factor in the apparent lack of resources for illegal gambling enforcement is the growing acceptance of gambling participation among the general public.

Governments are a reflection of citizen attitudes, and the growing acceptance of gambling activity may influence decisions related to lack of enforcement. As further support for this possibility, as far as this author is aware, no Canadian has ever been charged with participating in an illegal offshore online gambling site. To be fair, this is a bit of a grey area (Haavardsrud, 2015). As the law is currently defined within the Criminal Code, online gambling should be illegal if the site being accessed is hosted and operated outside of the jurisdiction of the provincial crown corporation. However, this issue has never been defined in a court, so online gambling is not enforced to the level of more traditional forms of gambling. The lack of data regarding incident of charges of illegal animal contests (i.e., dog fighting, cockfighting, illegal dog racing) is surprising considering such acts have been illegal since the introduction of the Criminal Code (Pass, 2015). However, there appears to be growing interest by the Government of Canada to add further enforcement to the operation of illegal animal fighting (Government of Canada, 2019). The self-report prevalence data from this study adds evidence that illegal gambling participation is occurring in Canada to some extent.

Another finding is the apparent disparity between provinces regarding illegal gambling prevalence rates. Specifically, the province of Saskatchewan led all major categories of illegal gambling prevalence rates and had the highest prevalence rates for all but a few categories of illegal gambling. Conversely, provinces such as Québec, Ontario, and the Atlantic region have some of the lowest rates among major illegal gambling categories with Québec having the highest collection of low prevalence facet illegal gambling rates. A question one could ask regarding these prevalence results is what differentiates a province like Saskatchewan from a province like Québec? There are likely a plethora of contributory factors leading to the disparity between the prevalence rates between Québec and Saskatchewan, most of which require

additional analysis and research outside the scope of this project. Some of these potential factors will be discussed further in this discussion section.

4.2 Illegal Online Gambling

The first disparity is the significant difference in provincial prevalence rates of self-reported participation in illegal online gambling. The provinces which had the highest endorsement of this gambling behaviour were Saskatchewan and Alberta. Québec had the lowest self-reported rates. At the time the BOPS study was implemented, both Saskatchewan and Alberta were the only two provinces which did not provide a legal option for online gambling leaving the only online options effectively illegal for their citizens to access (Haavardsrud, 2015). Currently, Saskatchewan remains the only province in Canada without a legal and regulated option for accessing online gambling with the province of Alberta launching *Play Alberta* in October 2020 (Alberta Gaming, Liquor & Cannabis Commission, 2020; Bell & Longchap, 2019). The province of Alberta stated that their reasoning for implementing a regulated form of online gambling for the province was to capture the estimated $358 million which is annually spent by Albertans on unregulated online gambling sites. As legal access to regulated online gambling is a factor which differentiates Saskatchewan and Alberta from the other provinces, the ability to access regulated forms of online gambling may be a significant factor in the different prevalence rates between some provinces.

Evidence for this position is increases when considering the report by Nadeau et al. (2014) which indicates that despite legal online gambling offerings by Loto Québec, citizens of Québec still have many options for online gambling sites which are not controlled and operated by the Québec crown corporation. Despite the plethora of options for Québec residents, the self-report data indicates that far less choose unregulated online gambling websites compared to

Saskatchewan and Alberta. The significant difference in results between Saskatchewan/Alberta and Québec is likely not due to differences in enforcement measures either as the government of Québec has had trouble regulating the access to offshore gambling websites (Nadeau et al., 2014). This includes the Québec Supreme Court denying the Government of Québec's attempt at banning the ability to access these websites, which is likely related to the current legal grey area online gambling occupies in Canada. Therefore, the availability of legal online gambling in other Canadian provinces may be an important determinant in the decision by residents of provinces in choosing unregulated online gambling websites.

There are likely other factors which contribute to the higher rates of illegal online gambling participation in Alberta and Saskatchewan. Additional analysis using the demographic profile of illegal online gambling services would likely elucidate these factors but is outside the scope of this thesis. There are specific variables which could explain these provincial differences. For example, there is a small difference in household income for patrons of illegal online gambling with these participants having a more even distribution compared to the other categories. The more even distribution could be related to the growing equality in access to technology. One does not need to own an expensive computer to access these unregulated websites; these websites may be easily accessed on a modern smartphone, which are common in Canada (CRTC, 2019). Still, people with access to higher household incomes may in turn have greater opportunities to participate in illegal online gambling (i.e., more stable internet access, more advance technology, greater disposable income) (CRTC, 2019). This idea is further supported by the finding that people in the 30-49-year-old age range and people who have completed some sort of post-secondary education appear to have higher rates of illegal online gambling participation as these people tend to have higher employment (Statistics Canada,

2021). As Saskatchewan and Alberta statistically have higher average household income compared to other areas of the country (Statistics Canada, 2018), this may contribute to the discrepancies of illegal online gambling prevalence.

Illegal online gambling also differs in the ethnic and cultural origins of participants. Specifically, people of European heritage make up more of the demographic profile of illegal online gamblers. As both Saskatchewan and Alberta have some of the highest levels of self-reported European heritage in the country (Statistics Canada, 2016), this ethnic/cultural factor may be a significant piece in explaining increased illegal online gambling participation in these provinces.

Finally, an important demographic variable to consider as a potential explanatory factor describing the difference in prevalence rates is categorization on the PPGM (Williams & Volberg, 2010). The PPGM is a 14-item instrument separated into three distinct sections: 1. Problems with gambling (7 questions); 2. Impaired Control (4 questions); and 3. Other Issues (3 questions). The PPGM only considers people who have participated in gambling activities within the past year. Further, the PPGM recognizes that problem gambling exists on a continuum with the possibility of being sorted into one of four categories: 1) Recreational; 2) At-risk; 3) Problem; and 4) Pathological. To be classified as a problem gambler, a person must endorse at least one item from the Problems section and one item from the Impaired Control section. If one endorses multiple items in these sections, a person is classified as a pathological gambler. Therefore, the main difference between a problem gambler and a pathological gambler is the frequency of endorsed problems and impaired control associated with gambling.

Each participant in the BOPS was asked to complete the 14-item PPGM as part of the survey. As can be seen from Table 3, participants who endorsed illegal online gambling were

sorted into problem and pathological designation less so than other categories. This could reflect a greater acceptance of illegal online gambling compared with other illegal gambling categories. Still, approximately 3 in 20 participants who endorsed illegal online gambling were designated problem or pathological gamblers. This means PPGM designation may be a significant factor in predicting illegal online gambling. As Alberta and Saskatchewan have higher rates of problem and pathological gambling compared to the rest of the country (Williams et al., 2021), further analysis could determine the association between PPGM score and illegal online gambling as a potential explanatory factor in the difference between Saskatchewan/Alberta and the other provinces. The lower categorization into problem and pathological gambler in the PPGM for illegal online gambling may also be related to the lower scores in other gambling measures such as different types of gambling, the overall frequency of gambling, and the average monthly loss from gambling.

Online gambling is changing in Canada with many provinces indicating interest in expanding the platform (Campbell, 2021; Tasker, 2020; Bell, 2019; Havaardsrud, 2015; Nadeau et al., 2014). If the hypothesis that lack of legal access to online gambling platforms is correlated with lower provincial illegal online gambling prevalence rates, then there should be a decrease in the prevalence of illegal online gambling in the province of Alberta now that this province has introduced *Play Alberta*. If this occurs, it will add support to the hypothesis promoted by supporters of legal gambling opportunities that legalization disrupts black market operations in favour of government operations. As mentioned, Saskatchewan remains the only province who has not committed to investing in a regulated online gambling platform. With the prevalence rate for illegal online gambling participation being significantly higher compared to provinces with regulated online gambling platforms, it may be in the government of Saskatchewan's best

interest to invest in an online platform to divert this lost revenue from out-of-province locations.

Now that the federal government is committed to amending the Criminal Code to allow the

placing of bets on single-outcome sports events (Tasker, 2020), this may be the right time for

Saskatchewan to invest in an online gambling platform.

4.3 Illegal Casinos/Cardrooms

Saskatchewan also leads all other provinces in prevalence of illegal underground

casinos/cardrooms. However, there is not a significant gap between Saskatchewan and the other

provinces. What could be different about Saskatchewan compared to the other provinces

regarding participation in illegal underground casinos? One could look at the income profile and

see that 32% of participants earning at least $100,000 per year use these underground gambling

facilities. As mentioned, Saskatchewan has a higher average income compared to other parts of

the country which could partly explain this difference.

