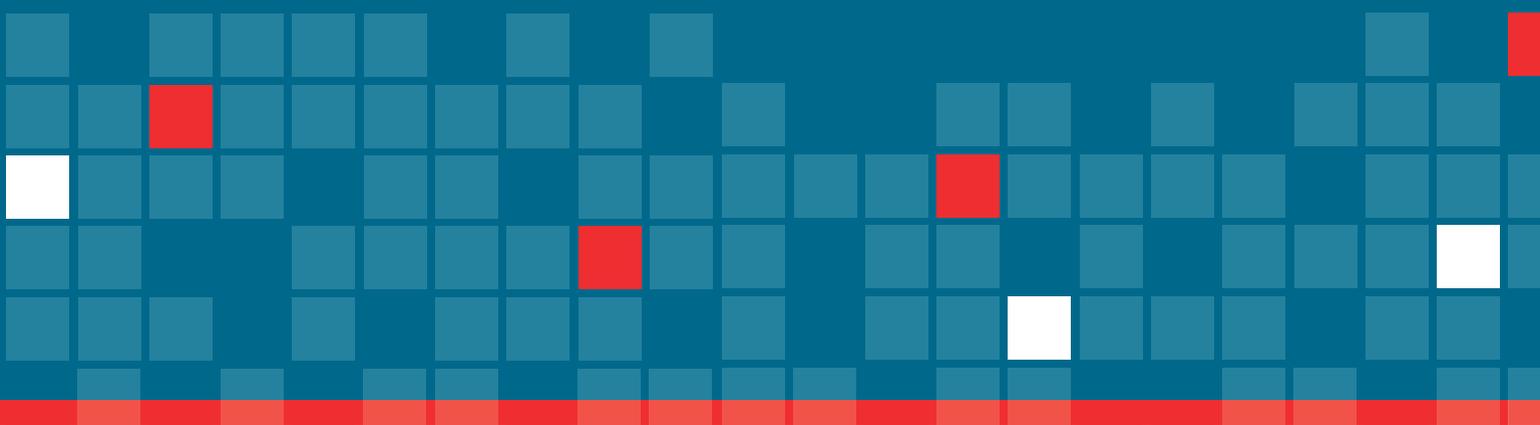


## INCREASING THE ODDS

A Series Dedicated to Understanding Gambling Disorders

VOLUME 2

# Roads to Recovery from Gambling Addiction





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The first volume of Increasing the Odds, Youth and College Gambling, is available via the NCRG's Web site, [www.ncrg.org](http://www.ncrg.org).

# FOREWORD

by Phil Satre

Chairman of the Board, National Center for Responsible Gaming  
Retired Chairman and CEO, Harrah's Entertainment, Inc.

I am pleased to report the inaugural issue of *Increasing the Odds: A Series Dedicated to Understanding Gambling Disorders*, focused on youth gambling, was welcomed as a milestone in the translation of gambling research to the public. This publication series enables us to disseminate the scientific findings beyond academia to health care providers, public health workers, the gaming industry and individuals who might be concerned about their own gambling. Efforts to close the knowledge gap between science and the public will always be a priority for the National Center for Responsible Gaming.

*Roads to Recovery from Gambling Addiction* highlights new research on various aspects of recovery including professional treatment, self-help, and relapse. These studies are providing the building blocks necessary for the eventual development of both a treatment standard for gambling disorders and creative new interventions for individuals who will not or cannot seek professional treatment. Best of all, they offer hope for individuals and families affected by gambling disorders by demonstrating that recovery is indeed possible.

# INTRODUCTION

## Roads to Recovery from Gambling Addiction

by Christine Reilly

Institute for Research on Gambling Disorders  
and

Howard J. Shaffer, Ph.D., C.A.S.

Harvard Medical School and the Division on Addictions, Cambridge Health Alliance

Researchers are just beginning to understand what influences the transition from healthy, recreational gambling to disordered gambling. Similarly, research is starting to unravel how and why people move from disordered gambling to health. Gambling studies and treatment are part of a youthful and dynamic field. Although treatments for excessive gambling have been available for many decades, the young field of gambling research has not yet provided many scientifically tested intervention strategies.

During the past decade, the explosion of scientific research focusing on gambling and the improving quality of research design have resulted in scientifically based clinical trials of behavioral and drug treatments, as well as a new focus on natural recovery and brief interventions. This research has important implications for how health care providers, communities, insurance companies and public health planners respond to the needs of people struggling with gambling disorders. *Roads to Recovery from Gambling Addiction* profiles research projects that reflect the new directions in the gambling field.

### RELAPSE

The road to recovery from addiction is often marked by many detours. About 80 percent to 90 percent of individuals entering recovery from addiction will relapse during the first year after treatment (Marlatt & Gordon, 1985). This phenomenon has been studied extensively with alcohol dependence and other substance-use disorders. Until David Hodgins and colleagues began to focus on this phenomenon, as described in pages 10-13, few studies had focused on relapse among disordered gamblers. Dr. Hodgins's work demonstrates the importance of understanding the "triggers" that might cause a person to return to excessive gambling. What we learn from such investigations will inform the development of relapse prevention strategies.

### GAMBLERS ANONYMOUS®

Gamblers Anonymous (GA) is a self-help fellowship that provides mutual support for individuals experiencing gambling-related problems. GA is based on the 12 Steps of Alcoholics Anonymous (AA). The major goal of this fellowship is to garner from its members a commitment to abstinence from gambling, a lifelong commitment to the principles of GA, and participation in GA meetings. Although GA and AA are perhaps the best-known paths to recovery, few controlled studies have evaluated the effectiveness of the 12-step programs. As Keith Humphreys explains, scientists in the 1970s and 1980s were skeptical that voluntary, peer-led self-help groups could be studied scientifically (Humphreys, 2006). Fortunately, a new generation of researchers has resolved the methodological challenges of such research. The results are showing positive outcomes from the use of 12-step programs. In the field of gambling, Nancy Petry and her colleagues are filling the gap by including GA as one of the interventions compared with cognitive behavioral therapy (see pages 14-16).

## NATURAL RECOVERY

According to conventional wisdom, there are only two ways out of addiction: treatment or death. It is commonly assumed that a doctor, a counselor or a rehabilitation center is essential to breaking free of addiction. The description of pathological gambling in the *Diagnostic and Statistical Manual of Mental Disorders* as “chronic and persisting” (American Psychiatric Association, 1984) reinforces this view. Similar ideas were pervasive within the cocaine abuse treatment community until Shaffer and Jones (1989) published the first accounts of natural recovery from cocaine dependence. Wendy Slutske is one of the first to document that approximately one-third of people with a gambling problem seem to recover on their own, without formal treatment (see page 17). This estimate is consistent with the rates of natural recovery in other addictions (Sobell, Ellingstad, & Sobell, 2000). The presence and extent of natural recovery suggests that brief interventions, such as self-help workbooks or guides, might be effective strategies for gambling disorders. Natural recovery is much more common than the conventional wisdom suggests (Shaffer & Jones, 1989).

## ASSISTED RECOVERY: TALK THERAPY AND DRUG INTERVENTIONS

Not everyone can, or believes that they can, get well without professional help. Because of the lack of clinical trials of treatment programs for gambling disorders, health care providers have had to borrow clinical strategies designed for similar mental health problems, such as alcoholism, or rely on anecdotal information when developing treatment plans.

Researchers are now beginning to make significant inroads in their search for evidence-based treatments. Cognitive therapy (CT) and cognitive behavioral therapy (CBT) are two of the few approaches that have been scientifically examined, and the outcomes have been extremely promising. These strategies focus on reducing the individual’s excessive gambling by correcting erroneous perceptions about probability, skill, and luck that only reinforce problematic gambling behaviors. Cognitive behavioral treatment techniques include: cognitive correction, social skills training, problem solving training and relapse prevention. Robert Ladouceur and colleagues at Université Laval have been at the vanguard of this research, and this monograph includes a summary of one of

## WHAT ARE CLINICAL TRIALS?

A clinical trial is used to determine the safety and effectiveness of a particular treatment. It should be designed to ensure objective results — that is, results that are not tainted by the bias of the scientists involved in the study or the voluntary participants in the study.

