



## **Cognitive Treatment for Pathological Gambling**

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Gambling explicitly involves the attempt to win money by staking money on an uncertain event. As a starting point in the attempt to understand the motivation to gamble, the acquisition of wealth can be assumed to be the prime motivation. The problem with this assumption is that all legalized forms of gambling are constructed so that the expected return is less than the sum wagered. For example, a roulette wheel with one zero takes in, on average, 1/37 of the money staked. Race track owners typically take in approximately 20% of the money wagered in racing (see Ladouceur, Giroux, & Jacques, 1998) and lotteries typically take in approximately 50% of the revenue from ticket sales. These percentages vary from place to place and according to the structure of the distribution of prizes or returns, but in all cases the expected return on money invested constitutes a loss for the gambler. Thus, if the acquisition of wealth is the individual's goal, rational economic considerations would lead people to avoid gambling. Prevalence studies show that this is clearly not the case. Then, the principal paradox of gambling can be formulated as followed: people, in attempting to gain wealth, engage in an activity which is expected to decrease wealth.

#### Cognitive approach to pathological gamblers

The central assumption of cognitive approaches to gambling is that the pathological gamblers continue to gamble because they maintain an unrealistic hope that they will recover their losses if they persevere with the gambling. It is assumed that they have erroneous beliefs about gambling, about the nature of predictability, and about their own skills and knowledge in relation to predicting gambling events, conspire to maintain the gambling far beyond any reasonable limits.

Our cognitive approach was developed after many years of basic research on the psychology of gambling which has shown that an erroneous perception of the notion of randomness is the fundamental mistake made by gamblers (Ladouceur & Walker, 1996). In fact, gamblers attempt to control and predict events that are objectively uncontrollable. Gambling is based on the notion of randomness or chance which refers to the principle of unpredictability. But in fact, gamblers deny this principle and attempt to control and predict events that are objectively uncontrollable (e.g. the toss of a coin, the winning number at roulette or in a lottery). They thus develop an illusion of control which motivates them to use strategies and skills to increase their winnings. Of course, all of these beliefs are false because gamblers still think they can find a way to control events governed by chance.

It follows that if the erroneous perceptions and understanding of randomness in the gambler can be corrected, then the motivation to gamble should decrease dramatically. Our treatment program has focused on erroneous cognitions concerning randomness as the most important targets for change. Since persistent gambling induces a range of other problems these also are treated. The loss of money is associated with many of these problems. Training in problem-solving techniques appears to be appropriate and necessary in some cases. Also, many gamblers often lie and isolate themselves in order to gamble, and so social-skills training may be necessary to help the client to reestablish adequate social relationships.

#### Efficacy of a cognitive/behavioral treatment for pathological gamblers

Single case experimental studies have been conducted to evaluate this cognitive/behavioral approach to treatment for adults and adolescents suffering from

pathological gambling. The results were positive (see Bujold, Ladouceur, Sylvain & Boisvert, 1994; Ladouceur, Boisvert & Dumont, 1994). We then designed a methodologically stringent control group comparison study to further assess the treatment's efficacy (Sylvain, Ladouceur & Boisvert, 1997). Pathological gamblers were randomly assigned to a treatment or a waiting list control group.

Results showed that treated gamblers improved significantly compared to the control group. In order to provide clinically relevant results, the percentage of change and end state functioning (comparing post-test scores to a criterion score) were calculated. Among the treatment group, 85% of the participants in the treatment group improved by 50% or more on three dependent variables, and on the end state functioning criteria, in comparison to only 6% of the participants in the control group (85% success rate). Finally, six- and twelve months follow-up measures indicated that the therapeutic gains were still present; confirming the long term effects of this therapeutic program.

Following the positive results obtained through this controlled study, we evaluated the specific role of correcting the fundamental cognitive error about the notion of randomness. From a theoretical and clinical perspective, we believed that this component is the crucial variable in the maintenance of excessive gambling. We then proceeded to assess the efficacy of a cognitive treatment for pathological gamblers based only on the correction of erroneous cognitions concerning the notion of randomness, and more specifically, through the modification of the gambler's tendency to link independent events when gambling!

Cognitive correction included four components: (a) Understanding the concept of randomness: The therapist explains the concept of randomness, independence among events, the impossibility to control the game; (b) understanding the gamblers' erroneous

cognitions, mainly the difficulty to apply the principle of independence among events. The therapist explains how the illusion of control contributes to the maintenance of gambling habits; (c) awareness of inaccurate perceptions; and, (d) cognitive correction of erroneous perceptions.

Results confirmed previous findings, thus supporting the prediction that a cognitive treatment based on the correction of erroneous perception about the notion of randomness decreases pathological gambling (Ladouceur, Sylvain, Letarte, Giroux, & Jacques, in press). The treatment outcome of this intervention provided positive results equivalent to those obtained by a multi-component intervention. Therefore, cognitive correction of erroneous perceptions toward the notion of randomness is likely to be the key element in the treatment of pathological gambling. We are now replicating this study with a greater number of subjects, using a controlled group comparison design. In conclusion, these therapeutic interventions, with an 85% success rate, open positive avenues for the treatment of pathological gambling.

#### Concluding remarks

This account of pathological gambling takes a cognitive perspective. We assume that pathological gambling occurs when the gambler persists in gambling, despite the losses involved, believing that ultimately the losses will be recovered and money will be won. These false beliefs are mainly maintained by the erroneous interpretation of the notion of randomness. This theoretical position is supported, showing that pathological gambling can be treated effectively by correcting erroneous beliefs of the patients. We are now applying this approach to the prevention of pathological gambling

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