However, the largest portion of people who admitted using illegal underground casinos

were people earning between $20,000 and $39,999 per year (34.2%). This may be related to

greater ethnic diversity in this category. Specifically, there are greater proportions of Indigenous

North American, African, and South Asian identifying individuals in this category. There is

statistical evidence showing Indigenous North American individuals (Statistics Canada, 2015)

and individuals of visible minority status (Statistics Canada, 2016b) earn lower household

incomes compared to other ethnic and cultural groups in Canada. There is also evidence that the

median income for some of these groups is around $20,000 to $39,999 (Statistics Canada, 2015;

Statistics Canada, 2016b). Finally, the main age group for this category is the 18-29-year-old

age group which is consistent with the Indigenous age group earning this income. Saskatchewan

had one of the highest rates of self-identified Indigenous North American populations in the

country (Statistics Canada, 2016c) which adds evidence that a potential explanatory factor for higher prevalence rates for illegal casino in Saskatchewan. Further, the province of Manitoba has the highest rate of self-identified Indigenous North American residents in the country while having the second highest prevalence of self-reported illegal underground casino participation (Statistics Canada, 2016c). Therefore, these higher prevalence rates as compared to the rest of the country may be partly explained by higher Indigenous North American populations.

Another thing to consider is PPGM problem or pathological scores. About one third of individuals who endorse illegal casinos were designated as a problem or pathological gambler. As mentioned, Saskatchewan contains higher levels of problem and pathological gamblers compared to other provinces, so this may be an important variable to consider. The elevated proportion of problem or pathological gamblers among those who endorse illegal casino gambling is reflected in the elevated number of different types of gambling utilized by these participants and the elevated frequency of gambling.

Another potential factor is geography (i.e., people are accessing these underground casinos as an alternative due to geographic barriers). Further analysis of the data could investigate whether patrons of illegal underground casinos in Saskatchewan reside in similar geographic locations to determine if this is a significant predictor.

4.4 Illegal Animal Contests

Illegal animal contests consist of betting on the outcome of cockfighting, dogfighting, dog racing and a non-specified category. There is a lack of information regarding these topics indicating that research in this area may be lacking. Despite the negative attitude of the federal government regarding participation and betting on the outcome of blood sports (dogfighting, cockfighting) (Department of Justice, 2019), participation has a history in Canada, particularly

around the time of Confederation (Pass, 2015). Like other forms of gambling around this time period, both participation and betting on blood sports were vaguely prohibited. People of lower socioeconomic class promoted the practice as a form of cultural identity and the upper-class moralists determined that such activities had no place in society. Despite the adoption of British common law which prohibited blood sports in 1835, Canada adopted an American-like approach to the control of blood sports which initially required municipalities and districts to create their own bylaws. However, as previously mentioned, the federal government banned these practices shortly following confederation.

Despite these control measures, reports of participation in blood sports continued with established groups in both Upper and Lower Canada having connections both with each other and with groups in the northern United States. Today, there are little official reports of illegal blood sports occurring in Canada. However, there are some reports which describe occurrences of possible animal fighting rings (Urquhart & Boynton, 2019; Clancy & Brend, 2016). These reports are mostly rumouring and do not portray actual animal fighting rings. The data collected for analysis in this report however does indicate that participation and betting on animal fighting does occur in Canada to some extent. As an aside, in Canada, it is not illegal to race dogs. Instead, it is illegal to make bets on the outcome of these dog races (Canadian Broadcasting Corporation, 2017).

Saskatchewan leads all other provinces in prevalence of illegal animal contests. What are the potential factors which separate the province of Saskatchewan from other provinces? The demographic distribution of those who endorsed illegal animal contests appears shows those of south Asian and Chinese descent have their highest representation in this category compared to other illegal gambling categories. This is consistent with reports that blood sports are still

popular in Asian countries, specifically in south Asia and China (British Broadcasting Corporation, 2020). Individuals from south and east Asia may be increasing prevalence of blood sport participation in some provinces as the province with the highest prevalence of illegal animal contests (Saskatchewan) has a higher south and east Asian population compared to the provinces with the lowest overall prevalence in illegal animal contests (Atlantic Region) (Statistics Canada, 2016a). However, it is likely not a major contributing factor in Saskatchewan as both Ontario and British Columbia have higher rates of self-identified south and east Asian populations while having the same prevalence rate for betting on cockfighting as Saskatchewan.

Part of this difference may be driven by Saskatchewan containing a higher rate of residents who self-report being of European descent, as many people of western European heritage admitted to endorsing participation in illegal animal contests. As participation in blood sport has historically been found in Canada, there may be a case of some of these activities being carried on through original colonizer families. However, though residents of Saskatchewan have some of the highest prevalence rates in the individual blood sport categories, the increased prevalence rate may be due to the higher prevalence in the non-specified category (see Table 3.1).

4.5 Adolescent Gambling Prevalence

Regarding adolescent gambling, any participation by those under the age of majority is considered illegal in Canada. This does not include private sports wagers between groups of friends and wagers between friends during games of chance and strategy (e.g., poker) at a private residence. A common argument made by governments looking to legalize controversial substances or activities is that regulating such substances and behaviours will take away an available source from people underage. The federal government used this argument when

announcing plans to legalize recreational use of cannabis (Rotermann, 2020). The assumption here is an extension of the hypothesis being investigated here in that a legal and regulated industry replaces black market operations with government operations. Looking at the self-report data, the hypothesis being investigated is partially supported. Comparing the self-reported rates of adolescent gambling between 2002 and 2018 shows that participation in gambling activities has declined among adolescents aged 15-17.

This finding may be related to a trend associated with gambling expansion worldwide. Initially, gambling expansion is associated with increased gambling problems in a population. Following this initial increase, these problems begin to decline (Williams, Volberg & Stevens, 2012). Reasons that could explain this decrease in problems includes increased recognition of potential issues from gambling participation, a decrease of participation in gambling activities due to decreased novelty, severe problem gamblers disappearing from the population due to adverse occurrences, increased effort by government officials to offer treatment/issue warnings about gambling, and the increasing age of the population leading to problem gamblers ageing out of the sample. Some of these explanations may be related to the difference observed between the 2002 and 2018 data. For example, the initial novelty with gambling expansion could have influenced adolescent gambling participation rates in the early 21st century. Over time, the novelty of gambling may have decreased for the next generation of adolescents. This could then influence adolescents in choosing to participate in gambling activities.

The difference between 2002 and 2018 may also be related to provincial messaging. Even if the allowance of regulated gambling increases opportunities to gamble, the messaging by governments of the potential dangers associated with gambling may keep adolescents away from gambling. This decrease may also be related to increased competence by the provinces in

controlling and regulating gambling so that adolescents had less access in 2018 than in 2002. Generally, the decrease could be due to a number of reasons not directly related to gambling control and regulation (i.e., extracurricular responsibility, less free time, decreased social life, etc.).

4.6 Opinions of Key Informants

The final data source included in this thesis is a qualitative survey investigating the opinions of key gambling industry informants. Of specific interest for this analysis are the opinions of gambling laws among the provincial regulators and the CEO of the provincial operators as these informants are directly responsible for the regulation and control of gambling activities in their respective provincial groups. If the majority of these informants have positive opinions of the way gambling is regulated, it may indicate that current regulation and control of gambling in Canada is operating adequately. As can be seen in Table 6, provincial regulators are satisfied with the current state of gambling laws in their respective provinces. Further, the majority of provincial operator CEOs are at least somewhat satisfied with the current state of gambling laws in Canada.

5 Summary and Conclusions

For the majority of Canadian history, most gambling activities have been prohibited by the federal government. However, due to pressure from special interest groups (i.e., the business community, provinces), the federal government enacted a series of amendments over the course of the 20th century which gradually eased gambling prohibition. These amendments included the amendment of 1969, which allowed for provincial and federal lotteries and the amendment of 1985, which gave the power of gambling operation to the provinces. Both of these amendments were associated with gambling expansion in Canada, but they were enacted without consultation

from the general public. This lack of consultation was justified by the federal and provincial governments with the argument that legalizing and expanding gambling activities in Canada serves to benefit society by eliminating black market operators and diverting money to the government. The purpose of the thesis was to investigate the validity of this assertion.

