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eGambling

THE ELECTRONIC JOURNAL OF GAMBLING ISSUES



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From the Editor

The second issue of the *Electronic Journal of Gambling Issues (EJGI)* offers new insights into a range of gambling topics. The Feature article describes why gambling becomes a problem for some youth, the Research article uncovers the mysteries of randomness and how we often misunderstand it, and the Clinic article explains how attention-deficit hyperactive disorder can be involved in problem gambling. The First Person Accounts section presents a lively rant on e-trading as gambling and the Review section features an informative video on problem gambling. Please check the Letter to the Editor and the Calendar. If you missed the first issue you can access it through the Archive. We hope you find this issue interesting and that you tell your friends and colleagues about *EJGI*.

If you would like to receive a live-link to each future issue of the *EJGI*, please go to the bottom of any article and click on "Subscribe to our automated announcement list." You'll receive an email message with a live link to every new issue.

At this early stage in the life of the *EJGI*, it seems like the right time to thank everyone who helped begin this e-journal. Geoff Noonan, now with the Canadian Foundation for Compulsive Gambling (Ontario), was a strong presence in the beginning and so were Andrew Johnson, Nina Littman-Sharp, Robert Murray, Wayne Skinner, Tony Toneatto and Nigel Turner. We thank Mara Korkola and Alan Tang for their expertise in creating an attractive and smooth functioning Web site.

We're excited about these first few issues – and we're still growing. We'd appreciate your feedback on what you would like to read. We're also pleased to

include our first official link to a related Web site - the Youth Gambling Research & Treatment Clinic (McGill University, Montreal, Canada) at <http://www.education.mcgill.ca/gambling>: Here you'll find useful information, a self-quiz, treatment and research updates and FAQs. Our plan is to create an entire section for useful and relevant links in the very near future.

- *Phil Lange*

Statement of Purpose

The Electronic Journal of Gambling Issues (EJGI) offers an Internet-based forum for developments in gambling-related research, policy and treatment as well as personal accounts about gambling and gambling behaviour. Through publishing peer-reviewed articles about gambling as a social phenomenon and the prevention and treatment of gambling problems, it is our aim is to help make sense of how gambling affects us all.

The *EJGI* is published by the [Centre for Addiction and Mental Health](#) and is fully funded by the Ontario Substance Abuse Bureau of the Ministry of Health and Long-Term Care. We welcome manuscripts from researchers and clinicians, people involved in gambling as players, and family and friends of gamblers.

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[Phil Lange](#)

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feature

Youth Gambling: A Clinical and Research Perspective

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&

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Abstract

This paper provides an overview of the current state of knowledge of youth gambling problems. The goals and contributions of the McGill University Youth Gambling Research & Treatment Clinic are highlighted. The authors integrate their clinical and research program findings within the context of the necessity of identifying risk factors associated with problem gambling amongst adolescents. Specific recommendations are made as well as a call for collaborative effort between the public, industry, legislators, clinicians and researchers to help resolve this growing problem.

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With the proliferation of gambling venues worldwide, there has been a renewed interest in the social, economic and psychological costs associated with problem gamblers. While problem gambling has been primarily thought of as an adult problem, there is a growing body of empirical evidence to support examining problem gambling during adolescence (Derevensky, Gupta & Della Cioppa, 1996; Gupta & Derevensky, 1998a, 1998b; Jacobs, in press; Ladouceur & Dubé, 1994; Ladouceur, Dubé & Bujold, 1994; National Gambling Impact Study Commission, 1999; National Opinion Research Center, 1999; National Research Council, 1999; Stinchfield, in press; Volberg, 1998; Wiebe, 1999; Wynne, Smith & Jacobs, 1996).

There is little doubt that gambling and wagering remains a popular activity amongst both children and adolescents. Research conducted over the past decade suggests that gambling activities remain particularly attractive to today's youth. Moreover, its popularity is on the rise amongst both children and adolescents. Large-scale prevalence studies and reviews all confirm the high prevalence rates of youth gambling. In particular, it is estimated that between 4% and 8% of adolescents presently exhibit a serious gambling problem with another 10% to 14% of adolescents at risk for developing or returning to a serious gambling problem (Shaffer & Hall, 1996).

An alarmingly high percentage of children and adolescents have reported engaging in gambling activities. In one of our recent studies, we found 80.2% of adolescents between the ages of 12 and 17 reported having gambled (defined as wagering money) during the past 12 months, with 35.1% admitting gambling at least once per week. The data further revealed that while 55% of adolescents were casual or recreational gamblers, 13% reported having some gambling related problems and 4% to 6% had a serious problem (Gupta & Derevensky, 1998a).

It is important to note that differences in findings are often related to the sampling procedure employed (e.g., telephone interview versus school survey), the types of instruments used (e.g., SOGS-RA, DSM-IV-J, GA20), cut-off criteria established and access to both legal and illegal gambling opportunities (see Derevensky & Gupta, in press, for a more comprehensive discussion of these issues). While some discrepancies may be attributable to differences between assessment instruments, similar rates of problem/pathological gambling for older adolescents (age 17 - 19) were found comparing different instruments on the same sample (Derevensky & Gupta, in press). Independent of differences, Shaffer and Hall's (1996) Harvard meta-analysis concluded that "...compared to adults, youth have had more exposure to gambling during an age when vulnerability is high and risk-taking is a norm; consequently, these young people have higher rates of disordered gambling than their mature and less vulnerable counterparts."

The growing concern with adolescent gambling was the focus of the North

American Think Tank on Youth Gambling held at Harvard University in April 1995. It was part of the NORC gambling impact and behaviour study (NORC, 1999), and was of particular concern to the members of the Committee on the Social and Economic Impact of Pathological Gambling, U.S. National Research Council (NRC, 1999). This renewed interest in youth gambling has resulted in a significant increase in the number of funding opportunities and empirical research studies concerning youth gambling. More recently, the field has begun to go beyond merely conducting prevalence studies in an attempt to broaden our understanding of youth gambling behaviours and to identify specific characteristics and high-risk indices associated with problem/pathological gambling (Gupta & Derevensky, 1998a; Griffiths & Wood, in press).

Of significant importance is that for most adults, teens, educators and many psychologists, gambling continues to be viewed as an innocuous behaviour with few harmful or negative consequences. Our clinical experience shows that even when adolescents with serious gambling and gambling-related problems enter our treatment program they don't perceive themselves as compulsive or pathological gamblers (Gupta & Derevensky, 1999; Hardoon, Herman, Gupta & Derevensky, 1999). As one adolescent remarked, "everyone seems to think I have a gambling problem, but I don't think I have one." Their perception of a pathological gambler is a classic stereotypical picture, one that bears no resemblance whatsoever to a teenager. As a result, most adolescents often fail to present themselves for treatment.

Characteristically, most individuals perceive the typical problem gambler to be an adult, usually male, who has lost his job and family, who has committed a crime in order to support this behaviour, who has deserted his children, etc. While these gambling related problems are synonymous with adult pathological gambling, the adolescent gambler with serious problems looks somewhat different. Many are still students, who have never been married, who reside with their parents, and who have never held a full-time job or deserted their families. As a result, treatment paradigms must be modified to accommodate their developmental needs, interests, concerns, behaviours and the difficulties they experience (Gupta & Derevensky, 1999; in press).

Problematic gambling among adolescents has shown results in increased delinquency and crime, the disruption of relationships, and impaired academic performance and work activities (Ladouceur, Dubé & Bujold, 1994). While these youth present themselves differently when they compare themselves to adults, they nevertheless have similar characteristics. They repeatedly lie to family and friends, borrow and steal money to support their gambling behaviour, preoccupy themselves with gambling, sacrifice school, parents and friends in order to continue their gambling, and engage in 'chasing' behaviour (Derevensky & Gupta, in press; Fisher, in press; Gupta & Derevensky 1998a; 1998b; Wiebe, Cox & Mehmel, in

press).

Contrary to public opinion, our research and clinical work (Derevensky & Gupta, 1996; 1998; Gupta & Derevensky 1998a; 1998b; 1999) suggests that money is not the predominant reason why children and adolescents gamble. For adolescents with gambling problems, money is used as the vehicle that enables them to continue playing. Most adolescents report that the primary reasons for gambling are for the excitement and enjoyment derived from these activities. Through their gambling activities (video lottery terminals, sports betting, cards, lotteries, bingo or other forms of gambling) adolescents with gambling problems exhibit a number of dissociative behaviours, such as escaping into another world, often with altered egos (Gupta & Derevensky, 1998b). When gambling, adolescents with serious gambling problems report that nothing else matters and that all their problems disappear. They view gambling as a coping mechanism, albeit an ineffective one, for dealing with their daily stresses and feelings of depression (Gupta & Derevensky, 1998b; 1999). For an adolescent with a gambling problem, a good day is walking into a gaming room with \$20, playing all day, and losing all their money. A bad day is when the \$20 only lasts 10 minutes.

While parents and educators remain concerned about student smoking and use of alcohol and drugs, little attention has been focused upon youth gambling behaviour. Both elementary and secondary school students regularly engage in gambling and do so more frequently than any other potentially addictive behaviour (Gupta & Derevensky, 1998a).

