

Internet Poker Gambling Among University Students:
A Risky Endeavour or a Harmless Pastime?

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ABSTRACT

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Two recent phenomena have marked gambling on university campuses: an increase of Internet gambling and a surge of interest in poker (McComb & Hanson, 2009). Accompanying them, greater participation and problem gambling rates among university students have been observed (Griffiths & Barnes, 2008; Wood et al., 2007). This thesis aims to describe online poker gambling patterns and the associated risks among university students, and to determine if the Internet as a context is linked to a greater risk of problematic and excessive gambling engagement and related problems. It compares online to offline poker players. The sample (N=1,256) was drawn from the University Student Gambling Habit Survey 2008 (ENHJEU) conducted among undergraduate students in three universities and three affiliated schools in Montreal, Canada. The analyses revealed that compared to offline poker players online poker players were more likely to be male and born outside of Canada. Their gambling patterns also suggested greater gambling engagement. Online poker players were much more likely than offline poker players to be identified as problem gamblers and to report problems in various major life areas. Virtually no differences were found in co-occurring risky behaviours, such as smoking, alcohol and substance use between the two groups. The findings point to an increased risk for gambling and other problems associated with the Internet and poker gambling for university students. Discussed are potential reasons including the enabling nature of the Internet setting with respect to gambling, as well as the prevailing perception of poker as a skill-based gambling format.

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Introduction

The expanse of the Internet has influenced and reshaped many realms of modern life. Bringing transformations to our daily lives, work, and modes of socialization, the technological development, known as the Internet, has created new contexts in which we operate and exist virtually. It has allowed us to recreate ourselves and our behaviours in a parallel space where many of the physical boundaries of real life can be transcended.

Recreational pursuits, such as gambling, have been redefined by the introduction of the Internet as well. The resulting online gambling has been gaining popularity. With over 2,000 gambling websites currently offered worldwide (Online Casino City, n.d.), and a projected global yearly gross revenue for 2010 approaching US\$25 billion (Christiansen Capital Advisors, 2004), Internet gambling is one of the fastest growing and most promising investment sectors.

The parallel increase in the number of online gamblers, however, has raised some warning flags. Indeed, many researchers contend that Internet gambling contains the potential to increase both gambling prevalence rates, as well as exacerbate problems arising from excessive engagement in the activity (e.g. LaBrie et al., 2003).

This is especially the case for university students. This group has often been identified as particularly vulnerable to developing problems associated with gambling. Moreover, the birth of the social networking phenomenon attests to the fact that the cultural upbringing of today's youth as natives to the network society (Castells, 2001) is making them savvy

Internet users who often privilege online forms of communication and activities to offline ones. All this makes it important to examine the risk associated with youth Internet gambling.

Hence, the objective of this study is twofold: first, it aims to shed light on the Internet gambling patterns of university students; and second, it seeks to find out if Internet gambling is a riskier form of gambling than its offline counterpart, and as such related to higher rates of problem gambling and associated problems among this population.

Chapter 1. History, Functions, and Trends in Gambling

1.1. Gambling: Beginnings

Gambling is almost as old as humankind, going beyond social and geographical boundaries. Anthropologists cite accounts of prehistoric bone games involving two-sided dice, as well as drawings of sacred gambling practices from as early as the era of ancient Egypt. There are also reports of the Chinese, the Japanese, the Greeks, and the Romans playing games of skill and chance for recreation as early as 2300 B.C. (American Gaming Association, n.d.).

Evidence of the use of dice games, found in various mythologies around the world, attest to the inability to answer the question ‘How did gambling begin – as a game, or as a spiritual act?’. The use of dice games in ancient practices for consulting the gods blurred the boundary between the sacred and mere play. Thus, it is believed that the beginning of gambling goes back to both the human playful instinct, and the curiosity regarding the uncertain future, accompanied by attempts to provide answers from the providential force which ruled outcomes in life (Gabriel, 2003:335-6).

Throughout its history, however, gambling was not always favored. It was the Romans who, because of widespread practices of betting houses, wives, and children, outlawed it and proclaimed it as a vice and an immoral act. In the Middle Ages the Church continued the crusade against gambling because of its association with the gods of pagan religions. The seventeenth century brought Pascal, who by calculating the mathematical probability of the fall of the dice, severed the link between gambling and spirituality (Gabriel,

2003:338) and paved the way for what is today a commonplace socially acceptable recreational form.

1.2. Current Picture of Gambling

In North America, the fusion of the gambling practices of both Native Americans and European colonists shaped the culture of gambling (American Gaming Association, n.d.). Although gambling has been around for ages, it is only since the 1970s, when the first wave of legalization of casino gaming began in the USA (American Gaming Association, n.d.), that it has been marked by an unprecedented expansion (Marshall & Wynne, 2003). The growth of this industry is expected to continue in the future (Messerlian et al., 2005). In Canada alone, in the last decade net revenue from gambling has increased four-fold (Azmier, 2005; Statistique Canada, 2001). Nowadays, between 70% and 76% of Canadian adults report having gambled in the past year (Kairouz & Nadeau, 2011; Marshall & Wynne, 2003).

Although, for most of these people gambling remains an innocuous leisure activity, some of them develop considerable problems as a result of it. Problematic gambling behaviour entails negative consequences for not only the individual, but also his/her family, and community. Dire financial states, job loss, marital problems, and suicide are only few among the many potential adverse effects a problem gambler might face (Marshall & Wynne, 2003).

Unfortunately, the growth of the gambling industry has been paralleled by a growth in problem and pathological gambling rates. An increase in the latter has been observed from 1977 to 1993 (Shaffer et al., 1997). Currently, adult populations in Canada and the USA present problem gambling rates ranging between 1.5% and 2.8%, and pathological gambling rates ranging between 0.5% and 1.14% (Kairouz & Nadeau, 2011; Statistique Canada, 2001; Shaffer et al., 1999).

1.3. Gambling in Society

Despite the well-known and documented risks of negative consequences inherent in it, gambling nowadays is a popular activity. This makes one ask: “why is gambling so attractive in our society?”, and more specifically, “what does it do for individuals?”

Functions of gambling in society

To answer this question, we turn to a few theorists who provide various explanations. They tackle gambling from either psychological or sociological standpoints. Starting with the psychological mind frames underlying the behaviour, going through the roles it plays in society, and ending with the position of gambling regarding the current capitalistic system, these approaches help illuminate both the individual and structural factors at play.

Psychological perspectives on gambling

Gambling as a playful state of mind

First, the appeal of gambling is examined in light of Apter's (1991) reversal theory. It states that human everyday experience is a constant alternating between serious and playful psychological states. Thus, play is distinguished from real life through the "protective frame" within which it envelops an individual. This play-bound psychological bubble, and anything that happens within it, seems to be entirely separated and juxtaposed to real life, because unlike in the latter, in play actions are perceived as devoid of real consequences. The play state of mind creates a so-called "enchanted zone" (Apter, 1991:15), which is impermeable to daily problems, and this is one of the secrets of its appeal.

Moreover, the protective frame of play is defined as the latter of the following opposing psychological mind-frames: a *telic* (or serious) one and a *paratelic* (or playful) one. An important distinction between the two states is that the telic one is goal-directed, and one engages in the activity in order to achieve some final end. Conversely, in the paratelic one, an activity (a game) is undertaken for its own sake, with the outcome being less important. An individual in the playful paratelic state often favors immediate gratification, spontaneity, experimentation, and "disposition to fantasize and indulge in pretence and make-believe" (Apter, 1991:15), and follows the penchant for prolonging the pleasure derived from the activity. Last, but not least, unlike in the telic state where calm and relaxation are conducive to efficiency and achievement, and therefore actively

engendered, in the paratelic one an individual would seek high arousal, excitement, and passion in order to derive enjoyment from the game.

Therefore, gambling as a game and a form of play can be thought of as providing means for the creation of this protective frame or enchanted zone, which helps individuals escape from the domain of the serious into the domain of the fun.

Social significance of gambling

Gambling as a shortcut to a better life

This distinction, namely between serious and playful moments in life, is recognized by other theorists too. Callois (1961) emphasizes the inability of contemporary individuals to separate the two domains and commit entirely to one. While we live in a predominantly rational society, which is allegedly meritocratic, we are increasingly finding out that hard work and honest efforts could only get one so far (Downes et al., 2006:103). The realization of this 'broken promise' and the inability to effectively change one's status in life is what can be seen to prompt individuals to resort to and incorporate in their everyday activities less rational, and more playful attempts at improvement of their life chances, such as gambling.

Sociological perspectives on gambling

Gambling as risk-taking and fateful action

Furthermore, gambling is essentially a risk-taking activity. This characteristic, according to Goffman, makes it attractive, as gambling can go from start to finish "all in the same

breath of experience” (Goffman, 1969:156). Unlike everyday life, this distinct temporal encapsulation, which can vary from game to game, is what gives gambling most of its intensity (Downes et al., 2006:105).

Goffman finds another attractive feature of gambling in its consequentiality, which is “far more manageable than that of real life chance-taking” (Downes et al., 2006:105). The wagering of money is what makes gambling consequential. This action (the betting of something of value) is also what contributes to the creation and maintenance of a serious attitude toward the game in players. Only by taking the game seriously, and thus abiding by its rules, is a game to be enjoyed to the full. Only this way can the outcome become fateful for the players.

In the sociology of Goffman an insight might be found as well into why some people become so involved in gambling as to lose control over their actions. He argues that the more serious the play, the more fateful the outcome becomes for the player. Most people increasingly strive towards management of risk and reducing of uncertainty in everyday life. With minimization of risk, however, the opportunities for fateful action also diminish. Gambling in such a milieu then, may be sought as a sort of action which awards the opportunity of risk, serious play, and fatefulness. It possesses a similar allure to that of spectator sports which “offer the promise of excitement, contingency, and proximity to ‘real action’ performers” (Downes et al., 2006:106). Indeed, Goffman goes on, gambling as an action is where character is ‘gained’ or ‘lost’ by the players. In a society which has curtailed opportunities for heroism and action, gambling remains an arena which affords

such chance. This view also helps explain why gambling is inherently more appealing to men than to women, because for men it might constitute an arena suitable for the display of valor.

Gambling as a strain and an anti-thesis to rationality

Another sociological perspective, developed by Devereux, views gambling both as a strain and as an opposition to the rationality of capitalistic society (Downes et al., 2006:110-116). On one hand, on a cognitive level, gambling is experienced as strain. More specifically, it is by the resolution of the strain or tension occurring in the process of staking something of value that gamblers find pleasure.

On the other hand, the emotional experience which gambling awards is also in direct relation to the current capitalistic social system. Namely, it is in violation of its basic principles. Because gambling rests on chance, which is a non-ethical way of reward distribution, and capitalism is predicated on the rational principle that only work and merit ensure rewards, gambling is capitalism's anti-thesis. As a result, gambling is denigrated to an immoral activity, but its survival and current popularity also attest to its functional role as an arena where anti-capitalistic values can be attacked safely. Acting as a safety valve, gambling allows for the harmless expression of protests against values inherent in capitalism, such as budgetary constraints, rationality, certain protestant ethics, etc. It also affords a more controlled way of thrill-seeking and risk-taking, a safer way of channeling competitiveness and aggression, and a setting in which problem-solving skills can be trained or engaged. Last, gambling allows for mystery and superstition to exist

outside of the realms of religion, and in direct opposition to the mainstream rationalistic culture.

To sum up, the functions of gambling in society include 1) the provision of a psychological escape from the seriousness of real life, 2) the enactment of control over one's future and the attempt to improve one's station in life through less orthodox and less painstaking means, 3) a temporally distinct instance of consequential risk-taking, which allows for both the experience of fateful action, and the display of character by players, 4) an arena for the tension and resolution of emotional strain, and 5) an anti-thesis for capitalism, and a safety valve for the attacking of capitalistic values and rationality. All in all, despite its denouncement as an immoral and risk-laden behaviour, sociological explanations of gambling show that it exists because it satisfies certain psychological, social, and cultural needs of our society.

Yet, for the purposes of analysis in this study, some alternative definitions need to be examined as well, so that gambling is approached from more than one perspective. Such definitions will be presented in the following section.

1.4. Gambling: Definition of Terms

Despite numerous attempts to define it, there is still a lack of consensus on what gambling is. Definitions of gambling can be thought of as positioned on a continuum. On one end of the continuum, gambling as a social phenomenon is a recreational behaviour. Yet, it is also a health-related risk behaviour, which when excessive, could turn

problematic. This orientation toward gambling, characterized by attempts to identify individuals for whom the behaviour can become pathological, stands at the other end of the continuum. Therefore, operational definitions of gambling, such as those used in this study, usually attempt to distinguish between social and problem gamblers and to locate the threshold between harmless and dangerous engagement in the behaviour.

Nevertheless, problem gambling remains hard to pinpoint, and definitions differ depending on which of its symptoms and behavioural manifestations (i.e. excessive spending, excessive time gambling, etc.) they reflect.

Perhaps one of the best known and most used definitions of gambling comes from Ladouceur (2004). For him gambling is determined by three criteria: 1) the individual must wager money or something of value, 2) once placed the bet cannot be retracted, and 3) the basis of the game is that it relies on chance.

This definition draws attention to two key issues. First, gambling does not always involve the betting of actual money. Often, especially in the context of the Internet where demo-sites abound, individuals invest their time instead of money. In fact, problem gambling has been linked to not only excessive financial spending, but also to extreme temporal investments (Welte et al., 2004). Second, gambling relates to games that present outcomes beyond one's control, or games that rely on chance. Yet, it is often argued that at least some gambling types, such as poker, depend on the skill of the player (Croson et al., 2008; Fiedler & Rock, 2009). Accordingly, gamblers are lead by their beliefs that

their skills or even their luck can change the game's result to their advantage. This aspect of gamblers' perception is often central to their excessive problematic engagement with gambling (Ladouceur, 2004).

Much of the literature on gambling has focused on finding the threshold beyond which problem gambling begins. Various instruments have been devised to measure excessive engagement, and while some have been intended for the clinical setting, others were meant to screen and determine the possible risk for problem gambling in the general population.

Severity of gambling

The term *pathological gambling* has been widely used in the research on the topic, which underlines the need for a precise definition. There is a clear distinction between definitions used in clinical practice and in epidemiological studies. In the first case, pathological gamblers are identified through a diagnostic measure. In the second case, a screening measure categorizes them in terms of their susceptibility to gambling problems. Accordingly, it is usually the DSM-IV (a psychiatric manual) which is used to identify clinical cases of pathological gamblers, and screening instruments such as the South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987), DSM-IV criteria adapted to surveys (Fisher, 1996), and the Canadian Problem Gambling Index (CPGI) (Ferris & Wynne, 2001), which are used to identify problem and pathological gamblers in the general population.

Accordingly, in the clinical context *pathological gambling* refers to a persistent and recurring gambling behaviour signified by preoccupation with gambling and obtaining money to do so, loss of control over one's time and money expenditure on gambling, and inability to stop gambling even in the face of large losses. Being a psychiatric diagnosis, it is only applied to those individuals who satisfy the diagnostic criteria in the DSM-IV (American Psychiatric Association, 2000).

Alternatively, in the epidemiological context, *pathological gambling* is subsumed into the broader umbrella category of *problem gambling*. Thus, for instance, the CPGI diagnostic instrument, which measures risk of developing gambling problems and of exhibiting pathological behaviour, organizes individuals into four groups, the highest on the severity continuum among which is "problem gambling".

The term *problem gambling* is used to designate "those who have experienced adverse consequences from their gambling, and may have lost control of their behaviour. Involvement in gambling can be at any level, but is likely to be heavy. This group is more likely to endorse 'the cognitive distortion items'" (Ferris & Wynne, 2001:30). In addition, problem gambling, being a more inclusive term, applies to all patterns of gambling behaviour which may compromise, disrupt or damage family, personal and/or vocational pursuits. Problem gambling includes, but is not limited to compulsive or pathological gambling (Lesieur & Rosenthal, 1991).

Despite the overall inability to arrive at a precise and a uniform definition, for the purposes of analysis of this study it is this more inclusive term of *problem gambling* which will be used to denote problematic and pathological gambling behaviour among university students, as measured by the “problem gambling” category of the CPGI (for details, see Methodology section).

Gambling venues

Gambling venue, of which there are two main types, refers to the location in which the act of gambling takes place. In this thesis, two main types of venues are examined.

Land-based venue (also referred to as bricks-and-mortar, offline, or non-Internet venue or environment) is a gambling site which requires the physical presence of a gambler, demands some form of identification by the player, and is usually subject to government regulation.

Online venue (also referred to as gambling website, virtual casino or e-gambling site) is a venue in which, by contrast, the gambling is done privately through a proxy, from a distance (e.g. from one’s own home), and where, despite attempts to enforce identification, a degree of virtual anonymity is preserved for the player. Online venues, for the most part, are marked by loose regulation (Girwood, 2002). The online venue is where Internet gambling takes place.

Internet gambling

Internet, online, or e-gambling according to Carter (as cited in Woodruff & Gregory, 2005:3) is “when the betting, playing and collecting of money is done entirely through the Internet”. Internet or online casinos are websites where individuals can play for money the same type of games they would play in brick-and-mortar casinos. Winnings and losses resulting from such type of play are managed by either depositing of money into players’ bank accounts, or charging players’ credit cards.

1.5. University Students and Gambling

Research conducted in the past two decades has shown that the vast majority of students gamble. One of the main reasons for which we can now speak of a phenomenon called “student gambling” relates to the fact that gambling has become a common, socially acceptable recreational activity (Shaffer & Kidman, 2003; Williams et al., 2006). Another is that, as a result of the introduction of Internet gambling, “placing a bet” is now widely accessible to everyone with an Internet connection.

Today’s students gamble more than their predecessors. This is hardly surprising. Growing in a culture, where gambling is mostly legalized, being flooded by promotional media materials depicting a more glamorous side of the behaviour, having access to a wide range of gambling venues, and in many cases, being legally allowed to gamble before they are legally allowed to drink (Winters et al., 1998), many university students seem to embrace gambling, both online and offline.

Curiously enough, when gambling offline these young people often gamble less than adults. Their past year gambling rates vary between 42% and 88% (LaBrie et al., 2003; Winters et al., 1998), which on average is less than rates found in the general population, where the numbers vary between 70% and 85% (Kairouz & Nadeau, 2011; Shaffer & Korn, 2002). However, online gambling tells a different story. Estimating that 23% of students have gambled online in their lifetime, in a recent study Petry and Weinstock (2007) conclude that this prevalence is much higher than that found in the general population, of whom only 6% (Griffiths et al., 2009b) have ever gambled on the Internet.

More importantly, student gambling seems to be inherently more risky with respect to pathological gambling behaviour. In some cases up to 7.5% of university students fit the diagnosis of problem gamblers (Wickwire et al., 2008), and another 5.2% - that of pathological ones (Engwall et al., 2004). Other studies, such as the meta-analysis done by Shaffer et al. (1999), estimate the rate of problem gambling among students to be 3.9% and that of pathological gambling to 1.6%. Although not always the case, those rates are often a few times higher than those found in the adult population.

Indeed, university students are considered a vulnerable population when it comes to gambling (Shaffer et al., 2004). This is even truer when Internet gambling is concerned (Griffiths & Barnes, 2008). The explanation which some researchers (e.g. Lesieur et al., 1991) offer for this phenomenon is that being a transitional period of one's life, college years are associated with higher frequency of risk-taking behaviours, such as instances of substance abuse and gambling. This assumption finds support in developmental

psychologist Jeffrey Arnett's (2000, 2005) studies on young people. He argues that university students, or individuals between 18 and 25 years of age, are a unique group with respect to risk. Calling them "emerging adults", because of their impending plunge into adulthood, he explains that they are socially and developmentally situated on the border between adolescence and adulthood. This liminal period, however, is marked by a newly-found lack of customary parental controls, increased risk-taking, self-exploration, and instability. It comes as no great surprise then, that the behavioural patterns of this age group have often been associated with binge drinking, risky sexual conduct, drug use, and excessive game play patterns (Chassin et al. 2002; Tucker et al., 2005; Lesieur et al., 1991).