First, an investigation of the consequences of legalizing alcohol, marijuana and prostitution was completed. Findings from these topics show that legal and regulated markets vary in their ability of controlling the illegal market. It is apparent that alcohol prohibition increased the frequency of which criminal organizations manufactured and distributed alcohol. Alcohol manufacturing has been legal for nearly 90 years in the United States, and it is apparent that the illegal manufacture of alcohol is not at the level observed during prohibition. For cannabis, legalization has slightly decreased the rate at which people purchase from illegal sources. Finally, evidence from regulated prostitution indicates legal sex work lowers some risks associated with prohibition (e.g., violence and control), but increases risk of other harms (e.g., human trafficking). A potential explanation of these varied results could be the longevity of the legal industry (i.e., the longer the industry is in operation, the better this legal industry is at eliminating illegal operations). To investigate the evidence about gambling, an analysis was conducted regarding illegal gambling behaviour in Canada. This analysis employed the use of the following data sources: 1) Illegal gaming and betting house criminal charges occurring between 1977 and 2018 from Statistics Canada; 2) The 2018 BOPS, a comprehensive survey of gambling behaviour among Canadian adults from the ANP; 3) The CCHS Gambling Module investigating the self-report participation in gambling among adolescents aged 15-17 from 2002 and 2018; and 4) A qualitative assessment of important key informants in the Canadian gambling industry about their opinions on current gambling laws in Canada.

Results indicate the following: 1) Incidences of charges handed out by police organizations for participation in either betting house or gaming house have declined during the period between 1977 and 2018 with very little charges occurring after the year 2000; 2) Self-reported prevalence of illegal gambling participation in Canada is currently low both federally (<5%) and provincially with Saskatchewan leading all provinces in the major illegal gambling categories (i.e., illegal animal contests, illegal casino/cardroom, illegal online gambling). Participation in these illegal gambling activities is more common among men, people who earn less money, people who have not earned a bachelor's degree, people born in Canada, and people of western European descent. Further, people who meet the PPGM designation of problem or pathological gambler are a large proportion of people who participate in illegal gambling activities (illegal animal contests with the highest proportion at 43.9% and illegal online gambling with the lowest proportion 14.7%); 3) The prevalence of adolescent gambling has steadily declined between the period of 2002 to 2018 with current prevalence rates in official illegal gambling activities low; and 4) Opinions of key informants regarding the current state of gambling laws reveal that those who have control over gambling regulation in their respective provinces have satisfactory opinions about current gambling laws.

The possible explanations for these results are likely immense and will require further research and analysis. For the Statistics Canada data, it appears that charges related to some forms of illegal gambling have been declining since gambling expansion began. These incidences may not be completely accurate however due to lack of funding for police organization to enforce gambling laws in this country, and changing positive attitude related to gambling in general. For the BOPS data, it remains to be determined what factors separate Saskatchewan from other provinces regarding increased illegal gambling prevalence rates. Some

of these explanatory factors may be related to current laws (i.e., online gambling), cultural factors, household income factors, and the proportion of PPGM problem and pathological gamblers. For the CCHS data, possible factors include decreased novelty of gambling, less time availability, increased extracurricular responsibility and improved control measures introduced by provinces. Overall, it is apparent that participation in illegal and unregulated forms of gambling has decreased over the period of gambling expansion in Canada and continues to remain low. Therefore, the result of this analysis supports the hypothesis that access to legal and regulated gambling decreases participation in illegal and unregulated forms of gambling. Low illegal gambling prevalence is coincident with legalization, but legalization has not eliminated illegal gambling participation completely.

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=0&DIM=0&FL =A&FREE=0&GC=0&GK=0&GRP=1&PID=110528&PRID

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=0&DIM=0&FL=A&FREE=0&GC=0&GK=0&GRP=1&PID=110562&PRID=10&PTY

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7 Appendix

7.1 Appendix A – Calculation Table for Federal and Provincial Illegal Gambling Prevalence

PROVINCIAL AND CANADIAN POPULATION PREVALENCE OF ILLEGAL GAMBLING	Alberta			British Columbia			Manitoba			Atlantic Region			Ontario			Quebec			Saskatchewan			CANADA		
	BOPS Prevalence weighted with CCHS Weight	Prevalence of 1/mo 18+ gambling in CCHS	Adjusted Prevalence	BOPS Prevalence weighted with CCHS Weight	Prevalence of 1/mo 18+ gambling in CCHS	Adjusted Prevalence	BOPS Prevalence weighted with CCHS Weight	Prevalence of 1/mo 18+ gambling in CCHS	Adjusted Prevalence	BOPS Prevalence weighted with CCHS Weight	Prevalence of 1/mo 18+ gambling in CCHS	Adjusted Prevalence	BOPS Prevalence weighted with CCHS Weight	Prevalence of 1/mo 18+ gambling in CCHS	Adjusted Prevalence	BOPS Prevalence weighted with CCHS Weight	Prevalence of 1/mo 18+ gambling in CCHS	Adjusted Prevalence	BOPS Prevalence weighted with CCHS Weight	Prevalence of 1/mo 18+ gambling in CCHS	Adjusted Prevalence	BOPS Prevalence weighted with CCHS Weight	Prevalence of 1/mo 18+ gambling in CCHS	Adjusted Prevalence
b_G1c_4: online lottery purchase outside home province	4.22%	34.90%	1.47%	1.14%	31.10%	0.35%	1.09%	35.80%	0.39%	0.84%	43.90%	0.37%	0.84%	33.00%	0.28%	0.59%	37.50%	0.22%	5.50%	39.40%	2.17%	1.39%	35.00%	0.49%
b_G2c_4: online instant lottery tickets/games outside home province	0.50%	34.90%	0.17%	0.42%	31.10%	0.13%	0.21%	35.80%	0.08%	0.45%	43.90%	0.20%	0.15%	33.00%	0.05%	0.27%	37.50%	0.10%	1.83%	39.40%	0.72%	0.34%	35.00%	0.12%
b_G3c_6: online EGMs outside home province	1.56%	34.90%	0.54%	1.65%	31.10%	0.51%	1.06%	35.80%	0.38%	0.33%	43.90%	0.14%	1.61%	33.00%	0.53%	0.61%	37.50%	0.23%	2.06%	39.40%	0.81%	1.24%	35.00%	0.43%
b_G3c_7: EGMs in underground/illegal casino or some other underground/illegal location	0.04%	34.90%	0.01%	0.07%	31.10%	0.02%	0.15%	35.80%	0.05%	0.04%	43.90%	0.02%	0.03%	33.00%	0.01%	0.13%	37.50%	0.05%	0.28%	39.40%	0.11%	0.07%	35.00%	0.02%
b_G4c_5: online table games outside home province	0.95%	34.90%	0.33%	0.63%	31.10%	0.20%	0.51%	35.80%	0.18%	0.51%	43.90%	0.22%	1.10%	33.00%	0.36%	0.41%	37.50%	0.15%	1.20%	39.40%	0.47%	0.78%	35.00%	0.27%
b_G4c_6: table games in underground/illegal casino, card room, or other venue	0.13%	34.90%	0.05%	0.22%	31.10%	0.07%	0.16%	35.80%	0.06%	0.13%	43.90%	0.04%	0.12%	33.00%	0.04%	0.11%	37.50%	0.04%	0.21%	39.40%	0.08%	0.14%	35.00%	0.05%
b_G5c_3: online sports betting outside home province	3.50%	34.90%	1.22%	1.83%	31.10%	0.57%	1.11%	35.80%	0.40%	0.62%	43.90%	0.27%	2.25%	33.00%	0.74%	0.32%	37.50%	0.12%	4.24%	39.40%	1.67%	1.74%	35.00%	0.61%
b_G5c_5: sports betting at illegal/underground betting shop or bookmaker	0.11%	34.90%	0.04%	0.26%	31.10%	0.08%	0.07%	35.80%	0.03%	0.13%	43.90%	0.06%	0.07%	33.00%	0.02%	0.19%	37.50%	0.07%	0.09%	39.40%	0.04%	0.14%	35.00%	0.05%
b_G6c_4: online bingo outside home province	0.46%	34.90%	0.16%	0.20%	31.10%	0.06%	0.20%	35.80%	0.07%	0.19%	43.90%	0.08%	0.10%	33.00%	0.03%	0.27%	37.50%	0.10%	0.40%	39.40%	0.16%	0.22%	35.00%	0.08%
b_G7b_4: bet money on cock fights	0.05%	34.90%	0.02%	0.12%	31.10%	0.04%	0.03%	35.80%	0.01%	0.06%	43.90%	0.03%	0.12%	33.00%	0.04%	0.07%	37.50%	0.03%	0.10%	39.40%	0.04%	0.09%	35.00%	0.03%
b_G7b_5: bet money on dog racing	0.14%	34.90%	0.05%	0.19%	31.10%	0.06%	0.22%	35.80%	0.08%	0.04%	43.90%	0.02%	0.10%	33.00%	0.03%	0.20%	37.50%	0.08%	0.14%	39.40%	0.06%	0.14%	35.00%	0.05%
b_G7b_6: bet money on dog fights	0.04%	34.90%	0.01%	0.09%	31.10%	0.03%	0.05%	35.80%	0.02%	0.04%	43.90%	0.02%	0.10%	33.00%	0.03%	0.05%	37.50%	0.02%	0.09%	39.40%	0.04%	0.07%	35.00%	0.02%
b_G7b_7: bet money on other animal contests	0.11%	34.90%	0.04%	0.17%	31.10%	0.05%	0.03%	35.80%	0.01%	0.06%	43.90%	0.03%	0.26%	33.00%	0.09%	0.02%	37.50%	0.01%	0.30%	39.40%	0.12%	0.15%	35.00%	0.05%
b_G7c_6: online 'other type' of gambling outside home province	0.29%	34.90%	0.10%	0.23%	31.10%	0.07%	0.21%	35.80%	0.08%	0.24%	43.90%	0.11%	0.16%	33.00%	0.05%	0.36%	37.50%	0.14%	0.33%	39.40%	0.13%	0.25%	35.00%	0.09%
b_G7c_7: 'other type' of gambling at underground/illegal casino, card room or other venue	0.06%	34.90%	0.02%	0.10%	31.10%	0.03%	0.16%	35.80%	0.06%	0.06%	43.90%	0.03%	0.12%	33.00%	0.04%	0.01%	37.50%	0.00%	0.03%	39.40%	0.01%	0.07%	35.00%	0.02%
b_ILLEGAL_ANIMAL_CONTESTS (b_G7b_4 or b_G7b_5 or b_G7b_6 or b_G7b_7)	0.26%	34.90%	0.09%	0.50%	31.10%	0.16%	0.27%	35.80%	0.10%	0.15%	43.90%	0.07%	0.42%	33.00%	0.14%	0.29%	37.50%	0.11%	0.55%	39.40%	0.22%	0.36%	35.00%	0.13%
b_ILLEGAL_CASINOS, CARD ROOMS or OTHER LAND-BASED VENUES (b_G3c_7 or b_G4c_6)	0.15%	34.90%	0.05%	0.26%	31.10%	0.08%	0.27%	35.80%	0.10%	0.17%	43.90%	0.07%	0.13%	33.00%	0.04%	0.24%	37.50%	0.09%	0.47%	39.40%	0.19%	0.20%	35.00%	0.07%
b_ILLEGAL_ONLINE_GAMBLING (b_G1c_4 or b_G2c_4 or b_G3c_6 or b_G4c_5 or b_G5c_3 or b_G6c_4 or b_G7c_6)	9.58%	34.90%	3.34%	4.72%	31.10%	1.47%	3.56%	35.80%	1.27%	2.33%	43.90%	1.02%	4.55%	33.00%	1.50%	1.84%	37.50%	0.69%	12.63%	39.40%	4.98%	4.53%	35.00%	1.59%
b_ILLEGAL_GAMBLING_ANY (endorsement of any of the above)	9.79%	34.90%	3.42%	5.00%	31.10%	1.56%	3.91%	35.80%	1.40%	2.67%	43.90%	1.17%	4.85%	33.00%	1.60%	2.35%	37.50%	0.88%	13.30%	39.40%	5.24%	4.89%	35.00%	1.71%