The *randomized clinical trial* is one in which the subjects — individuals who have volunteered to participate in the study — are assigned to different treatments or to a control group by chance (i.e., randomly) to reduce any potential bias that might be associated with participant characteristics. For example, a study might divide participants randomly into two groups: an “experimental group” and a “control group.” The experimental group is given the new experimental treatment, while the control group is given either a standard treatment for the illness or a placebo. At the end of the study, the scientists compare the results of the two groups.

Scientists often use *double-blind* trials in which both the investigators and the participants are unaware of, or blind to, the nature of the treatment the participant is receiving. Double-blind trials are thought to produce objective results because the expectations of the researcher and the participant are limited; neither has information about which group the participant is in or about the experimental treatment. Consequently, these potential biases cannot affect the outcome of the research.

his important studies (see page 6). Nancy Petry has also contributed to this area by testing the effectiveness of CBT, as summarized in pages 14-16.

Research indicates a clear relationship between biological vulnerabilities and the development of a gambling disorder. For example, a vulnerability might be insufficient levels of chemicals — or neurotransmitters — in the brain that regulate mood and judgment. If the low mood is elevated by an activity like gambling, the person could develop a gambling problem. Furthermore, the simultaneous occurrence of depression and other psychiatric problems with a gambling disorder underlines the importance of exploring drug treatments for pathological gambling.

As Jon Grant’s review essay reveals (see page 20), scientists are now experimenting with several classes of drugs for gambling disorders including antidepressants, mood stabilizers, and opioid antagonists. Although some drug treatments have had positive outcomes, others have yet to fulfill their promise. Continued research is needed to determine the most effective drug-treatment strategies.

### ON THE HORIZON

The evidence is clear — a treatment standard for gambling disorders remains on the horizon. Until then, clinicians should consider a “cocktail” approach that involves various combinations of drug therapy, psychotherapy, counseling, fellowships (e.g., Gamblers Anonymous), financial education, and self-help interventions. Helping clinicians stay abreast of new developments and resources is essential to the process of treatment planning. The BASIS (Brief Addiction Science Information Source), an online resource developed by the Harvard Medical School faculty of the Division on Addictions at Cambridge Health Alliance, offers free access to updates on new research in the addictions, including gambling disorders, and other resources for health care providers ([www.basisonline.org](http://www.basisonline.org)). The annual NCRG Conference on Gambling and Addiction provides another forum for health care providers to discuss the newest developments in gambling research ([www.ncrg.org](http://www.ncrg.org)).

Public health planners should consider creative interventions for reaching individuals not in or unwilling to enter professional treatment. Self-help CBT manuals and online resources such as “Your First Step to Change” ([www.basisonline.org](http://www.basisonline.org)) offer alternatives for people who cannot or will not enter formal treatment. This approach might be the best way to catch those individuals who are subclinical or having problems as a result of their gambling but do not meet diagnostic criteria for the disorder. This view requires us to cast off conventional wisdom about the proverbial “need to hit rock bottom in order to recover.” Why not try to prevent people from reaching the most disordered state?

Despite the challenges associated with helping people recover from gambling addiction, the future is bright. The research projects profiled in this volume demonstrate the enormous strides made by the field during recent years. These investigators have made a great contribution to public health with their pioneering research on recovery from gambling addiction.

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### About the authors...

**Christine Reilly** is the executive director of the Institute for Research on Gambling Disorders, formerly the Institute for Research on Pathological Gambling and Related Disorders. She administers the Institute's research programs and coordinates educational activities such as the annual NCRG Conference on Gambling and Addiction and *EMERGE (Executive, Management, and Employee Responsible Gaming Education)*.

**Howard J. Shaffer, Ph.D., C.A.S.** is associate professor of psychology in psychiatry at Harvard Medical School (HMS) and director of the Division on Addictions at Cambridge Health Alliance, teaching affiliate of HMS. His research, writing and teaching on the nature and treatment of addictive behaviors have shaped how the health care field conceptualizes and treats the full range of addictive behaviors. Shaffer's gambling research yielded the first reliable prevalence estimates of disordered gambling behavior; the first longitudinal study of casino employees; the first national study of college gambling; and a new model for understanding addiction as a syndrome. Shaffer, a licensed psychologist and certified addictions specialist, is the editor of the journal, *Psychology of Addictive Behaviors*.

## SUMMARY

### Cognitive Treatment of Pathological Gambling

Authors: Robert Ladouceur, Caroline Sylvain, Claude Boutin, Stella LaChance, Celine Doucet, Jean LeBlond, & Christian Jacques

(Université Laval, Ste-Foy, Quebec)

Published in *The Journal of Nervous and Mental Disease* (2001, volume 189, number 11, pp. 774-780)

### Changing Your Mind: The Promise of Cognitive Therapy

by Robert Ladouceur, Ph.D.

Department of Psychology, Université Laval, Ste-Foy, Quebec

People's attempts to gain wealth is clearly one of the primary motivations behind gambling. Most rational individuals understand the odds of winning and are aware of the actual returns on wagers and, therefore, avoid gambling to excess. However, there are some individuals who do not understand or accept the miniscule chance of acquiring wealth by gambling and continue to engage in an activity that will in all likelihood have the opposite effect. This is the principal paradox of problem gambling. Cognitive theories of gambling resolve this paradox. If cognitive factors play a role in developing and maintaining gambling habits, confronting and correcting these mistaken beliefs and expectations should reduce or eliminate the excessive gambling. To evaluate the effectiveness of this approach, our team studied pathological gamblers in a cognitive therapy treatment program.

The treatment included two components, cognitive therapy and relapse prevention. The cognitive therapy included four targets:

- **Understanding the concept of randomness:** The therapist explained the concept of chance — that each turn is independent, that no strategies exist to control the outcome, that there is a negative expectation of return, and that it is impossible to predict the outcome of the game.
- **Understanding the erroneous beliefs held by gamblers:** This component mainly addressed the difficulty individuals had understanding the principle of independence among random events. The therapist explained how the illusion of control contributes to forming gambling habits and corrected the mistaken beliefs held by the gambler, such as believing that you can use past events to make a better prediction or a sound bet.
- **Awareness of inaccurate perceptions:** The participant was informed that incorrect perceptions prevail during gambling.
- **Cognitive corrections of erroneous perceptions:** The therapist corrected inadequate verbalizations and faulty beliefs using a recording of the patient's vocal expressions made during a session of imaginary gambling, such as: "If I lose four times in a row, I'm sure to win next time."

The relapse prevention component was adapted from the model for alcoholics. The possibility of relapse was discussed with the participants, and they learned to become aware of high-risk situations and thoughts that might lead them to start gambling again. Participants described past relapses and identified high-risk situations and flawed thoughts associated with these situations. The therapist helped the participants correct these perceptions to help avoid relapses.