It should be noted, though, that it is still unclear whether problems arising as a result of student gambling are of a lasting nature. While some scholars (Blinn-Pike et al., 2007) speculate that due to the transitional character of this developmental stage disordered gambling rates are likely to decrease with adulthood, others (Burge et al., 2004; Griffiths, 1998) contend that problem gamblers are often those introduced to gambling at an early age (i.e. before 21). Research findings highlight the possibility that early onset of gambling behaviour may be followed by high-stakes gambling and risky behaviours later in life, as well as by future gambling problems (Winters et al., 1995; Winters et al., 1998). Winters and colleagues (1998) remind us that from adolescence to adulthood gamblers often shift their gambling preferences. For instance, in a study (Winters et al., 1995) on adolescents it was found that they had changed their gambling preferences from informal games with friends to more high-stakes gambling. Such shifts, along with the

belief that early involvement in addictive behaviours may pave the way for future addictions in adult years (U.S. Department of Health and Human Services, 1994), point to the risks which might be involved in early onset of gambling. The cross sectional nature of most studies makes it difficult to predict whether gambling problems would persist or decrease with adulthood. Whatever the case, it is imperative that more thorough attention is paid to student gambling and its online version in particular. Despite the arguable transient nature of students' excessive engagement with it, the potential threat of adverse consequences, both during university studies and later in life, which gambling and especially Internet gambling present, cannot be ignored.

Last but not least, there are a number of external or ecological factors which influence university students' (Internet) gambling. Two key ones relate to the notion of greater accessibility which the Internet introduces to gambling (Griffiths, 2003), (as discussed further in the thesis), and the marketing attention which students are subjected to by online gambling websites (Conrad, 2008). Indeed, gambling advertising and media coverage of tournaments are important factors in fuelling students' interest in the behaviour. Lured by the attractive and glamorous image of the professional gambler often portrayed in ads some individuals seek to virtually *become* that gambler. The media has been shown to have a powerful effect upon people's attitudes and behaviours (De Pelsmacker et al., 2002). Glamorized media portrayals and advertisements of gambling can contribute to a perception of the latter as a socially acceptable recreational activity (Stinchfield & Winters, 1998), and influence gamblers' behaviours. In a study of 229 undergraduate students enrolled in a large US university, Lee and colleagues (2008)

found that these influences may be both positive and negative. Exposure to gambling ads increased students' positive attitudes to gambling advertising and shows, which in turn led to gambling intentions. Alternatively, exposure to problem gambling awareness campaigns was linked to negative attitudes toward gambling advertising.

Indeed, many young people admit that promotional gambling messages prompt them to engage in the behaviour (Derevensky et al., 2010). They report being bombarded with gambling advertising materials, which are especially hard to ignore when they appear online as pop-up messages. Gambling ads are found to maintain established gambling habits, and affect primarily problem gamblers, rather than attract non-gamblers (Derevensky et al., 2010). A similar finding is reported in a qualitative study among Swedish adult problem gamblers (Binde, 2009), who dismiss gambling advertising as a main cause for their problematic engagement, yet admit to ads triggering impulses to gamble, and thus deterring them from quitting the behaviour.

Chapter 2. Theoretical Background: Towards a Lifestyle Model of Online Gambling

Health lifestyles

Gambling can be thought of as a social practice enacted within a specific collective lifestyle or as a health-related lifestyle. Such a conceptualization aims to shed light on the question “to what extent is (online) gambling an individually-determined act, and to what extent is it shaped by its attendant structural variables?”

The concept of ‘lifestyles’ can be traced back to Weber (1922/1978), who used it to denote the particular modes of consumption and behaviour of status groups, which determine the latter’s stratification. Status groups are composed of people who share similar class and status backgrounds, and unlike classes - whose existence is embedded solely in the economic bases of society - arise from both favourable class situations and their social expression, namely specific patterns of life. Lifestyles, then, have by definition a collective character. That is, they are not individual attributes, but rather communal modes of behaviour.

Life chances and life choices

Lifestyles for Weber comprise two basic components: life choices and life chances (see Online gambling model in Appendix A). Life choices represent the choices which people face in their selection of modes of behaviour, whereas life chances refer to the probability of finding satisfaction of their wants, needs and interests, or realizing these choices. Life choices are an expression of agency, whereas life chances can be viewed as “a form of structure” (Cockerham, 2005).

What is understood by *agency* and *structure*? According to Emirbayer and Mische (1998), *agency* is a process in which individuals selectively remember and re-enact past cognitive or behavioural patterns, while imagining and evaluating potential future outcomes, and thus choose a specific course of action. By *structure* we understand schemas, such as societal rules or appropriate ways of action, and/or resources, such as innate (e.g. physical strength) or manufactured means, which constrain or increase an individual's power to act or influence action. It is through social action that structures are reproduced (Sewell, 1992). In addition, structure(s) can be both enabling and constraining (Giddens, 1984). That is, structural conditions provide both the array of options and resources necessary for the realization of individual goals, as well as - by their finiteness - limit what is possible for a member of society.

So, how do lifestyles arise in view of this relationship? Structural conditions play a vital role in the adoption of particular lifestyles, insofar as "the possibility of a style of life expected for members of a status group is usually conditioned economically" (Weber, 1946/1958: 190). Lifestyles originate from, and also uphold structure, through the maintenance of particular conventions or social practices, which, in turn, are often solidified into structural elements. These structural elements subsequently act upon individuals. In light of this, it is clear how life choices, as expressed in social practices, are both constrained by life chances and help maintain the latter.

The habitus

However, human social behaviour is too complex, to be predicted or at least explained by referring solely to various sets of social rules. After all, Weber argued that “sociology is about understanding of structures (‘certain facts and events’), which make a determinate behaviour *regularly probable*” (Dahrendorf, 1979:65, emphasis added), but not certain. And to account for the element of contingency in individual behaviour, an explanation is needed how the latter deviates from the expected regularity, since the interplay of life choices and life chances, resulting in collective lifestyles, is invariably mediated by individual attributes. Namely, the constraint of structure and the individual capacity for choice and agency merge in the processing site of the *habitus*. The term is associated with the writings of Bourdieu (1990b:53), and is defined as

systems of durable, transposable *dispositions*, structured structures, predisposed to operate as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary to attain them.

To put it more simply, and as its name suggests, the habitus refers to habitual, mostly socially appropriate ways of acting. It is where the so-called individual *dispositions to act* arise. A disposition, according to Wittgenstein (as cited in Bouveresse, 1999:61), is comprised of thought patterns and inclinations, or of “something always there from which behaviour follows”. The habitus, then, constitutes a kind of cognitive map, that helps interpret and evaluate a person’s options (life chances), and which advises on a suitable course of action (life choice).

The habitus combines in itself both structural influences and individual inclinations and preferences. Individuals would filter their desires, interpretations, and perceptions of their social world through the sieve of the resources and constraints imposed by their structural environment, in order to generate categories of the probable. It is then these options that would suggest the proper behaviour to be followed, which for many frequently-occurring situations becomes habitual or even intuitive.

Despite the fact that individual behaviour follows from the habitus, the latter is not a threat to the spontaneity of human action. For Bourdieu, the habitus does not preclude behavioural innovation, because “action is not the result of an external constraint, but of a disposition whose seat is in the agent himself” (Bouveresse, 1999:47). It is these dispositions that respond to new experiences, which vary from time to time and place to place. They create within actors a “feel of the game (*sens du jeu*) [...] which enables an infinite number of moves to be made, adapted to the infinite number of possible situations which no rule, however complex, can foresee” (Bourdieu, 1990a:9). Thus, the habitus is very much open to innovation, which comes as a result of adaptation to new perceptions and experiences. This view of the habitus would also explain differences in individual behaviour in themselves, and as a response to different contexts.

Theory of collective lifestyles

As part of the habitus processes, the internalization of class conditions – which are no less than the Weberian life chances – would not only map out what is possible for members of a particular group, but also produce among them similar perceptions with

respect to their social universes. Thus, members of the same class would find themselves sharing the same habitus, which, in turn, would create similarities in action and lifestyle as well (Bourdieu, 1984:170-2). Despite individual differences, the similarities within classes would exceed the similarities between them. A member of a class would be much more likely to experience the same structural constraints, avail him/herself of the same resources, perceive what is possible in the same way, and adopt the same courses of action as another member of that same class, than a member of a different class. It is in the habitus, then, that collective lifestyles are constructed and sustained.

To illustrate, university students as a group share a lifestyle. It is one which involves extensive familiarity with computers and the Internet, and as such adds to their vulnerability with regard to online gambling. It is hard to overlook the embeddedness of present-day university students' lives into the virtual. Often dubbed "the Internet generation", they are being raised in a social structure favoring social networking and universal connectedness (Castells, 2001). Just as their predecessors developed an identity through their ties to a particular locale and the social features of that locale, so today's youth often see themselves as part of a global (e-)culture, unfettered by geographical boundaries. The space the Internet creates is part and parcel of reality, because online activities are nowadays integral part of the daily life of many young people. What's more, university life in our culture is progressively and almost entirely predicated upon Internet use. As a result, students' lifestyle involves spending increasing amounts of time perched in front of the screen, studying, but also engaging in recreational activities, such as gambling.

Social conditions

Collective lifestyle is defined as including “not just [...] the behaviours that people engage in, but rather, [...] the relationship between people’s social conditions and their social practices” (Frohlich et al., 2001:785). Social conditions are all those factors which define an individual’s social position vis-à-vis others in society. As such, social conditions translate into, or rather follow from what Weber referred to as life chances, and are representations of structure. In the case of online gambling, social conditions could sometimes increase likelihood to engage in gambling on the Internet, as well as facilitate potential development of problem gambling behaviour. Social conditions in this theory could loosely be equated with socio-demographic indicators.

Socio-demographic indicators

Online gambling and online problem gambling have several socio-demographic factors which are considered stable predictors. In a study of Internet gamblers among the general population, Woodruff and Gregory (2005) find that education, younger age, and ‘single’ civil status are positively correlated to gambling online. Those findings are corroborated by the British Gambling Prevalence Survey 2007 (Griffiths et al., 2009a), the results of which show significant difference in socio-demographic characteristics of Internet and non-Internet gamblers. In addition, Internet gamblers among students are found to have lower grade point averages, higher incomes and to be more likely to live on- rather than off-campus (Petry & Weinstock, 2007). Finally, males report a significantly higher prevalence of online gambling than females, and online gamblers, in turn, report higher

rates of problem gambling than non-Internet gamblers (Griffiths et al., 2009a). In fact, gender may be one of the main socio-demographic predictors of gambling.

Gender

Gender differences emerge both in the way and frequency with which gambling occurs and gamblers choose games, and in the way gamblers relate to the Internet. It has been widely observed that among university students men are more likely than women to gamble frequently and to experience gambling-related problems (Shaffer & Hall 1996; Slutske et al., 2003; Winters et al., 2002). Men are also more prone to Internet addiction as well (Kandell, 1998; Young, 1998). Members of this group tend to give preference and seek out activities or content online which allow for the expression of domination and control (i.e. over the outcome of the game) (Young, 1998). For instance, in a study on Internet addiction interactive online games which involved violence were found to attract more men than women (Young, 1998). In terms of interactivity and control, online gambling resembles online games, so it's not surprising that it is a pastime that men endorse in greater numbers than women.

Furthermore, when gambling offline, college men students, found to be inherently more competitive than women (Lynn, 1993), prefer to test themselves in games of skill, such as sports betting, horse racing, and pool (Adebayo, 1998), whereas their female counterparts often choose more passive gambling activities, such as bingo, lottery tickets, and scratch-off tickets (Burger et al., 2006). This gender-difference in game preference manifests itself even among an earlier age group (12-17 years old) (Jacobs, 2000). Given that

sometimes problem gamblers are those introduced to gambling at a relatively early age (i.e. before the age of 21) (Burge et al., 2004; Griffiths, 1998), and that these gender-specific game preferences stay relatively stable throughout a young person's life, it is important to explore them, especially now that the Internet is factored into gambling preferences and practices.

Social practices

The other component of collective lifestyles, namely social practices, concerns all actions and interactions an individual undertakes in a social milieu. As such, social practices follow from the Weberian life choices, because they include the notion of individual choice, and are viewed as a conductor of agency. However, social practices are closely related to structure as well (Ortner, 1989), insofar as they emerge from it, reproduce and/or transform it through the enactment of particular collective lifestyles, which can, in turn, affect individuals' life chances. Therefore, social practices embody the interplay between life chances and life choices, or structure and agency. In this study, the social practices of interest are all the behaviours, such as gambling, substance use, alcohol consumption, etc., which are related to particular health outcomes (e.g. problem gambling).

Co-occurring social practices: Smoking, alcohol and illicit substance use

It has been repeatedly found that gambling does not occur in vacuum, but rather in conjunction with other potentially addictive behaviours (e.g. Barnes et al., 2009; Griffiths et al., 2009a; Griffiths & Sutherland, 1998). This co-occurrence is generally explained by

the existence of common-risk factors (Jessor, 1993). Alcohol consumption and illicit substance use are often correlated with gambling. Pathological gamblers report higher rates of excessive alcohol use and alcohol dependence, as well as increased likelihood to use illegal substances, as compared to social gamblers and non-gamblers (Arseneault et al., 2001). Smoking and alcohol consumption are found to be associated with both gambling and Internet gambling. However, whereas alcohol use is positively correlated with online gambling, smoking is negatively correlated with it (Griffiths et al., 2009a). Hence, online gamblers are likely to drink more, smoke less, and if manifesting problematic gambling behaviour, be more prone to illicit substance use, than offline gamblers.

Other correlates

College Internet gambling habits have been linked to other variables, such as psychological health and personality. Due to its solitary nature, gambling on the Internet has been associated with risk of poor mental health (Petry & Weinstock, 2007). Pathological online gamblers, in particular, face a greater likelihood of developing psychiatric disorders and poor levels of general well-being, and this likelihood increases with frequency of play (Petry & Weinstock, 2007). Yet, no such difference seems to occur with respect to general health when online and offline gamblers are compared (Griffiths et al., 2009a). In addition, personality features and inclinations, such as tendency to seek out and try new things, and a habit of spending at least two hours daily online could also be used to predict adoption of Internet gambling (Woodruff & Gregory, 2005).

Regardless of the social practices enacted, however, it is important to bear in mind that all social practices take place in social and physical milieus. Risky health-related behaviour results from the interaction of individual factors and social and physical contextual factors, which influence actors through their enabling or constraining structural properties. Which brings the focus to the context.

The context

Gambling in context

As a sociological fact, (online) gambling is an individual act performed in a certain social context. Any context, broadly understood as a social situation, however, appears as part of a larger social system. Moreover, from social epidemiological perspective (online) gambling has come to be considered part of health-related risky behaviours, such as alcohol consumption, substance use, etc., since (online) gambling habits are one of the many daily lifestyle practices which involve individual choices resulting in particular health outcomes. This theoretical model attempts to conceptualize (online) gambling from this double standpoint, namely, as a sociologically meaningful, health-related behaviour. Such a conceptualization would, among other things, help reveal the ways in which the context influences behaviour.

In seeking to understand the appeal of the Internet as a space where gambling occurs, it is useful to theorize it as a mediating context different from other mediating contexts. A context can be seen as exhibiting features which impact upon actors on a structural level. That is, a context is bound by rules, which actors abide by, and offers resources, which

actors could employ in the pursuit of their goals and activities. As such, a context is part of structure, or it is a mini-structure, and it is both constraining and enabling (Giddens, 1984).

Certainly, when examining human behaviour in physical and social settings, the importance of the context is crucial. Social interaction and both verbal and non-verbal behaviour cannot be understood outside of the milieu in which they occur (Goffman, 1981). Because social encounters are opportunities to show character and build identity (Goffman, 1967), to be successful, participants invariably take into account the features of the social and physical environment within which the interaction takes place. Individuals assign subjective meaning to social events guided by principles of social organization, which Goffman calls 'frames' (1974). Accordingly, he defines context as "immediately available events which are compatible with one frame understanding and incompatible with others" (Goffman, 1974:441).

In social epidemiology, 'context' is defined as the role "group or macro-level variables [play] in the determination of disease in populations" (Frohlich et al., 2001:777). This determination is a result of the context influencing lifestyle through social practices. Yet, social practices and the context partake in a dialectical relationship. Social practices both reinforce and emerge from the context (Frohlich et al., 2001), and the context enables or constrains the emergence of particular practices, and, by virtue of it being part of structure (Lane, 1970), is also influenced by the latter. Therefore, the context and social practices are reflected into each other, because, according to Ortner (1989), the context as

a structural entity is reproduced by people's actions, and people's actions, in turn, are informed by what a context makes possible, through the social rules it imposes, and the opportunities it provides.

Hence, because a social practice reflects the constraints and options provided by its context, to examine it would be to shed light on the structural properties of that context. Moreover, any analyses of contexts would be concerned with how groups are affected by these mini-structures, which would not only take into consideration the contextual embeddedness of social practices, but also move away from the individualisation of risk-taking behaviours (Frohlich et al., 2001:785).

Collective lifestyles, then, can be understood as an expression of the context as well. Yet, lifestyles also feed into structure, insofar as their reproduction leads to the upholding of customs and institutions, which are then "embodied by people in the sense of a framework or disposition" (Frohlich et al., 2001:784). It is this disposition-like quality of actors' relation to the context which directs attention to the experiential nature of the context.

Indeed, in other literature, the term 'context', alternatively referred to as situation or frame, is usually two-dimensionally defined (Bateson, 1972; Tannen, 1993). One is the physical setting of an interaction, encounter or an event. The other is the cognitive aspect determining the whole array of norms, rules, beliefs, and values, which govern both individual behaviour and its interpretation. This latter aspect also includes the conformity

to specific assumptions and expectations concerning social participants' actions. As such, it can broadly be seen as the culture of a context (Jacobson, 1996). Therefore, in order to apprehend a context, both its physical and cultural/cognitive features must be examined.

The role of the context in understanding risk behaviours has already been shown to be significant in studies of other risk behaviours. For instance, in seeking to identify the determinants of alcohol consumption among university students Demers and colleagues (2002) and Kairouz and Adlaf (2003) show that physical and social environmental factors, such as place of consumption, the number of people present, the day of the week, and so on, explain half of the variation in alcohol consumption. Similarly, Kairouz and Greenfield (2007) argue that contextual factors are crucial to the understanding of risk behaviours, such as gambling, as they permit the capturing of reality at its two (individual and contextual) levels, the interaction between which reflects the production of the risky behaviour in question.

To sum up, when individuals act in a context, their behaviour is reflective of their life chances and their particular social conditions. These social conditions determine a certain behavioural orientation, through enabling or precluding certain social practices. Because as a proxy for structure, social conditions mirror its duality. The resulting interplay between this behavioural orientation and the context in which it occurs is invariably mediated by individual choice. The latter determines appropriate social practices, which are aligned with the rules and resources of the mini-structure a context constitutes, as well as with the practical opportunities or chances embodied in social conditions.

Since this study seeks to find out how the context of the Internet might be associated with (specific) gambling behaviour, the features of this context and the ways in which it differs from offline contexts will be examined in more detail.

2.1. The Internet Context

Broad technological advancements have caused the advent of a global phenomenon, known as the Internet. Touching virtually all spheres of human existence, it has redefined many of the ways in which we work, play, socialize, and go about our daily lives. This rapidly expanding system of networks connects millions of people worldwide situating them in new spaces, changing their cultures, modes of social interaction and organization, and even their very identities. The Internet, as Castells (2001) argues, not only gives us reasons to talk about our times as the Information Age, but also begets a new form of social structure, namely, the Network society. As part of it, sociality becomes dispersed: it changes from “now and here” to “now and everywhere”. A new spatiality associated with the Internet also pioneers a novel distinction: we now find ourselves immersed in both online and offline contexts and spaces.

Yet, any comparison of online and offline contexts, which is one of the objectives of this study, must be situated within the framework of a somewhat artificial (more conceptual than real) divide existing between the two, as scholars are increasingly asserting the inability to view cyberspace as separate from real life. Because online spaces, some of them maintain (e.g. Kitchin, 1998), are invariably embedded in offline physical places.