Our research program has been designed to identify risk factors associated with youth gambling problems, to examine the antecedents of the problem, and to delineate effective strategies for prevention and the treatment of youth with serious gambling problems. Despite some conflicting findings, there appears to be an overall consensus that:

- a. gambling is more popular amongst males than females (Fisher, 1990; Govoni, Rupcich & Frisch, 1996; Griffiths, 1989; Gupta & Derevensky, 1998a; Ladouceur, Dubé & Bujold, 1994; Stinchfield, Cassuto, Winters & Latimer, 1997; Wynne et al., 1996)
- b. probable pathological gamblers are greater risk-takers (Arnett, 1994; Breen & Zuckerman, 1996; Derevensky & Gupta, 1996; Powell, Hardoon, Derevensky & Gupta 1999; Zuckerman, 1979; 1994; Zuckerman, Eysenck & Eysenck, 1978)
- c. adolescent prevalence rates of pathological gamblers are two to four times that of adults (Gupta & Derevensky, 1998a; Shaffer & Hall, 1996)

- d. adolescent problem/pathological gamblers have lower self-esteem (Gupta & Derevensky, 1998b)
- e. problem gamblers have higher rates of depression (Gupta & Derevensky, 1998a; 1998b; Marget, Gupta & Derevensky, 1999)
- f. youth problem gamblers dissociate more frequently when gambling compared with peers who have few gambling problems (Gupta & Derevensky, 1998b)
- g. adolescents with gambling problems are at heightened risk for suicide ideation and suicide attempts (Gupta & Derevensky, 1998a)
- h. while adolescents with gambling problems report having a support group, old friends are often replaced by gambling associates (Derevensky, 1999)
- i. adolescents remain at increased risk for the development of an addiction or polyaddictions (Gupta & Derevensky, 1998a; 1998b; Kusyszyn, 1972; Lesieur & Klein, 1987; Winters & Anderson, in press).

Personality correlates reveal specific at-risk traits with adolescent pathological gamblers; they are more likely to be excitable, extroverted, anxious, and have lower self-discipline and are less able to conform (Gupta & Derevensky, 1997a; Vitaro, Ferland, Jacques & Ladouceur, 1998). These personality traits have been found to be positively correlated with risk-taking behaviours (Arnett, 1994; Gupta & Derevensky, 1997b; Zuckerman, 1979). Our research and clinical data seem to suggest that these adolescents have poor coping and adaptive skills. They remain unable to successfully cope with the many adversities they experience on a daily basis, which are particularly heightened during adolescence. As such, they use gambling as a form of escape from the realities of daily life (Marget et al., 1999).

Age of onset also appears to be a risk factor. Pathological gamblers reported starting serious gambling at early ages (approximately age 10) (Gupta & Derevensky, 1997b; 1998a; Wynne et al., 1996). Of particular concern is the finding that the time between the onset of their initial gambling and problem/disordered gambling appears to be significantly decreasing. Still further, results indicate that children start gambling with family members, especially parents and grandparents. Moreover, contrary to children's involvement with alcohol, drug and cigarette use, most of them do not feel the need to hide their gambling behaviour from their families (Gupta & Derevensky, 1997b; Ladouceur, Jacques, Ferland & Giroux, 1998). The early "big win" has also been reported to be a factor underlying problem gambling behaviour (Custer, 1982; Griffiths, 1995).

Problematic gambling during adolescence remains a growing social problem and public health concern with serious psychological, sociological, health and economic implications (Korn & Shaffer, in press). Results have shown that pathological gambling among adolescents increases delinquency and crime, antisocial behaviour, disruption of relationships, and negatively affects overall school performance and work activities. Given that there are frequently few observable signs of gambling dependence among children and adolescents, such problems have gone relatively undetected compared to other forms of addiction (e.g., smoking, substance and alcohol abuse). The psychosocial costs to the individual, his or her family and society as a result of problem and pathological gambling are numerous (Lesieur, 1998).

While occasional gambling should not necessarily be considered problematic, the probability of children and adolescents becoming problem or pathological gamblers remains worrisome. That many perceive gambling to be an innocuous behaviour with few negative consequences has been supported by findings that children and adolescents frequently gamble for money with their parents and other family members. Young children form partnerships with their parents in the purchase of lottery tickets and play cards and bingo for money with relatives (Gupta & Derevensky, 1997b).

Even in jurisdictions that prohibit sales of lottery and scratch tickets to youth, there is ample evidence that the enforcement of these laws is minimal. For example, New York State has legislation prohibiting the sale of lottery tickets to any person under the age of 18. Under state law, individuals selling even one lottery ticket to a minor can be charged with a misdemeanor. As part of its commitment to protect minors, the New York State Lottery launched Project 18+ to ensure the vigilant safeguarding of sales to minors. While improvement has occurred, a random spot check in 1998 of 65 retailers indicated a failure rate of 26%. In addition to the heightened vigilance prohibiting retailers from selling lottery tickets to minors and the threat of license revocation (after three offenses), every lottery advertisement (television, radio, print, etc.) explicitly contains a notice "You must be 18 or older to play lottery games." Public service announcements, billboards and stickers clearly visible to consumers also indicate only individuals over 18 can purchase them. In some jurisdictions no laws exist and unenforceable policies are in place. Many of the children in our research report both purchasing and receiving scratch lottery tickets as Christmas stocking stuffers. In yet another research study, we found that by the time children leave elementary school (age 12), less than 10% of children fear getting caught gambling (Gupta & Derevensky, 1999). Similar results would not be found for cigarette smoking, alcohol consumption or drug use.

Today, children and adolescents are educated about the dangers inherent in smoking, alcohol, and drug consumption. Few, however, are informed to

understand the potentially addictive qualities inherent in gambling activities. Many schools and religious groups inadvertently endorse gambling by sponsoring bingo or casino nights for both adults and youth as social events and for fund-raising. Frequently, adolescents only recognize the potential addictive quality of gambling after either they or their friends develop problematic gambling behaviours. The widely held belief that gambling is an innocuous behaviour with few negative consequences has contributed to the lack of public awareness that gambling amongst children and adolescents can lead to serious problems.

Educators have long advocated that the way to succeed in life is through hard work, study and academic achievement. Yet governments throughout the world, via state-supported lotteries, argue that for \$1 you can become an instant millionaire. The fantasy of winning that Harley-Davidson motorcycle, a luxurious automobile, or an exotic vacation may be extremely tempting for many youth. While marketing arms of lottery corporations report not to gear their advertisements toward youth, they nevertheless use sophisticated and alluring advertisements particularly attractive to today's youth. Our data suggests that sports pools, sports lotteries and sports betting are extraordinarily appealing to youth, especially boys, as they believe their knowledge ensures their accurate prediction of the outcome of sports events (Gupta & Derevensky, 1998a). For children and teens, allowance and lunch money are often used to purchase these tickets. Sports wagering (both legal and illegal) continues to be a growing problem on college campuses in the United States and Canada.

State and provincial lottery associations need to adopt responsible advertising programs. Advertisements that dissuade youth from engaging in these activities should form part of their public service announcements, print, and television campaigns. Lottery associations, and state and provincial legislatures should provide severe penalties for retailers that permit underage gambling. A systematic procedure for the enforcement of laws prohibiting youth gambling must be initiated.

We need to change the focus from the "treatment of the dysfunctional" or "disease model" to a prevention model aimed at youth. While little has been done in the field of gambling prevention (there are several in development at the present time), there are ample successful models from the substance abuse literature to emulate (Baer, 1993; Baer, MacLean & Marlatt, 1998; Botvin, 1986; Shuckit, 2000; Winick & Larson, 1996).

Prevention models must incorporate:

1. the need for awareness of the problem
2. activities that increase knowledge about youth gambling problems

3. programs to help modify and change the attitude that gambling is a harmless behaviour
4. the teaching of successful coping and adaptive skills that would prevent the development of problematic gambling
5. the changing of inappropriate cognitions concerning the role of skill and luck, the illusion of control, and the misperception of the independence of events in gambling activities, and
6. the identification, assessment, and referral of students whose gambling behaviour is indicative of being at risk. These programs should be school-based and incorporated at both elementary and secondary school levels.

Gambling venues and outlets continue to grow with government agencies throughout the world sanctioning and encouraging participation despite rising social costs. The reality remains that most individuals gamble responsibly, that gambling has become a mainstream socially accepted form of entertainment, and that governments throughout the world have become dependent upon and addicted to the enormous revenues so generated. While gambling is illegal for minors in many jurisdictions, there is clear evidence that underage youth continue to gamble and many report doing so with family members.

Our research efforts have been focused upon basic issues such as assessing gambling severity; identifying physiological, psychological and socio-emotional mechanisms that underlie excessive gambling behaviour among youth; the efficacy of our treatment model; and the development of effective, empirically validated prevention programs. Why some individuals continue to gamble in spite of repeated losses is a complex problem. How to best educate, prevent and treat these problems has become the focus of our research program.

Little doubt remains that gambling amongst youth is an important area in need of further basic and applied research. It also needs a substantial infusion of funding to support empirically based studies, and the development and implementation of responsible social policy. Clinicians and researchers must advocate for stronger legislation and enforcement of laws prohibiting gambling by underage youth. Only a collaborative effort between the public, industry, legislators, clinicians and researchers will ultimately help resolve this problem.

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We invite submissions that offer insights into how gambling policies – whether at the sub-national, national or international level – affect public life. These studies may take a current perspective, analyse historical events – or they may include both approaches.

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Phil Lange, Editor

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[Our Research section will occasionally have articles that combine new insights into gambling research with a popularized approach to help non-scientists understand what lies behind some principles of gambling.

–The Editor]

Randomness, Does It Matter?