**KEY FINDINGS**

The results of this study proved to be both clinically and statistically significant. Upon completion of the treatment, participants in the treatment group improved on four key variables:

- Reducing their desire to gamble
- Perceiving a higher level of control over their gambling
- Believing they could refrain from gambling in high-risk situations (self-efficacy perception)
- No longer meeting the *DSM-IV (Diagnostic and Statistical Manual of Mental Disorders)* criteria for pathological gambling

On percentage of change, 19 of the 35 treated participants improved by at least 50 percent on all four dependent variables, compared with only two of 29 control participants who did not undergo treatment. In addition, 33 of the 35 treated participants improved by 50 percent or more on at least three of the four variables in comparison with four of the 29 control participants.

| TABLE 1<br>Mean (Average) Scores on Four of the Main Variables |                         |                    |                     |                    |                     |
|--|-------------------------|--------------------|---------------------|--------------------|---------------------|
|  |                         | Pre-test<br>(N=35) | Post-test<br>(N=35) | 6 months<br>(N=31) | 12 months<br>(N=28) |
| <b>TREATMENT GROUP</b>   | Reduce desire to gamble | 4.8                | 1.1                 | 1.1                | 1.6                 |
|  | Higher level of control | 24.6               | 83.4                | 85.8               | 81.2                |
|  | Self-efficacy           | 4.1                | 8.5                 | 8.7                | 8.1                 |
|  | <i>DSM-IV</i> criteria  | 7.6                | 0.4                 | 0.6                | 1.5                 |
| <b>CONTROL GROUP</b>   | Reduce desire to gamble | 4.9                | 5.7                 |                    |                     |
|  | Higher level of control | 32.9               | 32.6                |                    |                     |
|  | Self-efficacy           | 3.0                | 4.4                 |                    |                     |
|  | <i>DSM-IV</i> criteria  | 7.2                | 5.7                 |                    |                     |

Follow-up evaluations at six and 12 months showed the treated participants were maintaining the gains from therapy (refer to Table 1). Eighty-six percent of the treated participants were no longer considered pathological gamblers at the end of treatment.

**DISCUSSION**

Gamblers try to control and predict outcomes of games of chance. An illusion of control motivates them to construe strategies to win more money. However, the very essence of gambling is unpredictability. For example, with slot machines, casino games, and lotteries, many gamblers forget that the notion of randomness is the basic principle; each game is a new game, regardless of the outcomes of the previous games.

If a gambler’s understanding of randomness can be improved and his or her misconceptions corrected, the motivation to gamble should decrease dramatically. This study focused on the poor understanding of the notion of randomness as the most important target for change, mainly that no sound prediction can be made in a gambling situation.

## IMPLICATIONS FOR FUTURE RESEARCH AND TREATMENT

Cognitive therapy targeting erroneous beliefs about randomness is a promising treatment for pathological gambling. Future studies should replicate and compare this cognitive treatment with an alternate treatment group or an attention placebo.<sup>1</sup>

<sup>1</sup> An ineffectual but harmless treatment provided to control group members in order to ensure that both the control group and intervention group believe they are receiving treatment. The placebo protects against the possibility that intervention group members improve relative to controls simply because they believe they are receiving treatment, rather than because the intervention is truly effective. Attention placebos are appropriate in studies where there is a reasonable possibility that this might occur, such as a study of a counseling program to treat depression, where participants' beliefs that they are receiving treatment may actually alleviate their depressive symptoms.

## DEFINING COGNITIVE THERAPY AND COGNITIVE BEHAVIORAL THERAPY

Psychiatrist Aaron T. Beck developed cognitive therapy (CT) in the 1960s. He was dissatisfied with long-term approaches to psychiatric treatment that were based on gaining insight into unconscious emotions and drives. He believed the way in which his clients perceived, interpreted and attributed meaning — a process known as cognition — was the key to therapy. CT seeks to influence emotion and behavior by identifying and changing distorted or unrealistic ways of thinking.

Beck stressed the importance of the elemental ways in which people process information — about themselves, the world around them, or the future. Testing beliefs, as well as cooperation between the client and therapist, are the foundations of cognitive therapy.

During the 1970s, a cognitive conversion occurred in the field of psychology. Cognitive therapy techniques and behavioral modification techniques merged, resulting in cognitive behavioral therapy (CBT). This is a psychotherapy aimed at influencing disturbed emotions by modifying cognitions, assumptions, beliefs and behaviors. Considered a cost-effective psychotherapy, the CBT approach is widely accepted as evidence-based, and is the primary treatment studied today in psychology research. It is commonly used in treating mood and anxiety disorders.

The specific therapeutic techniques of CBT vary according to client or problem, but commonly include:

- Maintaining a diary of important events and associated feelings, thoughts and behaviors
- Questioning and testing cognitions, assumptions, evaluations and beliefs that might be negative and unrealistic
- Taking part in activities that may have been avoided in the past
- Testing out new ways of behaving and reacting

Since CT has always included some behavioral components, the term “cognitive behavioral therapy” is sometimes used interchangeably with “cognitive therapy.”

## ADDITIONAL INFORMATION

Academy of Cognitive Therapy <http://www.academyofct.org>

Beck Institute for Cognitive Therapy and Research <http://www.beckinstitute.org>

Association for Behavioral and Cognitive Therapies <http://www.aabt.org>

National Association of Cognitive Behavioral Therapists <http://www.nacbt.org>

## BACKGROUND

### The Study's Objective & Hypothesis

This study evaluated the effectiveness of an intervention based exclusively on the correction of erroneous perceptions reported by gamblers. The hypothesis was that correction of erroneously perceived links between random events in gambling will significantly reduce gambling behavior, compared with the wait-list/control group, which was not expected to show any improvement.

### Sample & Methodology

Of the initial sample of 217 participants, 48 did not meet the selection criteria, and 81 chose not to participate. Eighty-eight qualified participants volunteered for the study. All were identified as pathological gamblers according to *DSM-IV* criteria. Fifty-nine of the 88 immediately began the therapy program; 29 were assigned to the wait-list/control group. Seven participants in the control group began treatment at the post-test stage, so a total of 66 individuals were evaluated as part of the study. Little more than half (35) who began treatment completed the full program.

On an individual basis, the participants met once a week for 60 minutes with a psychologist; the maximum treatment time was 20 hours. Three psychologists administered the treatment, supervised by a psychologist with 20 years of experience in cognitive therapy.

Dependent measures were completed at pre-test, post-test, and six-month and 12-month follow-ups.

*This research was supported by a grant from the National Center for Responsible Gaming.*

### About the author...

**Robert Ladouceur, Ph.D.** is a professor of psychology at Université Laval in Quebec. After his doctoral studies, he completed post-doctoral fellowships at Temple University in Philadelphia, Penn. and at Geneva University in Switzerland. During his career, he has published 450 scientific papers, made 500 presentations and published five books. Ladouceur's work on gambling is internationally known and his research has been recognized by the National Council on Problem Gambling (1996) and the National Center for Responsible Gaming (2003). Ladouceur is a member of the scientific advisory board for the Institute for Research on Gambling Disorders.

## SUMMARY

### Retrospective and Prospective Reports of Precipitants to Relapse in Pathological Gambling

Authors: David C. Hodgins & Nady el-Guebaly

(University of Calgary)

Published in the *Journal of Consulting and Clinical Psychology* (2004, volume 72, number 1, pp. 72-80)

### Relapse Among Disordered Gamblers

by David C. Hodgins, Ph.D., C. Psych.

Department of Psychology, University of Calgary

While there are many treatment options for gambling disorders, relapse rates remain high. Understanding relapse — gambling again after a period of not gambling — is essential to developing lasting interventions. Despite its importance, little research has focused on relapse in gambling. Research also has been varied, so the implications for treatment have not been clear.

Relapse has been studied extensively for other addictive behaviors, however. Identifying high-risk situations or triggers that have, in the past, signaled an addictive behavior is a central factor. Interventions prepare individuals to avoid relapse by recognizing and evading or coping with these situations.

In research on addictive behaviors, participants are often asked to report after an episode of activity — a retrospective report. However, an individual's emotions and moods often influence how the activity is reported. For example, individuals who are depressed when giving a retrospective report might give a more negative description than previously indicated. It is likely this is also true in reporting on gambling activity.

In this study we wanted to examine triggers of relapse and how gamblers described their mood states, both leading up to the relapse and after the relapse. Understanding predictors of relapse can aid in developing prevention strategies.