Note: the adjusted prevalence rate presumes that people who gamble less than once a month do no engage in any illegal gambling.

Note: the denominator in all cases is the entire sample minus the 145 nongamblers.

highest adjusted rate

lowest adjusted rate

7.2 Appendix B – CCHS Gambling Module of Past-Year Gambling Frequency

The following questions are about various types of gambling activities. Please think about all

forms of gambling done either in person or online, including lotteries, organised betting and

casual wagers with friends. Note: specific time frame that 'past 12 months' applies to is specified

in earlier modules, so no need to repeat it.

<div align="center">

PAST YEAR GAMBLING PARTICIPATION

(Abbreviated and adapted Gambling Participation Instrument; CATI/CAPI format; Canadian

Version)

</div>

G1a. In the past 12 months, how often have you purchased or played instant lottery tickets, such

as scratch, break-open or pulltabs, or played instant online games? (read response options)

Interviewer Note: exclude lotteries such as Lotto 6/49, Max, etc.)

1: Never

2: Less than once a month

3: Once a month

4: Two to three times a month

5: Once a week

6: Several times a week

DK: Don't Know do not read

RF: Refused do not read -> go to END

G2a. And how often have you played or spent money on lottery or raffle tickets, excluding sports

lottery tickets? (in the past 12 months) (read response options) Interviewer Note: This includes

Lotto 6/49, Lotto Max, Daily Grand, provincial/regional lotteries, hospital lotteries, 50-50

tickets.

1: Never

2: Less than once a month

3: Once a month

4: Two to three times a month

5: Once a week

6: Several times a week

DK: Don't Know do not read

RF: Refused do not read

G3a. In the past 12 months, how often have you bet or spent money on electronic gambling machines, such as slot machines, VLTs, electronic blackjack, electronic roulette or video poker, either in person or online? (do not read response options) Interviewer Note: this refers to stand-alone machines and also includes electronic bingo machines, electronic craps, electronic keno machines, electronic racing machines. Includes playing at any location in any country.

1: Never

2: Less than once a month

3: Once a month

4: Two to three times a month

5: Once a week

6: Several times a week

DK: Don't Know do not read

RF: Refused do not read

G4a. Now, excluding electronic machine versions, how often in the past 12 months have you bet or spent money on casino table games like poker, blackjack, baccarat or roulette? Please include

any location, whether at a casino, a private residence, online, or anywhere else. (do not read response options) Interviewer Note: also includes craps, mah-jong, sic bo, pai gow.

1: Never

2: Less than once a month

3: Once a month

4: Two to three times a month

5: Once a week

6: Several times a week

DK: Don't Know do not read

RF: Refused do not read

G5a. In the past 12 months, how often have you bet money on sports such as hockey, football, horseracing, billiards or golf including pools, sports lottery tickets, and bets made with friends? (read response options) Interviewer Note: Includes sport lottery tickets (Proline, Sports Select, Mise-O-Jeu); e-sports (professional video game competitions); fantasy sports (point totals from a 'fantasy team' composed of players selected from different teams); virtual sports (computer generated competitions); and sports the person participates in themselves (e.g. pool, bowling, golf, darts).

1: Never

2: Less than once a month

3: Once a month

4: Two to three times a month

5: Once a week

6: Several times a week

DK: Don't Know do not read

RF: Refused do not read

G6a. In the past 12 months, how often have you bet or spent money playing bingo, excluding instant bingo games or electronic machine versions? Interviewer Note: This includes bingo played while the numbers are drawn, such as at a bingo hall, or an online bingo hall, but excludes instant bingo games like scratch tickets or electronic machines versions.

1: Never

2: Less than once a month

3: Once a month

4: Two to three times a month

5: Once a week

6: Several times a week

DK: Don't Know do not read

RF: Refused do not read

G7a. How often in the past 12 months have you bet or spent money on any other forms of gambling that have not been mentioned? (do not read response options) Interviewer Note: Examples include keno, animal fights, dog racing, non-casino card or dice games such as rummy or backgammon, video games, board games, television events (e.g., reality show winners), political events. Please record speculative financial market activities in G8a.

1: Never

2: Less than once a month

3: Once a month

4: Two to three times a month

5: Once a week

6: Several times a week

DK: Don't Know do not read

RF: Refused do not read

G8a. In the past 12 months, how often have you engaged in any speculative financial market activities such as day trading, penny stocks, shorting, options, currency futures, etc.? (read response options). Interviewer Note: Also includes betting on the direction or future value of a financial index (e.g., TSX, currency value) on a gambling website.

1: Never

2: Less than once a month

3: Once a month

4: Two to three times a month

5: Once a week

6: Several times a week

DK: Don't Know do not read

RF: Refused do not read

G9 only asked for people who report engaging in one or more types of gambling in past 12 months.

G9. For the types of gambling that you reported participating in, has your involvement been in-person, online, or both? Interviewer Note: online includes online purchase of lottery tickets.

1: Online

2: In-person

3: Both

DK: Don't Know

RF: Refused

GTYPES. Total number of different types of gambling engaged in within past 12 months.

GFREQ. Total frequency reported on all types of gambling in past 12 months. Less than once a month = 6; Once a month = 12; Two to three times a month = 30; Once a week = 52: Several times a week =130; 4 or more times a week = 208.

GMAXFREQ. Maximum frequency reported on any type of gambling in past 12 months.

