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Participation des adolescents aux jeux vidéo et aux jeux d'argent

Chercheur principal

Jeffrey L. Derevensky, Université McGill

Co-chercheure

Rina Gupta, Université McGill

Établissement gestionnaire de la subvention

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Jeffrey Derevensky, Rina Gupta

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Impacts socioéconomique des jeux de hasard et d'argent 2009-2010

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Part A- CONTEXT

The nature of video games and gambling has changed as technology has become increasingly sophisticated. The Internet has been revolutionary in changing the way people gamble and play video games. Since the mid-1990s, it has been possible to gamble online on casino-type games, poker, sports betting, and multiple other games of chance. In addition, many online gambling activities offer free trials that allow players to take part in gambling-activities without wagering or risking actual money. Similarly, the Internet has led to a profound evolution in the complexity and interactivity of video games, from Multi-User Dungeons (MUDs), text-based, real-time role playing games, similar to an online version of Dungeons and Dragons, to online real-time, fantasy role-playing games in which gamers interact with each other in a virtual environment known as Massively-Multiplayer Online Role-Playing Games (MMORPGs). In the case of online poker and MMORPGs, players interact with other players in the game itself using avatars or may communicate with each other in chat windows. Online forms of gambling and MMORPGs are a relatively new phenomena. Shared features, such as accessibility, anonymity, escape, immersion/dissociation, interactivity, simulation, etc., may also be shared risk factors for excessive use. While our knowledge of MMORPG players is increasing (e.g., Chappell, Etough, Davies, & Griffiths, 2006; King, Delfabbro, & Griffiths, 2009) and our knowledge about youth gamblers is similarly increasing (Derevensky, 2012; Gupta & Derevensky, 2008), to date, few studies have examined similarities or overlap between excessive MMORPG players and problem gamblers.

Although problem gambling is most often thought of as an adult concern, research into youth gambling in the past three decades has established the presence of this phenomenon among adolescents and young adults (Derevensky

& Gupta, 2000; Jacobs, 2000; Gupta & Derevensky, 1998; Volberg, Gupta, Griffiths, Olason & Delfabbro, 2010). Researchers have reported a heightened vulnerability to problem gambling during adolescence (Chambers & Potenza, 2003). Other research has established the presence of problematic video game playing among youth (Gentile, 2009). Pathological gamers reportedly spend twice as much time playing games as non-pathological gamers, receive poorer grades in school, and have comorbid attention problems. Anecdotally, clinical referrals of youth who are over-involved in video game playing are increasing. What is not known empirically is how involved adolescents are in MMORPGs and the impact this involvement may have.

Wood, Griffiths, Chappell and Davies (2004), comparing arcade games and electronic gaming machines, hypothesized that video games contain many of the same properties and structural characteristics thought to be found in gambling activities. These characteristics either induce gaming in the first place or maintain people's gaming, irrespective of the individual's personal psychological and physiological make-up and/or socio-economic status. Early research on video game playing and gambling suggests a link between the two activities (Griffiths, 1991). The concern is that children and adolescents who frequently play video games maybe begin to believe gambling games operate under the principle that specific skills are responsible for success and that their acquired skills can influence the outcome of a game of chance (Wood, Gupta, Derevensky, & Griffiths, 2004). Youth may be convinced they can eventually master skills that will make them more successful gamblers, the way they master skills to become successful video-game players (Wood et al., 2004). This may result in significant amounts of time devoted to the mastery of gambling

games (activities), at the expense of interpersonal relationships, academic performance, and other activities.

Given the overlap in features that make online gambling and MMORPG playing potentially addictive, it would be informative to examine whether specific personality characteristics may predispose individuals to engage in both activities. Gupta, Derevensky, and Ellenbogen (2006) found adolescents identified as problem gamblers shared a common personality profile, characterized by high levels of disinhibition, boredom susceptibility, cheerfulness, and excitability as well as low levels of conformity and self-discipline. Slutske, Caspi, Moffitt and Poulton (2005) reported that genetically influenced dimensions of personality, especially personality dimensions of low behavioural control, may be partially responsible for the comorbidity of disordered gambling behaviour with other addictive disorders. Few studies have examined personality factors with respect to computer or video game playing, with only a few examining the impact of arousal or aggression.

