Natural course of gambling disorders: Forty-month follow-up

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Abstract

The natural course of gambling disorders was examined in 40 active pathological gamblers following a three-and-a-half-year period. The majority who reported intentions to quit or reduce gambling made a serious change attempt; however, at follow-up most were gambling problematically. Emotional and financial factors were important precipitants of attempts to quit as well as reasons for relapse. A substantial number experienced a depressive episode or substance use disorder during the follow-up period. A number reported quitting drinking and smoking concurrent with quitting gambling. Less than half had treatment for their gambling problem during the follow-up interval. The few participants who were currently gambling but no longer experiencing gambling problems reported less serious gambling problems initially. In contrast, the successfully abstinent group reported more gambling problems initially. This study provides important directions for future research. Abstinence may be more feasible for individuals experiencing more serious problems, whereas non-abstinent goals may be realistic for individuals with fewer negative consequences.

Introduction

Little is known about the natural course of gambling disorders (Nathan, 2003). From the traditional addiction perspective, pathological gambling is viewed as a progressive and chronic disorder with progression arrested only with formal treatment involvement and abstinence (American Psychiatric Association, 2000; National Research Council, 1999). On the other hand, stable, non-abstinent outcomes (controlled gambling) from gambling disorders have been described (Blaszczynski, McConaghy, & Frankova, 1991). In that study, a group of 63 pathological gamblers who participated in abstinence-oriented behavioural treatment were re-assessed two to nine years post-treatment. At the follow-up, 28% were classified as abstinent, 33% as continuing to gamble problematically and 38% as controlled gamblers with no impaired control of gambling and no adverse financial consequences. The controlled and abstinent participants were similar in terms of their psychosocial functioning and, not surprisingly, were much better functioning than the uncontrolled subjects.

In the Blaszczynski follow-up study, controlled gamblers reported less treatment and Gamblers Anonymous involvement during the follow-up interval than the abstinent and uncontrolled gamblers. Non-treatment-assisted recoveries have been reported in other studies of pathological gamblers (Hodgins & el-Guebaly, 2000; Hodgins, Wynne, & Makarchuk, 1999).

Shaffer has suggested that gambling disorders are dynamic, with people moving in and out of problematic involvement over time (Shaffer & Hall, 2001). In a prospective study of casino employees, who are a group at high risk of gambling

disorders, Shaffer and Hall observed those with the most serious problems were most likely to shift to a less serious problem over the course of a 12-month follow-up as opposed to showing maintenance or progression of the disorder (Shaffer & Hall, 2002). Similarly, a study of the natural history of gambling disorders in a cohort of students from ages 18 to 29 showed that, although the aggregate prevalence rates over 11 years were relatively stable, gambling problems at the individual level were transitory and episodic rather than chronic and enduring (Slutske, Jackson, & Sher, 2003). Abbott and colleagues (1999) reported a seven-year follow-up of participants in a New Zealand general population study. Of the 35 disordered gamblers at baseline, 66% were non-problematic at follow-up. Most recently, a one-year follow-up of pathological scratch card gamblers in Holland also revealed that the problem had low stability (DeFuentes-Merillas, Koeter, Schippers, & van den Brink, 2004).

A popular heuristic describing the stages and processes of change over time is the transtheoretical model developed by Prochaska and colleagues (Prochaska, DiClemente, & Norcross, 1992). According to this model, an individual facing a behaviour change, such as confronting a gambling disorder, moves through a series of stages including precontemplation, contemplation, preparation, action, relapse, and maintenance. Progression through the stages is not necessarily linear and relapse into the original behaviour, and possibly a return to the precontemplation stage, is common.

Processes of change have been identified that serve to move the person through the stages. For example, movement from contemplation to preparation and action for most behaviours is associated with cognitive-experiential processes such as consciousness raising (e.g., seeking information), dramatic relief (e.g., feeling frightened by seriousness of the problem), self-re-evaluation (e.g., feeling ashamed about the problem), social-liberation (e.g., noticing public awareness campaigns), and environmental re-evaluation (e.g., realizing that the problem hurt other people) (Prochaska et al., 1992). In gamblers, the most frequently used processes were self-re-evaluation, environmental re-evaluation, dramatic relief, and self-liberation. The least used processes were reinforcement management and social liberation (Hodgins, 2001). These results, however, were based upon retrospective reports from a group of recovered gamblers. Longitudinal studies of the recovery process have not been reported.