7.3 Appendix C – Baseline Online Panel Survey Illegal Gambling and Demographic Questions

DEMOGRAPHICS

D1. Please indicate your sex

1: Male

2: Female

3: Other

D2. In what year were you born?

9999: I prefer not to say

D6. What is the highest level of education you have achieved?

1: Primary level

2: Some Secondary schooling

3: Completion of Secondary school

4: Some Vocational training

5: Completion of Vocational training

6: Some Post-Secondary schooling at college, university or other post-secondary institute

7: A post-secondary certificate, diploma, or degree below a bachelor's degree

8: Bachelor's degree or equivalent

9: Professional degree (e.g., law, medicine) requiring additional education beyond standard bachelor degree 1

0: Master's or doctorate degree

99: I prefer not to answer

D8. What is your best estimate of your total household income received by all household members, from all sources, before taxes and deductions in the last calendar year? This includes wages, investments, pensions, support payments, rental income, employment insurance, etc. (modelled after CCHS ADM_Q020B)

1: Less than $20,000

2: $20,000 – $39,000

3: $40,000 – $59,000

4: $60,000 - $79,000

5: $80,000 - $99,000

6: $100,000 - $119,000

7: $120,000 - $139,000

8: >$140,000

98: uncertain

99: prefer not to answer

D10a. Were you born in Canada? (modelled after CCHS SDC_Q005)

0: No

1: Yes (go to D11)

99: I prefer not to answer

D12. What are the main ethnic or cultural origins of your ancestors? (check as many as apply) (modelled after CCHS SDC_Q010) and research on ethnocultural groupings and their geospatial locations)

1: Western and Northern European (Austria, Belgium, England, France, Iceland, Ireland, Germany, Holland, Scandinavian countries, Scotland, Slovenia, Switzerland)

2: Eastern European (Albania, Belarus, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Western Russia, Serbia, Slovakia, Ukraine)

3: Southern European (Greece, Italy, Portugal, Spain)

4: Middle Eastern and Arab (Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, UAE, Yemen)

5: Central and Northern Asian (Afghanistan, Eastern Russia, Iran, Kazakhstan, Mongolia, Tajikistan, Turkmenistan, Turkey, Uzbekistan)

6: Chinese

7: South Asian (i.e., India, Pakistan, Sri Lanka, Bangladesh)

8: South-East Asian (i.e., Vietnam, Cambodia, Malaysia, Laos, Thailand, Singapore, Philippines, Indonesia)

9: East Asian (i.e., Korea, Japan)

10: Latin American (i.e., Mexico, all Central American countries, all South American countries)

11: African

12: Indigenous North American (First Nations, Inuk/Inuit, Métis)

12a. Check which one applies:

1: First Nations

2: Inuk/Inuit

3: Métis

9: I prefer not to answer

13: Other_____ [specify]

14: Unsure 99: Prefer not to answer

GAMBLING PARTICIPATION (G)

(Gambling Participation Instrument; Online Administration Format; Canadian Version; adapted to align with the 2018 Statistics Canada Gambling Module)

The following questions are about various types of gambling activities. Please think about all forms of gambling done either in person or online, including lotteries, organised betting and casual wagers with friends. Many of these questions ask about the past 12 months, which would be from [specify month and year] to the present time

Note: 'a' questions address frequency of gambling, 'b' questions address subtype of gambling, 'c' questions address location of play and/or means of access, 'd' questions address time spent gambling, and 'e' questions assess gambling expenditure.

G1a. In the past <u>12 months,</u> how often have you purchased **<u>lottery or raffle tickets</u>**? This does not include instant lottery tickets, scratchcards, sports lottery tickets, or break-open tickets, but does include Lotto 6/49, Lotto Max, Daily Grand, provincial/regional lotteries, hospital lotteries, and 50-50 tickets.

0: Never (go to G2a)

1: Less than once a month

2: Once a month

3: Two to three times a month

4: Once a week BASELINE ONLINE PANEL SURVEY

5: Several times a week

6: 4 or more times a week

G1b. What type of lottery or raffle did you participate in? (check all that apply)

1: A national lottery (e.g., Lotto 6/49, Lotto Max, Daily Grand) or provincial/regional lottery (e.g., names of popular provincial/regional lotteries) (BC=BC/49, Poker Lotto; AB, SK, MB, YK, NWT, NU= Western 649, Western Max, Poker Lotto; ON=Ontario 49, Lottario; QU=Quebec 49, Grande Vie, Lotto Poker; NB, NS, PE, NL=Atlantic 49, Poker Lotto)

2: A charity, hospital, or community group lottery or raffle

3: An out-of-country lottery

G1c. Where did you purchase these tickets? (check all that apply)

1: At a land-based store or outlet in [home province]

2: At a land-based store or outlet outside of [home province]

3: At an online website within [home province] [name of provincial website]. BC=BCLC PlayNow; MB=Manitoba Liquor & Lotteries PlayNow; ON=PlayOLG; QU=Loto-Quebec jeux en ligne; NB,NS,PE,NL=Atlantic Lottery Corporation online games (this option not presented to AB,SK,YK,NU,NWT)

4: At an online website outside of [home province].

G2a. In the past 12 months, how often would you say you have purchased **instant lottery tickets**, such as scratchcards, break-open tickets, or pull-tabs or played online instant games for money?

0: Never (go to G3a)

1: Less than once a month

2: Once a month

3: Two to three times a month

4: Once a week

5: Several times a week

6: 4 or more times a week

G2c. Where did you purchase these tickets or play these games? (check all that apply)

1: At a land-based store or outlet in [home province]

2: At a land-based store or outlet outside of [home province]

3: At an online website within [home province] [name of provincial website]. BC=BCLC

PlayNow; MB=Manitoba Liquor & Lotteries PlayNow; ON=PlayOLG; QU=Loto-Quebec jeux

en ligne; NB,NS,PE,NL=Atlantic Lottery Corporation online games (this option not presented to

AB,SK,YK,NU,NWT)

4: At an online website outside of [home province].

G3a. In the past 12 months, how often have you bet or spent money on **electronic gambling**

machines, such as slot machines, ALV French VLTs, electronic blackjack, electronic roulette, or

video poker either in person or online? This refers to stand-alone machines and also includes

electronic bingo machines, electronic craps, electronic keno machines, and electronic racing

machines.

0: Never (go to G4a)

1: Less than once a month

2: Once a month

3: Two to three times a month

4: Once a week

5: Several times a week

6: 4 or more times a week

G3b. What type of electronic gambling machine did you play (check all that apply)

1: Traditional machine with fruits/symbols/pictures and paylines

2: Electronic machine offering virtual casino table games such as poker, blackjack, baccarat, roulette, craps, big wheel, or virtual bingo, keno, etc.

3: Other type of machine (e.g., skill-based video gambling machine)

G3c. Where did you play these machines (check all that apply)

1: At a land-based casino, racetrack, or bingo hall in [home province]

2: At a land-based casino, racetrack, bingo hall or other gambling venue outside of [home province].

3: In a bar or lounge in [home province]

4: In a bar, hotel, restaurant, retail shop, airport, etc. outside of [home province].

5: At an online gambling website in [home province] [name of provincial website]. BC=BCLC PlayNow; MB=Manitoba Liquor & Lotteries PlayNow; ON=PlayOLG; QU=Loto-Quebec jeux en ligne; NB,NS,PE,NL=Atlantic Lottery Corporation online games (this option not presented to AB,SK,YK,NU,NWT)

6: At an online gambling website outside of [home province].

7: At an underground/illegal casino or some other underground/illegal location in [home province]

8: On a ship in international waters

G4a. Excluding electronic machine versions, how often in the past 12 months have you bet or spent money on **casino table games** like poker, blackjack, baccarat or roulette? Please include any location, whether at a casino, a private residence, online, or anywhere else. This also includes craps, mah-jong, sic bo, and pai gow.

0: Never (go to G5a or G4f if person scored 1-6 on G3a)

1: Less than once a month

2: Once a month

3: Two to three times a month

4: Once a week

5: Several times a week

6: 4 or more times a week

G4b. What casino table games did you play (check all that apply)?

1: Poker

2: Blackjack

3: Baccarat

4: Roulette

5: Craps

6: Mahjong

7: Sic Bo

8: Pai Gow

9: Big Wheel (Wheel of Fortune; Big Six)

10: Other

G4c. Where did you play these table games (check all that apply)

1: At a land-based casino in [home province]

2: At a land-based gambling venue (casino, card room, Mahjong house, etc.) outside of [home province].

3: At a bar or lounge outside of [home province].