This, coupled with the nebulous physical boundaries of cyberspace, if we can ever talk about any, makes a comparison anchored in the cognitive dimensions of these two contexts appropriate. Moreover, since the focus of this study lies in elucidating the pull cyberspace enacts upon users choosing to gamble online, the following review will focus solely on those Internet features which relate to how this context is perceived by its patrons, both in general and in particular (i.e. while gambling).

Overview

The online encyclopedia Webopedia defines the Internet as a decentralized global network connecting millions of computers, each of which is independent. Cyberspace, in turn, is a metaphor for the non-physical terrain generated by this network of computer systems (Webopedia, n.d. "Internet"), or for a 'virtual' space yielded by the larger technological developments collectively known as the Internet. Put more simply, "the skeleton of cyberspace is the Internet" (Batty & Barr, 1994:700). Thus, although the Internet and cyberspace refer to conceptually different things, if the metaphor is extended, they can both be imagined as inhabiting one body. Since the central objective of this study is to examine an activity undertaken in the online milieu, and not the online milieu per se, for the purposes of analyzing online gambling from here on those two terms will be used interchangeably.

The review of various theoretical perspectives on cyberspace reveals its multiple social implications. The approaches to cyberspace vary from technological determinism, putting forward claims of the existence of a direct causal relationship, whereby cyberspace enacts

changes on people's everyday lives, to social constructivism, according to which cyberspace can be understood only as a social construction (Kitchin, 1998).

Yet, it seems suitable to adopt a middle-ground standpoint, which views the relationship between cyberspace and society as dialectical and reflexive. More specifically, just as technology is "born of the social, the economic, and technical relations that are already in place" (Bijker and Law as cited in Kitchin, 1998:58), so it is subsequently assimilated in a numerous individually unique ways, and influenced by attendant cultural, social, and economic variables. That is, once the Internet is born to address the needs of a technologically-evolving society, its uses are so manifold as to allow for numerous individually-tailored approaches to it, in turn, influenced by the cultural, social, and economic specificities of the persons using it.

Furthermore, the new interactional space that cyberspace makes possible allows for new forms of sociality, which beget new relations to the self. Cyberspace challenges the traditional separation between the textual (or the virtual) and the social and material (or the real) by enabling a meaningful social experience in a space traditionally conceived as purely semiotic (Ito, 1996). As architect Lebbeus Woods (1996) puts it, cyberspace represents a matrix of free-spaces, theoretically opposed to traditional architectural designs marked by preconceived functionality. These online free-spaces are non-hierarchical, they lack fixed patterns and forms, and "exist as elusive, ephemeral, and continually changing patterns of free communitativity" (Woods, 1996:288). What in physical spaces would be perceived as emptiness and void of meaning, (i.e. online spaces

have no a priori defined function), is an endless reinvention of purpose and meaning through the free dialogue, spontaneity and playfulness of “self-inventing individuals” (Woods, 1996:288). Thus, one can observe a shift whereby the negative emptiness of traditional space is infused with the positive potential for endless interactivity and production of meaning. As such, cyberspace may be an inviting arena for (self-) exploration and self-expression.

What are the specific characteristics which allow for this shift, and for the burgeoning of meaningful social universes and activities?

Characteristics of the Internet

In line with the view of the Internet as context, which both enables and constrains certain actions and behaviours, an examination of its features will follow. Because the appeal of the Internet for its users is essentially predicated upon features simultaneously hindering engagement in some behaviours and interactional exchanges, and facilitating engagement in others.

Conceptualizing “new media”, which include the Internet and cyberspace, Lister and colleagues (2003) outline a few key terms that distinguish the latter from traditional communicative channels. Namely, it is digitality, interactivity, hypertextuality, dispersal, flux, and virtuality, which denote some of the distinct features of cyberspace. Those characteristics also relate to how activities performed on the Internet are differentially experienced by users, as opposed to activities undertaken in physical contexts. Their

alternative experiential nature may lead to various degrees of engagement and disengagement, magnified or decreased appeal, behavioural changes, and even addictions.

To begin with, *digitality* refers to the ability of cyberspace to convert information into numbers, rather than physical entities. This feature could increase the appeal of cyberspace to users if seen as emphasizing the inconsequential nature of their activities. In addition, it promotes the creation of a visually stimulating experience, as data is often converted into light and sound, as well as culturally coded meaningful symbols.

Second, the *interactivity* of the online environment provides “a more powerful sense of user engagement with media texts, a more independent relation to sources of knowledge, individualized media use, and greater user choice” (Lister et al., 2003:20). It also means that users can enjoy (whether the real or illusory) possibility of greater control both over their actions and the environment, which, as mentioned earlier, is inherently attractive, and especially so for men.

Third, *hypertextuality* refers to the ability of users to construct highly individualized cyberspace experiences and meaning-building. Lister and colleagues (2003:23) specify that it can be either extractive, allowing users to selectively engage in particular experiences, or immersive, determined by a plunge into simulated 3D environments.

Fourth, the ability of cyberspace to allow for the multiplication of communication channels, insofar as communication transforms itself from “one-to-many” to “many-to-many” type, is what is referred to as *dispersal* (Lister et al., 2003). This particular characteristic accentuates not only an informational shift from reception to interactivity, but also a multiplication of interaction channels and opportunities for socializing.

Flux (which is the opposite of fixity) denotes yet another distinction between an online and an offline space. The constant state of flux characterizing cyberspace is a fertile ground for the building of identities (Turkle, 1999), perhaps even more fertile than a fixed physical environment. When applied to the case of younger individuals, already entwined in the process of identity-construction, the allure of a space of flux could further be magnified. Moreover, modern individuals are living in a liquid world, which not only welcomes flux and movement, but makes it an integral feature of everyday life (Bauman, 2000). This, one could argue, additionally predisposes younger generations to seek to resolve real-life identity conflicts in a supposedly safer (play) environment.

Last, but not least, the pull of online environments is also contained in the Internet’s *virtuality*. This feature enables the ultimate immersive and simulatory user experience, which, as it will be shown later, goes hand in hand with play.

Needless to say, all these cyber-spatial features are unique to the medium and enhance individual activities in a way few (if any) physical spaces can.

While the aforementioned qualities relate to the seductiveness of the medium in general, Griffiths (2003) outlines a number of factors present in cyberspace which contribute to the seductiveness of gambling in this context. They are listed and explained below.

Speaking about differences inherent in the Internet experience, a greater instance of *accessibility* is undeniable. This attribute relates to the increasing ease, with which one can gamble (i.e. Internet gambling can be engaged in from any place where there is an Internet connection), which leads to an increase in both the number of gamblers and the number of problem gamblers (Griffiths, 2003).

Next, *affordability* arises from the fact that the Internet lowers the cost of gambling so much as to equal the cost of a monthly Internet access bill, eliminating the incurring of any potential transportation, temporal, and other costs.

Anonymity is virtually a given in e-gambling. It might be a highly attractive feature of the online experience in the context of gambling. As Mitchell puts it (1995:12), one's representation on the Net shirks biology, gender, race, social and economic status to become "a highly manipulable, completely disembodied intellectual fabrication". This avoidance of social and biological markers could presumably be helpful in gambling when trying to exploit common stereotypes (for example, male poker players pretend to be female in order to create advantage over their opponents by passing for less experienced than they actually are). In addition, anonymity enables members of vulnerable groups (i.e. minors) to participate in gambling, as identity checks on

gambling websites are easy to bypass. A study carried out by Smeaton and Griffiths (2004) found out that many Internet gambling operators carried out very poor age verification checks. Often it was simply the ticking of a “Yes, I am over the age of 18 years”, that would grant access to a gambling website, leaving minors free to gamble on the Internet by misusing credit cards or by accessing accounts of people they know.

This latter characteristic also relates to the *convenience* endowed by cyberspace. It all translates into a greater comfort for the gambler, who can now afford to gamble from places like work or home. The enhanced convenience could not only multiply gambling instances, given the reduced temporal and financial costs, but could also enable the display of more adventurous and daring gambling behaviour.

Furthermore, the Internet is a milieu favoring psychological *escape* from everyday stressors and problems, and from the routine of daily activities. While for some this remains only an escapist and mood-improving online activity, for others, this feature can help transform a mere pleasurable practice, such as recreational gambling, into an addiction.

Cyberspace has been known to favor *disinhibition*, which is the tendency of people to open up more easily online in the presence of anonymity, invisibility, and minimal authority (Suler, 2004). This is perhaps one of the riskiest effects of cyberspace, which in the context of gambling could lead to more “trusting” gambling behaviour, resulting in more money being wagered online.

The next feature, namely *event frequency*, provides another particularly salient example of how the mediating context could facilitate problematic gambling behaviour. When gambling on the Internet, the reduced length of time between each gambling event could contribute to gambling problems, since a shorter interval means quicker gratification, quicker forgetting of losses, and an almost immediate opportunity to recover losses.

According to Griffiths (2003), cyberspace sometimes also contributes to *asociability*. Problem gambling has been associated with asociability, as the Internet transforms gambling from a social activity (with its attendant protective social nets in place) to a virtually solitary activity (largely devoid of the latter). Even in the case of social games, such as poker, when an e-gambler plays with partners (albeit virtual), online anonymity could annul the protective social net effect by bringing about a reduced need to conform to social rules and norms.

The last two structural features of the Internet, Griffiths (2003) identifies, are *immersion and dissociation*, and *simulation*. Immersion and dissociation refers to a psychological state of mind, which involves “losing track of time [...] blacking out [...], and being in a trance like state” (2003:560), often leading to longer play than intended. Simulation, in turn, contributes to a distinct experience, perceptually separate from reality, allowing for experimentation with identity. It also makes possible the existence of practice-mode gambling websites, which despite allegedly innocuous, might entice underage or novice gamblers with their “safe” learning environment.

Those two features are central to the discussion of the alluring potential of the Internet with respect to gambling because of their structurally enabling nature. To clarify, according to Callois (1961), gambling is essentially a form of play, and two of the chief elements of play are vertigo and simulation, which are the equivalents of the aforementioned *immersion and dissociation* and *simulation*. Vertigo, Callois defines as “the attempt to momentarily destroy stability of perception and inflict a kind of voluptuous panic upon an otherwise lucid mind” (1961:23), and simulation as the “escape from oneself to play the role of another” (as cited in Downes et al., 2006:102).

Therefore, the Internet can be viewed as an intrinsically play-friendly context, as it embodies the culture of simulation (Beaudrillard, 1983; Jameson, 1991; Turkle, 1995), and it is a vertigo-conducive play space. As most forms of play, gambling is often complemented by a desire to disrupt the normal order of everyday life, immerse oneself in a virtual alternate reality and achieve a changed state of consciousness. Because, as Caillois states (1961:75), it is simulation which initiates these effects, since “pretending to be someone else tends to alienate and transport”, that is, cause vertigo. And what better place to achieve this state than cyberspace. Yet, is it always safe?

Internet addiction: Fact or fiction?

In the debate on whether the Internet is healthy, pathologically addictive, or somewhere in between, some researchers (e.g. Chou et al., 2005) tentatively conclude that the Internet in itself is not addictive, but some specific Internet applications, appear to

contribute to pathological Internet use. Empirical studies (Chou & Hsiao, 2000; Young, 1998) providing support for this conclusion claim that Internet addicts use two-way communication functions more than non-addicts do. Heavy Internet users are found to value applications possessing interactivity, ease of use, availability (Chou, 2001), and anonymity. In the gambling world, adding to that is the appreciation of the “redo” button, which allows online gamblers to click on the screen and automatically redo the last bet (King & Barak, 1999). Last, but not least, Suler (1999) argues that for many users who enjoy mastering the various technical features of software applications, computers and networks offer a motivating and rewarding cycle of challenge, experimentation, mastery, and success.

Alternatively, Internet addiction, it has been argued (Griffiths, 2003), is a thing in itself, and as such, is part of a larger type of so-called ‘technological addictions’, which are “non-chemical (behavioural) addictions that involve human-machine interaction” (Widyanto & Griffiths, 2006:31). Their behavioural nature does not strip them of all of the chief components of addiction (e.g. “salience, mood modification, tolerance, withdrawal, conflict and relapse”(Griffiths as cited in Widyanto & Griffiths, 2006)). Internet addiction is conceptualized as an umbrella-term which covers a variety of impulse control behaviours and actions taking place in cyberspace (Young, 1999). Those are categorized into five sub-types as follows: cyber-sexual addiction, cyber-relationship addiction, net compulsions, information overload, and computer addiction. Obsessive online gambling, belongs to the category of “net compulsions” together with e-shopping and day-trading. In the end, however, regardless of whether one is addicted to the

medium, or to the activity undertaken in its milieu, like any addiction, it is bound to cause problems for the individual suffering from it. This is especially true for vulnerable groups such as university students.

Internet gambling among students and related problems

Warnings regarding the link between (Internet) gambling and numerous social, financial, and psychological problems for the individuals embracing it proliferate (Lesieur et al., 1991; Stinchfield et al., 2006). Scholars often emphasize that the toll online gambling might be taking on society in various aspects is staggering. Frequenting websites which offer the possibility to gamble at one's convenience seems surprisingly easy at first, but could sometimes turn into a downward spiral leading toward problem gambling (Griffiths, 2003) and its attendant consequences - wasted time and resources, broken families and relationships, loss of employment, etc.

Internet gambling has been linked to pathological gambling behaviour as well. Observing that pathological gambling rates among online gamblers register an almost tenfold increase compared to those in the general population (Wood & Williams, 2007; Wood et al., 2007), some scholars suggest that gambling on the Internet might contribute to problematic gambling behaviour (Griffiths & Parke, 2002; McBride & Derevensky, 2009).

Indeed, among students the rates of online problem gambling significantly outweigh those found in the general population and in offline gamblers. In a recent study on

Internet poker playing among university students, Wood and colleagues (2007) found that 18% of student online gamblers fit the diagnostic criteria for pathological gambling. This was higher than both Internet gamblers among the general population (15.4%) (Ladd & Petry, 2002), and non-Internet gamblers among the student population (5%) (Petry & Weinstock, 2007).

Problem and pathological gambling among university students is associated with risky behaviours, such as alcohol (Lesieur et al., 1991; LaBrie et al., 2003), tobacco and illicit drug use (Engwall et al., 2004; Winters et al., 1998). It has also been linked to health, social, and performance problems (Engwall et al., 2004), as well as depression and suicide attempts (Stuhldreher et al., 2007). Internet gambling is not an exception. It has been suggested that the latter type of gambling might have a higher potential for the development of dependence (Griffiths & Parke, 2002), “debilitating levels of physical and social isolation” (McComb & Hanson, 2009:5) and poor mental health (Petry & Weinstock, 2007), when compared to other (i.e. offline) types of gambling.

The new Internet gambling experience

The identification of the unique features of the online context reveals how for some users it could easily turn into a more attractive gambling arena than traditional physical venues. And while a behavioural act, such as gambling, is invariably a result of both individual proclivity and favorable structural conditions, it is hard to ignore the enabling nature of the Internet context.

As shown, the growing appeal of e-gambling is situated within its ability to significantly affect the gambling experience. For an activity which, despite its current wide social acceptance and recognition, still carries some traces of its historical associations with stigma and vice, the non-situatedness and anonymity of the Internet represents a welcoming environment. The availability and accessibility of cyberspace are attractive qualities which seem to contribute to the effortless incorporation of short episodes of gambling play in an otherwise hectic daily life. When combined with pronounced experiential features, such as interactivity, simulation, and vertigo-inducing sense of immersion, the characteristics of cyberspace create for the player extravagant examples of play packed with sensations, as well as sense of control combined with loss of self-awareness.

All in all, technological advances embodied in the Internet have a tremendous impact on gambling behaviour, Griffiths (2003) claims. Yet, he points out that this impact is stronger on the acquisition rather than on the maintenance of gambling behaviour. This is especially salient in the case of university students' e-gambling, as many students begin gambling in this particular period of experimentation in their life. And if their first gambling encounter takes place in cyberspace, where the structural characteristics of the environment could make it easier to acquire gambling habits, then this group might face unique risks in this respect.

Poker

One of the gambling types which seems to enjoy an unprecedented popularity among students is poker (Hardy, 2006; McComb & Hanson, 2009). What's more, with the advent of the Internet, a major spike in interest in the game is observed (Siler, 2010). Despite the considerable annual buy-in of \$10,000 in World Series of Poker Main Event, the number of entrants has increased from 512 in 2000 to 8,733 in 2006 (Dalla, 2009), which attests to the current "poker boom". Reasons for such interest in poker include wide media coverage and celebrity endorsements (Lee et al., 2008), and the belief that success in poker depends on the development of certain skills (Parke et al., 2005; Shead et al., 2008; Wood et al., 2007), which can be then be applied to other areas of life, such as employment for example (Parke et al., 2005). The introduction of poker on the Internet undoubtedly contributes to the development of such skills, given that it provides players with the opportunity to learn how to play for free at demo websites or for low stakes (Siler, 2010).

Poker: skill or chance?

Poker as a gambling type is phenomenologically different than other gambling types for two reasons. One, gamblers play against others as opposed to playing against the house, which could arguably make poker more attractive (McDonald, 2004), as it is almost a zero-sum game and someone always wins. And two, poker is regarded as mostly a game of skill, with some element of chance. Despite the ongoing debate on whether poker is a skill- or chance-based game, some jurisdictions which typically outlaw gambling, allow poker on the basis that it is a game of skill and not of chance (McDonald, 2004).

Research on the topic can be found to support either hypothesis. Thus, Croson and colleagues (2008) show that poker is similar to golf, and as such, a game of skill. Another study conducted by DeDonno and Detterman (2009) reveals that there are learning effects in poker, which also suggests a skill-based gambling format. In contrast, Berthet (2009) shows that among poker professional final game outcomes are governed by the value of the cards, and therefore by chance. However, the author also admits that skill surely plays a significant role when more experienced players face beginners. In the end, it seems that there is a considerable skill component present in poker unlike many other gambling formats. Or as a famous Phil Hellmuth saying goes: “Poker is 100% skill and 50% chance”.

Poker: degrees of virtualization

At least some of the reasons for the so-called ‘poker craze’ relate to the nature of the game, which in the Internet context is undoubtedly changed. A game of online poker is different than a game of traditional poker insofar as it is much more accessible and convenient, yet provides one with the opportunity to do “anything you’d want to do in a real game” (McDonald, 2004:4) simply by pressing a button. There’s a virtual dealer who performs the functions of a real dealer, and one is immersed in a virtual “ambience” which mimics the one found at a traditional poker table. Sounds like the shuffling of the cards or the clicking of the chips are commonplace in many web-based poker games. Added to that is the ability to “see” the animated actions of other players, and to even talk to them by use of virtual chat “just as if you were speaking aloud at a cramped casino table” (McDonald, 2004:4).

Surely, the experiential nature of poker play differs according to the context. For instance, compared to traditional poker, online poker provides the opportunity to play at an increased speed. Contemporary software developments allow for built-in inducements within the game, which exploit psychological principles of learning (Schull, 2005). Gamblers are exposed to a series of near misses or small wins, which effectively retain their interest in the act of gambling. An increased involvement can also result from the opportunity to play multiple games simultaneously (Siler, 2010). This feature combined with the virtual cash which “disguises the true value of cash” (Schull, 2005:67) makes online poker fundamentally different, and arguably more appealing than traditional poker.

Essentially, virtualized poker leads to a state where “gamblers’ exits from the constraints of body and money are inextricably linked to an exit from time” (Schull, 2005:77). Indeed, the degree of virtualization is not the same at a traditional poker setting, a video poker machine, or on an online poker website. As Schull puts it (2005:73) in her discussion of digital gambling machines

interaction with the digitally enhanced features of new game platforms renders a more continuous playing experience than do “live games” or older-model slot machines, efficiently sustaining a dissociated subjective state that gamblers call the “zone”, in which conventional spatial, bodily, monetary, and temporal parameters are suspended.