By Nigel Turner, PhD, Scientist

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Abstract

Many gamblers hold erroneous beliefs about the nature of random events, but is understanding randomness relevant to prevention? This paper examines the nature of randomness and the origins of misunderstandings about randomness. In addition, it examines the issue of whether or not knowledge of randomness is important in terms of the prevention of problem gambling. The goal is to provide readers with better tools to address these issues with clients or in preparing prevention materials.

Introduction

Last year on the TV sitcom *Friends*, Ross, the know-it-all science guy, pointed out a woman standing around a casino and told his friends that she was a lurker, someone who keeps track of which machines have not paid out. Then, when a player leaves, she swoops in to steal the jackpot. While many of us might scoff at the idea, some undoubtedly think, "Hmm, I should try that."

In actual fact, the core idea makes sense. Surely if a machine pays off 1 out of every 10 spins, and it hasn't paid out in over 20 spins, it must be due to pay out any minute. According to our research, 70% of the population of Ontario believes that if a slot machine has just paid out three times in a row, the chance of winning on

the next pull are lower than would otherwise be the case (Turner, & Liu, 1999). The corollary that it is beneficial to look for the machines that haven't paid out recently is logical but not true.

So, Ross is wrong. Why? Slot payouts are random events. Slot machines use a computer that creates an erratic sequence of numbers generated continuously. When the player presses the spin button, these numbers determine the positions of the reels. A microsecond difference in pressing the button would result in a different outcome. Whether a machine has or hasn't paid out is irrelevant.

Considerable research suggests that gambling behaviour is associated with a wide variety of erroneous beliefs or cognitive distortions about gambling. These include mistaken myths about ways to beat the odds, superstitions and the personification of gambling machines. Since many of these errors are related to misunderstandings about the nature of randomness, or probability, it is important to consider the extent to which understanding probability contributes to the development of a gambling problem – and to treatment, recovery and prevention.

It is often said that gambling isn't about the money, it's about excitement or escape. This argument suggests that problem gamblers' erroneous beliefs are irrelevant because they aren't trying to win. However, if you took away the possibility of winning, or asked a gambler to play games without betting, there wouldn't be any escape or excitement. Gambling is only exciting because of the possibility of winning real money. And that possibility seems plausible because of erroneous beliefs. Thus, beliefs, excitement and winning aren't really separate issues and there is no clear line separating the cognitive thoughts and emotional experiences of gambling.

Does this mean that gamblers rationally weigh the pros and cons of a bet? No. In fact, when I talk about the logic of gambling, in most cases I'm talking about unconscious beliefs about the way things work – schemas or mental models. Most of our "rational" thinking, such as understanding the words in a sentence, takes place automatically. Most often our unconscious mental processes produce schemas that are accurate, but when it comes to randomness, our minds often come up with the wrong schema.

Randomness explained

Why do our minds mess up so badly when it comes to randomness? My thesis is that the nature of randomness itself messes up our minds. I'll begin by considering where randomness comes from. Every movement is caused by some force. For example, when you throw a ball it doesn't always go where you want it to go. There are always tiny little changes in how you throw it: error variance or uncertainty. Even the greatest pitcher doesn't always throw the ball accurately. In addition, randomness is the result of complexity – too many things happening to keep track of. The squareness of a dice causes it to bounce erratically. If it lands on its side it bounces one way; if it lands on an edge it bounces in a different way. In contrast, the weight and smoothness of a bowling ball make its movement fairly uncomplicated. The complexity

of the dice amplifies the tiny variations in how the dice is thrown so that rolling a dice produces a much more erratic movement than rolling a ball. Statisticians would say that a ball is more reliable than a dice.

Many people, including scientists, underestimate the impact of a little error. But mathematicians have found that under some conditions, a tiny change can have a huge and unpredictable effect on the final result. In the movie *Jurassic Park*, Jeff Goldblum's character, a self-declared chaos theorist, gives the following description of this effect, "...A butterfly flaps its wings in Central Park and then it rains in China."

Chaos is in fact a very disturbing idea to many traditional physicists (Gleick, 1987) because it suggests that prediction is not possible in some situations. However, complete randomness probably does not exist. Everything is the result of some force and if you knew exactly what those forces were and you could precisely measure all aspects of the complexity of the system, you could predict outcomes. In the early 1980s a group of California engineers spent several years building a computer to predict the outcome of roulette (Bass, 1985). In theory it is possible, however, in practice, exact measurement or control is not possible and therefore many gambling devices are very good at producing randomness.

Regression to the mean

Random numbers are erratic and unpredictable. You cannot predict which number will occur based on previous numbers because each number is independent of each other. On average a coin comes up heads 50% of the time. But coins have no memory! Even if heads come up 1000 times in a row, the next flip could be a head or a tail. If a coin flip is truly random, then it must be possible (although very unlikely) for it to come up heads 1 million times in a row. Furthermore, the number of heads and tails does not have to even out. A head is just as likely to occur after five heads as after five tails. The more flips you make the closer the average gets to 50%, but nothing can force it to even out.

Yet sometimes it seems to even out. What fools many people into believing that it is self-correcting is that the more times you flip a coin, the closer the average of heads or tails gets to 50%. After 18 flips, 10 more heads than tails is a very noticeable difference (See Figure 1).

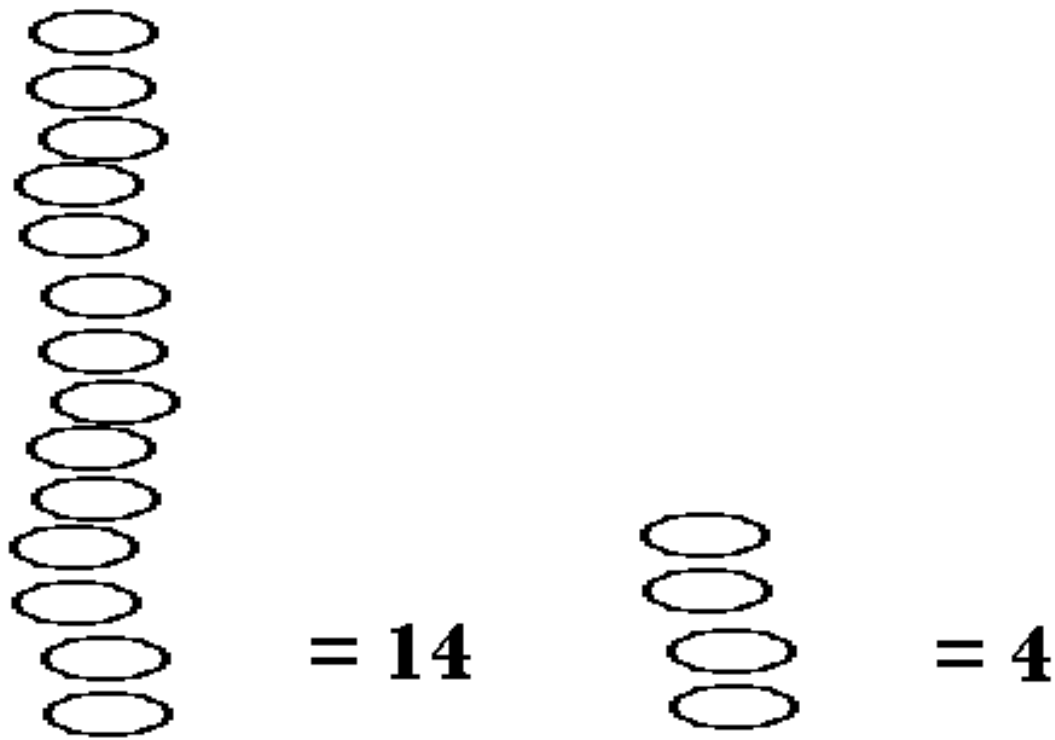


Figure 1: After flipping a coin 18 times, a difference of 10 heads is noticeable.

Even after 400 flips there could still be 10 more heads than tails, but the difference becomes less noticeable (See Figure 2). The per cent gets closer to 50 but the actual number of heads and tails doesn't have to even out. After 1 million flips a difference of 8000 would still round off to 50%. This process of gradually converging on 50% is called regression to the mean.