4: At an online gambling website in [home province] [name of provincial website]. BC=BCLC PlayNow; MB=Manitoba Liquor & Lotteries PlayNow; ON=PlayOLG; QU=Loto-Quebec jeux

en ligne; NB,NS,PE,NL=Atlantic Lottery Corporation online games (this option not presented to AB,SK,YK,NU,NWT)

5: At an online gambling website outside of [home province].

6: At a land-based underground/illegal casino, card room, or other venue in [home province]

7: At a private residence or workplace

8: On a ship in international waters

G5a. In the past 12 months, how often have you **bet money on sports** either in person or online? This includes betting on professional sports such as hockey, football, basketball, and horse racing; sports lottery tickets and sports pools; betting on e-sports (professional video game competitions); fantasy sports (point totals from a 'fantasy team' composed of players selected from different teams); virtual sports (computer generated competitions); and sports you participate in yourself such as pool, bowling, golf, or darts.

0: Never (go to G6a)

1: Less than once a month

2: Once a month

3: Two to three times a month

4: Once a week

5: Several times a week

6: 4 or more times a week

G5b. What type of sports betting did you engage in? (check all that apply)

1: Betting on professional sporting events (i.e., hockey, football, basketball, baseball, boxing, mixed martial arts, motor racing, horse racing, e-sports (professional video game competitions).

Which ones(s)_____

2: Sports pools/lotteries (i.e., betting on the outcomes of several different professional sporting matches)

3: Fantasy Sports betting

4: Virtual Sports betting (i.e., betting on computer-generated sporting competitions)

5: Betting on sports that you participated in yourself (e.g., golf, pool, bowling, darts, foosball)

G5c. Where and how did you bet on sports? (indicate all that apply)

1: Purchased sports lottery tickets (e.g., Proline, Sports Select, Mise-O-Jeu) from a local land-based retailer

2: Placed bets at an online sports betting site in [home province] [name of provincial website: BC=BCLC PlayNow; MB=Manitoba Liquor & Lotteries PlayNow; ON=PlayOLG; QU=Loto-Quebec jeux en ligne; NB,NS,PE,NL=Atlantic Lottery Corporation online games (this option not presented to AB,SK,YK,NU,NWT)

3: Placed bets at an online sports betting site outside of [home province].

4: Made bets with other people at a private residence, your place of work, or some other non-commercial location

5: Placed bets at an illegal/underground land-based sports betting shop or bookmaker

G6a. In the past 12 months, how often have you bet or spent money playing **bingo**? This includes bingo played while the numbers are drawn, such as at a bingo hall, or an online bingo hall, but excludes instant bingo games like scratch tickets or electronic machines versions.

0: Never (go to G7a)

1: Less than once a month

2: Once a month

3: Two to three times a month

4: Once a week

5: Several times a week

6: 4 or more times a week

G6c. Where did you play bingo (check all that apply)

1: At a land-based bingo hall in [home province]

2: At a land-based bingo hall outside of [home province]

3: At an online website within [home province] [name of provincial website]. BC=BCLC

PlayNow; MB=Manitoba Liquor & Lotteries PlayNow; ON=PlayOLG; QU=Loto-Quebec jeux

en ligne; NB,NS,PE,NL=Atlantic Lottery Corporation online games (this option not presented to

AB,SK,YK,NU,NWT)

4: At an online website outside of [home province].

G7a. In the past 12 months, how often have you bet or spent money on **other types of gambling**

that have not yet been mentioned? Examples includes keno, cock fights, dog racing, dog fights,

non-casino card or dice games (e.g., rummy, backgammon), video games, board games,

television events (e.g., reality show winners), political events, or anything else.

0: Never (go to G8a)

1: Less than once a month

2: Once a month

3: Two to three times a month

4: Once a week

5: Several times a week

6: 4 or more times a week

G7b. What are these other types of gambling you bet money on? (check all that apply)

1: Keno

2: Bingo

3: Kinzo

4: Cock fights

5: Dog racing

6: Dog fights

7: Other animal contests

8: Non-casino card games (e.g., rummy, euchre, hanafuda (hwatu)

9: Non-casino dice games (e.g., backgammon, Yahtzee)

10: Video games (i.e., other than electronic video gambling machines in casinos and e-sport

competitions)

11: Board games

12: Televised entertainment events

13: Political events 14: Other_____ [specify] (do not include financial index

wagering in this list)

G7c. Where did you make these bets? (check all that apply)

1: At a land-based gambling venue (casino, bingo hall, racetrack) in [home province]

2: At a land-based gambling venue (casino, bingo hall, racetrack) outside of [home province].

3: At a bar/lounge/club/hotel in [home province]

4: At a bar/lounge/club/hotel outside of [home province].

5: At an online gambling website in [home province] [name of provincial website]. (BC=BCLC

PlayNow; MB=Manitoba Liquor & Lotteries PlayNow; ON=PlayOLG; QU=Loto-Quebec jeux

en ligne; NS,PE,NL=Atlantic Lottery Corporation online games)

6: At an online gambling website outside of [home province].

7: At a land-based underground/illegal casino, card room, or other venue in [home province]

8: At my place of work, a private residence, or some other non-commercial location

9: On a ship in international waters

GAMBLER. Any past year gambling on G1 to G8.

ONLINEGAMBLING. Any past year online gambling on G1 to G8.

GTYPES. Total number of different types of gambling engaged in within past 12 months (G1 – G8)

GFREQ. Total combined frequency reported on all types of gambling in past 12 months (range of 0 to 48).

GMAXFREQ. Maximum frequency reported on any type of gambling in past 12 months.

GTIME. Total 'typical month' time reported on all types of gambling in past 12 months. All values of 500 and higher reset to 499.

GNETLOSS. Total 'typical month' net loss/win on all types of gambling in past 12 months.

GTOTALLOSS. Only totalling losses reported on each type. Net wins for each type are reset to -1.

7.4 Appendix D – Key Informant Opinion Survey Invitation & Question

Email Invitation & Consent

Dear [specify name],

We would like you to participate in a 5-minute survey designed to assess the opinions of Canada's major gambling stakeholders on a range of gambling-related issues. In compensation for your valuable time we will donate $100 to the charity of your choosing.

This survey is being conducted as part of the Canadian National Study of Gambling funded by the Alberta Gambling Research Institute, Canadian Consortium of Gambling Research, Canadian Centre for Substance Abuse, and Gambling Research Exchange Ontario. The overarching purpose of this national investigation is to improve our understanding of gambling in Canada, with details about the specific research objectives being available on our website.

The present survey is one element of a multi-faceted investigation that includes a recently completed survey of 28,000 Canadians by Statistics Canada as well as a more in-depth survey of 10,000 online panelists. The purpose of the present survey is to understand the opinions of the major provincial stakeholders on things such as the benefits versus harms of gambling; charity involvement in gambling; responsible gambling; integrity with which gambling is provided, etc. For each province we have sent this survey link to the Regulator; CEO of the Provincial Gambling Operator; Provincial Directors of Responsible Gambling; a Casino Owner or General Manager; and a Problem Gambling Treatment Administrator.

The 10-member Research Team from the universities of Alberta, Calgary, and Lethbridge is led by Dr. Robert Williams, Professor, Faculty of Health Sciences, University of Lethbridge. For more information about this study you can contact myself (carrie.leonard@uleth.ca). Questions

regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Lethbridge (403-329-2747 or research.services@uleth.ca).

Thank you for your participation and for the valuable insights you can provide!

Dr. Carrie Leonard

Project Manager

Canadian National Study

Carrie.leonard@uleth.ca

Week1: personal email

Week2: personal email reminder

Week3: personal email reminder "we understand that you are a busy individual and may not have the time or desire to participate. If this is the case, please let us know and will be respectively indicate this in our Final Report."

Week4: personal email reminder "final reminder…. personal email reminder "we understand that you are a busy individual and may not have the time or desire to participate. If this is the case, please let us know and will be respectively indicate this in our Final Report."

Week5: start same procedure with back-up Key Informant

Consent Form

Thank you for agreeing to be surveyed. Please read the following letter of information before beginning the survey:

What is this study about?

The present survey is one element of a multi-faceted investigation that includes a recently completed survey of 28,000 Canadians by Statistics Canada as well as a more in-depth survey of 10,000 online panelists. The purpose of the present survey is to understand the opinions of the

major provincial stakeholders on a range of gambling-related issues. For each province we have sent this survey link to the Regulator; CEO of the Provincial Gambling Operator; Provincial Directors of Responsible Gambling; a Casino Owner or Operator; and a Problem Gambling Treatment Administrator.