A desirable gambling experience for many players is built upon “being alone, not being interrupted, speed, choice, tempo” (Schull, 2005:73). Yet, video poker is an intermediate step in terms of sought social isolation because by virtue of co-occupying a physical

space with other gamblers, a gambler still faces the possibility of being interrupted. With online poker this flow of play is enhanced as social interaction (in the form of virtual chat) is entirely optional.

Cultural and social meanings in poker

Indeed, the cultural meanings and social interaction associated with online and offline poker are not the same. Putting it simply, offline poker belongs to the sphere of the social, whereas online poker - to the sphere of the virtual. Online poker is subject to much weaker social regulations by virtue of being anonymous. Yet, this notion of social control is a potent inhibitor of behavioural excesses and deviance, because as it is sometimes argued, (e.g. Social Issues Research Centre, 1998:26), informal social prescriptions of both behaviour and interaction are more powerful than external policies and regulations in enforcing compliance.

Also, the way players use symbolic markers and the features of the medium to construct and manipulate the social world in an online poker setting is unique to it. Impression management in poker is crucial for gaining strategic advantage, and it is about controlling one's behaviour and influencing opponents' perceptions not only by concealing information but also by feeding false one (Siler, 2010). Thus, gender-swapping in online poker is common. Both historically and presently in some cultures poker playing has been considered a predominantly male activity. An example is the gambling community of Chania, Greece, which Thomas Malaby (2003) examines. Even though not officially forbidden to play poker, women in that community are marginalized to do so in the

private sphere of their homes, because they are often perceived as less capable and outsiders to a primarily male arena. It is to avoid such labels, and in order to gain strategic psychological advantage that females admit to gender-swapping while playing poker online (Wood et al., 2007).

However, the virtuality and attendant anonymity of the Internet medium, or the fact that you can't see or hear your opponents, also hinders the game. In fact, this has been identified as the main criticism of playing poker online (McDonald, 2004). Reading opponents by observing their facial expressions and body language, and trying to gauge what hand they are holding, is key to strategizing when playing poker. Because poker is a game of limited information, good decisions in the game depend on the information one has about one's opponent. In the end, while the medium makes the ability to maintain a good 'poker face' obsolete, it also prevents one from reading game partners and using information conveyed by telltale signs to one's advantage.

Chapter 3. Research Objectives

Application of the lifestyle model of online gambling

In seeking to understand how a context might be linked to the production and maintenance of a particular collective health lifestyle, such as gambling, this study will compare gambling behaviour in two different contexts – Internet and non-Internet locations of play.

In order to determine if any of those contexts is associated with a greater risk of excessive engagement in gambling and development of related problems, the comparison would be drawn along the lines of social practices, as expressive of the context, and social conditions, which as structural factors together with the context influence social practices and individual behaviour. Social practices are understood as frequency of gambling, substance use, alcohol consumption, gambling spending and debt, etc., and social conditions are viewed as socio-demographic indicators, such as gender, age, residence type, civil status, etc. Those comparisons would also contribute to the profiling of Internet gamblers.

Thus, the findings would not only reveal the context more closely linked to problem gambling, but would also help identify specific social conditions related to particular (riskier) gambling practices. Any differences in the outcomes - such as rates of problem gambling for example - might then be explained in relation to social conditions and contextual properties.

Last, but not least, individual variation could also account for some of the differences observed in gambling habits. Because, even though as a group university students are expected to share certain influences of the collective lifestyle - and thus, their social practices might be similar - they might not all express this lifestyle in the same way (Frohlich et al., 2001).

Hence, the objectives of the study:

1. To determine the prevalence of Internet gambling during the past 12 months among university students.
2. To examine differences between online and offline gamblers on socio-demographic characteristics.
3. To examine differences between online and offline gamblers on gambling practices and related social behaviour (i.e. frequency of play, money spent, gambling partners, alcohol consumption, substance use, etc.).
4. To find out if the Internet as context is associated with a greater risk of problem gambling and associated problems among gamblers.

Chapter 4. Methodology

4.1. Context of the Research

The data for this study come from the *University Student Gambling Habits Survey 2008 (ENHJEU)*. The survey sought to 1) describe gambling habits among university students, and 2) examine individual and contextual determinants of gambling behaviours and problems.

4.2. Survey Sample

This population-based survey was conducted among full-time undergraduate students, including those enrolled in professional schools, such as Law and Medicine, but without an undergraduate degree, on the island of Montreal. The participating universities were selected on the basis of six criteria: they had to 1) be located in the Montreal metropolitan area, 2) keep a registry of their students, 3) have more than 1,000 students enrolled at the undergraduate level, 4) require the physical presence of the students for the coursework completion (i.e. online universities were excluded), 5) have no military or religious affiliation, and 6) rely on public funds for their financing. The initial sampling resulted in four universities and three affiliated schools: *Université de Montréal* and its 2 affiliated schools, *Ecole des Hautes Etudes Commerciales (HEC)* and *Ecole Polytechnique*; *Université du Québec à Montréal* and *Ecole de Technologie Supérieure* affiliated to the Quebec University Network; *Concordia University* and *McGill University*. These institutions represent a total population of 85,789 students (Association of Universities and Colleges of Canada, 2009).

The size of the sample was calculated to ensure statistical power and validity of research, denoting a margin of error of less than 5%.

4.3. Study Sample

The study participants (N=1,256) were selected from the total survey sample if they reported gambling on any of ten (i.e. Lottery, Horse/dog racing, Bingo, VLT, Table poker, Table games, Betting on sports or sporting events, Card/board games, Games of skills, Speculative investments) gambling activities in the past 12 months. Of them the majority were female (59%), single (81%), born in Canada (81%), and chose to fill out the survey online (65%). Additional sample characteristics are presented in Table 4.1. in Appendix B.

4.4. Procedure

Concordia University Ethics Committee approved the project, and authorization was received from Commission d'accès à l'information du Québec (CAI) to obtain and store students nominal information. Each eligible university was invited to participate. No university required an additional REB approval from their institution. Upon university approval, a list containing the identifying information of a number of randomly selected students was provided by the Office of the Registrar of each university, in accordance with instructions given by the research team. Each institution and each participant in the survey was given a specific code, which was later used to facilitate the post distribution (which involved sending of additional questionnaires and reminders), and the proper storage of the students' nominal data.

Data collection took place between October 17 and December 12, 2008. Participants were mailed a package containing a survey questionnaire and a cover letter. They were given a description of the study, and a choice to either complete and return the paper copy of the questionnaire, or complete the survey online on a secure website. Students were assured that participation is voluntary, and they could refuse to participate at any time. They were informed that their answers were to remain confidential and their identity undisclosed. A lottery incentive in the form of four iPod nano digital players was employed to increase participation.

The participants were contacted seven times in order to increase the response rate. The first contact consisted of a mail-in invitation to complete the enclosed questionnaire. This was followed by six consecutive reminders sent by either mail or email (see Table 4.2. in Appendix B).

A simple stratified sampling method applied to each university produced a target representative sample of 6,000 students. The initial distribution was based on the distribution of students in the various schools (see Table 4.3. in Appendix B). As McGill University declined the invitation to participate, their target sample was reallocated to Concordia University. This was done to ensure an equal representation of the two official languages. The final sample was distributed as follows: 3,000 participants from an English-speaking university, and 3,000 participants distributed across the two French-speaking universities and their three affiliated schools.

The final survey sample consisted of 2,139 participants, for a response rate of 41% (for survey sample characteristics see Table 4.4. in Appendix B).

4.5. Measures

The measures were selected from the *University Student Gambling Habits Survey 2008 (ENHJEU)* (see Appendix C). They were divided into five sections: gambling patterns, gambling severity, contextual factors, associated problems, and socio-demographic indicators.

Gambling patterns

Gambling status: Participants were asked if they bet or spent money ('yes', 'no') on any of 10 gambling activities (i.e. Lottery, Horse or Dog racing, Bingo, Video Lottery Terminals (VLTs)/Coin Slot Machines, Table Poker, Table Games, Betting on Sports/Sporting Events, Card Games/Board Games, Games of Skill, Speculative Investments) in the past 12 months. A positive answer to any of those 10 questions identified one as a *gambler*.

Internet gambling: For each activity participants were asked how frequently ("never", "less than once a month", "1 to 4 times a month", "2 to 6 times a week", "every day") they gambled within a number of locations (e.g. "Internet", "private residence", "on campus", "work", "casino", "bar/pub/tavern/resto-bar", and "other"). Internet gamblers were respondents who indicated to have gambled at least once on any activity which

included the “Internet” as a possible location (i.e. Horse or Dog racing, Bingo, VLTs, Table Poker, Table Games, Card/Board Games, and Games of Skill). Even though, virtually all of the Internet poker gamblers gambled in offline locations as well, they did so less often than online.

Poker players: Poker players were individuals who reported betting or spending money on poker in the past 12 months. Even though many poker players gambled on other activities as well, their preferred gambling format was poker, as they engaged in it with higher frequency than in any other game.

Online poker players: Because most of the online gamblers were poker gamblers, an additional measure was derived. Online poker players were individuals who satisfied two criteria: 1) they bet or spent money on poker only, or on poker and other activity(ies) in the past 12 months, and 2) they gambled on poker on the Internet only, or on the Internet and in offline locations. Even though the majority of online poker players gambled on other formats too, and played in offline locations, they did so less frequently than gambling on poker on the Internet.

Monthly spending/yearly debt/weekly income: Respondents had to indicate 1) their typical monthly spending, 2) their yearly debt as a result of gambling on each activity, and 3) their weekly disposable income. Based on the distribution of those variables, three categorical measures were derived with the following cut points: “\$0-5”, “\$6-20”, “21-50”, “\$51 -100”, and “\$100+”.

Frequency of play: Respondents had to indicate their frequency of play (“never”, “less than once a month”, “1 to 4 times a month”, “2 to 6 times a week”, “every day”), which was dichotomized into *less than weekly* and *more than weekly*. Two categorical variables were created to measure the frequency of play of online poker players *online* and *offline* by using the frequency of play on the Internet for the *online* variable, and the frequencies of play in all other physical locations for the *offline* variable. Another variable was created to measure the binary frequency of play (‘less than weekly’, ‘more than weekly’) for offline poker players. An additional continuous measure was derived from the original frequency measure to compare online and offline gamblers on the *average number of days*, by multiplying the aforementioned frequencies by 0, 6, 30, 48, and 365 respectively.

Number of activities: This was the sum of all gambling activities, ranging from 1 to 10, in which a gambler participated during the past year.

Gambling severity

Gambling severity: The Problem Gambling Severity Measure (PGSI) – a subsection of the Canadian Problem Gambling Index (CPGI) (Ferris & Wynne, 2001) consists of nine questions assessing the loss of control over spending, and problems in various life areas. The use of a 4-point Likert scale, (“never”, “sometimes”, “most of the time”, “almost always”), results in individual scores ranging from 1 to 27, which are recoded to identify four separate groups of gamblers: non-problem gamblers (score = 0), low-risk gamblers

(score = 1 or 2), moderate-risk gamblers (score = 3 to 7), and problem gamblers (score \geq 8).

Contextual factors

Partners: Respondents were asked to indicate with whom they generally bet or spend money on table poker in the past 12 months ("alone", "friends", "family member(s)", "co-workers", and "other"). A binary variable was derived to differentiate between gambling *alone* or *with partners*.

Gambling location: A number of binary ('yes', 'no') measures, derived to assess whether a poker player gambled in a particular location (i.e. "Internet", "private residence", "on campus", "work", "casino", "bar/pub/tavern/resto-bar", and "other").

Associated problems

Perceived problems related to gambling

Perceived problems in major life-areas: This measure assessed the perceived problems ('yes', 'no') in one's "relationships with family members", "relationship with friends", with "studies", and "finances" which resulted from gambling on poker.

Alcohol use

Alcohol use (past 12 months): This ('yes', 'no') measure was derived from a question covering frequency of alcohol use for the past 12 months ("never", "once a month or less", "2 to 4 times a month", "2 to 3 times a week", "4 or more times a week").

Alcohol use (past 30 days): This ('yes', 'no') measure was derived from a question covering frequency of alcohol use for the past 30 days ("never", "less than once a month", "1 to 3 times a month", "once a week", "2 to 3 times a week", "4 to 6 times a week", "every day").

Hazardous or harmful drinking: To assess this drinking pattern a score of between 8 and 11 on the *Alcohol Use Diagnostic Interview Test* (AUDIT) (Babor et al., 2001) was used.

Dependent drinking: To assess this drinking pattern a score of 11 and over on the *Alcohol Use Diagnostic Interview Test* (AUDIT) (Babor et al., 2001) was used.

Illicit drug use

Cannabis use: This ('yes', 'no') variable measured past year cannabis use. It was derived from a frequency of cannabis use measure ("never", "less than once a month", "once a month", "1 to 3 times a month", "once a week", "2 to 3 times a week", "4 to 5 times a week", "almost every day").

Illicit drug use: This ('yes', 'no') measure of past year illicit drug use was derived from measures of past-year frequency of use of 15 non-medical drugs excluding cannabis.

Smoking

Smoking: This variable was based on two questions, 1) asking if individuals smoked at least 100 cigarettes in their life ('yes', 'no'), and 2) assessing the frequency of smoking at present ("every day", "occasionally", and "not at all"). *Non-smoker* was anyone who answered "not at all" on the second question. *Current smoker* was anyone who answered positively on the first question and indicated a frequency of "occasionally" or "every day" on the second question.

Psychological distress

General mental health: The General Health Questionnaire (GHQ) (Goldberg, 1988) was used to measure the level of psychological distress of participants. Scores ranged from 0 to 12, 0 indicating absence of mental health problems, and 12 - probable presence of mental health problems. An additional *psychological distress* binary measure was derived by using a cut-off point of 4 and over on the GHQ. Participants were assigned to two categories – those with *absence of mental health problems* and those *at risk for mental health problems*.

Socio-demographic indicators

Gender: Possible categories included "male", "female", and "transgender". However, because there were only few participants in the last category, (i.e. insufficient for valid analyses to be produced), they were removed from the study sample.

Area of study: The measure was derived from a question inquiring about current enrolment of participants and merging possible answers into four main categories: 1) *Arts, Humanities, and Social Sciences*, 2) *Science and Technology*, 3) *Business and Commerce*, and 4) *Health Sciences*.

Place of birth: Respondents had to indicate if they were born *In Canada* or *Outside Canada*. Despite the greater ability of alternative measures in the survey to capture ethnic diversity, this measure was chosen for its ability to render analyses possible in view of the small sample sizes in some categories.

Marital status: The measure was based on a question inquiring about current marital status. The possible answers included “married”, “de facto union (cohabitation)”, “widowed”, “separated”, “divorced”, and “single, never married”. Since participants among the poker players were distributed in only three of those categories, a new measure was derived, which divided them into *married/de facto union* and *single*.

4.6. Analytical Procedure

Descriptive statistics were used to describe the two samples – the total survey sample, and the poker players. Logistic regression analyses were performed to assess differences between the online and offline poker players on measures of gambling, associated problems, and socio-demographic indicators. Chi-square statistics were used in the comparisons of the categorical variables, t-test statistics for the continuous ones, and Fisher’s exact test when analyses involved small sample sizes. Where indicated, analyses

were controlled for gender and survey mode, because: 1) gender has been shown to play a role in gambling habits, and 2) the mixed-mode data collection (paper and web) could be a confounding factor and bias some results. Weighting to correct for unequal gender and university representation was applied in the estimation of the general prevalence of Internet gambling. All analyses were performed using Stata 10 (StataCorp, 2007) statistical software.

Chapter 5. Results

Participation in Internet gambling among university students

Results revealed that of the 2,139 students taking part in the survey, more than half (60.5%, N=1,256) gambled on at least one of the ten listed gambling activities in the past year. Of all gamblers, 6.9% (n=86) engaged in the activity on the Internet (see Table 5.1). Virtually all Internet gamblers (98.8%) (n=85) gambled offline as well, even though they did so less often than online.

Internet gambling involved mostly poker. The vast majority of Internet gamblers preferred poker (86.1%), followed by VLT (12.8%), games of skills and table games. Half of the students who gambled online (49.4%), did so betting on poker and one other activity, which most often (65.9%) was VLT. Only about one-tenth (10.8%) of Internet gamblers bet or spent money on an activity different than poker.

Table 5.1.
Prevalence of Internet Gambling by Activity Among Online Gamblers (N=86)

Type of gambling activity*	%	95% CI
General prevalence	6.9	5.6 - 8.4
Table poker	86.1	78.6 - 93.5
VLT	12.8	5.6 - 20.0
Games of skills	s	s
Table games	s	s
Card/Board games	s	s
Bingo	s	s
Horse/Dog racing	s	s

Note: *Activities include only those which online gamblers played online.

s - Data suppressed due to unreliability.

Significance levels: * p<.05 **p<.01 ***p<.001.

The results also revealed that, though not statistically significant, the likelihood of online gamblers to engage in certain gambling formats offline was greater than that of offline gamblers in almost all of the games analyzed as shown in Table 5.2. The only statistically significant result was that online gamblers were twice as likely to play table games than offline gamblers, as shown by the odds ratios obtained (OR=1.93, 95% CI 1.1 – 3.5). Odds ratios are used to determine the probability of an event taking place. If the value of the odds is greater than 1, it means that an increase in the predictor variable results in an increase of the probability of the outcome. Alternatively, a value of the odds of less than 1 is interpreted as an increase in the predictor variable which decreases the probability of an event taking place (Field, 2009:271).

Table 5.2.
Gamblers' Preference on Activities When Gambling Offline (N=1,256)

Type of gambling activity*	Online gamblers (n=86)			Offline gamblers (n=1,170)		
	%	95% CI	OR	95% CI	%	95% CI
Table poker (ref. No)	s	s	1.06	0.3 - 4.1	25.0	22.5 - 27.5
VLT (ref. No)	26.7	17.2 - 36.3	1.09	0.7 - 1.9	28.5	25.9 - 31.0
Games of skills (ref. No)	17.4	9.3 - 25.6	1.36	0.7 - 2.5	15.1	13.0 - 17.1
Table games (ref. No)	18.6	10.2 - 27.0	1.93*	1.1 - 3.5	8.8	7.1 - 10.4
Card/Board games (ref. No)	s	s	0.56	0.1 - 2.4	5.5	4.2 - 6.8
Bingo (ref. No)	s	s	0.71	0.2 - 2.4	7.2	5.7 - 8.7
Horse/Dog racing (ref. No)	0	0	-	-	1.2	0.5 - 1.8

Note: Controlled for gender and survey mode in all regression analyses.

*Activities include only those with an Internet component.

s - Data suppressed due to unreliability.

Significance levels: * p<.05 **p<.01 ***p<.001.

It was found that online gamblers bet or spent money on a higher number of activities when compared to offline gamblers. Half of the online gamblers in the sample (54.2%)

compared to less than one-fifth of the offline gamblers reported betting on three or more activities (see Table 5.3).

Table 5.3.
Distribution of Online and Offline Gamblers Along All Gambling Activities (N=1,256)

Number of gambling activities*	Online gamblers (n=86)		Offline gamblers (n=1,170)	
	%	95% CI	%	95% CI
1 Activity	15.1	7.5 – 22.7	53.4	50.6 – 56.3
2 Activities	30.2	20.5 – 40.0	29.1	26.5 – 31.7
3 Activities or more	54.7	44.1 – 65.2	17.5	15.3 – 19.7

Note: * Activities include those which online gamblers played offline as well.

Since the majority of online gamblers gambled mostly on poker, and there were only a few individuals (n=12) gambling on other activities on the Internet (mostly VLTs and Games of skills), subsequent analyses were restricted to poker players. Internet gambling types differ (e.g. games of skill vs. games of chance) and to combine them into one category would obscure some realities. Therefore, for the assessment of associations, gambling patterns, problems, etc., a homogeneous sample of only online poker players was derived.

Socio-demographic characteristics of online poker gamblers

As shown in Table 5.4, among online poker players men comprise the overwhelming majority (90.5%), whereas among offline poker players, men and women are distributed more equally (59.5 vs. 40.5%). In fact, men who play poker were found to be six times more likely to do so online than offline (OR=6.14, 95% CI 2.7- 13.9). No statistically significant differences were observed between the two groups on area of study, place of birth, marital status, and age, even though there was some near-significance in the latter

variable ($t(350)=-0.378$, $p=0.07$), as online poker players tended to be of a slightly younger age (21.5 vs. 22.1).