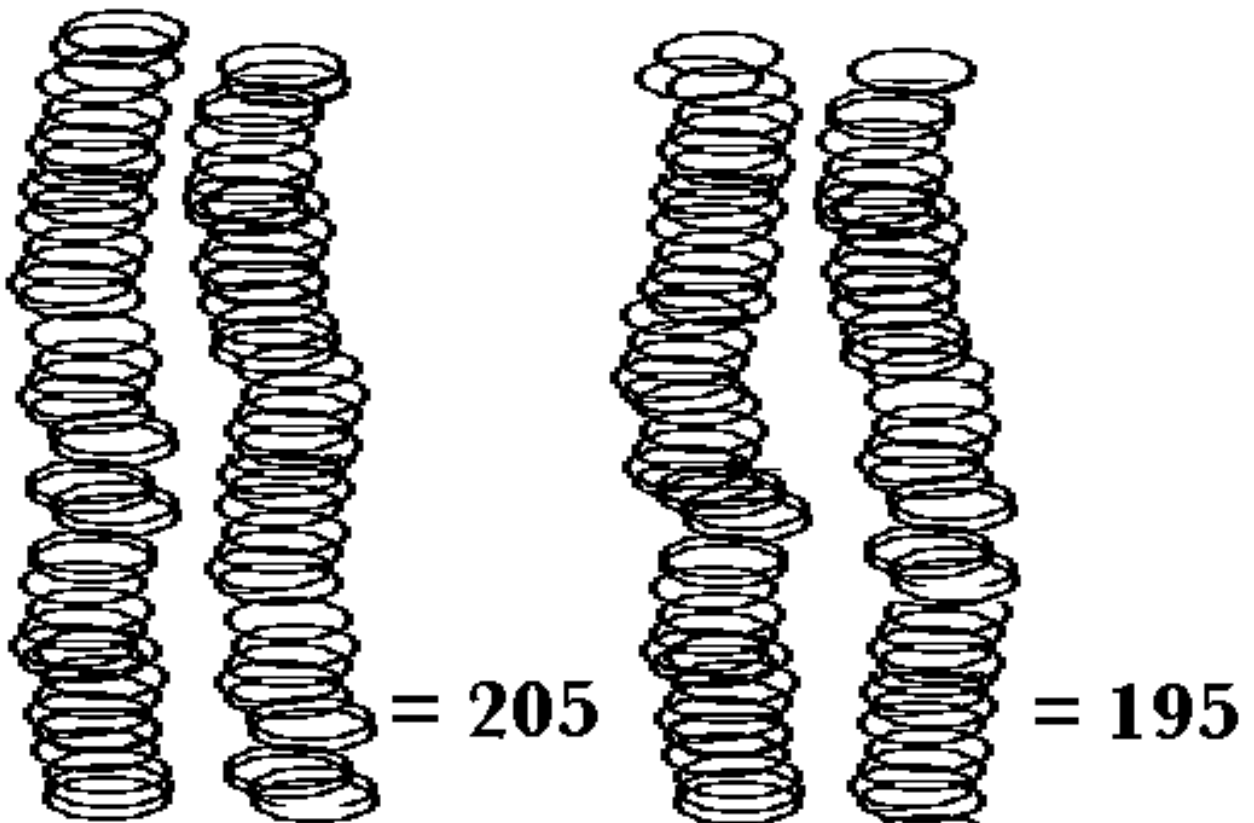


Figure 2: After flipping a coin 400 times, a difference of 10 heads is barely noticeable.

I believe that the belief that randomness is self-correcting stems from our experiences of witnessing regression to the mean. A number is never due to come up but the odds are it will sooner or later. There is a subtle but important distinction between "due" to come up and "likely" to come up in that observing the past flips of a coin will not tell you when tails will come up. So, information about past numbers, flips or spins tells you nothing, and yet it often seems to. You cannot beat the odds by lurking, looking for the machine that is "due" to come up.

Experience leads to errors

Some of my recent research indicates that problem gamblers have a poorer understanding of randomness compared to non-problem gamblers (Turner & Liu, 1999). For example, problem gamblers were more likely to believe that betting on a number that looks random gives you a better chance of winning. Random numbers don't necessarily look random. A ticket with the numbers **1 - 2 - 3 - 4 - 5 - 6** has exactly the same chance of winning as a ticket with the numbers **3 - 17 - 21 - 28 - 32 - 47** but many people have trouble believing this. Most of the time random numbers look random. In a lotto 6-49 there are only 43 possible consecutive sequenced number tickets out of approximately 14 million possible tickets. Consequently, sequenced numbers rarely seem to come up in a lottery although all ticket numbers have the same chance of winning. As a contrast, consider lotto 2/2; a lottery where the only possible

ticket numbers are **1-2, 2-1, 1-1** and **2-2**. In this case, all tickets appear to have a pattern or sequence so that whatever number is drawn, the winning ticket does not appear to be a random number.

Chasing

Another important aspect of understanding randomness is "chasing." Chasing often involves betting larger and larger sums to win back what you've lost. The problem with chasing is not that it doesn't work but that it often does. If you double your bet every time you lose, your chance of winning back what you have lost is as high as 99% depending on your bankroll and the betting limit (Turner, 1998). In contrast, betting the same amount each time gives a person at best a 45% chance of winning back what he has lost. The downside is that when chasing doesn't work the result is catastrophic.

Last year, at Casino Rama in Orillia, Ontario, I calculated that I could work out a Martingale system (doubling after each loss) starting at \$5 a hand and doubling with each bet until I won, to a maximum bet of \$2000. This would require changing tables occasionally since each table had a maximum bet about 10 times its minimum (e.g., min = \$5, max = \$50; min = \$50, max = \$500). I could work it so that I would have a 99% chance of winning \$5 and less than a 1% chance of losing \$2555. Since it works so often people may come to believe that it always works. When that one 1% event occurs, the result is as much a shock as it is a nightmare.

The role of mind

The human mind is not very good at dealing with randomness. Our minds are designed to find order, not to appreciate chaos. Ever notice how easy it is to find faces in clouds? We are wired to look for patterns and find connections, and when we find patterns we interpret them as real. Consequently, many people will see patterns in random numbers. When people see patterns in randomness (e.g., repeated numbers, apparent sequences or winning streaks) they may believe that the numbers aren't truly random, and therefore, can be predicted.

Many gamblers have experienced a wave-like roller coaster effect of wins and losses and may believe that you just have to ride out the down slope of the wave to follow the wave back up. Much of this learning process takes place unconsciously. The problem is that betting based on these patterns sometimes appears to work in the short term, reinforcing the belief. But it will not work in the long term; these patterns are flukes. Suppose you start playing roulette and you have a lucky winning streak by alternating your bets between red and black, it will actually take quite a while before you realise that the betting strategy is not working. Your initial wins may keep you on the plus side for quite a while because randomness doesn't correct for winning streaks either.

The same is true for superstitious beliefs. Because we don't understand randomness we interpret coincidences as meaningful, and consciously or unconsciously we learn associations that are merely due to chance. Implicit learning is the driving force behind both betting systems and superstitious playing strategies. Furthermore, our memory of an event is not just about what happened but about the emotional experience of what happened. An important area for future research is the interplay between emotion, experience and belief.

Randomness, prevention and treatment

My point is that these beliefs and expectations are not irrational; they are often logically induced from a person's experience with random events. In a sense we are programmed by experience, the implicit learning of expectations. Theoretically, if a person experiences enough random events, he should have a pretty good sense of its nature. However, our minds tend to focus on early experiences, and we often pay more attention to experiences that support our beliefs than to those that don't, so what we expect tends to be distorted. An early win, for example, will result in distorted expectations. Our data suggest that as many as 50% of problem gamblers have experienced a large early win (Turner & Liu, 1999). Another key factor is need. If the win fills an emotional, spiritual or practical need, the distorting effect of the win will be greater.

Our research has shown that problem gamblers tend to have a poorer understanding of random events compared to non-problem social gamblers, and that untreated recovery from gambling problems is associated with higher levels of understanding about randomness (Turner & Liu, 1999). These findings suggest that teaching people about randomness may be an important part of both treatment and prevention.

In conclusion, often problem gamblers don't have distorted thoughts, but unrepresentative experiences which have resulted in distorted beliefs. I believe that altering or preventing these erroneous beliefs is at least one important ingredient in effective prevention and treatment programs.

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Problem Gambling and Attention-Deficit Hyperactivity Disorder

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Abstract

There is evidence to suggest that a considerable subset of problem gamblers have attention-deficit hyperactivity disorder (ADHD), with characteristic features of impulsivity and difficulty sustaining attention. The two disorders, problem gambling and ADHD, interact on various levels; for instance, gambling impulses are poorly controlled and ADHD symptoms such as chronic boredom, depression and low self-esteem are relieved by the stimulus and reward of gambling. This article outlines some of the clinical issues encountered in this population and uses case studies to illustrate common ways in which these clients present. Suggestions are made with regard to identification and assessment and it touches on interventions, including medication, therapy and the use of strategies to improve functioning and reduce impulsivity.

Introduction

The article "Pathways to Pathological Gambling: Identifying Typologies" (Blaszczynski, 2000) in the first issue of the *Electronic Journal of Gambling Issues* suggests that there are three main subgroups of problem gamblers: (1) "normal," (2) emotionally vulnerable and (3) biologically-based impulsive gamblers. This last group consists of individuals who, due to the presence of neurological or neurochemical dysfunction, are impulsive and/or have difficulty sustaining attention. Blaszczynski outlines evidence suggesting that neurological differences are precursors to problem gambling. Attention-deficit hyperactivity disorder (ADHD) is one particular condition, which is often present in the third subgroup of problem gamblers.

There is no question that a percentage of clients who seek treatment for problem gambling have symptoms of ADHD. Specker, Carlson, Christenson and Marcotte (1995) found that 20% of pathological gamblers studied met the criteria for ADHD. Clinical experience suggests that at least this number are triggered to gamble by impulses and issues related to this disorder. This article will explore the interface between ADHD and problem gambling through case studies, with a focus on identification and treatment.

What Is ADHD?

ADHD, according to the Diagnostic and Statistical Manual – fourth edition of the DSM-IV (American Psychiatric Association, 1994), is the most common psychiatric disorder in childhood, with three main impairing symptoms: impulsivity, inattention and motor hyperactivity. Motor activity tends to subside by adulthood, although an individual may present as restless and fidgety. Some outcome studies (Barkley, 1990; Weiss & Hechtman, 1989) suggest that ADHD is robust into adulthood with a prevalence rate around 3% to 5% of all adults.

Common symptoms and characteristics in adults with ADHD include low self-esteem, underachievement, poor concentration, lack of organization, impulsive behaviour, emotional lability, chronic boredom, and interpersonal relationship problems. Impulsivity is a central feature of the disorder and seems to result from disruptions in the brain's inhibitory control processes.