Research with adults has revealed a relationship between problem gambling and depression (Bonnaire, Bungener, & Varescon, 2009; Kim, Grant, Eckert, Faris, & Hartman, 2006). Nevertheless, the research linking gambling and depression is correlational in nature, and, although there seems to be a link between problem gambling and depression, it is not known whether depression stems from gambling problems, or gambling is used as a way to cope with depression.

Players may use MMORPGs to escape temporarily, which may compound the problem by allowing it to worsen over time; leading to a maladaptive coping strategy. In a study of online-game playing among Taiwanese youth, Wan and Chiou (2006) examined the motivations of ten addicted players. The adolescents

reported playing as an emotional coping mechanism from loneliness and isolation, as well as a desire to escape from reality.

What has yet to be examined is whether playing video games is a risk factor for problem gambling, or whether problem gamblers use video games as an additional way to cope with problems; perhaps using gaming as a low-cost strategy for dealing with problems that arise from gambling. What also bears examining are whether the similarities between video game playing and gambling carry through to the Internet. The research examines whether the two activities are linked, whether the same people participate in both, whether there is overlap in shared pathologies (e.g., depression), and whether MMORPGs could be considered a risk factor for excessive online gambling and/or problem gambling.

Primary Hypotheses and Objectives Tested

1. Online gamblers (in particular, online poker players) and MMORPG players have similar personality traits on measures of Impulsivity and Extraversion.
2. MMORPG players, relative to non-players, are more likely to participate in online gambling activities.
3. Problem gamblers, relative to non-problem gamblers, will report higher rates of MMORPG playing.
4. Problem gamblers will report higher rates of depression relative to non-problem gamblers. MMORPG players will similarly report higher rates of depression.

The primary goal of this research is to address this gap by examining common factors that may underlie excessive playing of MMORPGs and excessive online gambling. These factors include personality characteristics (e.g., impulsivity and

extraversion), the role of depression in excessive play, as well as shared factors inherent in the activities themselves.

Part B- Potential solutions, results, impact, and implications of the research

The results of this research are relevant to the governmental bodies and policymakers who are regulating Internet gambling. Within Quebec, Loto-Québec operates its online gambling through its Espacejeux website; incorporating responsible gambling features including age restrictions, deposit and spending limits, timeouts, self-exclusion, and other tools to foster responsible gambling. The current results indicate that only four respondents under the age of 18 had gambled via the Internet in the past year. However, proportionally more problem gamblers than social gamblers reported wagering online, suggesting that some individuals may not be availing themselves of responsible gambling tools, or they are using sites that do not offer them. While there is no way to control which sites those with gambling problems visit (online gamblers frequently use multiple online gambling sites), it is key that responsible sites continue to offer measures to protect these individuals. Restricting mobile applications of online gambling games would be important in helping limit online gambling behaviour. Of particular concern is the role of “free” “play-for-fun” sites in predicting Internet gambling, coupled with the fact that one-quarter of respondents who do not gamble for actual money report play gambling games on these free sites. As gambling has become normalised and socially accepted as a form of entertainment it would be valuable for governments and gaming operators that offer Internet gambling to collaborate with researchers to monitor players in order to document their actual behaviour through behavioural analytics (Shaffer, Peller, LaPlante, Nelson, & LaBrie, 2010). Increased ability to

understand the trajectory of gambling patterns will directly inform strategies to potentially identify problem gamblers and provide useful strategies to help minimize problems.

The current results are also important for online gaming companies. The notion of regulation does not apply to MMORPGs, although it certainly would be helpful to those experiencing a gaming addiction. While there are parental control measures in place on some games, allowing parents to set play-time limits, pre-set play schedules, and reports on their child's play time (e.g., login and logout times and the duration of each play session) appear warranted. Such responsible gaming tools as are used in gambling activities may be similarly useful.