Table 5.4.
Socio-demographic Characteristics of Online and Offline Gamblers (N=368)

		Online poker players (n=74)				Offline poker players (n=294)		
		%	95% CI	OR	OR 95% CI	%	95% CI	
Gender								
	Male	90.5	83.8 - 97.3	6.14***	2.7 - 13.9	59.5	53.9 - 65.2	
	Female	s	s	ref.	-	40.5	34.8 - 46.1	
Area of study								
	Arts, Humanities & Social sciences	31.3	20.1 - 42.6	ref.	-	46.7	40.8 - 52.7	
	Science & technology	34.3	22.8 - 45.8	1.61	0.8 - 3.3	19.3	14.6 - 24.1	
	Business & commerce	32.8	21.5 - 44.2	1.3	0.7 - 2.6	26.3	21.0 - 31.5	
	Health sciences	s	s	0.34	0.1 - 2.8	7.7	4.5 - 10.8	
Place of birth								
	In Canada	77.1	67.2 - 87.1	ref.	-	87.6	83.8 - 91.5	
	Outside Canada	22.9	12.9 - 32.8	1.82	0.9 - 3.6	12.4	8.5 - 16.2	
Marital Status								
	Married/De facto union	24.3	14.1 - 34.4	1.51	0.8 - 2.9	17.9	13.4 - 22.4	
	Single	75.7	65.6 - 85.9	ref.	-	82.1	77.6 - 86.6	
Age		Mean (SD)	Median	Min-Max	T-test	Mean (SD)	Median	Min-Max
		22.3 (3.1)	21.5	19 - 39	t(350) = -0.378, p= 0.07	22.1 (3.1)	22	18 - 51

Note: Controlled for gender and survey mode in all regression analyses.

s - Data suppressed due to unreliability.

Significance levels: * p<.05 **p<.01 ***p<.001.

Gambling patterns and contextual factors

The examination of gambling practices among online and offline poker players revealed a number of differences (see Table 5.5). A significant difference emerged in the presence of gambling partners. Almost one-fifth (18.9%, $\chi^2 = 42.29$, $p < 0.001$) of online poker players reported gambling alone, compared to less than one percent of offline poker players.

Significant differences were also revealed between the two groups on monthly spending, and yearly debt, but no differences were observed in their reported disposable income. In the highest amount category “100+”, online poker players were shown to spend (27.9% vs. 2.7%, $\chi^2 = 58.723$, $p < 0.001$) and have debt (16.9% vs. 3.2%, $\chi^2 = 33.249$, $p < 0.001$) in higher proportions than offline poker players.

The frequency with which the two groups engaged in their preferred gambling activity differed significantly. When gambling in offline locations, online poker players were thirteen times more likely than offline poker players to gamble with greater frequency (i.e. more than weekly, compared to less than weekly) (OR=13.20, 95% CI 3.2 – 54.0). Almost 13% of online poker players compared to 1% of offline poker players reported more than weekly gambling.

Statistically significant difference was established when comparing online poker players’ frequency of gambling online and offline as well ($p < 0.01$, Fisher’s exact test), even though the results should be interpreted with caution due to the small sample size. Most

of those who gambled more frequently (i.e. more than weekly) (66.7%) did so online, rather than offline. The majority of online poker players (86.6%) gambled less than weekly either online or in offline locations.

Next, the gambling practices of poker players in terms of preferred locations, both in general (i.e. online vs. offline), and in particular (i.e. private residence, casino, etc.) were analyzed.

Results showed that private residence was the most preferred location for both online and offline gamblers. A significant difference was observed in some locations, which online poker players frequented more than offline poker players. Those were bars/pubs/resto-bars (30.1% vs. 6.4%, $\chi^2 = 32.894$, $p=0.000$), casinos (20.2% vs. 11.6%, $\chi^2 = 13.743$, $p=0.000$), and other locations (19.4% vs. 7.7%, $\chi^2 = 8.632$, $p= 0.003$).

The average number of days for each gambling location, in which poker could be played, was also assessed. When online poker players' gambling days in online and offline locations were compared no significant difference was observed. However, compared to offline poker players online poker players were shown to spend a greater number of days gambling in all locations. All differences were statistically significant. In private residence, online poker players spent 43.3 days gambling compared to offline poker players, who spent 25.8 days ($t(363)=-3.553$, $p=0.001$). Casino poker was played by online players 39.5 days compared to only 1.9 days by offline players ($t(353)=-2.902$,

p=0.004). The bar/tavern/resto location was frequented on average 37.3 days per year by online poker players, and 0.8 days by offline poker players ($t(351)=-2.817$, $p=0.005$).

Table 5.5.
Gambling Patterns Among Online and Offline Poker Players (N=368)

	Online poker players (n=74)		Offline poker players (n=294)		χ^2 (df)
	%	95% CI	%	95% CI	
Partners					
Alone	18.9	9.9 - 27.9	s	s	42.290*** (1)
With partners	81.1	72.1 - 90.1	99.3	98.4 - 100.3	
Monthly spending					
\$0 - \$5	19.1	9.7 - 28.6	46.7	40.6 - 52.8	58.723*** (4)
\$6 - \$20	30.9	19.8 - 42.0	34.4	28.6 - 40.2	
\$21 - \$50	s	s	11.9	8.0 - 15.9	
\$51 - \$100	s	s	4.3	1.8 - 6.7	
\$100+	27.9	17.2 - 38.7	2.7	0 - 3.1	
Yearly debt					
\$0 - \$5	43.7	32.0 - 55.3	57.5	51.8 - 63.3	33.249*** (4)
\$6 - \$20	s	s	21.4	16.6 - 26.2	
\$21 - \$50	12.7	4.9 - 20.5	10.9	7.2 - 14.5	
\$51 - \$100	18.3	9.2 - 27.4	7	4.0 - 10.0	
\$100+	16.9	0 - 9.0	3.2	1.1 - 5.2	
Weekly income					
\$0 - \$5	s	s	3.5	1.4 - 5.7	1.113 (4)
\$6 - \$20	s	s	3.2	1.1 - 5.2	
\$21 - \$50	14.5	6.1 - 22.9	19.8	15.1 - 24.5	
\$51 - \$100	24.6	14.4 - 34.9	23.0	18.0 - 27.9	
\$100+	53.6	41.7 - 65.5	50.5	44.7 - 56.4	
Frequency of play offline					
Less than weekly	87.5	79.7 - 95.3	99.0	97.8 - 100.1	-
More than weekly	12.5	4.7 - 20.3	1.0	-.1 - 2.2	
Gambling locations					
Private Residence	90.4	90.7 - 96.4	93.2	90.3 - 96.1	0.868 (1)
Campus	12.3	4.7 - 20	7	4 - 10	2.174 (1)
Work	s	s	4.2	1.9 - 6.6	3.286 (1)
Casino	29.2	18.6 - 39.8	11.6	7.9 - 15.4	13.743***(1)
Bar/Tavern/Resto	30.1	19.5 - 40.8	6.4	3.5 - 9.2	32.894***(1)
Other	19.4	10.2 - 28.7	7.7	4.5 - 10.9	8.632** (1)

Table 5.5.

Gambling Patterns Among Online and Offline Poker Players (N=368) (continued)

	Online poker players (n=74)		Offline poker players (n=294)		t-test (df)
	Mean	SD	Mean	SD	
Average number of days gambling per location					
Internet	215.1	493.4	-	-	-
Private Residence	43.3	48.6	25.8	33.9	-3.553*** (363)
Campus	30.4	217.5	2.5	13.1	-2.199* (351)
Work	30.0	217.5	1.4	12.8	-2.206* (352)
Casino	39.5	218.3	1.9	8.3	-2.902** (353)
Bar/Tavern/Resto	37.3	219.1	0.8	2.9	-2.817** (351)
Other	34.7	229.1	1.7	9.8	-2.373* (333)

Note: s - Data suppressed due to unreliability.

Significance levels: * p<.05 **p<.01 ***p<.001.

Gambling severity and associated problems

Online poker players were shown to have higher rates of both at-risk and problem gambling behaviour (see Table 5.6). In this group, 17.4% were identified as problem gamblers, compared to only 1.1% among the offline poker players. Online poker players were 30 times more likely to be identified as problem gamblers than offline poker players (OR=30.37, 95% CI 7.2 -128.8). Online poker players were also three times more likely to be at moderate risk for gambling problems than offline poker players (OR=3.48, 95% CI 1.40 – 9.0).

Results further revealed that online poker players were more likely than offline poker players to report problems with their studies (OR=39.1, 95% CI 10.6 – 144.5), family (OR=10.9, 95% CI 3.6 – 33.4), and finances (OR=8.6, 95% CI 3.6 – 20.3).

The analyses of alcohol consumption, cannabis use, and smoking habits did not reveal any significant differences among the two groups. An increased likelihood to use illicit drugs in the past year among online poker players was observed (OR=1.98, 95% CI 1.1 – 3.7).

No significant differences were established between the two groups when risk of psychological distress was assessed. Online and offline poker players had very similar mean scores on the general health questionnaire (2.3 vs. 2.2), with no significant difference established between the categories.

Table 5.6.

Problem Gambling and Gambling-Associated Problems Among Online and Offline Poker Players (N=368)

	Online poker players (n=74)				Offline poker players (n=294)	
	%	95% CI	OR	OR 95% CI	%	95% CI
Gambling Profile						
Low-risk gambler (ref. Non-problem gambler)	21.7	11.9 - 31.6	2.20*	1.1 - 4.5	14.7	10.6 - 18.8
Moderate-risk gambler	13.0	5.0 - 21.1	3.48**	1.4 - 9.0	5.2	2.7 - 7.8
Problem gambler	17.4	8.4 - 26.4	30.37***	7.2 - 128.8	1.1	0 - 2.2
Perceived problems in major life areas						
Family	20.0	10.5 - 29.5	10.93***	3.6 - 33.4	1.8	0.2 - 3.3
Friends	11.3	3.8 - 18.7	2.41	0.9 - 6.3	4.9	2.4 - 7.4
Studies	30.9	19.8 - 42.0	39.14***	10.6 - 144.5	s	s
Finances	26.8	16.4 - 37.2	8.60***	3.6 - 20.3	3.5	1.4 - 5.7
Alcohol use						
Drinking in the past 12 months (ref. No)	100.0	-	-		98.9	97.7 - 100.1
Drinking in the past 30 days (ref. No)	92.7	86.4 - 98.9	0.56	0.2 - 1.7	95.3	92.8 - 97.8
Hazardous or harmful drinking (ref. No)	47.1	35.1 - 59.1	1.01	0.6 - 1.8	42.7	36.9 - 48.5
Alcohol dependence (ref. No)	32.4	21.1 - 43.6	1.55	0.8 - 2.8	22.1	17.2 - 26.9
Illicit drug use (past 12 months)						
Cannabis (ref. No)	60.0	41.4 - 71.6	1.25	0.7 - 2.2	53.0	47.2 - 58.8
Other Illicit Substance (ref. No)	28.6	17.9 - 39.3	1.98*	1.1 - 3.7	18.2	13.7 - 22.8
Smoking status						
Current Smoker (ref. Non-smoker)	34.3	23.1 - 45.5	1.59	0.9 - 2.8	26.0	20.8 - 31.1
Psychological distress‡						
At risk of mental health problems (ref. No)	30.0	19.2 - 40.9	1.51	0.8 - 2.8	23.2	18.2 - 28.1

Note: Controlled for gender and survey mode in all regression analyses.

s - Data suppressed due to unreliability.

‡ A score of 4 on the GHQ was used as a cut-point.

Significance levels: * p<.05 **p<.01 ***p<.001.

Chapter 6. Discussion

The introduction of Internet gambling has fueled speculations about its association with higher problem gambling rates. Hence, we need to investigate patterns of online gambling to shed light on its characteristics and significance as a potentially risky activity. However, given the particularity of this study population, one should keep in mind throughout this discussion the particular and precarious developmental state of university students. The transitional position between adolescence and adulthood which students occupy (Arnett, 2000, 2005), and the excesses manifested by engagement in various risk-taking behaviours, could make them particularly vulnerable to the allures of online gambling. While for many of them such behaviours would likely lose their charm by the time adulthood arrives, some might develop serious lasting problems related to gambling. It is precisely those people that need to be identified, because as some scholars speculate (Burge et al., 2004; Griffiths, 1998; Winters et al., 1995; Winters et al., 1998) early onset of gambling could lead not only to risky gambling practices later in life, but also to future problem gambling behaviours.

The current study sought to examine the Internet as a gambling context in contrast with offline gambling activities. More specifically, its aims were to estimate the prevalence of Internet gambling among university students, to explore gambling practices of online gamblers, the characteristics of gamblers and to assess the other problems associated with online gambling.

6.1. Internet Gambling Practices Among University Students

The study findings showed that the prevalence of Internet gambling among university students is 6.9%. As such, it is almost five times higher than that of adults in Quebec estimated at 1.4% (Kairouz & Nadeau, 2011). Even though relative Internet use is also higher (98%) among younger people (between 16 and 24) compared to that (66%) of older adults (over 45) - as found by a study conducted in Canada in 2009 (Statistics Canada, 2010) – the Internet gambling prevalence among the former is still disproportionately high. Those results find only partial support in the growing body of research on Internet gambling. While some studies establish greater prevalence of Internet gambling among students (Griffiths & Barnes, 2008; Petry & Weinstock, 2007), others show numbers similar to the current findings (McBride et al., 2006). As McBride and colleagues (2006) point out some reasons for lower online gambling participation among university students may include popularity of demo/practice websites among this group, (which could lead to under-reporting or underestimation of gambling participation), somewhat more restricted financial abilities, fraud and personal information theft concerns, general distrust in betting online, and for some even lack of ambience.

Online gamblers were revealed to be primarily poker gamblers. This result is not surprising. To begin with, in the Internet context some forms of gambling, such as poker, are enjoying an unprecedented rise in popularity (Griffiths et al., 2006; Siler, 2010; Wood et al., 2007), and the trend is even more prominent at university campuses (Hardy, 2006; McComb & Hanson, 2009). Indeed, poker occupies a significant place on college and

university campuses. Its popularity matches and often exceeds (Hardy, 2006) that in the adult population. The reasons for the interest in the game might be sought not only in its wide media coverage, online advertisements (Lee et al., 2008), and celebrity endorsements, but also in the prevailing belief that poker is a game of skill: that is, outcomes depend on the player's ability and not on chance (Wood et al., 2007; Parke et al., 2005.). Another key explanation is that the Internet plays a role in fueling the poker popularity explosion among university students (Conrad, 2008), because in this context players can learn how to play for free at demo websites, and can play for low stakes until they become better at it.

The assessment of gambling practices indicated that online poker players reported a greater engagement in gambling than offline poker players. They gambled on a greater number of activities than offline gamblers and all of them played poker in physical venues in addition to the Internet. Online poker players' gambling time exceeded that of offline poker players in all reported locations. Still, online poker players spent more days on average playing poker online than they did in all offline locations combined. They also reported playing mostly alone, while virtually all offline poker players did so with partners.

Social patterning of online gambling practices

The study findings point to the fact that Internet gambling patterns are not uniform and equally distributed among various social groups. Analyses of socio-demographic indicators show that poker is a gambling format favored mostly by men in both online

and offline venues, but this gender difference is much more pronounced among the online players. This comes as no great surprise. Even though a recent Canadian national study found men and women to be similar in rates of Internet use (Statistics Canada, 2010), according to Roger's diffusion theory (1962) men are more likely than women to be the earliest adopters of technological innovations. Given its recent introduction, Internet gambling may be viewed as one such innovation. In addition, the popularity of this type of e-gambling among males may be explained by two other factors. One, it is an Internet application, which can provide a rewarding cycle of challenge, mastery, and success, which is inherently attractive to men (Suler, 1999), and two, poker is commonly perceived as a game of skill, and as such more popular among men than among women (Gausset & Jansbol, 2009).

Online poker also seemed to be more heavily endorsed by university students born outside of Canada, than those born in Canada. Considering the role acculturation processes play, it could be argued that a potential lack of social support, language difficulties, and inability to completely fit into the mainstream culture, coupled with a desire to find relief from the stress and anxiety often accompanying immigrant life (Raully & Oei, 2004), could easily prompt one to engage in gambling online, where national and cultural borders can be transcended (Agger, 2004). However, given the scarcity of studies on this association, this explanation should be considered with caution.

6.2. Gambling Online: Is It Riskier and Why?

It seems that the Internet context plays a pivotal role in gambling practices, the virtual setting being associated with greater risk for excessive behaviours and more problems compared to traditional gambling venues. For instance, this study revealed that the group of online poker players was characterized by the spending of considerably higher amounts of time and money, compared to that of their counterparts. This result might be indicative of the pull of cyberspace as a gambling arena. As is often pointed out in the literature (Ferris & Wynne, 2001; Griffiths et al., 2009a; Welte et al., 2004; Wood et al., 2007), time and money spent gambling could be used as markers of excessive involvement and potential pathology. While the detriments to one's financial well-being of spending more money than one can afford on poker can be obvious, those of substantial time expenditures might not be so, even though they can range from problems with social and occupational functioning, to negative moods and broken relationships (Shead et al., 2008).

Gambling problems

Problem gambling was found to be much more common among online poker players than among offline poker players. Perhaps not surprisingly, as students who gamble pathologically face multiple negative consequences that can affect major areas of their life (Engwall et al., 2004), the former group also experienced financial, academic, occupational, and relationship difficulties as a result of their gambling on a much larger scale than their counterparts. The finding that the online medium has a negative effect on problem gambling behaviour is consistent with those observed in a growing body of

research on online gambling and online poker gambling (e.g. Griffiths & Barnes, 2008; Griffiths et al., 2009a; Petry & Weinstock, 2007; Wood et al., 2007). As mentioned earlier, unlike many gambling activities, poker is perceived by players mostly as a game of skill (Wood et al., 2007; Parke et al., 2005), which reinforces the illusion of control over the outcome, and leads to gamblers underestimating the extent of chance involved in the game. The ensuing confusion of luck and skill is manifested in gambling fallacies entertained by many problem gamblers (Shead et al., 2008). For instance, attributing wins to personal skill and losses to external factors (e.g. bad luck) (Gilovich, 1983) is a common cognitive bias in poker, which may increase the susceptibility to problem gambling behaviour, especially among younger inexperienced players.

In addition, the online environment has features lacking in traditional poker environments and partners. The instant feedback typical of online poker makes gambling more addictive (Griffiths, 2003), since it provides immediate gratification, and in essence shortens the time necessary for an addiction to develop (Griffiths, 1999). Shorter intervals between gambling outcomes have been linked to higher level of pathologies (Griffiths, 1999). These combined with the 24-hour access (presenting a constant temptation to chase losses), the anonymity (allowing for strategic gender-swapping among other things), along with the disinhibition effect (emphasizing the inconsequentiality of the activity), might all make Internet poker riskier with respect to the development of gambling problems than its offline counterpart (Parke et al., 2005).

The implications of the major-life area problems more often reported by online poker players are manifold. Excessive Internet use by itself, even for purposes other than gambling, has been linked to depression and loneliness (Morgan & Cotten, 2003). When combined with a risk-laden behaviour, having the potential to cause severe financial difficulties, a pursuit such as online poker gambling could lead to substantial disruptive episodes in these young adults' lives. Occurring in an age period marked by identity exploration and preparation for future adulthood roles (Arnett, 2005), such traumatic episodes might affect negatively both educational and personal trajectories.

Other related problems

Illicit drug use was found to be higher among students who played poker online than among those who preferred offline settings, but no differences were observed with regard to drinking problems and cannabis use. The absence of a social protective environment in cyberspace could be identified as a possible reason for the observed co-occurring illicit drug use among online poker gamblers. Internet poker gambling taking place in the comfort and anonymity of one's own home could enable illicit substance use at much lower social cost. Also, since Internet gambling is associated with increased gambling pathology, in turn conducive to depression and/or other mental health problems (Petry & Weinstock, 2007), resorting to illicit substance use might be indicative of attempts to cope with those problems (Griffiths et al., 2002). Whichever the case, this observation is troubling, given that illicit substance use may contribute to distorted decision-making with regard to controlling gambling behaviour, and further increase the rates of problem gamblers, who are already overrepresented among Internet gamblers.