The present study followed a group of active pathological gamblers for a three-and-a-half-year period. Participants were originally recruited for a study of natural and treatment-assisted change (Hodgins & el-Guebaly, 2000). The participants in the present report were recruited as an "active problem gambling" control group (n = 63) for the initial study for comparison with a group of recovered gamblers. Because a relatively small sample was available the data for this follow-up are

analyzed mainly in a descriptive fashion with the goal of catalyzing further research with larger samples. In particular, we were interested in changes in gambling behaviour and the process individuals used in making changes. Did individuals have plans to reduce gambling when they initially participated? If so, did they follow through, and how did they do it?

Method

Participants

Participants were recruited through media advertisements searching for people with existing gambling problems who were not currently in treatment or attending a self-help group. Inclusion criteria for the initial study were a South Oaks Gambling Screen (SOGS) score of five or greater, which indicates probable pathological gambling (Lesieur & Blume, 1991, see below), and willingness to provide the name of a collateral to verify gambling reports. Initial but not follow-up reports were confirmed by these collaterals (Hodgins & el-Guebaly, 2000).

Of the group of 63 active problem gamblers, 55 provided consent for a further follow-up during the original interview, and we successfully interviewed 40. Two individuals were contacted but refused to participate and the other 13 could not be located. The mean follow-up period was 40.3 months (SD = 4.6) with a range of 33 to 49 months. A comparison of the followed sample (n = 40) to the not-followed sample (n = 23) showed that women were more likely to be followed than men (60% vs. 40%), χ^2(1, N = 63) = 5.1, $p < .05$, and that those followed were less likely to have a lifetime diagnosis of alcohol dependence (22% vs. 52%) but more likely to have a lifetime diagnosis of alcohol abuse (20% vs. 0), χ^2(2, N = 63) = 8.7, $p < .05$. There were no other differences in demographic or clinical variables.

Participants in the follow-up sample (60% female) had an average age of 42 years at the initial interview (SD = 9, range 21 to 66) and had a mean of 13 years of education (SD = 1, range 8 to 18). Full- or part-time employment was reported by 77% (includes one homemaker), with 18% unemployed and 5% disability. The sample included one Aboriginal man, with the remainder being Caucasian.

The mean age of onset of regular gambling (self-defined) was 29 years (SD = 13). The mean SOGS score was 13 (SD = 3, range 6 to 18), and 37 of the 40 (92%) met DSM-IV criteria for pathological gambling. The types of problem gambling were primarily video lottery terminals (VLTs, 55%), mixed games (casino and VLTs, 35%), casino games (5%), and bingo (5%).

Initial and follow-up interviews

The content domains of the Time 1 face-to-face interview included: demographics,

gambling history and related problems, DSM-IV pathological gambling criteria, mood disorder and substance abuse diagnoses, smoking history, and readiness to change (Hodgins & el-Guebaly, 2000). At the Time 2 (follow-up) face-to-face interview, a timeline follow-back interview captured the number of days of gambling during the follow-up period, the amount of money won or lost on each occasion and any treatment sought over the follow-up. The retest reliability and validity of these types of data are generally good (Hodgins & Makarchuk, 2003). The mood and substance disorders modules of the Structured Clinical Interview for the DSM-IV (SCID) (First, Gibbon, Spitzer, & Williams, 2002) were re-administered. Participants who had made a serious attempt to reduce or quit gambling during the follow-up interval were asked to describe their goal and their strategies. Their reasons for resolution were recorded using a 15-item checklist as well as described on a number of dimensions (Hodgins & el-Guebaly, 2000). Participants who subsequently returned to gambling completed the Reasons for Gambling Questionnaire to describe the relapse precipitants (Hodgins, el-Guebaly, & Armstrong, 2001).

Measures

South Oaks Gambling Screen (Lesieur & Blume, 1987). The SOGS was used as a descriptive measure of gambling severity at Time 1. It is a widely used 20-item self-report questionnaire that assesses lifetime gambling-related difficulties. A score of 5 or greater indicates probable pathological gambling as validated against clinician ratings (Lesieur & Blume, 1987; Stinchfield, 2002).

Structured Clinical Interview for the DSM-IV (First et al., 2002). The SCID is a structured interview that examines the frequency and intensity of DSM-IV symptoms and provides Axis I diagnoses. The Mood and Substance Use modules were administered at Times 1 and 2. The SCID-IV format was used at Time 1 to determine whether participants met pathological gambling diagnostic criteria for their lifetime period of heaviest gambling (Hodgins & el-Guebaly, 2000). Interrater diagnostic agreement for the two interviewers and the first author of this paper across 12 audiotapes was 100%.