Individuals with ADHD have difficulty maintaining adequate levels of stimulation in some brain centres. They apparently compensate for this by having a heightened sensory arousal system that draws in more information than usual from the environment and tends to process it indiscriminately. This results in distractibility, racing thoughts and a scattered presentation. Individuals act impulsively on sensory information before they consider consequences. They also seek out novel or changing stimulation from the environment and without such stimulation they are easily bored. When they engage in this type of activity, and gambling is a good example, they tend to become excessively involved to the point of hyperfocus and the exclusion of other stimuli. Novelty seeking and high exploratory behavior, as in gambling and ADHD, can be akin to self-medication for a low mood state.

Case examples

Case examples may illustrate some of the ways in which ADHD interacts with problem gambling. These individuals all present somewhat differently, but they typify the issues found in clients with ADHD: (Note: Client names and identities have been changed.)

James, a 32-year-old man, related a story of lifelong underachievement, inability to sustain attention, frequent job changes and susceptibility to boredom. The difference between his abilities and his actual accomplishments was frustrating, depressing and continuous. He was about to embark on another attempt at a new career, but he reflected pessimistically on his inability to follow through and attend classes. He noted that his mind raced from one thing to another, making it difficult for him to focus on tasks. Throughout his school history he had struggled with boredom, had trouble focusing on reading and had a tendency to bother other children. James saw gambling as his only area of achievement since high school. Generally, he managed to make money at it, usually by hustling at poker.

Ryan, a single man aged 27, reported only a six-month history of problem gambling with a rapid financial decline. He was a bright, high-energy individual, with a great deal of drive and creativity, particularly around initiating new projects. However, he was so disorganized and bored with detail that he was poor at following his projects through to completion. He developed a business that was initially very successful until he won \$25,000 at a casino, lost it within two weeks and began to gamble \$1000 a week. Ryan described himself as having ADHD and wanted to address the

resulting disorganization and impulsivity.

Eve, a 37-year-old divorced woman, had a long history of problem gambling, depression, mood swings and difficulties in concentrating and making use of her considerable talents. Her extremes of mood and her feelings of vulnerability caused serious relationship difficulties and often left her living from one emotional crisis to another. Although well able to be intensively introspective on personal philosophy and psychological issues, at times she had great difficulty accomplishing day-to-day tasks. She went to bingo or casinos on impulse when depressed or upset and had failed to be consistent in her long-term plan to avoid all gambling.

Jack, a 48-year-old married man, presented as restless, talkative, and impatient when others were speaking. He changed subjects frequently. Jack described himself as "scattered" and somewhat depressed. He had poor self-esteem. He had had an alcohol problem off and on and had started gambling in his teens – it supplied "action" when he was bored. (His initial experiences with gambling was so exciting that he described it as "what he had been waiting for all his life.") His marriage was in trouble due to these and other problems, and his wife had asked him to get help. His occupational history was unstable. Jack quit gambling when he entered treatment but his resultant boredom increased the depression he was already experiencing. His fights with his wife intensified. Although relieved that he was not gambling, she complained of Jack's mood swings and his intense, negative persistence when angry.

ADHD and Problem Gambling: Clinical Issues

The depression overlap

Poor self-esteem and depression are extremely common in people with ADHD. Their poor performance and their impulsive behaviour often baffle them and those around them and may be attributed to lack of will or laziness. Constant disapproval and negativism from others creates a sense of failure. Symptoms of chronic boredom or an "I don't care" attitude are consistent with the learned helplessness model of depression. A lack of stimulation can lead to depression in individuals with ADHD.

Gambling is an antidote to depression. The variable stimulation it provides is exciting and challenging, which can lead to intense over involvement in the activity. An appearance of success, at least in the short term, counters feelings of failure and depression. Exaggerated levels of confidence (i.e. feelings of omnipotence or an "I can't lose" mentality) are common in this population of gamblers and are highly rewarding. Such feelings provide escape from a life in which lack of control and failure are common experiences. Arguably, gambling by a person with ADHD could be seen as an attempt to self-medicate.

Personality issues

ADHD of the hyperactive-impulsive or combined subtypes seems to have a connection with the dramatic cluster of personalities (Jain, 1999). There is a strong tendency to antisocial, narcissistic, histrionic and borderline personalities. Inherently, these personalities have a common feature of being self-centred, superficially omnipotent, though with fragile coping strategies. Interpersonal issues around trust, abandonment, rejection and attachment are constant factors. There are issues around emotional isolation and lack of empathy for others. When these personality issues exist, the act of gambling may be a self-serving and destructive behaviour with grave consequences for an individual's loved ones and associates.

However, it is important to note that not all individuals with ADHD behave destructively or experience chronic failure, as symptoms vary in severity. Gambling counsellors are familiar with the extroverted, optimistic, somewhat egocentric, somewhat impulsive client who is highly focused on the present and does not worry much about past gambling losses or future plans. These clients often have a great deal of success in their lives, including a loving, if exasperated, family. They may be more vulnerable than average to developing addictions or other problems but they have compensating resources and skills. Such clients appear to have milder forms of ADHD. Blaszczyński (2000) describes impulsive gamblers as having many antisocial features; however, a client who physiologically tends toward impulsivity is not necessarily antisocial.

Identification and intervention

Checklists available in self-help manuals can be helpful in identifying clients with ADHD. There are also longer screens available (e.g., Brown, 1996). It helps to take a developmental history with collateral information. At the Centre for Addiction and Mental Health, 62% of all referrals to the adult ADHD clinic were parents of children who had been recently diagnosed with ADHD. Therefore, it is worth asking gambling clients about their children's behaviour, or indeed, about any

family history of learning or impulsivity problems.

Education

When working with clients that have gambling problems with concurrent ADHD, the first strategy is always education. Of the four clients described above, only one had been diagnosed with ADHD as a child and yet all four had suffered years of frustration and failure. It was extremely helpful to discuss the possibility of a neurochemical basis for some of their experiences and to give them information about ADHD. The central issue for these individuals was the sense that some of their impulses, thoughts and feelings were simply out of their control in ways that outward circumstances, history, and so forth were insufficient to explain. It was a tremendous relief for them to have an explanation that validated their perceptions and one that offered more effective solutions than they had found to date.

Case studies continued

James was referred to a specialist, and was diagnosed as having the disorder. He was prescribed both stimulants and fluoxetine (Prozac). The results were dramatic. James found he was able to concentrate and learn steadily for the first time in his life. He was able to continue with his course, organize himself and plan ahead. His interest in gambling faded and he noted that he was much less impulsive in other ways as well. His self-esteem improved markedly.

Jack finally agreed to an assessment for ADHD at his wife's insistence. He was diagnosed and placed on stimulant medication. He experienced greatly improved levels of concentration. His relationship with his wife improved, as he was able, at least sometimes, to listen, to react more calmly to stress and to think before he acted. They began to work more successfully on managing their finances together. His impulses to gamble lessened, particularly as he experienced more success in other areas of his life.

Ryan was not unhappy with his high-energy, creative approach to life. He was interested, however, in acquiring some help in staying organized. He began looking for a business partner who could provide the solid backup and attention to detail that would complement his own vibrant salesmanship. He was not concerned that he would gamble again because he was experiencing no urges. Typical of the overly optimistic segment of this population, he tended to focus on his immediate experiences rather than on any examination of the past or anticipating problems in the future. Thus, he had no interest in relapse prevention efforts.

A lengthy counselling process was necessary with **Eve** who was preoccupied with her internal processes and had difficulty focusing on behavioural change. She finally attended an assessment with an ADHD clinic and was given a trial of Ritalin (methylphenidate). She noted that she could tolerate more stress without becoming reactive. She had to go off Ritalin for medical reasons, and began to look at antidepressant medications instead to address both her depression and her ADHD. Cognitive-behavioural strategies were somewhat successful in reducing her gambling binges. Interestingly, focus on her emotional issues tended to make her feel worse as she would become overly focused on her current misery. Like Jack, Eva tended to perseverate on negative feelings, elaborating and catastrophizing until she was exhausted. Changing the focus, although difficult, often helped her to gain some distance from her problems, and thus, deal with them more effectively through behavioural strategies.

Eve and Ryan typify two common, contrasting temperamental characteristics: one was highly ruminative and steeped in negativity, and the other was positive in outlook, no matter what the circumstances, and uninterested in the past or the consequences of his actions. Both had a characteristic affective response at either end of the continuum. Although life history may play a part in such characteristics, neurodevelopmental precursors are also likely. Helping individuals to see the other side of the seesaw is usually achievable.

Medical intervention

It is vital that a doctor who specializes in this area investigate concerns about ADHD. Self-diagnosis and self-medication are to be discouraged. Connecting to ADHD clinics may not be easy but they are available by referral from family doctors. A minimal assessment should involve a psychiatric interview to exclude other disorders, self-report questionnaires that establish a threshold for including ADHD as a diagnosis, a collateral history to establish childhood symptoms and some assessment of functioning to establish impairment in various domains.

Individuals with ADHD often seek medical treatment. Stimulants such as Ritalin are often the treatment of choice to address impulsivity. For depression, the addition of a serotonin-based medication is likely. Of course, careful monitoring and an evaluation of the efficacy of this intervention are indicated.

Other intervention approaches

The many emotional issues resulting from a history of ADHD cannot be resolved simply by identifying a neuropsychological disorder, even if treatment is

successful. Therapy in either individual or group settings can help resolve some of these issues and help the person move forward. Groups are particularly valuable as they give a person the opportunity to share experiences and cognitions that previously may have seemed unique to the individual. Due to their interpersonal relationship problems and a lack of internalized structure, a therapeutic relationship based strongly in cognitive-behavioural strategies is helpful. More importantly, the therapeutic alliance may be critical in helping clients with ADHD achieve a sense of security and trust that was missing in their childhood.