What is expected of you?

The survey length varies but will take an average of 5 minutes to complete. You will be asked to respond to statements on the benefits versus harms of gambling; charity involvement in gambling; responsible gambling; integrity with which gambling is provided, etc.

What are the anticipated uses of the data collected?

The responses to the survey will be aggregated with the nine other people in your category to ensure anonymity. Although individual responses may be quoted, they will never be ascribed to any individual. Further, the aggregated data from the present survey will never be reported on its own, but rather combined with data from other research arms of the overall national investigation and published in a Final Report, as well as academic publications and conference presentations.

What are the risks and benefits of participating?

There are no anticipated risks from participating. You may find some questions sensitive in nature, and you are free to not answer certain questions. The main benefit of participating is the ability to contribute to this comprehensive investigation whose ultimate aim is to improve our understanding of gambling in Canada so as to further maximize the benefits and minimize the harms. In recognition of your valuable time, we will also contribute $100 to the charity of your choosing.

How will your confidentiality and anonymity be protected?

Your responses will not be identified with you personally as the survey collects no identifying information. However, as with any electronic online survey, anonymity and confidentiality can never be completely guaranteed. The responses to this survey will be kept on a password-protected computer with restricted access. The privacy policy for Survey Monkey can be viewed at: https://www.surveymonkey.com/mp/legal/privacy-policy/.

How can a participant withdraw?

Your participation is completely voluntary and you may withdraw your participation at any time by simply closing your browser before you submit your responses. If you wish to withdraw from the study after you submit your responses then contact carrie.leonard@uleth.ca to have your data deleted. Who is conducting this research? The 10 member Research Team is led by Dr. Robert Williams, Professor, Faculty of Health Sciences, University of Lethbridge. For more information about this study you can contact myself (carrie.leonard@uleth.ca). Questions regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Lethbridge (403-329-2747 or research.services@uleth.ca). This research study has been reviewed for ethical acceptability and approved by the University of Lethbridge Human Subject Research Committee. The overall findings of this investigation will be contained in a Final Report available on our website in mid to late 2020.

8a. How satisfied are you with the enforcement of gambling laws in your province?

1: Very satisfied

2: Somewhat satisfied

3: Neutral

4: Somewhat dissatisfied

5: Very dissatisfied

7.5 Appendix E – Problem & Pathological Gambling Measure

Note: If people ask what 'significant' means, say 'significant means something that either you or someone else would say is considerable, important, or major', either because of its frequency or seriousness.'

PPGM1a. Has <u>your</u> involvement in gambling caused you to borrow money or sell things to gamble in the past 12 months? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- Refused/don't know (9999)

PPGM1b. Has <u>your</u> involvement in gambling caused significant financial concerns for you or someone close to you in the past 12 months? Would you say:

- never (0)
- sometimes (1)
- most of the time (2)
- almost always (3)
- Refused/don't know (9999)

PPGM2. Has <u>your</u> involvement in gambling caused significant mental stress in the form of guilt, anxiety, or depression for you or someone close to you in the past 12 months?

- no (0)
- yes (1)
- Refused/don't know (9999)

PPGM3. Has your involvement in gambling caused significant conflicts with friends or family in the past 12 months? (NOTE: Family is whomever the person themselves defines as "family").

- no (0)

- yes (1)

- Refused/don't know (9999)

PPGM4. Has your involvement in gambling caused significant health problems for you or someone close to you in the past 12 months?

- no (0)

- yes (1)

- Refused/don't know (9999)

PPGM5. Has your involvement in gambling caused significant work or school problems for you or someone close to you in the past 12 months or caused you to miss a significant amount of time off work or school? (NOTE: score 'no' for people who do not work or go to school).

- no (0)

- yes (1) (Scoring Note: person cannot receive an imputed '1' for NODS9b or NODS9c if they have already received a 1 for NODS9a; they would still receive a '1' for SOGS11 and PPGM5 however)

- Refused/don't know (9999)

PPGM6. Has your involvement in gambling caused you or someone close to you to write bad cheques, take money that didn't belong to you or commit other illegal acts to support your gambling in the past 12 months?

- no (0)

- yes (1)

- Refused/don't know (9999)

PPGM7. Is there anyone else who would say that <u>your</u> involvement in gambling has caused any significant mental, financial, family, health, school, work, or legal concerns/problems for you or someone close to you in the past 12 months?

- no (0)

- yes (1)

- Refused/don't know (9999)

PPGM8a. Have you often gambled longer, with more money or more frequently than you intended to in the past 12 months?

- no (0)

- yes (1)

- Refused/don't know (9999)

PPGM8b. In the past 12 months, how often have you gone back to try and win back the money you lost?

- never (0) s

- ometimes (1)

- most of the time (2)

- almost always (3)

- Refused/don't know (9999)

PPGM8c. In the past 12 months, have you made attempts to either cut down, control or stop gambling?

- no (0) (go to PPGM10)

- yes (1)

- Refused/don't know (9999)

PPGM8d. Were you successful in these attempts?

- no (0)

- yes (1)

- Refused/don't know (9999)

PPGM9. In the past 12 months, when you did try cutting down or stopping did you find you were very restless or irritable or that you had strong cravings for it?

- no (0)

- yes (1)

- Refused/don't know (9999)

PPGM10. In the past 12 months, would you say you have been preoccupied with gambling?

- no (0)

- yes (1)

- Refused/don't know (9999)

PPGM11. In the past 12 months, did you find you needed to gamble with larger and larger amounts of money to achieve the same level of excitement?

- never (0)

- sometimes (1)

- most of the time (2) a

- lmost always (3)

- Refused/don't know (9999)

PPGM12. In the past 12 months, is there anyone else who would say that you were either

preoccupied with gambling; or had a loss of control; or had withdrawal symptoms; or that you

needed to gamble with larger amounts of money to achieve the same excitement?

- no (0)

- yes (1)

- Refused/don't know (9999)

7.6 Appendix F – Analysis Weighting Procedure

CCHS Weighting for the Baseline and Follow-Up Online Panel in the AGRI National

Project Dr. Robert Williams

July 2, 2020

1. The Baseline Online Panel (BOPS) and Follow-Up Online Panel (FOPS) sample is not totally representative of the Canadian adult population for the following reasons:

a. Eligibility for the BOPS was restricted to Leger online panelists (18+) who gambled once a month or more. More specifically, they endorsed 'usually at least once a month' to the following screening question: "How often would you say you participate in any form of gambling?" *This would include buying lottery tickets or scratch games, visiting a casino, bingo, sports or horse betting as well as online betting.*

o Usually at least once a month

o Once every 2-6 months

o Less often than every 6 months

o Never

b. The BOPS sample was stratified to ensure a sample of roughly 1400 each from AB, BC, MB, SK, ON, QC, and the Atlantic Provinces whereas the Canadian Community Health Survey (CCHS) was sampled proportional to the population in each province (the BOPS also included the three territories whereas the territories were excluded from the CCHS).

c. Online panelists have consistently been found to have higher levels of gambling, problem gambling, mental health problems, and substance use and abuse (even after controlling for demographics).

d. 9% of Canadians 15 and older did not use the Internet in 2018

2. However, the representativeness of the BOPS and FOPS can be significantly improved by matching the pattern of gambling behaviour in the BOPS to the gambling behaviour for the same sub-population in the CCHS 2018 Gambling Module (i.e., everyone 18 and older who gambled once/month or more in past year). We assume the CCHS sample *is representative* of Canadian gamblers due to its much more comprehensive population coverage (i.e., all Canadians 15+ potentially eligible); 58% response rate; and corrective population weighting.

3. BOPS matching to the CCHS is best done via iterative raking that creates weights for each of the BOPS participants so that the percentage of people in each category of the variables of interest match the percentage of people in these categories in the CCHS. The variables chosen for this matching process need to have the following characteristics:

a. They are measured in the exact same way in both the CCHS and BOPS (many of the questions in the two surveys were specifically aligned for this purpose).

b. They have a small range of different levels/categories, as the raking procedure requires identification of the percentage of responses in each level/category (this naturally occurs for nominal and most ordinal variables, but continuous interval-level variables would have to be divided into categories). (Note: a large number of different categories will produce less certain estimates at each level and a larger range of weights).

c. They address the known biases in the BOPS, i.e., the oversampling of heavy and problem gamblers; oversampling of provinces with lower populations; and higher rates of mental health problems and substance use/abuse.

d. They are important demographic variables. The demographic profile of Leger online panelists is designed to be representative of the Canadian adult population. However, matching BOPS to the CCHS on non-demographic variables (e.g., gambling involvement) can potentially distort

this demographic pattern. In addition, people who gamble once/month or more have a somewhat different demographic profile than the general population. Thus, it is important to include basic demographic variables in the raking, so the final demographic profile of the BOPS also matches the CCHS 18+ gambling once/month profile.

e. They do not have a large number of missing values, as a weight cannot be calculated.

f. They are not highly correlated with each other. (For the eligible variables listed below the only correlations of note were: #GamblingTypes has a correlation of .291 with PGSI category and Educational Attainment had a correlation of .335 with Household Income.)