Why online gambling is a riskier bet?

As outlined earlier, the Internet environment, as compared to physical venues, possesses unique characteristics which could enable certain gambling behaviours. It is accessible, affordable, anonymous, convenient, it favors escape and disinhibition, it provides greater event frequency when gambling, it affords sociability if needed, and it allows users to immerse themselves in a virtual simulated reality. All those features are likely to affect online gambling users in various ways, one of which is by enabling excessive practices. Ultimately, the result is a different gambling experience, and in some cases loss of control, and stronger and more problematic attachment to the behaviour in question.

Gambling versatility

The versatility of the Internet context and its ability to provide opportunities to multi-task (Griffiths et al., 2009a) provides one explanation for the greater number of gambling formats in which online gamblers engaged. Just as students can squeeze in a quick poker-playing session in between their studying and other activities, so they can experiment with various gambling formats online, without the need to switch between offline physical venues (given that some gambling formats, such as bingo, require visiting specific locations). This finding is alarming because gambling versatility has been linked to problem gambling both among gamblers (Welte et al., 2004), and among online poker gamblers (Wood et al., 2007). It is believed that gambling on a lot of different games might be indicative of an attachment to the gambling experience, rather than to just one particular game (Welte et al., 2004). And perhaps one of the reasons why problem

gamblers are represented online in greater numbers than in offline environments is that the Internet gambling venue allows for such attachment to be manifested and indulged.

Setting accessibility

The accessibility of the Internet (Griffiths, 2003) cannot be overstated. The finding that online poker players gambled in physical locations, yet spent more time when playing online, attests to this powerful lure of cyberspace when it comes to gambling. One reason, (and a potentially confounding factor in the results), might be that the Internet can be available in many of the physical venues (i.e. private residence, campus, work) where gambling is also physically possible.

Social control and norming

Another reason might be linked to the allures of the Internet as an asocial poker play setting. Marked by fewer regulations, weaker social norms, and a greater potential for symbolic manipulation, this context might not only grant more freedom to employ the strategic advantages of anonymity, but it might also be an attractive play arena for young adults already prone to experimentation (Arnett, 2005), allowing for the slipping into different roles and identities (Turkle, 1999).

The risk of online gambling is likely to be more pronounced given that poker playing on the Internet seems to be a solitary activity. This observation is consistent with speculations regarding the shift from sociality to asociality observed in gambling as a result of the introduction of the Internet (Griffiths, 1999). Gambling as a solitary pursuit

is often linked to problem gambling, because playing alone usually means playing to escape (Griffiths, 1990), or playing to win money, either of which could invite problems in the long run (Griffiths, 1999). More social forms of gambling could provide a “safety net” with respect to over-spending. In addition, partnered gambling is oriented more towards the recreational side of the behaviour, and while not excluding the possibility of winning some money, the latter is not necessarily central (Griffiths, 1999). Indeed, research on other risk behaviours, such as alcohol use for instance, underlines that the social nature of it could prevent excessive engagement. Proscription of solitary drinking is a nearly universal phenomenon, as it is seen as a marker for problematic consumption (Social Issues Research Centre, 1998:22).

6.3. Revisiting the Proposed Lifestyle Model of Online Gambling

Revisiting the online gambling theoretical model, one can argue that the context of the Internet is associated with specific social practices, and a riskier gambling behaviour and lifestyle. While cyberspace does not attract a greater number of gambling students than do physical places, engagement in this context is much more intense. The structure of the Internet gambling context is such that there are virtually no restrictions on the availability of gambling opportunities. The 24-hour availability it provides works in conjunction with the lifestyle of university students, whose flexible schedules and extensive Internet access arguably make them likely candidates for online gambling.

The social context

At least some of the alluring effects of the Internet context relate to the possibility of overcoming structural constraints while in it. Gambling as a type of social encounter differs in the rules and regulations it imposes on its participants depending on whether it takes place online or offline. Again, cyberspace may be a preferred gambling setting because of its looser legislative regulation (Wood & Williams, 2009), greater potential for symbolic manipulation, and overall harder to enforce social norms. Thus for many the ability to enjoy greater freedom from social control and the opportunity to escape the influence of social conditions, (such as gender, and place of birth, for instance), otherwise unfeasible in physical gambling settings, may be an attractive alternative. Because, as Goffman says, “the effect of externally based social attributes on social encounters is very great” (1961:80).

The Internet as a context seems much more permissive than most physical gambling contexts, as norms of behaviour and social interaction are weaker. Offline gambling belongs to the sphere of the social, whereas online gambling - to the sphere of the virtual. In the latter case, the notion of formal and informal social control existing in offline settings, which is often a potential inhibitor of behavioural excesses and deviance (Social Issues Research Centre, 1998:26), is lacking. Therefore, the observed greater engagement in gambling online might suggest that certain gambling social practices are easier to undertake in cyberspace.

Another potentially enabling effect could be attributed to the Internet setting due to its interactive nature. Interactivity could inadvertently encourage agency and contribute to the creation of somewhat illusory perceptions of control over gambling outcomes. Being a fluid environment, offering a wide array of possible options, cyberspace may successfully host gamblers' urges to customize their gambling strategy in an attempt to overcome the structural constraints of particular games. Along with modernist beliefs in individualism, namely that one can become successful through one's own efforts (as opposed to chance), this feature could help explain some of the current popularity of online poker.

The Internet context seems to be a hospitable platform with respect to gambling advertising, which might also affect gambling on poker online. As outlined earlier, gambling advertising on the Internet might be harder to ignore, especially when appearing as pop-up messages. Research conducted among various age groups of gamblers (Binde, 2009; Derevensky et al., 2010; Lee et al., 2008) suggests that depicting the behaviour as a socially acceptable and glamorous activity gambling ads and shows affect gamblers' attitudes by creating and maintaining urges to gamble in gambling individuals. This finding is especially pronounced among problem gamblers, who appear to have greater exposure to gambling advertising, and hold more positive attitudes toward gambling (Derevensky et al., 2010). Therefore, the effect of gambling advertising exposure - conceivably stronger in the online environment - might partly explain the heightened engagement and the higher rate of problems found among online poker gamblers.

In the end, it is clear how the enabling nature of the Internet context with respect to gambling might encourage the enactment of certain risky gambling social practices. Their repetition may, in turn, bring about a dangerous gambling lifestyle, and a vicious cycle which is hard to break.

Online gambling as a lifestyle component: Understanding the processes

Problem gambling may be viewed as one such cycle. Following the online gambling lifestyle model, it is most likely in the *habitus* where such addiction would develop. In the context of a permissive and available setting, such as the Internet, online gambling can easily become a category of the probable. Because, conceivably, in the age of identity exploration and risk taking that students find themselves in, many behaviours fall in the latter category. If imagined as a type of suitable recreational pursuit, providing a respite from the seriousness of studying, the activity can be cognitively normalized. Formulated as a study break, online gambling could become a regular, repetitive, habitual act for some students. Once a behaviour becomes habitual, the normal considerations and assessment given to it as a potentially detrimental activity would be subdued. This could pave the way for unhealthy and even addictive attachment to it.

Arguably, in the collectivity of university students there are similarities not only in lifestyle but also in worldview. Therefore, similar contextual or structural conditions, (i.e. what is possible with respect to online gambling) would produce similar perceptions among the members of the same group. These, in turn, would lead to similarities in their

habitus, actions, and lifestyles. Because once the act of online poker gambling is normalized within the group of university students, the members of that group would be much more likely to adopt similar modes of behaviour. As a result, the *culture* of online gambling might subsequently act upon its members prescribing certain modes of play, which might prove unhealthy for some individuals.

Alternatively, due to the innovation inherent in the habitus, individual behaviour would differ in response to different contexts. Because it contains the possibility of agency in itself, the habitus is always open to novel experiences and novel modes of action. As the habitus takes in the influence of the context, a more social and recreational poker playing context might elicit a matching type of individual response aligned with sociability rather than gambling per se. This way, perhaps, some of the risks with respect to addiction and unhealthy attachment to a hazardous activity such as gambling can be avoided.

Chapter 7. Conclusion

Internet gambling research both in itself and within the university environment represents a relatively recent area of study. The findings presented in this study reflect an effort to shed light on the nature of online student gambling, by focusing on its most popular type - poker. Because as young adults university students are drawn to risk behaviours, and susceptible to problems arising from such engagement.

Limitations and directions for future research

The reader should approach the results described in this study bearing a few points in mind. First, one of the aims of the project is to assess only the association between certain risky behaviours such as online gambling, problem gambling, alcohol and substance use. Accordingly, claims cannot be made about the simultaneity of these behaviours. Second, the cross-sectional nature of the survey prevents us from establishing causality among the measured dimensions. It is thus unclear whether it is addiction-prone individuals who are drawn to online poker gambling, and other risk-taking behaviours, such as alcohol and illicit drug use and abuse, or if it is the gambling type and the gambling environment which trigger gambling pathologies. As it has been noted, some individuals might be more susceptible to the latter than others by virtue of having addictive personality (Jacobs, 1986). Third, the design of the study is such that Internet use is not controlled for in the analyses. Therefore, it is hard to conclude whether the observed high rates of problem gambling are due to propensity to gamble excessively in general, inclination to gamble more when gambling online, high levels of Internet use (regardless of the activities), or any combination of the aforementioned. Last, the results hereby presented

relied on self-report data, which might lead to the under- or overestimation of some realities.

Given that the current study has established an association between online poker gambling and problem gambling, as well as between online poker gambling and certain heightened engagement in this type of gambling, future studies could focus on a more in-depth exploration of the psychological predispositions and motivations of members of the group endorsing these patterns. In addition, the adoption of a longitudinal design for this type of survey might shed more light on whether the patterns hereby observed are part of the developmental identity exploration typical of this age period, and as such quickly adopted and discarded, or if they tend to continue during the adult years of the students endorsing them.

Concluding remarks

Even though a relatively small number of university students gamble on poker online, their gambling patterns warrant attention. Not only because they play more frequently, spend more money and have more debt, as well as engage in other risky behaviours, but also because they experience more problems as a result of gambling in every major life area assessed. Internet poker gambling among university students was also linked to a disproportionately high levels of pathological gambling behaviour.

Perhaps some of the reasons for this problematic engagement are related to the Internet as a context. It is difficult to make claims about what attracts students to cyberspace.

Whether it is its playful environment teaming with opportunities for identity-building, its widely available escapist immersive milieu, giving access to an alternative virtual world, or a mixture of those and other factors, it is hard to say. Whatever the reasons, it is undeniable that the space the Internet creates is part and parcel of reality, seamlessly embedding itself in students' daily activities. Like many technological advances, it transforms the way existing pastimes are approached. Time and more research will show if those online gambling patterns would persist in students' adult years, or will remain only a part of their emerging adulthood exploratory period. For now, however, the combination of the Internet context and gambling seems to be problematic for university students gambling on poker online.

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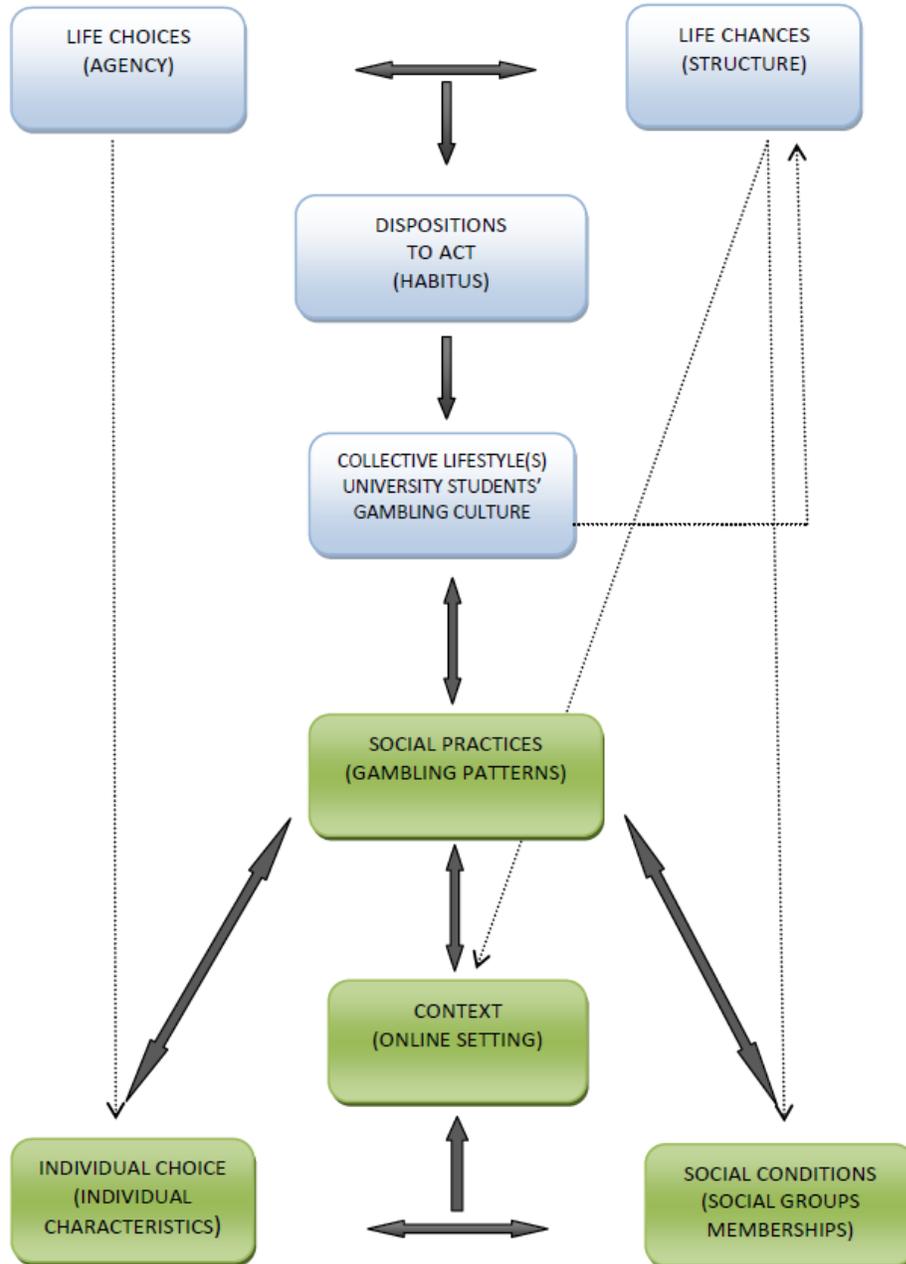
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**Appendix A:
Lifestyle Model of Online Gambling**



**Appendix B:
Methodology Tables**

Table 4.1.
Study Sample Characteristics (N=1,256)

	N	%		N	%
Gender			Place of birth		
Male	515	41.0	In Canada	980	81.3
Female	741	59.0	Outside Canada	226	18.7
Living Arrangement			Language spoken at home		
On campus	64	5.4	English only	134	11.0
Off campus (alone)	87	7.3	French only	575	47.6
Off campus (with family)	878	73.5	French and English	178	14.8
Off campus (with friends/others)	166	13.9	French or/and English and/or other	320	26.5
Year of study			Survey language		
First	434	36.0	English	699	55.7
Second	336	27.9	French	557	44.3
Third	284	23.6			
Fourth	151	12.5	Type of survey		
Marital status			Web	819	65.2
Single	972	80.5	Paper	437	34.8
Married/De facto union	236	19.5	Mean Age (Range 18-50)		22.6

Table 4.2.
Schedule for Reminders

Date sent (2008)	Contact
17-20 Oct	Letter, questionnaire, website & PIN# to all respondents
23 Oct	Email reminder, website & PIN# to all respondents
29 Oct	Letter reminder, website & PIN# to respondents who didn't answer
7 Nov	Email reminder, website & PIN# to respondents who didn't answer
12 Nov	Final letter reminder, website & PIN# to respondents who didn't answer
28 Nov	Final email reminder, website & PIN# to respondents who didn't answer
12 Dec	Web and mail data collection closed

Table 4.3.
Participating Institutions and Estimated Samples

Accredited universities in the Montreal Island area	Population	Proportion	Target sample	Final sample*
Université de Montréal	28,053	100%	1,500	555
UdeM	20,247	72%	1,080	400
École des HEC	4,595	16.5%	247	91
École Polytechnique	3,211	11.5%	173	64
Université du Québec à Montréal	21,053	100%	1,500	555
UQAM	18,465	88%	1,320	488
ETS	2,588	12%	180	67
Concordia University	17,033	100%	3,000	1,110

Note. * Based on a response rate of 37%.

Table 4.4.
ENHJEU Survey Total Sample Characteristics (N=2,139)

	N	%		N	%
Gender			Place of birth		
Male	800	37.4	In Canada	1,553	75.4
Female	1,339	62.6	Outside Canada	507	24.6
Living arrangement			Language spoken at home		
On campus	102	5.0	English only	243	11.8
Off campus (alone)	167	8.2	French only	909	44.1
Off campus (with family)	1,461	71.5	French and English	274	13.3
Off campus (with friends/others)	312	15.3	French or/and English and/or other	636	30.8
Year of study			Survey language		
First	755	36.7	English	1,444	53.5
Second	553	26.8	French	995	46.5
Third	504	24.5			
Fourth	248	12.0	Type of survey		
			Web	1,423	66.5
Marital status			Paper	716	33.5
Single	1,689	81.8			
Married/De facto union	375	18.2	Mean age (Range 17-51)		22.6

Appendix C:
University Student Habit Gambling Survey 2008 (ENHJEU) Instrument



University Student Gambling Habit Survey 2008

You can answer this survey online in English or French at:

<http://enhjeu.questionnaires.ca>

Or complete this questionnaire and return it in the postage paid return envelope

For all other questions or comments, please contact us at:

(514) 848-2424 # 5398

Voice mail is available 24 hours a day



We care about the environment. We have sent the survey in one language depending on the university you attend. Thank you for your understanding.

This survey is printed on recycled paper





CONSENT FORM

Please complete the following section:

- I understand that my participation in this study is voluntary
- I understand that my participation in this study is CONFIDENTIAL
- I understand that data from this study will be released only in the form of summaries in which individual answers will not be identifiable

I HAVE READ THE ABOVE CAREFULLY AND UNDERSTAND THIS AGREEMENT. I GIVE MY CONSENT FREELY AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY.

NAME (please print) _____

SIGNATURE _____

If at any time you have questions about your rights as a research participant, please contact Adela Reid, Research Ethics and Compliance Officer, Concordia University, at (514) 848-2424 x 7481 or by email at areid@alcor.concordia.ca.



PLEASE READ INSTRUCTIONS CAREFULLY

- **Please complete the questionnaire and return it AS SOON AS POSSIBLE.**
- **Your answers will remain anonymous.**
- **Please sign your name on the consent form only.**
- **DO NOT write your name on the questionnaire.**
- **Your participation is voluntary.**
- **You do not need to answer any question that makes you feel uncomfortable.**

Thank you for your participation.

GAMBLING ACTIVITIES



People have different definitions of gambling activities. They may spend money or gamble with family and friends on a variety of games, such as lottery tickets, bingo or card games.

To get a better understanding of gambling habits, we have listed various gambling activities on which you may have spent money. Certain questions may not apply to you, but all participants must be asked the same questions.

LOTTERY TICKETS

1. **During the past 12 months**, have you bet or spent money on LOTTERY TICKETS such as Super 7, “scratch” tickets, Banco, random draws, Keno, etc. EXCLUDING Mise-O-Jeu lottery?