There are many ways to manage the symptoms of ADHD, apart from or in addition to medication, which address the specific nature of the problem. Self-help manuals and Web sites offer many techniques that can help someone with ADHD function more effectively. Suggestions include strategies such as reducing distractions, keeping lists and notes, and finding ways to make tasks stimulating. Some people find mentors to help them organize each day.

Gamblers need to acknowledge their requirements for stimulation and challenge and find new avenues to achieve them. Specific day-by-day planning can reduce their vulnerability to impulsive behaviour. They can benefit from practice controlling their impulses, starting with life areas easier to handle than gambling urges. For instance, one client characteristically rolled through stop signs. He took up the suggestion to come to a full stop each time and practiced this new way of driving. He found that the learning generalized; he was more able to pause and think before acting.

As mentioned above, impulsive individuals may never have developed the circuitry to effectively say "no" to impulses. Even average individuals (such as Blaszczynski's "normal" subgroup) can experience deterioration in the inhibitory circuitry if they do not use it. It is not unusual to see gamblers with a good previous history of self-control having difficulty dealing with their impulses after a long period of self-indulgence. Gamblers with ADHD have obeyed innumerable impulses; this habit would be hard to break even if their inhibitory processes had originally been strong. These clients can benefit from changing any habit; the learning will likely carry over to other areas, and it can be used in the counselling process to promote self-efficacy.

Additional resources

There are organizations offering education and support such as the national chapter of Children and Adults with Attention Deficit Disorder (CHADD) and the local support group Attention Deficit Disorder Organization (ADDO). The ADDO has monthly meetings for adults as well as for parents of children with the disorder.

There are over 44,000 Web sites on the topic of ADHD, which can be overwhelming, however, it is a useful forum to deal with some issues. Popular texts on the subject include *Driven to Distraction: Recognizing and Coping with Attention Deficit Disorder from Childhood Through Adulthood* (Hallowell & Ratey, 1996) and *You Mean I'm Not Lazy, Crazy or Stupid?!: A Self-Help Book for Adults with Attention Deficit Disorder* (Kelly & Ramundo, 1995). Centres that offer resources on learning disabilities can be helpful with referrals and materials.

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Submitted May 31, 2000

Accepted June 21, 2000

Nina Littman-Sharp is the manager of the Problem Gambling Service of the Centre for Addiction and Mental Health. She has worked in addictions for 14 years and with gamblers for six. Nina is involved in a wide variety of clinical, research, training, outreach and public education efforts. She presents and writes on a number of topics, including strategies for change and relapse prevention, couples work and on the Inventory of Gambling Situations, an instrument which assesses areas of risk for relapse. Nina is recognized as a Certified Gambling Counsellor and Supervisor by the National Council on Problem Gambling based in Washington, D.C.

Dr. Umesh Jain is the Head of the Adult and Adolescent ADHD Program, director of the Children's Medication Clinic and Staff Psychiatrist at the Centre for Addiction and Mental Health, Clarke site. He is an Assistant Professor of Psychiatry at the University of Toronto and is completing his PhD at the Institute of Medical Sciences. Dr. Jain is a nationally recognized scientist in this area with his media appearances, publications and numerous presentations. Dr. Jain was the Scientific Head of the Organizing Committee of the Canadian Academy of Child Psychiatry (1997–1998) and a past member of the scientific boards of the Canadian and American Academies of Child Psychiatry.

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We hope that the narratives in First Person Accounts will evoke an understanding of how people experience gambling. These experiences may come from gamblers, from family or friends of gamblers, and may be positive or negative. We invite others to share their experiences as First Person Accounts or to a dialogue in our [Letters to the Editor](#).

First Person Account – An Opinion

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Dot-com looniness, phantoms of avarice and appetite.

by Rex Murphy

Excerpted from the 'Magazine' portion of CBC News THE NATIONAL television broadcast for April 17, 2000.

"What lives must die; what rises must set; and what goes up must – must come down. These are axioms; self-evident truths that have been available to the generations of man since there have been generations. The birth of high-tech and the arrival of the boomers, the Yuppie incarnation, were of course to have changed all that. Rules that have obliged every other moment of history obviously cannot be held to apply to this one. The most self-regarding generation of all history is going to live forever; jog till it's 90; chemically extend its furious sexual capacity; replace and enhance all body parts and get continuously rich forever. It is this happy exceptionalism that has made the practice of building hopes and dreams on the

stock market, and in particular that portion of it known as the NASDAQ, such a delightful habit for so many North Americans.

Of course the stock market, even the new economy NASDAQ is nothing more than old-fashioned gambling. And the NASDAQ, properly understood, is nothing more than bingo for yuppies. The difference is that for this generation, bingo is a game in which everyone is entitled to win all the time. So when last week rolled in with stock declines and when Friday hit with gale force and the loss of \$2 trillion, well, the response of some was desperate unbelief; shivering incredulity. A delusion had been laid waste. What had been going up was now going down. How could anyone really be surprised? The itch to dot-com the world cannot be infinitely scratched. A web site is not a gold mine. Companies going public for billions that produce nothing, make no profits, hardly exist outside the ether in which they are promoted.

The last great stock market shill was Bre-X. But at least Bre-X pretended to be something on the earth – or in the earth. These IPOs and on-line trading stores – anything in fact with the word 'Net in it that isn't made of string – are phantoms of avarice and appetite.

Dot-com looniness is the vapour of hot breathing greed, and the oldest idea in the world; that of getting something for nothing or a very great deal of something for hardly anything at all. North America has become a society of speculators; people who would rather guess their future than earn it. One large 24-hour casino – a Las Vegas of dividends and mutual funds and people who wander around muttering about their portfolios – in other words, their betting slips.

Any society that becomes intimate with the language of the stock market; where the broker is called more often than the teacher, and dips in the stock market carry more anxiety than a shortage at the grocery store, has wandered away from common sense and is waiting for a fall. There is no new economy. There never was. Riches without effort, are without effort withdrawn.

What the mouse click hath given, the mouse click will take away. Last week wasn't a glitch. It was the oldest force in the universe. It was gravity. What goes up comes down, and sometimes vice versa. For the Magazine, I'm Rex Murphy."

We gratefully acknowledge the kind permission of Rex Murphy and the CBC to republish this account. It is available at <http://cbc.ca/news/national/rex/rex20000417.html> and other CBC News features are at <http://cbc.ca/news>.

Biographical Notes

Rex Murphy was born and raised in St. John's, Newfoundland, graduating from Memorial University. A Rhodes Scholar, in 1968 he went to Oxford University. Once back in Newfoundland he was soon established as a quick-witted and accomplished writer, broadcaster and teacher.

He is noted throughout Newfoundland for his biting comments on the political scene through his nightly television supper hour show "Here and Now."

Rex has worked extensively with CBC and from Newfoundland he has contributed many items on current affairs issues, including a weekly essay for THE NATIONAL, winning several national and provincial broadcasting awards.

He divides his week between Toronto and Montreal with frequent forays to St. John's.

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Romancing the Odds (1997)

By Gary Bell, Audiovisual Review Committee Co-ordinator at the Centre for Addiction and Mental Health Library, Senior Library Assistant, Centre for Addiction and Mental Health, Toronto, Ontario, Canada

E-mail: Gary_Bell@camh.net

Length: 40 minutes

Subject: Problem gamblers

Distributor: Nova Scotia Government Bookstore

(902) 424-7580, in Nova Scotia call toll-free 1-800-526-6575

URL: <http://www.gov.ns.ca/bacs/books/gambling.htm>

Fax: (902) 424-5599, E-mail: lynchcd@gov.ns.ca

Cost: \$125.00

Comedian Bette MacDonald hams it up, sings and acts her harried way through this dramatization of the lives of several problem gamblers. These gamblers deal with the economic, social and family consequences of devoting too much time and money chasing their losses. One gambler is locked into a desperate cycle and constantly rationalizes his behaviour, convincing himself he must "win big" so he can pay his debts. Yet he postpones bill payments and other important commitments. He pockets his employer's money hoping the bookkeeper won't notice before he "pays it back" and attempts to borrow from anyone against his future hopes to win. The video illustrates the struggle with relapse for gamblers in recovery and recognizes triggers in relapsing. The video conveys the difficulty some gamblers may face with ever-present advertising for lotteries and other gambling venues. Occasional brief interludes offer information on the antiquity of gambling.

Much of the gambling action takes place in a bar with video lottery terminals (VLTs). Brian, the friendly bartender, offers advice to the audience, comments about gamblers, makes change for the VLTs, polishes glassware, reads aloud from Dostoyevsky's *The Gambler* and doesn't seem to sell much alcohol. He laments that the usual social conviviality of the beverage room seems to have been reduced by the presence of the gambling machines. Interestingly, the video gives the impression that there is a sexualised component to gambling as the bettors use suggestive talk with the electronic host on the VLT screen, seemingly trying to "romance the odds." This concept is not pursued very far, and it would be interesting to know if this is a common component in problem gamblers' experiences, or just cleverness on the part of the video producer.

The video presents some basic aspects of recovery from gambling problems. A receptionist on the Problem Gambling Helpline outlines how this service works. A counsellor with the Drug Dependency Services briefly comments on his attitude to gambling therapy. He sees problem gambling as a kind of "self therapy" that not only interferes with the process of dealing with life problems, but may mask other issues. He offers four basic steps for someone seeking help: stop yourself from accessing money, begin an exercise program as a start to a lifestyle change, participate in Gamblers' Anonymous support groups and attend counselling sessions. The Helpline number is shown during the introduction and at the conclusion of the program.