Understanding predictors of relapse can aid in developing prevention strategies.

### KEY FINDINGS

Relapse rates among pathological gamblers trying to quit gambling are very high — only 8 percent of those successfully monitored for 12 months did not gamble during the study period. Overall, about half of the relapses were associated with extremely negative consequences in the participant's life, most often financial.

Moods prior to relapses were as likely to be positive (happy, active, relaxed, quiet) as they were to be negative (frustrated, bored, tired, sad). The most frequently reported impulses for both men and women were optimism about winning (23 percent of relapses) and feeling the need to make money (16 percent). Both are related to financial issues and are often targets of current cognitive-behavioral treatment approaches.

Women were more likely than men to gamble as a way of dealing with negative emotions or situations, such as anger, frustration, work difficulties, parenting stress or loneliness. Gambling to seek excitement or enjoyment as the main reason for relapse was surprisingly low — only 7 percent overall. Many believe gamblers are motivated by excitement, but this finding calls that assumption into question.

| <b>Main Reason for Relapsing</b>             | <b>Men %</b> | <b>Women %</b> | <b>Overall %</b> |
|--|--------------|----------------|------------------|
| Optimism about winning                       | 24           | 21             | 23               |
| Need to make money                           | 22           | 7              | 17               |
| Unstructured time or boredom                 | 17           | 7              | 13               |
| Giving in to urges, habit, or opportunity    | 9            | 15             | 11               |
| Dealing with negative situations or emotions | 7            | 18             | 11               |
| Socializing or fitting in                    | 7            | 11             | 8                |
| Seeking excitement or enjoyment              | 5            | 8              | 7                |
| All other answers                            | 8            | 12             | 9                |

**DISCUSSION**

Before a relapse, participants reported a wide range of moods and emotions with no dominant pattern. Men and women also attributed relapses to different causes. This suggests there is no quick fix or single treatment model for gambling relapse.

Reports of positive moods were as common as negative moods among the participants. This finding stands in contrast to previous findings that negative moods are the most frequent predictor across a range of addictive behaviors.

The reasons for quitting gambling match up with the reasons for relapse to some degree. Participants most frequently described financial and emotional reasons as important in their decision to quit, yet these same factors appear to lead to relapse.

**IMPLICATIONS FOR FUTURE RESEARCH AND PREVENTION**

This study reinforces the importance of identifying triggers and high-risk situations as a key component of successful therapies. Men and women reported differences in triggers to relapse and this suggests the need to consider gender in treatment plans.

Classifying the severity of relapse should be considered for future research. In this study, an arbitrary definition of a relapse was used — gambling after two weeks of abstinence. Participants were allowed to determine the end of their relapse. For some, two days of gambling within a week was one episode, for others it may have been described as two episodes.

## BACKGROUND

### The Study's Objective & Hypothesis

The purpose of this study was to 1) examine triggers of relapse to gambling in a sample of pathological gamblers who were attempting to quit, and 2) compare prospective (potential or anticipated) and retrospective reports of mood states associated with relapses. We hypothesized that, because of the influence of mood on memory, participants who reported greater negative moods at the time of the retrospective report would over-report negative moods as a relapse trigger as compared with prospective reports.

### Sample & Methodology

Media announcements were used to recruit individuals who had recently stopped gambling. Inclusion criteria were:

- Self-perception of a gambling problem
- Goal of abstinence from gambling
- South Oaks Gambling Screen (SOGS)<sup>1</sup> score of five or greater
- No gambling in the past two weeks but some gambling in the past four weeks
- Willingness to be followed for 12 months and to nominate three individuals to corroborate one's gambling reports

Before a relapse, participants reported a wide range of moods and emotions with no dominant pattern. Men and women also attributed relapses to different causes.

Volunteers were initially interviewed face-to-face and were randomly assigned to one of two conditions:

- A retrospective condition in which participants were interviewed face-to-face initially and at three, six, and 12 months
- A prospective condition in which participants, in addition to the interviews described above, provided a weekly telephone report of gambling, life events, and moods for the past few days; weekly contacts continued until a relapse to gambling occurred or for a maximum of three months

Characteristics of the sample include:

- 101 people (36 women and 65 men)
- Average age of 39 years
- 76 percent - English Canadian, 8 percent - French Canadian, 5 percent - European ancestry, 2 percent - Native, 9 percent - other groups
- Mean score on the SOGS was 12.2, which indicates a substantial level of problems
- 89 percent met the *DSM-IV* criteria for pathological gambling
- Participants reported experiencing a mean of five years of problem gambling

<sup>1</sup>The South Oaks Gambling Screen is a 20-item questionnaire that evaluates the presence of pathological gambling and is widely used in studies measuring the prevalence of gambling disorders in populations. Leseieur, H.R., & Blume, S.B. (1987). The South Oaks Gambling Screen (The SOGS). A new instrument for the identification of pathological gamblers. *American Journal of Psychiatry*, 144, 1184-1188.

- All participants had a goal of abstinence from the types of gambling that had caused them personal problems
- 33 percent described their goal as abstinence from all forms of gambling
- Past gambling treatment (including Gamblers Anonymous involvement) was reported by 50 percent
- Current treatment involvement was reported by 25 percent
- Previous quit attempts were reported by 25 percent

Of the 51 participants who were randomly assigned to weekly contact, the average number of contacts was 6.9. For follow-up rates, of the 101 participants:

- 72 were followed at three months
- 71 at six months
- 80 at 12 months

*This study was funded by the National Center for Responsible Gaming.*

### About the author...

**David C. Hodgins, Ph.D., C. Psych.** is currently a professor in the department of psychology at the University of Calgary with an adjunct appointment with the faculty of medicine. Hodgins is also a practicing clinical psychologist. His research publications and clinical work are in the area of recovery from addictions. The United States Substance Abuse and Mental Health Administration has recognized a brief treatment approach for problem gamblers involving self-help and telephone support, developed by Hodgins and colleagues, as a promising treatment for problem gamblers.

## SUMMARY

### **Cognitive-Behavioral Therapy for Pathological Gamblers**

**Authors:** Nancy Petry, Yola Ammerman, Jaime Bohl, Anne Doersch, Heather Gay, Ronald Kadden, Cheryl Molina, & Karen Steinberg

(University of Connecticut Health Center)

Published in *Journal of Consulting and Clinical Psychology* (2006, volume 74, number 3, pp. 555-567)

### **Testing Three Paths to Improvement: Cognitive-Behavioral Therapy, Self-Directed Workbook and Gamblers Anonymous®**

by Nancy M. Petry, Ph.D.

Department of Psychiatry, University of Connecticut Health Center

Despite the troubling consequences of gambling disorders, little is known about effective treatments for pathological gamblers. Gamblers Anonymous (GA) is the most widely utilized treatment intervention, but less than 10 percent of attendees become actively involved in the program, and overall abstinence rates are low. Professional treatment programs often recommend attendance at GA; a combined approach of cognitive-behavioral therapy (CBT) and GA may improve outcomes.

This study aimed to evaluate the effectiveness of short-term CBT and compare it to a real-world control condition — referral to GA. Participants were randomly assigned to three groups:

A combined approach of cognitive-behavioral therapy and Gamblers Anonymous may improve outcomes.

#### **1. Referral to GA only.**

In a one-time meeting, 10-15 minutes in length, participants were provided a list of locations and meeting times for 22 GA meetings held throughout the state of Connecticut. GA was discussed, including the participants' prior attendance, expectations and potential concerns. Participants were told that many people who become involved with GA reduce or stop gambling, and they were encouraged to select a GA meeting to attend. The participants did not meet again with the therapist.