The findings have relevance for treatment providers of youth with both gambling and gaming dependency. There were four participants identified as at-risk for gambling problems who were also identified as addicted gamers. The specific nature of this relationship is unclear, but clearly some young people are over-involved in both activities. Our results suggest more problem gamblers than social or non-gamblers report playing MMORPGs. If they are using MMORPGs to escape the consequences of their gambling problems then intervention should take the form of teaching more adaptive coping strategies. The finding that video game playing predicts offline gambling, can also inform treatment decisions. For example, using cognitive behavioural therapy to address erroneous thoughts of control over the outcome of gambling activities.

The results also inform prevention initiatives, as responsible gambling education could also include messages that the outcomes of gambling will always be due to chance, and that the skills used in playing video games have no bearing on one's proficiency when gambling.

The generalizability of these results is somewhat limited. Enlisted participants represent a convenience sample and may not be truly representative of young people in general. Unlike mandatory age requirements in high school, attendance at CEGEP is not mandatory. Those experiencing severe gambling or gaming problems may have stopped their education at high school, may not be attending classes, or may have withdrawn from school.

While government operators have a mandate to protect the vulnerable, other sites may not be so concerned with underage or problem gamblers. There is nothing to prevent an individual from self-excluding on a Loto-Québec site only to play one of the numerous Internet gambling sites available. Nonetheless, as Internet gambling sites become increasingly technologically sophisticated so must measures to prevent excessive or underage online gambling.

For future researchers a few key findings stand out as warranting further examination. The role of play-for-fun practice sites in both Internet gambling and problem gambling presents a concern and should be examined, ideally in a longitudinal study or one tracking actual Internet gambling behaviour. The finding of higher scores of Venturesomeness for Internet gamblers also warrants further investigation. There is some indication of a relationship between risk-taking and Internet gambling, and as Internet gambling becomes more popular this relationship should be monitored. The relationship between depression and Internet gambling and MMORPG playing, while inconclusive in this study, should not be discounted in future research. The non-significant findings may be a reflection of the small number of problem gamblers and MMORPG players.

There are several key messages arising from this research. Internet gambling operators and government regulators should be aware that proportionately more problem gamblers than social gamblers have gambled

online and stress responsible gambling while promoting tools to that end. Free sites should *not* be thought of as harmless or immune to regulation and, although spending limits do not apply, tools to allow individuals to limit the amount of time spent playing on free sites are crucial. For online video game operators, the key message would be to offer tools for those considered to be addicted to limit their playing as well as messages or measures informing them how long they have been playing. For treatment providers the key messages would include tailoring interventions to include both excessive video game playing and gambling and addressing cognitive distortions pertaining to both. Researchers should focus on tracking actual behaviour of online gamblers, using behavioural analytics in order to determine the role free sites play in the development and maintenance of both gambling online for money and problem gambling.

Part C- Methodology

The methodology incorporates the use of self-report instruments. While the use of self-report data has some limitations (i.e., presentation bias, selective memory, social desirability, etc.), it also has distinct advantages. Self-report methods can be used to determine why people gamble and the relationships between gambling and other behaviours, as well as examining problem gambling using available diagnostic criteria in a safe, non-identifiable way. Guaranteeing anonymity and confidentiality allows respondents to answer honestly about their gambling behaviour.

Data were collected at five CEGEPs and one university in the greater Montreal area. Data collection occurred over one school-year period (September through May) during one class period by the McGill team. Respondents over 18 gave personal informed consent, those under 18 had parental consent to participate. The final sample comprised 1,229 CEGEP students (534 males, 695 females, aged 16-24 years).

Instruments

Standardized questionnaires assessing personality factors, gambling prevalence and severity and video game addiction were used (Appendix 1).

Data treatment and analyses

All data was cleaned and entered through a scanning process using Remark software. Frequency data for gambling and video game playing were examined to determine prevalence rates of these activities. Chi-square was used to examine the association between these factors and demographic variables (e.g., gender, age). A series of sequential binary logistic regression analyses were applied to the data to assess the relationship between gambling, video game

playing, age, and gender, and online gambling; MMORPG playing, gender, and playing on play-for-fun sites.