4. A total of 6 variables were ultimately identified as the best candidates for matching. There are diminishing returns for including more than 5 variables because this will often produce anomalously high weights which increases the standard error of the mean (SEM)[1]. The variables chosen are as follows:

• Improved PGSI categories (0=Non-Problem; 1-4=At-Risk; 5+=Problem)

• Number of types of gambling engaged in

• Provincial Size

• Gender

• Educational Attainment

• Age Group

Table 1 provides a comprehensive listing of eligible variables as well as their frequency distributions in both the CCHS 18+ once/month gamblers and the BOPS.

Table 1. Frequency Distributions for Past Year Monthly or More Adult (18+) Gamblers in the CCHS versus BOPS

Improved PGSI Categories	CCHS 2018 Weighted	CCHS 2018	BOPS Code B_PGSIimproved Categories	BOPS Unweighted Frequency	BOPS Valid Percent

	Frequency	Valid Percent			
Non-Problem Gambler (0)	8790064	90.7	0	6556	65.2
At Risk Gambler (1-4)	745750	7.7	1	2001	19.9
Problem Gambler (5+)	152608	1.6	2	1497	14.9
Total	9688422	100.0		10054	100.0
Number of Types of Gambling Engaged In	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code B_GYTYPES	BOPS Unweighted Frequency	BOPS Valid Percent
0 (Non-Gamblers)	0	0	0	145	1.4
1.00	3328713	34.4	1	1807	17.7
2.00	3665844	37.8	2	3383	33.2
3.00	1606615	16.6	3	2360	23.1
4.00	750523	7.7	4	1245	12.2
5.00	222504	2.3	5	528	5.2
6.00	68299	.7	6	214	2.1
7.00	25927	.3	7	131	1.3
8.00	19998	.2	8	386	3.8
Total	9688422	100.0		10199	100.0
Provincial Size	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code B_Province	BOPS Unweighted Frequency	BOPS Valid Percent
ALBERTA	1096178	11.3	1	1544	15.1
BRITISH COLUMBIA	1134109	11.7	2	1421	13.9
MANITOBA	338651	3.5	3	1422	13.9
NEW BRUNSWICK	277078	2.9	4	443	4.3
NEWFOUNDLAND & LABRADOR	200395	2.1	5	322	3.2
NOVA SCOTIA	274914	2.8	6	629	6.2

	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code	BOPS Unweighted Frequency	BOPS Valid Percent
NWT	0	0	7	22	0.2
Nunavut	0	0	8	11	0.1
ONTARIO	3573247	36.9	9	1421	13.9
PRINCE EDWARD ISLAND	48757	.5	10	86	0.8
QUEBEC	2421832	25.0	11	1430	14.0
SASKATCHEWAN	323261	3.3	12	1420	13.9

	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code	BOPS Unweighted Frequency	BOPS Valid Percent
Yukon	0	0	13	28	0.3
Total	9688422	100.0		10199	100.0
Gender	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code B_d1	BOPS Unweighted Frequency	BOPS Valid Percent
Male	5454765	56.3	1	4763	46.7
Female	4233657	43.7	2	5429	53.2
Other	0	0	3	7	.1
Total	9688422	100.0		10199	100.0
Educational Attainment	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code B_d6a	BOPS Unweighted Frequency	BOPS Valid Percent
< Secondary School	1112780	11.7	1	748	7.5
Secondary School	2417594	25.4	2	1692	16.9
Post-Secondary Certificate/Diploma < Bachelor's	3990477	42.0	3	4576	45.7
Bachelor's Degree	1541575	16.2	4	2036	20.3
ploma/Degree > Bachelor's	445289	4.7	5	957	9.6
Total	9507716	100.0		10009	100.0
Age Group	CCHS 2018 Weighted Frequency	CCHS 2018	BOPS Code B2aa	BOPS Unweighted Frequency	BOPS Valid Percent

		Valid Percent			
18-29	976132	10.1	1	935	9.6
30-49	3043871	31.4	2	2993	30.7
50-64	3358099	34.7	3	3419	35.0
65+	2310321	23.8	4	2409	24.7
Total	9688422	100.0		9756	100.0
Household Income (too many missing values and correlated with Income)	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code B_d8a	BOPS Unweighted Frequency	BOPS Valid Percent
<$20K	445087	4.6	1	699	7.9
20K-39.9K	1212554	12.5	2	1505	16.9
40K-59.9K	1527352	15.8	3	1699	19.1
60K-79.9K	1350434	13.9	4	1432	16.1
80K-99.9K	1158875	12.0	5	1227	13.8
100K-149.9K	1947739	20.1	6 ($100K-139.9K)	1436	16.2
150K+	2046381	21.1	7 ($140K+)	892	10.0
Total	9688422	100.0		8890	100.0
Race/Ethnicity Groups (too many categories)	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code B_d12	BOPS Unweighted Frequency	BOPS Valid Percent
Indigenous North American	416851	4.4		589	5.8
European	7396575	77.4		7955	78.0
South Asian	297597	3.1		176	1.7
South-East Asian	369213	3.9		159	1.6
Chinese	265795	2.8		254	2.5
African	228144	2.4		191	1.9

Latin American	132982	1.4		118	1.2
Arab	57494	.6		78	.8
Other	244127	2.6		533	5.2
Multiple	151162	1.6			
Total	9559941	100.0			

Type of Drinker	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code B_c2a	BOPS Unweighted Frequency	BOPS Valid Percent
Regular drinker (1/mo – every day)	6767453	70.2	2-7	7297	71.6
Occasional drinker (< 1/mo)	1487398	15.4	1	1696	16.6
rink in the last 12 months	1389085	14.4	0	1206	11.8
Total	9643936	100.0		10199	100.0
Type of Smoker (questions not equivalent)[3]	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code B_c1a	BOPS Unweighted Frequency	BOPS Valid Percent
Daily	1667873	17.2		1993	19.5
Occasionally	522938	5.4		1635	16.1
Not at all	7496724	77.4		6591	64.4
Total	9687535	100.0		10199	100.0
Has a Mood Disorder (questions not equivalent)[4]	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code	BOPS Unweighted Frequency	BOPS Valid Percent
Yes	851679	8.8		1564	15.3
No	8827383	91.2		8365	84.7
Total	9679063	100.0		10199	100.0
Has an Anxiety Disorder (questions not equivalent)[5]	CCHS 2018 Weighted Frequency	CCHS 2018 Valid Percent	BOPS Code	BOPS Unweighted Frequency	BOPS Valid Percent

	Yes	815271	8.4		2017	19.8
	No	8867138	91.6		8182	80.2
	Total	9682409	100.0		10199	100.0

5. Because of missing values in BOPS (primarily for age group and educational attainment) 5.4% of cases could not be assigned a weight. Rather than delete these cases from the analysis three additional raking procedures were conducted to determine the raking weight: a) without Age Group, b) without Educational Attainment, and c) without Age Group and Educational Attainment. These raked weights were then transferred to the master CCHS_WEIGHT variable for the 5.4% of cases with missing weights.

6. Winsorizing weights. A consequence of assigning weights through raking is an increase in the variance of the sample which produces a decrease in the precision of the estimate (i.e., increase in 95% confidence intervals due to an increase in the standard error of the mean (SEM)). This imprecision increases as the variance of the weights increases. Reducing the range of weights through winsorization will usually reduce this variance but also has the potential of a) producing a sum of weights no longer equals the population size and b) producing an estimate (e.g., mean value) that deviates from the best estimate using un-winsorized weights. This 'bias' is most likely to occur when there is a relationship between the weights and the variables where estimates are needed. The ultimate goal of weight winsorizing is to produce the lowest combined bias and standard error, which is known as the mean squared error (MSE = SEM + bias). As there is no standard approach for winsorizing of weights, an investigation was undertaken to determine the MSE for various strategies and degrees of winsorization. In the end, the approach that appeared optimal was reducing the maximum weight to a value equivalent to the

average weight x 6. This resulted in 129 weights (1.3%) being winsorized. The final weighting

variable is identified as CCHS_WEIGHT in the dataset.