#### **2. Referral to GA plus CBT in workbook format.**

In a meeting like the one described above, participants were referred to GA and also given a 70-page workbook containing CBT exercises and a 24-page section on handling gambling-related debt. The workbook contained descriptions and fill-in-the-blank exercises identical to those in the CBT therapy group described below. The therapist instructed participants to complete one chapter a week for eight weeks. No other meetings between the participant and the therapist occurred.

#### **3. Referral to GA plus professionally delivered CBT.**

After GA referral, participants met individually with a therapist one hour per week for eight weeks. Sessions were structured with handouts that addressed:

- Identifying triggers
- Functional analysis (a common exercise to explore the benefits and disadvantages of problem behavior)
- Increasing pleasant activities

- Self-management planning (e.g., brainstorming alternatives to gambling)
- Coping with urges to gamble
- Assertiveness training and gambling refusal skills
- Changing irrational thinking
- Coping with lapses

Gambling-debt information was also provided and most sessions had homework exercises.

**KEY FINDINGS**

GA attendance was comparable across the three groups, with about 40 percent attending GA at least once. Only 37 percent of those who received the CBT workbook completed at least six of the eight chapters, while more than 60 percent of those in the professionally delivered CBT group became actively involved in the therapy.

Gambling activity decreased among the majority of participants in this study, including those in the “GA only” group and even if they did not attend GA. While reductions in gambling were evident across all three groups, the addition of CBT was statistically significant in further decreasing gambling relative to GA referral alone. Those receiving the individual CBT had the best short- and long-term outcomes. Table 3 provides an example, showing the amounts wagered each month also decreased, with the CBT group showing the greatest reductions.

In terms of total abstinence, only 7.1 percent of those in the GA-only group, 8.1 percent of those in the CBT workbook group, and 16.5 percent of those in the professionally delivered CBT group did not gamble throughout the treatment and 12-month follow-up period. Gambling abstinence was verified by independent interviews with collaterals — spouses, friends or relatives knowledgeable about the participants’ gambling habits.

| <b>TABLE 3</b>                              |                      |                       |                           |
|---|----------------------|-----------------------|---------------------------|
| <b>Median Amounts Gambled in Past Month</b> |                      |                       |                           |
|   | <b>Pre-treatment</b> | <b>Post-treatment</b> | <b>12-month follow-up</b> |
| <b>GA only</b>                              | \$1100               | \$200                 | \$150                     |
| <b>GA with CBT workbook</b>                 | \$1250               | \$250                 | \$150                     |
| <b>GA with professional CBT</b>             | \$1260               | \$20                  | \$76                      |

**DISCUSSION**

The results from this study suggest that some gamblers can decrease their gambling with very minimal intervention, although complete abstinence is uncommon. Individualized CBT is also shown to decrease gambling more than referral to GA alone, and some of these benefits remain long term.

**IMPLICATIONS FOR FUTURE RESEARCH AND PREVENTION**

Referral to GA is a common practice among counselors, but adding a CBT component to that treatment plan can significantly improve outcomes. Patients are more likely to engage in CBT when delivered by a professional than when CBT is provided via a self-directed workbook. A follow-up study is ongoing to compare CBT with another individualized therapy.

## BACKGROUND

### The Study's Objective & Hypothesis

The purpose of this study was to evaluate the effectiveness of a short-term, cognitive-behavioral therapy (CBT) in a large sample and compare its effectiveness to a real-world control condition — referral to Gamblers Anonymous (GA). The hypothesis was that the CBT would result in decreased gambling compared to GA referral alone.

Patients are more likely to engage in cognitive-behavioral treatment when delivered by a professional than when provided via a self-directed workbook.

### Sample & Methodology

- Participants were recruited through media announcements between 1998 and 2002.
- Individuals who met *DSM-IV* criteria for pathological gambling, had gambled in the past two months, were 18 years or older, and could read at the 5th grade level were included.
- 231 participants were eligible and randomized to one of three treatment groups; sample size was 63, 84, and 84 respectively for the three groups:
  - referral to GA only
  - referral to GA plus CBT in workbook format
  - referral to GA plus individual, professionally delivered CBT
- Using a variety of screening tools, assessments were conducted at baseline, post treatment, and at 6- and 12-month follow-ups. Relatives and personal friends were interviewed to obtain an independent perspective of the individual's gambling.

*This study was supported by a grant from the National Institute of Mental Health.*

*Nancy Petry presented this study at the 2006 NCRG Conference on Gambling and Addiction.*

### About the author...

**Nancy M. Petry, Ph.D.** is a professor of psychiatry at the University of Connecticut Health Center. Petry conducts research on the treatment of addictive disorders, ranging from substance use disorders to pathological gambling, and she has published more than 150 articles in peer-reviewed journals. Petry was the first recipient of the National Center for Responsible Gaming's Young Investigator Scientific Achievement Award, and she received the American Psychological Association's Distinguished Scientific Award for Early Career Contributions to Psychology in 2003. She earned her Ph.D. from Harvard University in 1994.

## SUMMARY

### Natural Recovery and Treatment-Seeking in Pathological Gambling: Results of Two U.S. National Surveys

Author: Wendy S. Slutske

(University of Missouri-Columbia)

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### Getting Well on Your Own: Natural Recovery from Gambling Disorders

by Wendy S. Slutske, Ph.D.

Department of Psychological Sciences, University of Missouri-Columbia

According to the fourth edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*, pathological gambling is described as "a persistent and recurrent maladaptive gambling behavior." Recent studies, however, show the course of the disorder varies and is not always chronic. Natural recovery is suggested as a possible alternative to formal treatment.

To investigate the phenomenon of natural recovery and to verify its success among pathological gamblers, I reviewed and compared two national studies: the Gambling Impact and Behavior Study (GIBS) and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC).

#### KEY FINDINGS

Among individuals with a history of pathological gambling at some point in their lifetime, 36 percent to 39 percent did not experience any gambling-related problems within the past year. Only 7 percent to 12 percent of those had sought either formal treatment or attended meetings of Gamblers Anonymous, so the vast majority of these recoveries were achieved without treatment.

In other words, 33 percent to 36 percent of the recoveries from pathological gambling disorder (from the two samples) can be classified as natural or self-directed recovery.

The rates of natural recovery for problem gambling — a gambling disorder defined as a lesser degree of pathological gambling — were similar to those for pathological gambling.

One-third of recoveries from pathological gambling disorder can be classified as natural recovery.

#### DISCUSSION

With one-third of pathological gamblers experiencing recovery without formal treatment, the disorder may not be as rigid as the *DSM-IV* implies and may not always follow a chronic and persisting course. For some pathological gamblers, the disorder is persistent, but for others, it is sporadic. One surprising finding from this study is that pathological gambling was typically a single episode of about one year in duration.

The results from this analysis may eventually overturn the established wisdom on pathological gambling disorder. While living and dealing with a pathological gambling disorder is challenging, these results imply recovery may be possible without formal treatment.

## WHAT IS NATURAL RECOVERY?

The phenomenon of natural recovery is defined as the ability to recover from a disorder — such as a substance use or psychiatric disorder — without ever seeking any formal treatment. There is evidence to suggest that a substantial percentage of individuals who suffer from such disorders can recover on their own.

Emerging evidence of high rates of recovery coupled with low rates of treatment-seeking for pathological gambling suggests that natural recovery might be relatively common for pathological gambling disorder as well. In fact, my study found that 33 percent to 36 percent of the participants with a lifetime history of pathological gambling disorder were characterized by natural recovery. Many of these individuals with a past history of pathological gambling disorder had been symptom-free for more than five years.

Much can be learned from the phenomenon of natural recovery. For example, strategies used by individuals who recover without formal treatment might prove useful to other individuals who are reluctant to enter treatment or for clinicians to incorporate as components of more traditional treatment options.