Part D- Results

As previously noted, 1,229 CEGEP students (534 males, 695 females) ages 16-24 were included in the final sample. The key results are presented in summary form. For more details on the data and statistical analyses, please refer to Appendix 2.

Gambling

Past-year offline gambling rates were found to be somewhat lower than typically found among adolescents and young adults, with 52% of participants (68% of males, 39% of females) reporting past-year offline gambling. However, reported online gambling rates were higher than previously reported, with 40% (61% of males, 25% of females) of youth having played on the free sites, and 5% (10% of males, 1% of females) having gambled online for money during the previous year. There were significant differences for land-based gambling among age groups, with 34% of those under 18, 53% of 18-20 year-olds, and 65% of 21-24 year-olds reporting past-year land-based gambling. Significantly more video game players than non-players reported past-year land-based gambling. With respect to gambling via the Internet, proportionally greater numbers of problem gamblers than social or non-gamblers had played on free online gambling sites and gambled online for money during the past year, and more MMORPG players than non-players reported past-year online gambling.

Gender was the strongest predictor for past-year land-based gambling, with males being three times more likely than females to have gambled. Age was also a significant predictor; each increase in age by one year increased the odds of having gambled by 72%. Those who have played video games were

nearly twice as likely to have gambled during the past year. Gender was similarly a strong predictor for Internet gambling for money; males being 12 times more likely to have gambled online during the previous year. Contrary to what was expected, playing MMORPGs did not predict Internet gambling, although playing on practice sites did; those who reported playing on practice sites increased the likelihood of gambling online for money by six times.

Video game playing

Video game playing proved to be extremely popular, with 90% of respondents reporting playing video games and 29% reporting playing MMORPGs during the previous year. As with gambling, and consistent with existing research, more males than females reported playing both video games and MMORPGs. Additionally, significantly more problem gamblers than social or non-gamblers reported past-year MMORPG playing, and significantly more social gamblers than problem or non-gamblers reported past-year video game playing.

Problem gambling

A total of 48% of the sample was identified as non-gamblers, 49% as social gamblers, and 3% as problem gamblers. Consistent with past research, more males than females were identified as problem gamblers. There were significant differences among age groups, with more problem gamblers among the 18-20 age group than the under 18 and 21-24 age groups. Four people identified as at-risk for developing gambling problems were also identified as addicted gamers.

Problem gaming (video games)

In total, 9% of respondents were identified as non-gamers, 88% as social gamers, and 3% of respondents scored as addicted gamers, with more males than females identified as addicted and more problem gamblers than social or

non gamblers were identified as addicted gamers. There were no differences based on age groups for gaming addiction.

Main hypotheses

1. Online gamblers and MMORPG players will have similar personality traits, in particular on measures of Impulsivity and Extraversion.

With one exception, online gamblers and MMORPG players did not significantly differ on various personality measures. There were no differences on measures of Impulsivity, Extraversion, Psychoticism, and Neuroticism scores. However, Internet gamblers had significantly higher Venturesomeness scores than MMORPG players. Venturesomeness represents the trait of being willing to undertake things that involve risk or danger, indicating Internet gamblers may be more risk-prone than MMORPG players. This has been shown in previous research and warrants further investigation.

2. MMORPG players, relative to non-players, will be more likely to participate in online gambling activities.

The results indicate that significantly more MMORPG players than non-players reported online gambling. Unfortunately, due to the relatively small number of Internet gamblers it is unclear if they prefer to play poker, a gambling activity with similar features to a role-playing game. These individuals may spend a lot of time at the computer, alternating between gambling activities and MMORPGs. It is unclear whether online gambling leads to MMORPG playing, or the reverse, and these results call for further examination.

3. Among problem gamblers, relative to non-problem gamblers, there will be higher rates of MMORPG playing.

As predicted, significantly more problem gamblers than social or non-gamblers reported playing MMORPGs during the past year. Playing MMORPGs

may be a satisfying way to cope with the emotions and consequences stemming from gambling problems. Unfortunately, this may be a maladaptive coping strategy, as gambling problems do not disappear and new problems may arise from excessive MMORPG play.

