

Guest Editorial

Gambling: The Hidden Addiction

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Gambling is an important part of all cultures, societies, and social classes (1). Nowadays, it is a common leisure activity: over two-thirds of adults gamble regularly. In 2002, Canadians spent \$11.3 billion on gambling—a \$2.7 billion increase over the previous 10 years (2).

For most people, gambling is a relaxing activity with no negative consequences. However, others develop excessive behaviour: gambling becomes a disorder or an addiction that manifests itself as an irrepressible impulse to wager money. The activity has negative consequences and dominates the lives of those suffering from pathological gambling. Among other things, excessive gambling leads to the spending of ever-increasing sums of money and creates important personal, familial, occupational, and social problems (3).

Gambling is characterized by the following criteria: 1) players wager money or an object of value, 2) the bet is irreversible once placed, and 3) the game's outcome relies on chance. This last criterion is central. Chance announces and imposes the notion that it is impossible to control the outcome of an event. Unpredictability is the key to understanding it, yet gamblers do not always behave as if they understand that the game is determined by chance.

Cognitive theories seek to explain why those who gamble may persist with gambling until their losses are out of control. Understanding problem gambling that ultimately becomes labelled "pathological" or "disordered" involves analyzing

the consequences of extreme persistence in the face of large losses (4). The central consequence, and possibly the core factor in causing gambling problems, is financial loss. Although it may seem obvious that financial loss is a fundamental aspect of gambling problems, this perspective is sometimes not appropriately emphasized. For example, only 4 of the DSM-IV's 10 criteria defining pathological gambling explicitly refer to the loss of money and the problems caused thereby (5). If the financial cost of gambling is emphasized, many of the criteria for identifying pathological gambling can be understood as consequences of this common cause. The possibility of winning is a necessary condition of all games of chance; however, if one takes into account that 2% to 50% of wagers go directly to the organizers, depending on the game, it is clearly not the best investment that players can make! Why, then, do we gamble? More important, why do some people persist in gambling despite repeated important monetary losses?

The cognitive theory of gambling shows how the false beliefs of those who gamble can lead to chasing losses, changes in mood, withdrawal, deceitfulness, and important negative consequences. These changes at the individual level, coupled with the large financial loss, can be expected to affect the family life, employment, and social life of the gambler (4,6).

Research suggests that the core cognitive error lies in the gambler's notions concerning randomness (7–9). Although individuals who suffer from pathological gambling hold a large proportion of erroneous beliefs, occasional players also have such perceptions. More than a decade ago, Gaboury and Ladouceur invited participants to think aloud while gambling and observed that 70% of the verbalized perceptions were erroneous (10). Examples are as follows: "The machine is due; I need to continue"; "Here is my lucky dealer; I always win when he is there"; and "Today I feel great; it is my lucky

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day.” Similar results were observed with different games—blackjack, roulette, lotteries, and video lotteries—and replicated in different and independent laboratories. This robust result supported the inclusion of cognitive factors in the understanding and treatment of individuals who gamble pathologically (see 1,4,11).

Adequate beliefs reflect the idea that the game’s results are determined by chance, whereas erroneous beliefs involve the idea that the game’s outcome can be predicted and controlled. Ladouceur and colleagues concluded that, no matter what game or condition the players find themselves in, their thoughts tend to be erroneous: invariably, the number of erroneous verbalizations exceeds the number of realistic or adequate verbalizations (see 4). Erroneous perceptions reflect the failure to understand or take into account the random and uncontrollable nature of chance (see 8).

The basic problem may be rooted in the fact that individuals have great difficulty in either recognizing or generating random sequences of binary events. Ladouceur and Dubé asked participants to produce a sequence of 100 heads and tails “as if it were the result of flipping a coin 100 times” (12). Participants could only see the last chosen event, because a screen covered the rest of the generated sequence; however, they could briefly remove the screen at any time to view what they had chosen before. Results indicate that participants were unable to apply the principle of independence among events. All participants removed the screen to analyze previous events at least once during the task. The fundamental error is to rely on past events to predict the next outcome.

Participants went as far as to deny that they had emitted so many erroneous perceptions while playing a game of chance. After verbalizing their thoughts, they were asked to align themselves with either the group that emitted mostly erroneous beliefs, the group that emitted mostly adequate beliefs, or the group that emitted as many erroneous as adequate beliefs. Most subjects wrongly identified themselves with the group that emitted mostly adequate beliefs (13). It is interesting that players would not accept their irrational behaviour. Two thought processes, operating at an automatic level, exist in the gambler’s mind and cause the individual to switch from rational to irrational thinking. We usually try to organize our environment so that we can make sense of it and control it. When facing a situation wherein only chance determines the outcome, individuals will tend to create nonexistent contingencies between independent events. People have learned throughout their lives to identify the contingencies of their environment to predict coming events; from a deterministic standpoint, it takes great mental effort to grasp the concept that an event has no causes that allow us to predict it. From an evolutionist standpoint, the ability to predict has of course a survival function, as much for the individual as for the species.

In situations with unpredictable outcomes, individuals tend to assume causes to predict these future outcomes. Invoking deterministic rules to explain randomness would create erroneous thoughts and could explain the illusion of control (12).

These errors in thinking, which foster the tendency to predict the game’s outcome, have been classified into 3 categories: nonrecognition of independence of turns, illusions of control, and superstitions. Among pathological and nonpathological gamblers, what are the main differences in erroneous perceptions while gambling?

Most gamblers have erroneous perceptions while gambling; however, the percentage of gambling-relevant verbalizations and, more important, belief in the validity of the erroneous perceptions differ between pathological and nonpathological gamblers. The most important difference lies in the conviction with which erroneous perceptions are held. It appears that nonproblem gamblers use accumulated evidence to evaluate and criticize their perceptions. Conversely, pathological gamblers appeared to process this information in such a way as to increase the strength of their conviction (14). This empirical finding could explain at least 2 frequently encountered clinical observations: First, why do so many gamblers engage in such a destructive pattern? The reason may simply be their conviction that after consecutive losses they are due to win. Conversely, nonproblem gamblers will interpret the same situation as evidence that their beliefs are wrong and they need to modify them. Second, pathological gamblers who have been gambling for years have been exposed often to an intermittent learning schedule. Throughout their gambling experience, their beliefs have been reinforced by occasional random wins. This prolonged exposure makes it very hard for any clinician to correct the erroneous perceptions. The clinical implication of this is that clinicians should work on increasing gamblers’ awareness of both their erroneous perceptions and their strong conviction about these thoughts.

The first paper in this section reviews the current status of gambling epidemiology studies and suggests that it is time to move from general population prevalence research toward investigating risk and protective factors that influence the onset of gambling disorders. In their timely and cutting-edge paper, Dr Howard Shaffer and colleagues briefly introduce the history of the field and thoroughly review the epidemiologic research on disordered gambling before critically assessing the current diagnostic tools (15). They suggest that, for the field of gambling studies to progress, researchers need to take the road less travelled and more carefully examine the onset and determinants of disordered gambling. In the second paper, Dr Tony Toneatto and Dr Goldie Millar discuss the development of clinical assessment and treatment of problem gambling (16). They comprehensively summarize the current state of knowledge about the treatment of problem gambling.

Toneatto and Millar point out the crucial variable of the psychology and biology of problem gambling, which clinicians need to consider in treating those with gambling problems. We hope that these papers will help clinicians to improve their skills in recognizing and treating gambling-related problems.

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