## IMPLICATIONS FOR FUTURE RESEARCH AND PREVENTION

Future studies on natural recovery will likely provide helpful information for formal treatment approaches. For example, the means by which people can get better using resources in daily life, such as support from family and friends, might eventually be incorporated into formal treatments.

It is unclear the extent to which minimal interventions, such as the use of gambling help lines, fit into the natural recovery story. Gambling help lines are being widely promoted to gamblers and may be part of the reason why many individuals are able to recover without any formal treatment. Participants were not asked about their use of such help lines in neither the GIBS nor the NESARC study.

People with more severe gambling problems, that is, those experiencing a greater number of symptoms of pathological gambling disorder, those whose problems have persisted for a long time, or those also dealing with other disorders — such as alcoholism, drug abuse, or depression — may have a much harder time achieving recovery on their own and are likely candidates for formal treatment. However, it is not possible at this point to predict who will be able to recover on their own versus who will benefit from formal treatment.

The number of individuals seeking formal treatment was low in both surveys. This may indicate a gap between the number of people needing or wanting treatment and the number actually receiving treatment. Participants were not asked about their reasons for not seeking treatment in neither the GIBS nor the NESARC study. Previous research has suggested a number of external barriers to treatment as well as personal factors, such as embarrassment, wanting to handle problems on their own, and a lack of awareness of treatment options or availability. By incorporating questions about reasons for not seeking treatment into systematic community-based surveys, such

as the GIBS and NESARC, we may be in a better position to determine what changes could be made to better provide services to those individuals in need of additional help for their gambling problems.

## BACKGROUND

### The Study's Objective

The purpose of the study was to document the rates of recovery, treatment-seeking, and natural recovery among individuals with *DSM-IV* pathological gambling disorder in two large and representative U.S. national surveys.

### Sample & Methodology

Data were drawn from two U.S. national surveys: the Gambling Impact and Behavior Study (GIBS) and the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). Both studies obtained lifetime and past-year *DSM-IV* diagnoses of, and treatment-seeking for, pathological gambling.

- The GIBS, conducted in 1998-1999, included a telephone interview of 2,417 adults and obtained an overall survey response rate of 56 percent.
- The NESARC, conducted in 2001-2002, was an in-person interview of 43,093 adults and obtained an overall survey response rate of 81 percent.

Although the two surveys used different measures to assess *DSM-IV* pathological gambling, the assessments of lifetime and past-year pathological gambling did not differ much. Minor adjustments were made to make the assessments more comparable and to more closely conform to the *DSM-IV* definition of pathological gambling.

*This study was supported in part by a grant from the National Institutes of Health. The GIBS survey was conducted by the National Opinion Research Center at the University of Chicago and funded by the National Gambling Impact Study Commission (created by an act of Congress in 1997) with supplemental support from the U.S. Treasury Department, National Institute of Mental Health, and National Institute on Drug Abuse. The NESARC survey was conducted by the Laboratory of Epidemiology and Biometry, Division of Intramural Clinical and Biological Research, National Institute on Alcohol Abuse and Alcoholism, and was funded by the National Institute on Alcohol Abuse and Alcoholism, with supplemental support from the National Institute on Drug Abuse.*

### About the author...

**Wendy S. Slutske, Ph.D.** is a professor in the department of psychological sciences at the University of Missouri-Columbia. She received her Ph.D. in clinical psychology from the University of Minnesota and postdoctoral training at the Washington University School of Medicine. Her research focuses on the description and etiology of addictive disorders — especially alcoholism and pathological gambling. She mainly uses epidemiologic and behavioral genetic methods in her work.

## Managing Disordered Gambling Behavior with Medication

by Jon E. Grant, M.D., J.D., M.P.H.

Department of Psychiatry, University of Minnesota Medical School

Drug treatments have had a significant impact on chemical addictions. For example, recovering heroin users have been taking methadone since the 1970s and people who are trying to quit smoking can take Zyban to reduce cravings and withdrawal symptoms. But what about drug treatment for gambling disorders, a non-substance-related addiction? While drug treatment is new territory for the gambling field, progress has been made in the search for effective drug therapy.

Scientists now know that multiple chemical substances in the brain, called neurotransmitters,<sup>1</sup> are implicated in the development and maintenance of pathological gambling. Dysfunction of the neurochemical serotonin appears to contribute to impulsive actions and thrill-seeking behaviors. In other words, when serotonin is low in the brain, people may be less able to inhibit their behavior, and this is one possible explanation for why people engage in risk-taking behaviors such as gambling. Another neurochemical, dopamine, is related to the rewarding feeling associated with behaviors. Problems with the dopamine system may contribute to vulnerability to addictive behaviors. Pathological gambling is also associated with problems associated with the opioid system, another neurochemical that plays a role in regulating urges and the processing of pleasure.

The positive response to a range of medications suggests that neurotransmitters play an important role in the cause of pathological gambling, and also provides important clues to improving treatment options.

### KEY FINDINGS

Medications that affect a variety of these neurotransmitters have been studied in the treatment of pathological gambling. In fact, there have been 12 double-blind, placebo-controlled, drug studies conducted on pathological gambling. (A double-blind, placebo-controlled study is a study in which some subjects are randomly assigned to take medication and others receive a placebo. Neither the clinician nor the subject knows who is taking medication or a placebo. These types of studies are scientifically the most rigorous and tell us the most about whether a medication is helpful. A full chart outlining the methodology of each study highlighted in this article is included on page 24.) The positive treatment response to a range of medications suggests that these neurotransmitters play an important role in the cause of pathological gambling, and also provides important clues to improving treatment options.

### Antidepressants

To date, seven double-blind, placebo-controlled drug trials have examined serotonin reuptake inhibitors (SRIs), or antidepressants. Although there are a variety of SRIs,

<sup>1</sup>A chemical in the body that moves between neurons and communicates chemical messages such as pain, pleasure, emotion, and touch sensation. Some common neurotransmitters are serotonin, dopamine, and norepinephrine.

the most commonly known is Prozac, typically used for mood disorders such as depression. Results of these trials have been mixed, with some failing to show superiority over placebos.

In an attempt to target subtypes of pathological gamblers — those with significant anxiety driving their gambling behavior — one of my research projects involved a study of escitalopram, known commercially as the antidepressant Lexapro. In this study, all subjects received medication for three months. Those subjects who improved at the end of three months were then randomly selected to either continue taking escitalopram or receive a placebo for an additional eight weeks. The expected outcome of this type of study is that those who receive the real medication during the last eight weeks should continue to do well and those who receive a placebo should start gambling again. If that happens, it suggests the improvement over three months was actually due to escitalopram and not just due to coming in for visits and talking about their gambling.

Eight of 13 subjects (62 percent) improved in terms of both pathological gambling and anxiety symptoms. Only four subjects entered the eight-week, double-blind phase of the study. Of the three receiving escitalopram, improvement continued for the next eight weeks in all three cases, whereas both gambling symptoms and anxiety returned within four weeks for the one subject receiving a placebo.

A number of important concepts in the use of antidepressants for pathological gambling have emerged from these studies. First, it appears that the doses of antidepressants required to treat gambling symptoms are generally higher than doses required to treat depressive or anxiety symptoms. Second, antidepressants appear to improve pathological gambling symptoms whether or not the person also suffers from anxiety or depression. A question remaining from these studies, however, is whether the mixed results suggest that certain individuals with pathological gambling benefit more from antidepressant treatment than others.

## **Mood Stabilizers**

Early case reports suggest that alternate classes of drugs, such as mood stabilizers might be helpful for some individuals struggling with a gambling problem. There has been only one randomized, placebo-controlled trial of a mood stabilizer, however, tested among pathological gamblers.

In a study of 40 pathological gambling subjects with bipolar disorder, lithium carbonate was shown to be superior to a placebo in reducing pathological gambling symptoms during 10 weeks of treatment.