One of the more compelling segments of the video involves a secondary school class doing a project on gambling. They explore questions of gambling, the role of chance and the odds of winning a lottery, for example, compared to other kinds of random events. One of the students in the class plays the part of the son of a problem gambler. He approaches the teacher at the end of the class and presents his dilemma about "a person he knows" with a gambling problem.

I believe this video would be a useful adjunct to an information session about problem gambling. The program is not without faults and some segments last rather long—"Why I gamble"—for example. Though intended to puncture the bubble of excuse making, it comes perilously close to condescending mockery. Looking at demographic characteristics, the gamblers portrayed appear to be remarkably consistent; they are all white, 30 to 40 years old and low to middle income workers. Is this the group most often experiencing gambling problems? The video covers a lot of issues though, has an offbeat sense of humour and would be appropriate for an adult audience. As an added bonus, viewers can try their hand at the recipe for "turnover chips."

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{This letter resulted from a retirement tea discussion about gambling and addiction to electronic devices. – The Editor}

How I Became Famous Once

Once upon a time (in a galaxy far away) ARF's [*Addiction Research Foundation –ed.*] training department was known as the School for Addiction Studies Division ("ARF U."), and was housed in a renovated mansion in Rosedale, in downtown Toronto. I spent 13 years there as an Education Consultant.

In the early '80s video games burst upon the scene. Parents worried that their kids would fritter away time on video games to the detriment of school and family life, and their fears were justified in some cases, as usual. Eventually there was talk of kids who were "hooked" on video games, kids who were "addicted" and pursued the games to the exclusion of everything else. They even stole money from mom's purse, and ran off to play games at the video game arcade. Kids were reported to have gone to play video games at lunch and not returned for afternoon classes.

The mayor of North York, a spotlight magnet named Mel Lastman, supported a proposed bylaw that would prohibit the establishment of a video game parlour within N meters (250? 500? I forget) of a school.

A reporter for one of Toronto's newspapers got the idea that he would look into reports of video game addiction. A logical step in his research was to call up the Addiction Research Foundation, the Provincial Government agency with the responsibility in that area. The SAS receptionist knew me as a person who was willing to shoot off his mouth on any topic in the addiction field, so she put the reporter's call through to me.

"Can a person be addicted to video games?" he asked. I said that the word

'addiction' was being used loosely, because gaming obviously doesn't involve the ingestion of chemicals; a characteristic of mainstream addiction. However, there may well be changes in the brain as a consequence of repeated patterns of behaviour, and in that sense might parallel addiction. Off the top of my head I also thought that there might be other parallels.

Video games result in very rapid reinforcement compared to, say, school work. Depending on what we think the reinforcement is, it might be seen to come rapidly and frequently. For example, if your friends tell you that shooting down an alien rocket is super cool, you might be able to have that sense of accomplishment many times per minute, and with only a split-second delay after your action. Sense of accomplishment, or mastery, or achievement, can get a real workout with a video game. Rapid, high-rate reinforcement is a well-known way to instill a behaviour.

The reinforcer is available at very low economic cost, thereby reducing one of the most obvious barriers to addiction. Availability is also enhanced by the absence of age barriers and the (then) widespread appearance of game parlours.

Another barrier to addiction is missing, in that the route of administration is not aversive, as smoking is initially, and as needles are in the common mind. Becoming skilled at the game brings more challenging levels of play, with less frequent reinforcement, but most importantly, the reinforcement occurs on an unpredictable schedule. Once a behaviour has been instilled by a reliable, high-rate schedule of reinforcement, it can be amazingly resistant to extinction by shifting to an unpredictable schedule of reinforcement.

Having played out these parallels between video game addiction and historical "typical" addiction, the reporter was full of enthusiasm for the topic, and quoted me extensively in a newspaper article.

The next thing I knew there was a radio station from Hamilton, Ontario on the phone. Then a TV station called up for a session in their studio, then Homemaker's magazine, a radio station from Halifax, another from Kingston, then one from out west.

For a few weeks the topic was hot, and so was I. The Powers That Be decided that there was nothing dangerous in my philosophical ramblings, and it made ARF look good; being helpful in the midst of public controversy. Pretty soon it all died down, and the crisis of video game addiction faded away.

Unless there is a bylaw on the books of the former City of North York, I doubt that there is much left from that brief time, apart from my memories of "How I became Canada's foremost expert on video game addiction."

Doug Chaudron
Toronto, Ontario, CA
Email: lechaud@inforamp.net

We invite our readers to submit **Letters to the Editor** on gambling topics. Please note that we can publish only a fraction of the letters submitted. All letters must be signed. We cannot publish anonymous letters, or those of a libellous nature. Letters to the Editor are reviewed and chosen by the editor and members of the editorial board. Letters may be sent to either the e-mail or the regular mail address given below. Once a letter has been accepted, we will request an electronic version. Each published letter will include the writer's first and last names, professional title(s) if relevant, city, province or state, and country. We reserve the right to edit each submission for uniform format and punctuation.

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National Council on Problem Gambling

14th Conference on Problem Gambling Philadelphia, Pennsylvania, US

October 6-8, 2000

- Early bird registration deadline: August 31
- Registration deadline: September 29
- Rates same as last year.
- International attendees receive 25% discount
- Full (3 day) fees:
 - NCPG member \$395
 - Non-member \$449
 - Student \$175
 - Presenters \$295
- 1 day registration also available

Over 100 presenters on topics ranging from spirituality to special populations, interventions to Internet gambling.

Contact:

(202)-547-9204

ncpg@ncpgambling.org for registration and additional info.

Call for Research Project Applications for Ontario, Canada

These notices offer details on a recent request for research applications by the Ontario Problem Gambling Research Centre. There are two documents; the first describes the call for applications, and the second details the requirements for the initial Letter of Intent including its August 18, 2000 deadline. Please note that only Canadian residents can apply, and they must conduct the research in Ontario and focus on Ontario residents.

Ontario Problem Gambling Research Centre Research Awards Solicitation

The mission of the newly created Ontario Problem Gambling Research Centre (the Centre) is to enhance understanding of problem gambling, and strengthen treatment and prevention practices through research. The main goal of the Centre is to support the development of high quality research projects that examine various facets of problem gambling.

To achieve this goal, the Centre is requesting applications from researchers interested in conducting problem gambling research in Ontario. These submissions will be adjudicated, and successful applicants will be invited to submit full research plans in stage two.

Description of Research Projects

In general, the Centre will fund applied research projects that advance knowledge relative to the treatment and prevention of problem gambling. These projects may include:

- Research that advances the basic understanding of gambling behaviour in

general, and problem gambling behaviour in particular.

- The development and testing of specific prevention and/or treatment programs, and piloting such programs for special population groups.
- Treatment programs that focus on new models and methods of improving existing approaches, with comparisons of such methods to existing treatment approaches.
- Explorations of the gambling recovery process with and without formal treatment.
- Development and testing of models of service, gambling behaviours, or new ways of conceptualizing gambling and problem gambling behaviours.

Projects that will not be funded include the social/economic impact of gambling, attitude surveys, needs assessments, and literature reviews. Research projects that involve community collaboration and partnerships will be given priority.

Awards Amount

One-year research awards will be available to a maximum of \$175,000 per project.

Eligibility

To be eligible for support, the applicant must be legally residing in Canada. Researchers throughout Canada are eligible to apply, but work must be conducted within Ontario communities and focus on Ontario residents. Collaboration with Ontario organizations/ researchers is preferred.

Application Deadline

The deadline for receiving Letters of Intent is August 18, 2000. Invitations to submit a complete research plan will be made on or about August 31, 2000.

**Application guides may be requested from:
The Ontario Problem Gambling Research Centre
304 Stone Road West, Suite 403
Guelph ON, N1G 4W4**

Telephone: (519) 763-8049

Toll Free: (877) 882-2204

Fax: (519) 827-9196

E-mail: opgrc@home.com

NOTE: The Centre reserves the right to modify or discontinue the awards process at its sole discretion.

Ontario Problem Gambling Research Centre

Guidelines for Letters of Intent

Background

On July 12, 2000 the Ontario Problem Gambling Research Centre (the Centre) issued a research awards solicitation for projects to be initiated in the 2000-01 operating year. Researchers who wish to apply for funding are asked to submit a Letter of Intent that complies with the following guidelines.

Cover Page

The cover page should include:

- The title of the research project
- The name of the Principal Investigator, and (if different) the project Contact Person. Include each person's institutional affiliation, title, address, telephone and fax numbers, and e-mail address
- The names, addresses, affiliations, and titles of collaborators or other members of the project team
- Indication of the status (e.g. not for profit, hospital, university) of the institutional affiliation
- Signature of the Principal Investigator and (if different) the project Contact Person.

Second and Subsequent Pages

- Describe the specific aims of the project and what you hope to accomplish
- Briefly explain how this project will extend existing knowledge and make a significant contribution to the field
- Describe the proposed methods and key activities for the project
- Provide a general timetable for the project
- Discuss the qualifications of the principal personnel and affiliated institution(s) to implement the project
- Provide an estimate of the budget for the project, broken into general categories (salaries, operating, other expenses, etc.)