Yes No → *Skip to question 7*

2. **During the past 12 months**, how often did you bet or spend money on the following LOTTERY TICKETS:

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Lottery tickets such as 6/49, Super 7	<input type="checkbox"/>					
b. Instant win or “scratch” tickets such as Lucky 7, Crossword, etc.....	<input type="checkbox"/>					
c. Daily lotteries (Banco, Extra, la Quotidienne, Encore).....	<input type="checkbox"/>					
d. Random draw tickets or fund raising draws	<input type="checkbox"/>					
e. Keno.....	<input type="checkbox"/>					

3. **During the past 12 months**, with whom did you generally bet or spend money on LOTTERY TICKETS?

- Alone
- Friend(s)
- Family member(s)
- Co-workers
- Other.....

4. **In the past 12 months**, how much debt have you accumulated due to betting on LOTTERY TICKETS?(amount in \$)

5. **During the past 12 months**, how much money on average did you spend **per month** on the following LOTTERY TICKETS? Do not include your winnings. (amount in \$)

a. Lottery tickets such as 6/49, Super 7	<input style="width: 100%; height: 20px;" type="text"/>
b. Instant win or “scratch” tickets such as 7 lucky, Crossword, etc.	<input style="width: 100%; height: 20px;" type="text"/>
c. Daily Lotteries such as Banco, Extra, la Quotidienne, Encore	<input style="width: 100%; height: 20px;" type="text"/>
d. Random draw tickets or fund raising draws	<input style="width: 100%; height: 20px;" type="text"/>
e. Keno	<input style="width: 100%; height: 20px;" type="text"/>

6. **During the past 12 months**, would you say that betting or spending money on LOTTERY TICKETS has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.)	<input type="checkbox"/>				
b. Relationship with friend(s)	<input type="checkbox"/>				
c. Studies	<input type="checkbox"/>				
d. Finances.....	<input type="checkbox"/>				
e. Work.....	<input type="checkbox"/>				

HORSE OR DOG RACING

7. **During the past 12 months**, have you bet or spent money on HORSE OR DOG RACING at hippodromes or outside hippodromes?

Yes No → *Skip to question 13*

8. **During the past 12 months**, how often did you bet or spend money on HORSE OR DOG RACING in the following locations or situations :

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Internet.....	<input type="checkbox"/>					
b. Hippodrome.....	<input type="checkbox"/>					
c. Hippo Club	<input type="checkbox"/>					
d. Casino	<input type="checkbox"/>					
e. Bookie	<input type="checkbox"/>					
f. Other.....	<input type="checkbox"/>					

9. **During the past 12 months**, with whom did you generally bet or spend money on HORSE OR DOG RACING ?

- Alone.....
- Friend(s).....
- Family member(s).....
- Co-workers.....
- Other.....

10. **In the past 12 months**, how much debt have you accumulated due to betting on HORSE OR DOG RACING? (amount in \$)

\$

11. **During the past 12 months**, how much money on average did you spend **per month** on HORSE OR DOG RACING? Do not include your winnings. (amount in \$)

\$

12. **During the past 12 months**, would you say that betting or spending money on HORSE OR DOG RACING has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.).....	<input type="checkbox"/>				
b. Relationship with friend(s).....	<input type="checkbox"/>				
c. Studies.....	<input type="checkbox"/>				
d. Finances.....	<input type="checkbox"/>				
e. Work.....	<input type="checkbox"/>				

BINGO

13. **During the past 12 months**, have you bet or spent money on BINGO?

- Yes No → *Skip to question 19*

14. **During the past 12 months**, how often did you bet or spend money on BINGO in the following locations:

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Internet.....	<input type="checkbox"/>					
b. Private residence	<input type="checkbox"/>					
c. On campus.....	<input type="checkbox"/>					
d. Work.....	<input type="checkbox"/>					
e. Bingo Halls/Rooms.....	<input type="checkbox"/>					
f. Church basement	<input type="checkbox"/>					
g. Other.....	<input type="checkbox"/>					

15. **During the past 12 months**, with whom did you generally bet or spend money on BINGO?

- Alone.....
- Friend(s).....
- Family member(s).....
- Co-workers.....
- Other.....

16. **In the past 12 months**, how much debt have you accumulated due to betting on BINGO? (amount in \$)

\$

17. **During the past 12 months**, how much money on average did you spend **per month** on BINGO? Do not include your winnings. (amount in \$)

18. **During the past 12 months**, would you say that betting or spending money on BINGO has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.)	<input type="checkbox"/>				
b. Relationship with friend(s)	<input type="checkbox"/>				
c. Studies	<input type="checkbox"/>				
d. Finances	<input type="checkbox"/>				
e. Work	<input type="checkbox"/>				

VIDEO LOTTERY TERMINALS (VLTs)/ COIN SLOT MACHINES

19. **During the past 12 months**, have you bet or spent money on VIDEO LOTTERY TERMINALS (VLTs) or COIN SLOT MACHINES?

Yes No **→ Skip to question 25**

20. **During the past 12 months**, how often did you bet or spend money on VLTs or COIN SLOT MACHINES in the following locations :

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Internet	<input type="checkbox"/>					
b. Casino	<input type="checkbox"/>					
c. Ludoplex	<input type="checkbox"/>					
d. Bar/Pub/Tavern/Resto-bar	<input type="checkbox"/>					
e. Other	<input type="checkbox"/>					

21. **During the past 12 months**, with whom did you generally bet or spend money on VLTs or COIN SLOT MACHINES?

- Alone.....
- Friend(s).....
- Family member(s).....
- Co-workers.....
- Other.....

22. **In the past 12 months**, how much debt have you accumulated due to betting on VLTs or COIN SLOT MACHINES? (amount in \$)

23. **During the past 12 months**, how much money on average did you spend **per month** on VLTs or COIN SLOT MACHINES? Do not include your winnings. (amount in \$)

24. **During the past 12 months**, would you say that betting or spending money on VLTs or COIN SLOT MACHINES has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.)	<input type="checkbox"/>				
b. Relationship with friend(s)	<input type="checkbox"/>				
c. Studies	<input type="checkbox"/>				
d. Finances	<input type="checkbox"/>				
e. Work	<input type="checkbox"/>				

TABLE POKER

25. **During the past 12 months**, have you bet or spent money on the following types of TABLE POKER? ("X" ONE RESPONSE)

- Cash Game poker
- Tournament poker
- Cash-Game and tournament poker ...
- No..... → *Skip to question 31*

26. **During the past 12 months**, how often did you bet or spend money on TABLE POKER in the following locations :

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Internet.....	<input type="checkbox"/>					
b. Private residence.....	<input type="checkbox"/>					
c. On campus.....	<input type="checkbox"/>					
d. Work.....	<input type="checkbox"/>					
e. Casino.....	<input type="checkbox"/>					
f. Bar/Pub/Tavern/Resto-bar.....	<input type="checkbox"/>					
g. Other.....	<input type="checkbox"/>					

27. **During the past 12 months**, with whom did you generally bet or spend money on TABLE POKER?

- Alone.....
- Friend(s).....
- Family member(s).....
- Co-workers.....
- Other.....

28. **In the past 12 months**, how much debt have you accumulated due to betting on TABLE POKER? (amount in \$)

↳ \$

29. **During the past 12 months**, how much money on average did you spend **per month** on TABLE POKER? Do not include your winnings. (amount in \$)

↳ \$

30. **During the past 12 months**, would you say that betting or spending money on TABLE POKER has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.).....	<input type="checkbox"/>				
b. Relationship with friend(s).....	<input type="checkbox"/>				
c. Studies.....	<input type="checkbox"/>				
d. Finances.....	<input type="checkbox"/>				
e. Work.....	<input type="checkbox"/>				

TABLE GAMES

31. **During the past 12 months**, have you bet or spent money on TABLE GAMES such as Blackjack and Roulette, EXCLUDING Poker?

- Yes No → *Skip to question 38*

32. **During the past 12 months**, how often did you bet or spend money on the following TABLE GAMES EXCLUDING Poker:

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Roulette.....	<input type="checkbox"/>					
b. Black Jack.....	<input type="checkbox"/>					
c. Other.....	<input type="checkbox"/>					

33. **During the past 12 months**, how often did you bet or spend money on TABLE GAMES in the following locations :

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Internet.....	<input type="checkbox"/>					
b. Private residence.....	<input type="checkbox"/>					
c. On campus.....	<input type="checkbox"/>					
d. Work.....	<input type="checkbox"/>					
e. Casino.....	<input type="checkbox"/>					
f. Bar/Pub/Tavern/Resto-bar.....	<input type="checkbox"/>					
g. Other.....	<input type="checkbox"/>					

34. **During the past 12 months**, with whom did you generally bet or spend money on TABLE GAMES?

- Alone.....
- Friend(s).....
- Family member(s).....
- Co-workers.....
- Other.....

35. **In the past 12 months**, how much debt have you accumulated due to betting on TABLE GAMES? (amount in \$)

\$

36. **During the past 12 months**, how much money on average did you spend **per month** on TABLE GAMES? Do not include your winnings. (amount in \$)

\$

37. **During the past 12 months**, would you say that betting or spending money on TABLE GAMES has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.).....	<input type="checkbox"/>				
b. Relationship with friend(s).....	<input type="checkbox"/>				
c. Studies.....	<input type="checkbox"/>				
d. Finances.....	<input type="checkbox"/>				
e. Work.....	<input type="checkbox"/>				

BETTING ON SPORTS OR SPORTING EVENTS

38. **During the past 12 months**, have you bet or spent money on SPORTS such as sports lotteries (ex. Sport Select, Pro-Line, Mise-O-jeu, Total), sports pool or sporting events?

Yes No → *Skip to question 44*

39. **During the past 12 months**, how often did you bet or spend money on the following SPORTS or SPORTING EVENTS:

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Sports lotteries (ex: Mise-O-Jeu).....	<input type="checkbox"/>					
b. Pool(s).....	<input type="checkbox"/>					
c. Sports betting events (other than sports lotteries and pools).....	<input type="checkbox"/>					
d. With a bookie.....	<input type="checkbox"/>					

40. **During the past 12 months**, with whom did you generally bet or spend money on SPORTS or SPORTING EVENTS?

- Alone.....
- Friend(s).....
- Family member(s).....
- Co-workers.....
- Other.....

41. **In the past 12 months**, how much debt have you accumulated due to betting on SPORTS OR SPORTING EVENTS? (amount in \$)

\$

42. **During the past 12 months**, how much money on average did you spend **per month** on the following SPORTS or SPORTING EVENTS? Do not include your winnings. (amount in \$)

a. Sport lotteries (ex: Mise-O-Jeu).....	<input type="text"/>	
b. Pools	<input type="text"/>	
c. Sports betting events (other then sports lotteries and pools).....	<input type="text"/>	
d. With a bookie.....	<input type="text"/>	

43. **During the past 12 months**, would you say that spending money on SPORTS OR SPORTING EVENTS has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.)	<input type="checkbox"/>				
b. Relationship with friend(s)	<input type="checkbox"/>				
c. Studies	<input type="checkbox"/>				
d. Finances	<input type="checkbox"/>				
e. Work.....	<input type="checkbox"/>				

CARD GAMES / BOARD GAMES

44. **During the past 12 months**, have you bet or spent money playing CARD GAMES / BOARD GAMES, EXCLUDING Poker and Blackjack?

Yes No → *Skip to question 50*

45. **During the past 12 months**, how often did you bet or spend money playing CARD GAMES / BOARD GAMES, EXCLUDING Poker and Blackjack in the following locations:

	Every day	2 to 6 times a week	1 to 4 times a week	Less than once a month	Never	Don't know
a. Internet.....	<input type="checkbox"/>					
b. Private residence.....	<input type="checkbox"/>					
c. On campus.....	<input type="checkbox"/>					
d. Work.....	<input type="checkbox"/>					
e. Bar/Pub/Tavern/Resto-bar	<input type="checkbox"/>					
f. Other.....	<input type="checkbox"/>					

46. **During the past 12 months**, with whom did you generally bet or spend money playing CARD GAMES / BOARD GAMES? 47. **In the past 12 months**, how much debt have you accumulated due to betting on CARD GAMES / BOARD GAMES? (amount in \$)

Alone	<input type="checkbox"/>
Friend(s).....	<input type="checkbox"/>
Family member(s)	<input type="checkbox"/>
Co-workers.....	<input type="checkbox"/>
Other.....	<input type="checkbox"/>

48. **During the past 12 months**, how much money on average did you spend **per month** playing CARD GAMES / BOARD GAMES? Do not include your winnings. (amount in \$)

49. **During the past 12 months**, would you say that betting or spending money playing CARD GAMES / BOARD GAMES has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.)	<input type="checkbox"/>				
b. Relationship with friend(s)	<input type="checkbox"/>				
c. Studies	<input type="checkbox"/>				
d. Finances	<input type="checkbox"/>				
e. Work.....	<input type="checkbox"/>				

GAMES OF SKILLS

50. **During the past 12 months**, have you bet or spent money on GAMES OF SKILLS such as Pool, Darts, Bowling, etc.?

Yes No → *Skip to question 56*

51. **During the past 12 months**, how often did you bet or spend money on GAMES OF SKILLS such as Pool, Darts, Bowling, etc. in the following locations:

	Every day	2 to 6 times a week	1 to 4 times a week	Less than once a month	Never	Don't know
a. Internet.....	<input type="checkbox"/>					
b. Private residence.....	<input type="checkbox"/>					
c. On campus.....	<input type="checkbox"/>					
d. Work.....	<input type="checkbox"/>					
e. Bar/Pub/Tavern/Resto-bar.....	<input type="checkbox"/>					
f. Other.....	<input type="checkbox"/>					

52. **During the past 12 months**, with whom did you generally bet or spend money on GAMES OF SKILLS? 53. **In the past 12 months**, how much debt have you accumulated due to betting on GAMES OF SKILLS? (amount in \$)

- Alone.....
- Friend(s).....
- Family member(s).....
- Co-workers.....
- Other.....

→ \$

54. **During the past 12 months**, how much money on average did you spend **per month** on GAMES OF SKILLS? Do not include your winnings. (amount in \$)

→ \$

55. **During the past 12 months**, would you say that your betting or spending money on GAMES OF SKILLS has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.).....	<input type="checkbox"/>				
b. Relationship with friend(s).....	<input type="checkbox"/>				
c. Studies.....	<input type="checkbox"/>				
d. Finances.....	<input type="checkbox"/>				
e. Work.....	<input type="checkbox"/>				

SPECULATIVE INVESTMENTS

56. **During the past 12 months**, how often have you bet or spent money on SPECULATIVE INVESTMENTS such as stocks, options, or commodities?

- Every day.....
- 2 to 6 times a week.....
- 1 to 4 times a month.....
- Less than once a month.....
- Never.....
- Don't know.....

→ *Skip to question 61*

57. **During the past 12 months**, with whom did you generally bet or spend money on SPECULATIVE INVESTMENTS? 58. **In the past 12 months**, how much debt have you accumulated due to SPECULATIVE INVESTMENTS? (amount in \$)

- Alone
- Friend(s)
- Family member(s)
- Co-workers
- Other

\$

59. **During the past 12 months**, how much money on average did you spend **per month** on SPECULATIVE INVESTMENTS? Do not include your winnings. (amount in \$)

\$

60. **During the past 12 months**, would you say that betting or spending money on SPECULATIVE INVESTMENTS has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.)	<input type="checkbox"/>				
b. Relationship with friend(s)	<input type="checkbox"/>				
c. Studies	<input type="checkbox"/>				
d. Finances	<input type="checkbox"/>				
e. Work	<input type="checkbox"/>				

61. a) How old were you the first time you spent **more than \$10** on games of chance ? (**IF YOU HAVE NEVER SPENT MORE THAN \$10, WRITE 0 IN THE BOX**)

_____ years old the first time I spent **more than \$10** on games of chance.

- b) On average, how much money do you dispose per week for your personal expenses? (Please include money from all sources, whether employment, allowances, bursary, etc.)

\$

If, during the past 12 months, **you have bet or spent money on AT LEAST ONE of the ten gambling activities listed above involving games of chance or gambling**, → **Go to question 62**

If, during the past 12 months, **you have NOT bet or spent money on ANY of the ten gambling activities listed above**, → **Go to question 65**

62. **During the past 30 DAYS**, how often did you bet or spend money on each of the following gambling activities:

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Lottery tickets.....	<input type="checkbox"/>					
b. Horse or dog races	<input type="checkbox"/>					
c. Bingo	<input type="checkbox"/>					
d. Video Lottery Terminals (VLTs)/ coin slot machines	<input type="checkbox"/>					
e. Table Poker	<input type="checkbox"/>					
f. Table games	<input type="checkbox"/>					
g. Betting on sports/ sport events	<input type="checkbox"/>					
h. Card games / board games.....	<input type="checkbox"/>					
i. Games of skills	<input type="checkbox"/>					
j. Speculative investments	<input type="checkbox"/>					

63. The following questions concern the social nature of occasions involving gambling and games of chance.

If during the LAST 12 MONTHS, you have bet or spent money:

- ONCE → Please complete MOST RECENT OCCASION ONLY
 TWICE → Please complete MOST RECENT OCCASION AND 2ND MOST RECENT OCCASION;
 THREE TIMES OR MORE → Please complete MOST RECENT OCCASION AND 2ND MOST RECENT OCCASION AND
 3RD OCCASION LA PLUS RÉCENT

If it helps you to remember, you may write down the date or other information under each occasion.	Most Recent Occasion	2 nd Most Recent Occasion	3 rd Most Recent Occasion
a. On this occasion, on what gambling activity did you bet or spend money? (PLEASE "X" ONE RESPONSE)			
i. Lottery ticket.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Horse or dog racing.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. Bingo.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. Video lottery Terminals (VLTs)/ coin slot machines.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. Table Poker.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vi. Table games.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vii. Betting on sports/ sport events.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
viii. Card games / board games.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ix. Games of skills.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
x. Speculative investments.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b1. On this occasion, in which of the following locations or situations did you mainly bet or spend money? ("X" ONE RESPONSE)			
i. Private residence.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. On campus.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. Ludoplex.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. Hippodrome.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. Hippo club.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vi. With bookie.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vii. Bingo hall/room.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
viii. Church basement.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ix. Casino.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
x. Bar/Pub/Tavern/Resto-bar.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
xi. Work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
xii. Other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b2. In this location, did the gambling occur on Internet?			
Yes.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does not apply.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Did this occasion take place during the... (PLEASE "X" ONE RESPONSE)			
Week.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Weekend (includes Friday).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. On this occasion, how many hours did you spend gambling? (PLEASE WRITE NUMBER OF HOURS AND/OR MINUTES)			
i. Number of hour(s).....	_____	_____	_____
ii. Number of minute(s).....	_____	_____	_____

If it helps you to remember, you may write down the date or other information under each occasion.	Most Recent Occasion	2 nd Most Recent Occasion	3 rd Most Recent Occasion
e. On this occasion, how much money did you bet or spend? (AMOUNT IN \$)	<input type="text"/>	<input type="text"/>	<input type="text"/>
f. On this occasion, how many of the following alcoholic drinks did you have? (include coolers in the appropriate categories of beer, wine or spirits.)			
i. Number of bottles/glasses of beer	<input type="text"/>	<input type="text"/>	<input type="text"/>
ii. Number of glasses of wine	<input type="text"/>	<input type="text"/>	<input type="text"/>
iii. Number of shots of spirits	<input type="text"/>	<input type="text"/>	<input type="text"/>
g. On this occasion, what was your <u>main reason</u> for gambling? (PLEASE "X" ONE RESPONSE)			
i. To be sociable.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. To help me relax.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. To pass the time/boredom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. To be competitive.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. To develop skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vi. To be like others.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vii. To try my luck.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
viii. To forget my worries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ix. To get "high"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
x. To win back money I lost.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
xi. To have fun	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
xii. To win money.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
xiii. Other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. On this occasion, did you use marijuana/cannabis or hashish?			
Yes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. On this occasion, did you use other drugs such as cocaine, crack, speed, ecstasy, hallucinogens?			
Yes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. On this occasion, did you miss a class because you were gambling?			
Yes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. On this occasion, excluding yourself, how many people were with you most of the time? (PLEASE "X" ONE RESPONSE)			
i. No one (Go to next occasion at ► Q 63)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. 1 person.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. 2 to 3 people.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. 4 to 9 people.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. 10 or more people.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. What relationship did most of the people present have to you? (PLEASE "X" ONE RESPONSE)			
i. Friend(s).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. Family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii. Acquaintances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv. Other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

64. Thinking about **the last 12 months**, (PLEASE "X" ONE RESPONSE IN EACH ROW)

	Almost always	Most of the time	Sometimes	Never
a. How often have you bet more than you could really afford to lose?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. How often have you needed to gamble with larger amounts of money to get the same feeling of excitement?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. When you gambled, how often did you go back another day to try to win back the money you lost?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. How often have you borrowed money or sold anything to get money to gamble?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. How often have you felt that you might have a problem with gambling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. How often has gambling caused you any health problems, including stress or anxiety?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. How often have people criticized your betting or told you that you had a gambling problem, regardless of whether or not you thought it was true?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. How often has your gambling caused any financial problems for you or your household?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. How often have you felt guilty about the way you gamble or what happens when you gamble?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Have you lied to family members or others to hide your gambling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Have you bet or spent more money than you wanted to on gambling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Have you wanted to stop betting money or gambling, but didn't think you could?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To get a better understanding of various gambling habits, we will ask you questions about two popular types of virtual games. Some of these questions may not apply to your situation but all participants must be asked the same questions.