The relationship between pathological gambling and bipolar disorder is often complex. For example, evidence suggests that many individuals with pathological gambling also have bipolar disorder. Although the gambling is a problem independent of the bipolar disorder in these individuals, the gambling may worsen when the bipolar disorder worsens. In addition, individuals with bipolar disorder, but without pathological gambling, may gamble impulsively when they are experiencing mania (a manifestation

## ➤ *Managing Disordered Gambling Behavior with Medication*

of bipolar disorder characterized by excessive excitement, delusion, and sometimes violence). Their gambling may resemble the symptoms of pathological gambling. In both of these instances, it appears that mood stabilizers may be effective in controlling gambling symptoms.

Although a majority (83 percent) of subjects in the treatment group displayed significant decreases in gambling urges, thoughts, and behaviors, no differences were found in the amount of money lost, episodes of gambling per week, or time spent per gambling episode.

### **Opioid Antagonists**

Opioid antagonists are a class of drugs used to treat substance addiction that appear to work in areas of the brain that control a person's motivation to engage in rewarding behavior. The idea is that these medications should reduce gambling-related excitement and cravings or urges to gamble.

A 12-week trial of the drug naltrexone demonstrated superiority to a placebo in 45 subjects with pathological gambling. Naltrexone reduced the frequency and intensity of gambling urges and gambling behavior. A separate analysis of those subjects with at least moderate urges to gamble revealed that naltrexone was more effective in gamblers with more severe urges to gamble.

A recently completed multicenter study further demonstrated the effectiveness of another opioid antagonist, nalmefene, in the treatment of pathological gambling. In a sample of 207 subjects, nalmefene demonstrated statistically significant improvement in gambling symptoms compared to a placebo in a 16-week trial.

So, this evidence suggests opioid antagonists may be an effective treatment option for individuals with urges to gamble and in pathological gamblers with co-occurring alcohol-use disorders.

### **Glutamatergic Agents**

Recent research hypothesizes that medications that can influence the neurochemical glutamate in the brain may also reduce a person's drive to seek rewarding or addictive behaviors. Studies on cocaine addiction have demonstrated that N-acetyl cysteine, an amino acid that affects glutamate, appears to decrease cravings.

Twenty-seven subjects with pathological gambling were treated for eight weeks with N-acetyl cysteine, and those who improved were randomly assigned either to continue N-acetyl cysteine or to receive a placebo for the next six weeks. During the first eight weeks, gambling symptoms were significantly reduced among 59 percent of subjects reporting significant improvement. Of those who entered the six-week phase and were assigned to N-acetyl cysteine, 83.3 percent continued to demonstrate improvement at the end of the six weeks, compared to only 28.6 percent of those assigned to placebo. Like opiate antagonists, N-acetyl cysteine may be most beneficial for pathological gamblers with urges to gamble.

## DISCUSSION

Conclusions can be drawn from the drug-treatment studies in pathological gambling.

- Studies indicate that a variety of medications appear to effectively reduce the symptoms of pathological gambling in the short term (up to four months).
- Different classes of medication seem equally effective in reducing the symptoms of pathological gambling.

Although no comparison studies of medications have been performed in a randomized, placebo-controlled design, some studies have tried to tailor treatment based on understanding subtypes of pathological gamblers. For example, lithium was effective in gamblers who had bipolar symptoms, escitalopram was beneficial for gamblers with anxiety, and the opiate antagonists and N-acetyl cysteine appear effective for controlling gambling urges.

Although medications appear beneficial for the treatment of pathological gambling, future research needs to address several issues and questions.

## IMPLICATIONS FOR FUTURE RESEARCH AND PREVENTION

The long-term effects of medication for pathological gambling remain largely untested. Although medications appear beneficial for the treatment of pathological gambling, future research needs to address several issues and questions, including:

1. No study has examined pharmacological treatment effects for longer than six months or examined whether the effects of early and intense treatment last beyond the six months of treatment.
2. The factors that predict a positive response to drug therapy have largely gone unexamined. Preliminary findings suggest that pathological gambling subjects with more intense gambling urges may respond better to opioid antagonists or N-acetyl cysteine, but other predictive variables are currently lacking.
3. There are limited data concerning the effectiveness of drug therapies for pathological gambling subjects who also have other psychiatric conditions. Preliminary data suggest that individuals with pathological gambling and bipolar disorder respond to lithium and those with anxiety respond to escitalopram.
4. Although both medication and behavioral treatments appear effective for pathological gambling, few studies have systematically compared interventions or examined whether combinations of treatments are more beneficial. Should an individual with pathological gambling start with medication or talk therapy or both? Also, are there differences in individuals with pathological gambling that may indicate a superior response to a particular intervention?

**TABLE 4**  
**Double-Blind, Placebo-Controlled Pharmacotherapy Trials**  
**for Pathological Gambling**

| <b>Medication</b>                               | <b>Design/Duration</b>   | <b>Subjects</b>   | <b>Mean Daily Dose</b> | <b>Outcome</b>   |
|---|--|---|------------------------|--|
| Clomipramine (Anafranil) <sup>1</sup>           | Parallel design<br>10 weeks  | 1 enrolled<br>1 completer   | 125 mg                 | 90% improvement in gambling symptoms   |
| Fluvoxamine (Luvox) <sup>2</sup>                | Crossover<br>16 weeks with a 1-week placebo lead-in                | 15 enrolled<br>10 completers  | 195 mg                 | Fluvoxamine superior to placebo  |
| Fluvoxamine (Luvox) <sup>3</sup>                | Parallel design<br>6 months  | 32 enrolled<br>13 completers  | 200 mg                 | Fluvoxamine not statistically significant from placebo   |
| Paroxetine (Paxil) <sup>4</sup>                 | Parallel design<br>8 weeks with 1-week placebo lead-in             | 53 enrolled<br>41 completers  | 51.7 mg                | Paroxetine group significantly improved compared to placebo  |
| Paroxetine (Paxil) <sup>5</sup>                 | Parallel design<br>16 weeks  | 76 enrolled<br>45 completers  | 50 mg                  | Paroxetine and placebo groups showed comparable improvement  |
| Sertraline (Zoloft) <sup>6</sup>                | Parallel design<br>6 months  | 60 enrolled<br>44 completers  | 95 mg                  | Similar improvement in both groups   |
| Escitalopram (Lexapro) <sup>7</sup>             | 12-week open-label followed by 8-week double-blind discontinuation | 13 pathological gamblers with anxiety; 4 completed double-blind phase                     | 25.4 mg                | Of the 4 randomized, all 3 randomized to escitalopram maintained improvement; 1 randomized to placebo lost improvement                     |
| Bupropion (Wellbutrin) <sup>8</sup>             | Parallel design<br>12 weeks  | 39 enrolled<br>22 completers  | 324 mg                 | No difference between groups on any measure  |
| Lithium carbonate SR (Lithobid SR) <sup>9</sup> | Parallel design<br>10 weeks  | 40 bipolar-spectrum patients enrolled<br>29 completers                                    | 1,170 mg               | Lithium group significantly improved compared with placebo   |
| Naltrexone (ReVia) <sup>10</sup>                | Parallel design<br>12 weeks with 1-week placebo lead-in            | 89 enrolled<br>45 completers  | 188 mg                 | Naltrexone group significantly improved compared with placebo  |
| Nalmefene <sup>11</sup>                         | Parallel design<br>16 weeks  | 207 enrolled<br>73 completers   | Fixed dose study       | Nalmefene 25 mg and 50 mg significantly improved compared to placebo   |
| N-Acetyl Cysteine <sup>12</sup>                 | 8-week open-label followed by 6-week double-blind discontinuation  | 27 enrolled in open-label; 13 randomized to double-blind; 13 completed double-blind phase | 1476.9 mg              | 83.3% of those assigned to N-acetyl cysteine were still responders at end of the double-blind phase; compared to 28.6% assigned to placebo |

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### About the author...