Specifications

- Awards amount: one-year research awards will be available to a maximum of \$175,000 for direct project costs. In addition, up to 20% of direct costs will be available to cover associated indirect costs (e.g. ethics review, legal costs, computer services, library services, etc.)
- Due Date: the deadline for receiving Letters of Intent is Friday, August 18, 2000 at 5:00 p.m. Eastern Daylight Time
- Copies: include the original Letter of Intent and three copies
- Layout: use standard letter size paper with a 12 point font, single spaced
- Length: do not exceed five pages, including the cover page
- Ethics: an ethics review will be required before research awards are finalized
- Assistance: contact the Centre by telephone, fax, mail or e-mail if you have questions or would like assistance with the completion of your Letter of Intent
- Selection Process: Letters received by the Centre will be reviewed by its Research Review Committee, and those meeting its standards for scientific merit and relevance will be invited to prepare a detailed research plan for the final round of consideration for funding.

An invitation to prepare a detailed plan is not a guarantee that funding will be granted. Rather, it is an indication that the proposal merits further consideration in a more fully described form

Key Dates

August 18, 2000 deadline for receipt of Letters of Intent

August 31, 2000 notification of review results

October 13, 2000 deadline for receipt of detailed research plans

November 28, 2000 notification of awards

Contact Information

**The Ontario Problem Gambling Research Centre
304 Stone Road West, Suite 403
Guelph ON
N1G 4W4**

Telephone: (519) 763-8049

Toll Free: (877) 882-2204

Fax: (519) 827-9196

E-mail: opgrc@home.com

Note: the Centre reserves the right to modify or discontinue the awards process at its sole discretion.

For the **Calendar of Events** we invite our readers to submit notices of upcoming gambling-related conferences, presentations, symposiums and other educational events, civic events, and media events that are open to the public. We will gladly publish news of events that may occur years in the future.

We ask that these notices be submitted by electronic mail. With each submission we require the e-mail address of someone with whom the editor can verify details about the event. (We understand that this e-mail address may perhaps not be part of the published calendar listing.) We reserve the right to edit each submission for

uniform format, punctuation and grammar.

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Invitation to Contributors

We welcome contributions on gambling and gambling-related issues. Please note that submitted manuscripts are limited to 5000 words in length, not including a 150 word abstract and references. (For First Person Accounts and Reviews please see below.) Prospective authors should always read the last issue of *EJGI* for the latest version of Invitation to Contributors. We encourage electronic submission and accept mail submissions, but cannot accept fax submissions. For details, please see the submission process below. All authors whose manuscripts are accepted will receive a standard legal form to complete, sign and return by mail.

The Review Process

All submitted manuscripts (except Reviews) are reviewed anonymously by at least two people. Each reviewer will have expertise in the study of gambling and will assess and evaluate according to the criteria listed below. The editor will mediate their assessments and make the final decisions.

Submissions are either

1. accepted as is, or with minor revisions;
2. returned with an invitation to rewrite and resubmit for review, or
3. rejected. (Decisions of the editor are final and cannot be appealed.)

Authors will receive an e-mail copy of their manuscript before publication, and must answer all queries and carefully check all editorial changes. Please note that there will be a deadline for a response to queries and no corrections can be made after that date. Authors are responsible for the specific content of their manuscripts.

Feature articles

The editorial board will make specific invitations to chosen authors. All submissions will be peer-reviewed in confidence by at least two reviewers for their scientific merit and/or contribution to public debate in the field of gambling studies. All submissions will be mediated by the editor.

Research

We invite researchers to submit manuscripts that report new findings on gambling. All submissions will be peer-reviewed in confidence by at least two reviewers for their scientific merit, and mediated by the editor.

Policy

We invite manuscripts that examine policy issues involving gambling. All submissions will be peer-reviewed in confidence by at least two reviewers and mediated by the editor. The editor will evaluate how successful the author is in exploring how gambling affects public life and policy, historically and currently.

Clinic

All submissions will be peer-reviewed in confidence by at least two clinicians and mediated by the editor for their soundness and value to

practicing clinicians.

First Person Accounts

These narratives will show how gambling affects the author and others (perhaps as family, friends, gambling staff, or clinicians). Submissions will be reviewed in confidence by at least two reviewers and mediated by the editor. The editor will evaluate how successful the author is in making gambling issues come alive to the readers. First Person Accounts do not need abstracts or references.

Reviews

Reviewed by the editor, these brief summaries and discussions will evaluate gambling-related books, videos, Web sites and other media in 1,000 words or less. Reviews should have references if cited, but do not need abstracts.

Letters to the Editor

We invite our readers to submit letters on gambling topics. Please note that we can publish only a fraction of the letters submitted. All letters must be signed. We cannot publish anonymous letters, or those of a libellous nature. Letters to the Editor are reviewed and chosen by the editor and members of the editorial board. Letters may be sent by e-mail or to the mail address given below. Once a letter is accepted, we will request an electronic version. Each published letter will include the writer's first and last names, professional title(s) if relevant, city, province or state, and country. Alternatively, for good cause, the editor may confirm a letter's authorship and publish it as 'Name withheld on request.' We reserve the right to edit each submission for readability, uniform format, grammar and punctuation.

Submission Process

We accept submissions in Microsoft Word, WordPerfect (PC) or ASCII formats. We regret that we cannot accept Macintosh-formatted media. Communications can be sent electronically to (phil_lange@camh.net) to the editor for review. We will take all possible care with submissions. Neither the editor nor the Web site managers accept the responsibility for the views and statements expressed by authors in their communications.

Authors opting to submit hard copies should mail four copies to the address below and ensure that the guidelines are followed. If possible, an e-mail address should accompany mail submissions.

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Manuscripts and Abstracts

Manuscripts should be word processed in Times New Roman 12-point typeface, and should be formatted with 1.25 inch margins on all four sides. Do not use a font size smaller than 10 anywhere in the manuscript. The first page should be a title page and contain the title of the manuscript, the names and affiliations of the authors, their addresses and e-mail addresses. The second page should only have the manuscript title and the abstract; this is for the purpose of anonymity. This abstract (of 150 words or less) should describe what was done, what was found and what was concluded. List up to eight key words at the bottom of the abstract page. Minimally, an abstract should be structured and titled with objective, methods or design, sample, results and conclusion. The structured abstract format is acceptable, but not required.

References

These should be placed at the end of each manuscript (not as footnotes on each page) and should be cited consecutively in the author/date system (e.g., author(s), year). Ultimate responsibility for accuracy of citations rests with the authors(s). Do not use italics, underlining or tabs in the references; *EJGI* will address these issues in the editing process. Please see the latest issue of *EJGI* for our referencing format.

Examples:

Books

Lesieur, H.R. (1984). *The Chase: The Compulsive Gambler*. (2nd ed.). Rochester, VT: Schenkman Books, Inc.

Book chapters

Shaffer, H.J. (1989). Conceptual crises in the addictions: The role of models in the field of compulsive gambling. In H.J. Shaffer, S.A. Sein, B. Gambino & T.N. Cummings (Eds.), *Compulsive Gambling: Theory, Research, and Practice* (pp.3-33). Lexington, MA: Lexington.

Journal articles

Gupta, R., & Derevensky, J. (1997). Adolescent gambling behavior: A prevalence study and examination of the correlates associated with problem gambling. *Journal of Gambling Studies*, 14 (4), 319-345.

Miscellaneous articles, including government publications

Ontario Ministry of Health. *Schedule of Benefits, Ontario Health Insurance Plan*. Kingston, Ontario: Ontario Ministry of Health; April 1987.

Papers presented at a conference, meeting or symposium presentation

Ganzer, H. (1999, June). A seven session group for couples. Paper

presented at the 1999 13th National Conference on Problem Gambling, Detroit, MI.

Signed newspaper article

Brehl, R. (1995, June 22). Internet casino seen as big risk. The Toronto Star, pp. D1, D3.

If the article is unsigned or the author's name is unavailable, begin with the title:

Man gambled crime returns at casino. (1996, February 9). The Christchurch Press, pp.32.

Electronic source

Brown, S., & Coventry, L. (1997, August). Queen of Hearts: The Needs of Women with Gambling Problems, (Internet). Financial and Consumer Rights Council. Available:
<http://home.vicnet.net.au/~fcrc/research/queen.htm>.

Tables

When submitting tables within the text, indicate the approximate position of each table with two hard returns and dotted lines above and below each location, as illustrated here.

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Graphs and Illustrations

Authors whose manuscripts include graphs or illustrations should communicate with the editor regarding submission formats and standards.

Abbreviations

Well-known abbreviations (e.g., DNA, EKG) may be used without definition; all others must be defined when first used. Except in First Person Accounts, measurements should be stated first in metric units and, if desired, then using British, American or other local equivalents in parentheses. For example, "The two casinos are 10 km (6 miles) apart." However for First Person Accounts authors may use whatever measurements they prefer. Other units of measurement should be used in accordance with current custom and acceptability. Generic names of drugs are preferred; a proprietary name may be used if its generic equivalent is identified.



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Alberta Alcohol and Drug Abuse Commission: information, brochures and survey results

<http://www.responsiblegambling.org>

Responsible Gambling Council (Ontario): information, publications and calendar of international gambling-related events

<http://www.unr.edu/unr/colleges/coba/game>

Institute for the Study of Gambling and Commercial Gaming: an academically oriented program on gambling and the commercial gaming industries

<http://www.ncrg.org>

National Centre for Responsible Gaming: funding for scientific research on problem and underage gambling

<http://www.problemgambling.ca>

Problem Gambling: A Canadian Perspective Website (Gerry

Cooper): annotated international links

<http://www.youthgambling.org>

Youth Gambling Research & Treatment Clinic (McGill University, Montreal, QC, Canada): information, self-quiz and FAQ's



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