VIDEO GAMES

65. **During the past 12 months**, have you played or spent money on VIDEO GAMES, EXCLUDING MMOGs/MMORPGs (Massively MultiPlayer Online Games)? Buying a game OR upgrading your computer to play video games are considered as spending money.
 Yes No → Skip to question 71

66. **During the past 12 months**, how often did you play or spend money on VIDEO GAMES in the following locations :

	Every day	2 to 6 times a week	1 to 4 times a month	Less than once a month	Never	Don't know
a. Internet	<input type="checkbox"/>					
b. Private residence	<input type="checkbox"/>					
c. Arcade	<input type="checkbox"/>					
d. Other	<input type="checkbox"/>					

67. **During the past 12 months**, with whom did you generally play or spend money on VIDEO GAMES?

- Alone
- Friend(s)
- Family member(s)
- Co-workers
- Other

68. **In the past 12 months**, how much debt have you accumulated due to playing VIDEO GAMES or spending money upgrading your computer? (amount in \$):

↳ \$

69. **During the past 12 months**, how much money on average did you spend **per month** on VIDEO GAMES and on upgrading your computer? Do not include your winnings. (amount in \$)

A) (Video games)

B) (Computer)

70. **During the past 12 months**, would you say that playing or spending money on VIDEO GAMES and/or upgrading your computer has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.)	<input type="checkbox"/>				
b. Relationship with friend(s)	<input type="checkbox"/>				
c. Studies	<input type="checkbox"/>				
d. Finances	<input type="checkbox"/>				
e. Work	<input type="checkbox"/>				

MMOGs / MMORPG

71. **During the past 12 months**, how often have you played or spent money on MMOGs (Massively Multiplayer Online Games) or MMORPG (Massively Multiplayer Online Role-Playing Games) ?

- Every day.....
 - 2 to 6 times a week
 - 1 to 4 times a month.....
 - Less than once a month.....
 - Never
 - Don't know
- *Skip to question 77*

72. **During the past 12 months**, with whom did you generally play or spend money on MMOGs/MMORPG?

- Alone
- Friend(s)
- Family member(s)
- Co-workers.....
- Other.....

73. **In the past 12 months**, how much debt have you accumulated due to playing MMOGs/MMORPG? (amount in \$)

74. **During the past 12 months**, how much money on average did you spend **per month** on MMOGs/MMORPG? Do not include your winnings. (amount in \$)

75. a) **During the last 12 months**, have you spent money to buy virtual money for MMOGs/MMORPG?

- Yes
- No *Skip to question 76*

75b). **During the past 12 months**, how much money on average did you spend **per month** to buy virtual money? (amount in \$)

76. **During the past 12 months**, would you say that playing or spending money on MMOGs/MMORPG has caused problems in your:

	Does not apply	Never	Sometimes	Most of the time	Almost always
a. Relationship with family members (mother, children, partner, etc.)	<input type="checkbox"/>				
b. Relationship with friend(s)	<input type="checkbox"/>				
c. Studies	<input type="checkbox"/>				
d. Finances	<input type="checkbox"/>				
e. Work	<input type="checkbox"/>				

In the next few questions, we are interested in your use of alcohol and the potential consequences of drinking that you may or may not have experienced.

These quantities represent one drink.



77. Have you ever in your life consumed an alcoholic drink (more than a sip - see the definition in the previous box), for example beer, wine, spirits or coolers?

Yes No → *Skip to question 86*

78. How old were you when you had your first drink of alcohol excluding sips? (PLEASE WRITE AGE AT WHICH YOU FIRST DRANK ALCOHOL)

_____ years old when had first drink of alcohol.

79. **During the past 12 months**, how often, on average, did you consume alcoholic drinks? (PLEASE "X" ONE RESPONSE)

- | | |
|-----------------------------|--------------------------|
| 4 times or more a week..... | <input type="checkbox"/> |
| 2 to 3 times a week..... | <input type="checkbox"/> |
| 2 to 4 times a month..... | <input type="checkbox"/> |
| Once a month or less..... | <input type="checkbox"/> |
| Never..... | <input type="checkbox"/> |
- *Skip to question 85*

80. **During the past 12 months**, on the days when you drank, how many drinks did you usually have?

Number of drinks _____

81. **During the past 12 months**, on a single occasion, how many times did you have:

Number of times

- a) 5 to 7 drinks? _____
- b) 8 to 11 drinks? _____
- c) 12 drinks or more? _____

82. **During the PAST MONTH**, how many times did you consume alcoholic drinks? (PLEASE "X" ONE RESPONSE)

- | | |
|-----------------------------|--------------------------|
| Every day..... | <input type="checkbox"/> |
| 4 to 6 times a week..... | <input type="checkbox"/> |
| 2 to 3 times a week..... | <input type="checkbox"/> |
| Once a week..... | <input type="checkbox"/> |
| 1 to 3 times a month..... | <input type="checkbox"/> |
| Less than once a month..... | <input type="checkbox"/> |
| Never..... | <input type="checkbox"/> |
- *Skip to question 85*

83. **During the PAST MONTH**, on the days when you drank, how many drinks did you usually have?

Number of drinks _____

84. **During the PAST MONTH**, on a single occasion, how many times did you have:

Number of times

- a) 5 to 7 drinks? _____
- b) 8 to 11 drinks? _____
- c) 12 drinks or more? _____

85. How often have you experienced the following? (PLEASE "X" ONE RESPONSE IN EACH ROW)

	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
a. How often during the past 12 months have you found that you were unable to stop drinking once you had started?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. How often during the past 12 months have you failed to do what was normally expected of you because of drinking?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. How often during the past 12 months have you needed a first drink in the morning to get yourself going after a heavy drinking session?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. How often during the past 12 months have you had a feeling of guilt or remorse after drinking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. How often during the past 12 months have you been unable to remember what happened the night before because you had been drinking?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. How often do you have 5 or more drinks on one occasion?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	No	Yes, but not in the past year	Yes, in the past year		
g. Have you or someone else been injured as the result of your drinking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
h. Has a relative, friend, or a doctor or other health worker been concerned about your drinking or suggested you cut down?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

The next few questions are about the use of drugs OTHER than alcohol

86. Have you smoked at least 100 cigarettes in your life?

Yes No → *Skip to question 90*

87. At the present time, do you smoke cigarettes daily, occasionally or not at all? ("X" ONE RESPONSE)

Every day.....
 Occasionally
 Not at all

88. How long ago was it that you last smoked? ("X" ONE RESPONSE)

Less than one week ago
 More than one week, but less than a month.....
 1 to 6 months ago
 7 or more months ago → *Skip to question 90*

89. **In the past 30 days**, how soon after you wake up in the morning do you usually smoke your first cigarette? ("X" ONE RESPONSE)

I did not smoke in the past 30 days
 Within 15 minutes
 16-30 minutes
 31-60 minutes
 More than 60 minutes.....

90. When was the last time, if ever, that you used the following drugs? ("X" ONE RESPONSE IN EACH ROW)

	Never In My Life	In My Life But Not In Past 12 Months	In Past 12 Months But Not In Past 30 Days	Used In Past 30 Days
a. Marijuana (or hashish)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Crack cocaine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Other forms of cocaine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Barbiturates (prescription-type sleeping pills such as Seconal, Nembutal, downs or Yellow Jackets).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Ritalin, Dexedrine, or Adderall	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Other amphetamines (methamphetamines, crystal meth, speed, uppers, ups).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Tranquilizers (prescription-type drugs such as Valium, Librium, Xanax, Ativan, Klonopin).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Heroin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Other opiate-type prescription drugs (codeine, morphine, Demerol, Percodan, Percodet, Vicodin, Darvon, Darvocet).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. LSD.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Other psychedelics or hallucinogens such as mushrooms, mescaline or PCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Ecstasy (MDMA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Other "party drugs" (Ketamine, Special K, GHB)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Anabolic steroids (either injections such as Depo-testosterone Durbolin, or pills such as Anadrol, Dianabol, or Winstrol).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Other performance-enhancing drugs (growth hormone, diuretics, ephedrine).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

91. How often have you used marijuana or hashish during the past 12 months? ("X" ONE RESPONSE)

Almost every day.....	<input type="checkbox"/>
4 to 5 times a week	<input type="checkbox"/>
2 to 3 times a week	<input type="checkbox"/>
Once a week	<input type="checkbox"/>
2 to 3 times a month	<input type="checkbox"/>
Once a month	<input type="checkbox"/>
Less than once a month	<input type="checkbox"/>
Never	<input type="checkbox"/>

92. In your opinion, have any of your relatives had serious problems involving alcohol or drugs, or problems with gambling? (The problem must have been serious enough to indicate treatment)

	Alcohol			Drugs			Gambling		
	Yes	No	Don't know	Yes	No	Don't know	Yes	No	Don't know
Father	<input type="checkbox"/>								
Mother	<input type="checkbox"/>								
Does not apply	Alcohol			Drugs			Gambling		
Brother(s) <input type="checkbox"/>	<input type="checkbox"/>								
Sister(s) <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In the next few questions we would like to know how your health has been in general over the past few weeks. Think about your present and recent complaints, not those that you had in the past

93. Over the PAST FEW WEEKS, have you... (PLEASE "X" ONE RESPONSE IN EACH ROW)

	Better than usual	Same as usual	Less than usual	Much less than usual
a ... Been able to concentrate on whatever you are doing?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. ... Lost much sleep over worry?	Not at all <input type="checkbox"/>	No more than usual <input type="checkbox"/>	Rather more than usual <input type="checkbox"/>	Much more than usual <input type="checkbox"/>
c ... Felt that you are playing a useful part in things?.....	More so than usual <input type="checkbox"/>	Same as usual <input type="checkbox"/>	Less than usual <input type="checkbox"/>	Much less than usual <input type="checkbox"/>
d ... Felt capable of making decisions about things?.....	More so than usual <input type="checkbox"/>	Same as usual <input type="checkbox"/>	Less than usual <input type="checkbox"/>	Much less than usual <input type="checkbox"/>
e. ... Felt constantly under strain?.....	Not at all <input type="checkbox"/>	No more than usual <input type="checkbox"/>	Rather more than usual <input type="checkbox"/>	Much more than usual <input type="checkbox"/>
f. ... Felt you couldn't get over your difficulties?.....	Not at all <input type="checkbox"/>	No more than usual <input type="checkbox"/>	Rather more than usual <input type="checkbox"/>	Much more than usual <input type="checkbox"/>
g. ... Been able to enjoy your normal day-to-day activities?	More so than usual <input type="checkbox"/>	Same as usual <input type="checkbox"/>	Less than usual <input type="checkbox"/>	Much less than usual <input type="checkbox"/>
h. ... Been able to face up to your problems?	More so than usual <input type="checkbox"/>	Same as usual <input type="checkbox"/>	Less than usual <input type="checkbox"/>	Much less than usual <input type="checkbox"/>
i. ... Been feeling unhappy or depressed?.....	Not at all <input type="checkbox"/>	No more than usual <input type="checkbox"/>	Rather more than usual <input type="checkbox"/>	Much more than usual <input type="checkbox"/>
j. ... Been losing confidence in yourself?	Not at all <input type="checkbox"/>	No more than usual <input type="checkbox"/>	Rather more than usual <input type="checkbox"/>	Much more than usual <input type="checkbox"/>
k ... Been thinking of yourself as a worthless person?	Not at all <input type="checkbox"/>	No more than usual <input type="checkbox"/>	Rather more than usual <input type="checkbox"/>	Much more than usual <input type="checkbox"/>
l. ... Been feeling reasonably happy, all things considered?.....	More so than usual <input type="checkbox"/>	Same as usual <input type="checkbox"/>	Less than usual <input type="checkbox"/>	Much less than usual <input type="checkbox"/>
m. ... Found that the idea of taking your own life kept coming into your mind?.....	Definitely not <input type="checkbox"/>	I don't think so <input type="checkbox"/>	Has crossed my mind <input type="checkbox"/>	Definitely have <input type="checkbox"/>

94. Please answer each question by checking YES or NO. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the question.

	Yes	No
a. Do you generally do and say things without stopping to think?	<input type="checkbox"/>	<input type="checkbox"/>
b. Do you often get into trouble because you do things without thinking?.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Are you an impulsive person?.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Do you usually think carefully before doing anything?	<input type="checkbox"/>	<input type="checkbox"/>
e. Do you mostly speak before thinking things out?.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Would you enjoy water skiing?	<input type="checkbox"/>	<input type="checkbox"/>
g. Would you enjoy parachute jumping?	<input type="checkbox"/>	<input type="checkbox"/>
h. Do you quite like taking chances?	<input type="checkbox"/>	<input type="checkbox"/>
i. Would you enjoy the sensation of skiing very fast down a high mountain slope?.....	<input type="checkbox"/>	<input type="checkbox"/>
j. Would you like to go scuba diving?.....	<input type="checkbox"/>	<input type="checkbox"/>

Before we end, we have a few questions regarding your background

95. Are you male, female or transgender?
- | | |
|------------------|--------------------------|
| Male | <input type="checkbox"/> |
| Female..... | <input type="checkbox"/> |
| Transgender..... | <input type="checkbox"/> |
96. How old are you?
- _____ Current age, in years.
97. What is your current marital status? ("X" ONE RESPONSE)
- | | |
|-------------------------------------|--------------------------|
| Married | <input type="checkbox"/> |
| De facto union (cohabitation) | <input type="checkbox"/> |
| Widowed..... | <input type="checkbox"/> |
| Separated | <input type="checkbox"/> |
| Divorced | <input type="checkbox"/> |
| Single, never married..... | <input type="checkbox"/> |
98. What type of residence do you currently live in? ("X" ONE RESPONSE)
- | | |
|-------------------------------|--------------------------|
| University residence..... | <input type="checkbox"/> |
| Other university housing..... | <input type="checkbox"/> |
| NON-university housing | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |
99. How many close friends do you have? ("X" ONE RESPONSE)
- | | |
|--------------------|--------------------------|
| None | <input type="checkbox"/> |
| One | <input type="checkbox"/> |
| Two | <input type="checkbox"/> |
| Three | <input type="checkbox"/> |
| Four | <input type="checkbox"/> |
| Five or more | <input type="checkbox"/> |
100. Excluding children, with whom are you currently living? ("X" ONE RESPONSE)
- | | |
|----------------------------------|--------------------------|
| Alone..... | <input type="checkbox"/> |
| With spouse/partner | <input type="checkbox"/> |
| With parents..... | <input type="checkbox"/> |
| With other family members | <input type="checkbox"/> |
| With friends/acquaintances | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |
101. Where were you born?
- | | | |
|---------------------------|--------------------------|-------------------------------|
| Born in Canada..... | <input type="checkbox"/> | → <i>Skip to question 103</i> |
| Born outside Canada | <input type="checkbox"/> | |
102. In what year did you come to Canada? (PLEASE WRITE YEAR IN 4 DIGITS)
- _____ Year you arrived in Canada
103. What language do you usually speak at home? ("X" ONE RESPONSE)
- | | | | |
|-------------------------|--------------------------|---------------------------------|--------------------------|
| English only | <input type="checkbox"/> | English and other only..... | <input type="checkbox"/> |
| French only | <input type="checkbox"/> | French and other only | <input type="checkbox"/> |
| French and English..... | <input type="checkbox"/> | French, English and other | <input type="checkbox"/> |
| | | Other | <input type="checkbox"/> |
104. People who live in Canada have different cultural and racial backgrounds. Would you say that yours is from...? ("X" ONE RESPONSE)
- | | | | |
|---|--------------------------|---|--------------------------|
| Canada | <input type="checkbox"/> | Asia (India, Nepal, Pakistan, etc.)..... | <input type="checkbox"/> |
| United States | <input type="checkbox"/> | Australia and Pacific Islands..... | <input type="checkbox"/> |
| Mexico, Caribbean, or Latin America | <input type="checkbox"/> | Middle East (Saudi Arabia, Oman, Turkey, etc.).. | <input type="checkbox"/> |
| Africa Central..... | <input type="checkbox"/> | Eastern Europe (Albania, Hungary, Russia, etc.).. | <input type="checkbox"/> |
| West Europe (France, Spain, Sweden, etc.).. | <input type="checkbox"/> | Don't want to answer | <input type="checkbox"/> |
| Asia (China, Japan, Laos, etc.)..... | <input type="checkbox"/> | Do not know | <input type="checkbox"/> |
105. What is your current year of study? ("X" ONE RESPONSE)
- | | |
|---|--------------------------|
| First year undergraduate..... | <input type="checkbox"/> |
| Second year undergraduate..... | <input type="checkbox"/> |
| Third year undergraduate | <input type="checkbox"/> |
| Fourth year or more undergraduate | <input type="checkbox"/> |
| Graduate studies..... | <input type="checkbox"/> |

106. Overall, what was your grade average last year? ("X" ONE RESPONSE.)

- A.....
- B.....
- C.....
- D.....
- F.....
- Not in school last year.....

107. Which field of study best represents the area in which you are currently enrolled? ("X" ONE RESPONSE)

- Arts/Humanities.....
- Science/Technology.....
- Engineering.....
- Social Science.....
- Business/Commerce.....
- Medicine.....
- Other Health Sciences.....
- Law.....
- Education.....
- Other.....

108. Are you currently enrolled in university as a full-time or part-time student?

- Full time.....
- Part-time.....

109. What is your status concerning employment?

- Full-time employee.....
- Part-time employee.....
- No employment.....
- Other.....

110 a) Do you have a portable phone (cell) ?

Yes No → *Skip to next page*

	Yes	No
b1) Can you browse the WEB (www) from your cell phone?.....	<input type="checkbox"/>	<input type="checkbox"/>
b2) Can you receive your email messages on your cell phone (excluding text messages)?.....	<input type="checkbox"/>	<input type="checkbox"/>



CONSENT FORM FOR CONTACT (FOLLOW-UP STUDY)

On behalf of the research team, I thank you for your participation in this important study. Depending on the answers you have provided, you **could be** selected for an in-depth study examining the contexts in which students gamble.

The follow-up study will take place in 2 months and will consist of a group discussion that will last approximately 2 hours. The discussion will focus on the contexts in which you gamble, such as when, how, and with whom you gamble, as well as your substance use habits. The answers will be kept strictly confidential and separate from the answers you have provided in the current survey. You will receive compensation of \$20 for your time and travelling expenses.

Would you agree to the researchers contacting you again to take part in the second study?

- Yes
- No

Thank you for agreeing to be contacted for the follow-up study. If you are selected, we will send you in the next few months a letter describing the study, and a project coordinator will contact you to schedule a group meeting.

We will need some information to be able to contact you again in a few months time.

Name _____

Telephone number _____

Address _____

Would you provide an email address OR the name and telephone number of another person where we might reach you in the event that you move?

- Accept

Name _____

Telephone number _____

Email _____

- Refuse



Thank you for your valuable participation!

*The power to question
Is the basis of all human progress.
Indira Gandhi*