**Jon E. Grant, M.D., J.D., M.P.H.** is an associate professor of psychiatry at the University of Minnesota and co-directs a clinic for Impulse Control Disorders at the University of Minnesota Medical Center in Minneapolis, Minn. Grant completed a law degree from Cornell University, a medical degree from Brown University, and a master's degree in public health from Harvard University. He is the author of *Stop Me Because I Can't Stop Myself*, a book on impulse control disorders, and editor of *Pathological Gambling: A Clinical Guide to Treatment* and *Textbook of Men's Mental Health*. He was honored by the National Center for Responsible Gaming in 2004 with the NCRG Scientific Achievement Award in the Young Investigator Category.

## RESOURCES FOR RECOVERY

### FINDING A PROFESSIONAL TREATMENT PROVIDER

Names of licensed treatment professionals can be obtained from health insurance providers, state departments of public or mental health, and gambling helplines. The National Council on Problem Gambling operates a national helpline: 1-800-522-4700.

### FELLOWSHIPS AND SELF-HELP

Gamblers Anonymous®

[www.gamblersanonymous.org](http://www.gamblersanonymous.org)

National Hotline 1-888-GA-HELPS  
(1-888-424-3577)

Gam-Anon® (Self-help organization for spouse, family or close friends of disordered gamblers)  
[www.gam-anon.org](http://www.gam-anon.org)

Bettors Anonymous (12-Step program)  
[www.bettorsanonymous.org](http://www.bettorsanonymous.org)  
978-988-1777 or 781-662-5199

SMART® Recovery  
[www.smartrecovery.org](http://www.smartrecovery.org)

Your First Step to Change  
[www.basisonline.org](http://www.basisonline.org)

## DSM-IV DIAGNOSTIC CRITERIA FOR PATHOLOGICAL GAMBLING

- A. Persistent and recurrent maladaptive gambling behavior as indicated by five (or more) of the following:
- 1) is preoccupied with gambling (e.g., is preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)
  - 2) needs to gamble with increasing amounts of money in order to achieve the desired excitement
  - 3) has repeated unsuccessful efforts to control, cut back, or stop gambling
  - 4) is restless or irritable when attempting to cut down or stop gambling
  - 5) gambles as a way of escaping from problems or of relieving a dysphonic mood (e.g., feelings of helplessness, guilt, anxiety, depression)
  - 6) after losing money gambling, often returns another day to get even (“chasing” one’s losses)
  - 7) lies to family members, therapists, or others to conceal the extent of involvement with gambling
  - 8) has committed illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling.
  - 9) has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling
  - 10) relies on others to provide money to relieve a desperate financial situation caused by gambling

A survey study that compared pathological gamblers and social gamblers suggested a cut point of 5 out of 10. However, clinical judgment should be exercised, particularly when the threshold number of items is met in the absence of significant impairment.

- B. The gambling behavior is not better accounted for by a Manic Episode.

American Psychiatric Association. (1984). *Diagnostic and Statistical Manual of Mental Disorders (Fourth ed.)*: American Psychiatric Association.

## ABOUT THE NCRG

The National Center for Responsible Gaming (NCRG) is the only national organization exclusively devoted to funding research to increase understanding of pathological and youth gambling, and find effective methods of treatment for the disorder. Founded in 1996, the NCRG's mission is to help individuals and families affected by gambling disorders by supporting the finest peer-reviewed, scientific research into pathological gambling; encouraging the application of new research findings to improve prevention, diagnostic, intervention and treatment strategies; and advancing public education about responsible gaming.

More than \$22 million has been committed to the NCRG, through contributions from the casino gaming industry, equipment manufacturers, vendors, related organizations and individuals. Research funding is distributed through the Institute for Research on Gambling Disorders, formerly the Institute for Research on Pathological Gambling and Related Disorders. The NCRG is the American Gaming Association's (AGA) affiliated charity.

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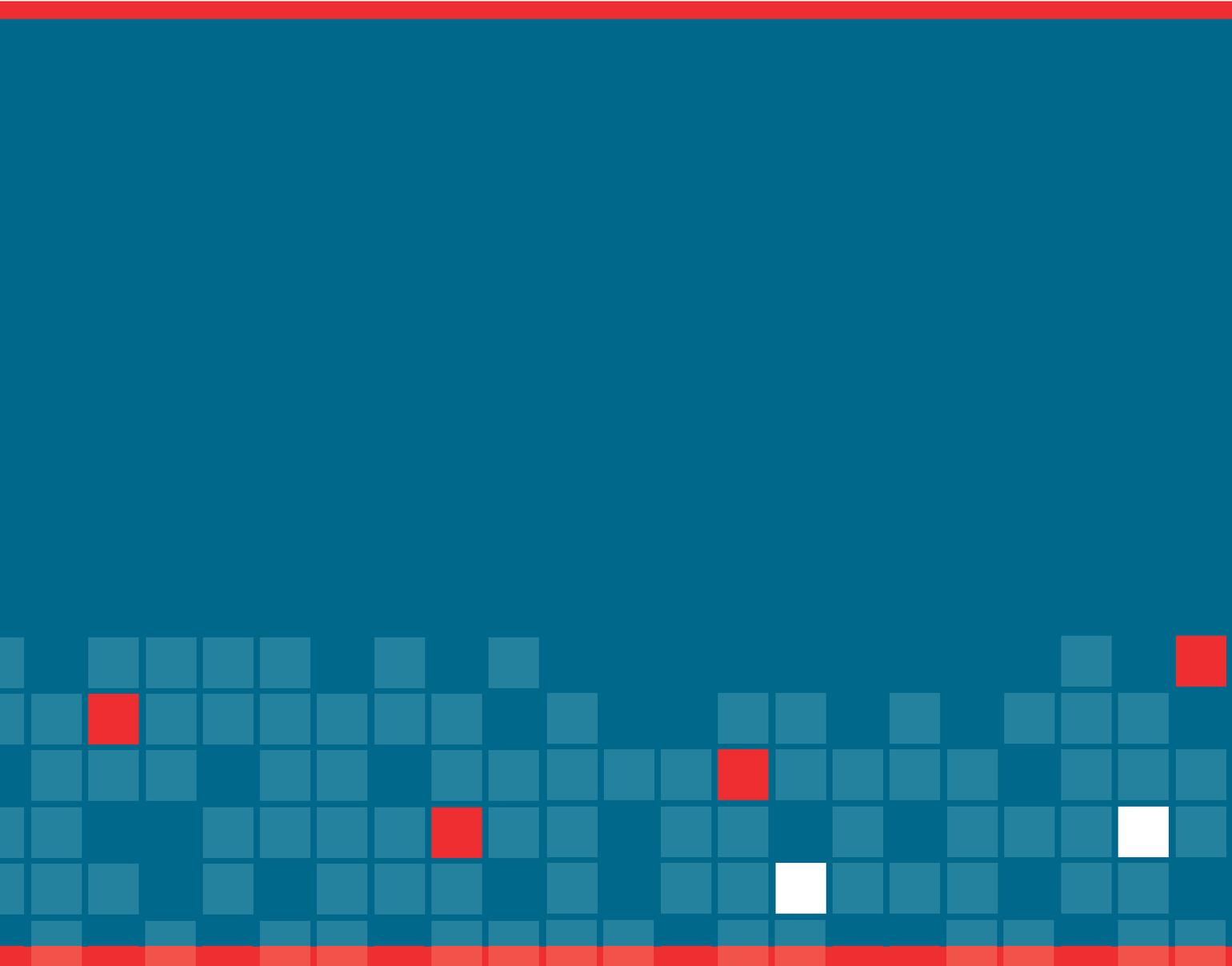
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