4. Problem gamblers will have higher rates of depression relative to non-problem gamblers. MMORPG players will also have higher rates of depression.

This did not turn out to be the case. There were no differences in depression scores based on gambling severity, nor between MMORPG players and non-players. This result could be, in part, due to the small numbers of problem gamblers.

CONCLUSIONS

In general, there appears to be overlap between both video game playing and gambling, and MMORPG playing and online gambling. This confirms and expands upon early research linking video game playing and gambling (Griffiths, 1991). In this study, four participants identified as at-risk for gambling problems were also identified as addicted to video games. It is possible these young people may develop gambling problems if they become convinced they can master the skills necessary to be as successful at gambling as they are at playing video games. It is crucial that responsible gambling messages and treatment initiatives stress the correction of erroneous cognitions pertaining to gambling.

Video game playing is ubiquitous among young people; nearly everyone in the sample had played during the past year. Clearly, this activity has become an almost-universal form of entertainment among young people, with 3% of participants classified as addicted to video games. MMORPG playing, while not as prevalent as general video game playing, is also a popular activity for about a

third of respondents. There appears to be a link between both online and problem gambling, as both groups have higher rates of MMORPG players, although the data are unable to describe a causal relationship

Empirically, this study has contributed to the small, but growing, body of knowledge concerning youth online gambling and MMORPG playing. It provides estimates of current prevalence rates for both offline and online gambling and playing on play-for-fun practice gambling sites for this select sample. It also provides current prevalence rates for youth video game and MMORPG involvement, as well as current rates of problem gambling and problem video game playing. As well, there is a discernible link between online gambling and MMORPG playing, given more MMORPG players than non-players report online gambling. This research has also demonstrated a link between MMORPG playing and problem gambling, in that there are higher rates of MMORPG playing among problem gamblers than non-problem gamblers. It has also shown that there is a link between video game playing and offline gambling, as more video game players than non-players report past-year gambling and video game playing significantly predicted offline gambling. This research has similarly established a relationship between problem gambling and problem video game playing, as significantly more problem gamblers (relative to non-problem and social gamblers) are also problem video game players.

Theoretically, this research contributes more generally to our understanding of behavioural addictions in general, and technological addictions in particular. Knowing these commonalities in individuals which may lead to similar patterns of addiction contributes to knowledge about those at risk for problematic behaviour. Practically, the results have implications for parents and professionals (i.e., educators, social workers, addiction counsellors) who work

with adolescents and contribute to program designs and policies targeted at youth problem gambling and gaming awareness. With this knowledge about which youth are at increased risk of becoming problem gamblers, problem video game players, or both, prevention programs will be able to better target specific types of youth with the goals of minimizing problems before they occur.

Part E- Research approaches

The findings generate questions for future research as well as suggestions for gambling and gaming companies, treatment providers, and policy makers.

1. Every attempt should be made to partner with Internet gambling operators and governments regulating online gambling on research projects. Actual gambling data reveal much about how, when, and where people gamble, as well as an understanding of the trajectory of gambling patterns. This behavioural evidence should be integrated with self-report data, which provides important information on the subjective experience of gambling, in order to develop a more complete picture of Internet gambling. Given our findings, future research should examine the relationship between practice play-for-fun sites and actual Internet gambling, particularly for those individuals who play on practice sites but do not gamble for money either offline or online. The possible trajectory from playing on practice sites to gambling online for money, to possibly developing gambling problems is of concern.
2. The responsible gambling tools offered by Loto-Québec on their Espacejeux website are commendable, and every effort should be made to apply those tools to the free games as well. Use of these tools is strongly encouraged for non-government Internet gambling operators.
3. Our findings indicate a relationship between video game playing and gambling, and future research should clarify the nature of this relationship. Treatment providers and gambling prevention messages should stress that, unlike video games, one's skill at gambling games does not determine one's success.

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