Stages of Change Algorithm (Prochaska at al., 1992). Readiness to change or stage of change was assessed at Time 1 and Time 2 by asking about intentions to quit or reduce gambling: pre-contemplation (not in the next six months), contemplation (in the next six months), and preparation (in the next month).

Reasons for Resolution Checklist (Hodgins & el-Guebaly, 2000). The participant was asked to describe the reasons for quitting gambling using a checklist of reasons, adapted from the categorizations of the open-ended responses from studies of the resolution of alcohol problems in a variety of populations (Cunningham, Sobell, Sobell, & Gaskin, 1994; Cunningham, Sobell, Sobell, &

Kapur, 1995). The reasons (e.g., financial problems, emotional factors, family/children, etc.) were each rated on a five-point scale (not at all, slightly, moderately, considerably or extremely important).

Reasons for Gambling Questionnaire (Hodgins et al., 2001). The RGQ provides a list of 24 possible reasons for relapse to gambling that are rated on a 6-point scale with the anchors of not at all, moderately and extremely important (see Table 3). The items were originally modified from the Reasons for Drinking Questionnaire (Zywiak, Connors, Maisto, & Westerberg, 1996) but were refined and validated through feedback from problem gamblers (Hodgins et al., 2001).

Results

When initially interviewed at Time 1, 93.5% of the participants described themselves as in the preparation stage—planning to quit gambling in the next month but not actively doing so. Those remaining were contemplators, reporting that they planned to quit in the next six months (3.3%), or precontemplators, not planning change in the next six months (3.3%). None were involved in treatment or self-help groups at that time.

At Time 2, participants were first asked whether or not they were "currently gambling". The majority described themselves as currently gambling (82.5%) and only 7 (17.5%) described themselves as not currently gambling. These two groups are described below.

Currently abstinent group

Two of the seven participants, both women experiencing problems with VLTs, had quit shortly after the initial interview and described quitting as a conscious decision. One, age 38, entered individual counselling and began attending Gamblers Anonymous (GA). The other, age 57, had no involvement in treatment, describing the process as "mind over matter." She also quit smoking at the same time. Time 1 SOGS scores were 14 and 13 respectively.

Two additional participants, also both women, reported lengthy periods of abstinence although they had not immediately stopped after the initial assessment. One woman, age 37, who had problems with bingo, VLTs, and horse races and a Time 1 SOGS score of 14, quit three months after the initial interview (three years ago). She also quit smoking and drinking alcohol at the same time and described her resolution as related to a religious conversion. Quitting gambling was not a conscious decision; it simply happened without her being aware of it. She did not participate in any gambling-related treatment but did enter a residential program for alcohol abuse.

The second woman, a problem VLT player, age 44, with a SOGS score of 16, quit 18 months before the follow-up interview. She described the process as a conscious decision related to accumulated financial problems. She attended GA twice but reported that family support and improved circumstances were factors that promoted her success. The final three participants who were not currently gambling quit more recently. One, a woman, age 33, with a Time 1 SOGS of 14, last gambled three months ago and gambled (VLTs) about three times in the past year before that. Her conscious goal was to quit completely and her strategy was to stay away from gambling locations and gambling friends. A reduction in gambling has led to a reduction in drinking. She reported no treatment involvement.

The remaining two abstinent participants were men. A 55-year-old man, who had problems with horse races, casino games and VLTs and an initial SOGS of 17, had not gambled for two months. He reported a myriad of psychiatric and gambling treatments over the follow-up period but described his resolution as resulting from the loss of the desire to gamble. His strategy also involved staying away from gamblers and gambling locations. The other man, age 38, had not gambled for only four weeks and before that was gambling about twice per month. He shifted his gambling from bingo to VLT play over the follow-up period but described both as having caused problems. His Time 1 SOGS score was 16. He had read a self-help book but had no formal treatment.

Currently gambling group

Thirty-three participants (82.5%) described themselves as "currently gambling" at Time 2. Notably, five of these participants described themselves as no longer having a gambling problem. A 48-year-old woman denied that she ever had a problem although her gambling had "gotten out of hand" a few years prior. Her Time 1 SOGS score was 8 and she had reported problems with bingo, lottery, and scratch tickets. At Time 2, she was gambling between four to six times per month, losing a little more than she can afford, and was feeling that she should cut back. She had never had treatment. She also met the diagnostic criteria for alcohol dependence at the follow-up interview.

A second participant, age 36, who described himself as no longer having a gambling problem, quit gambling for a four-month period 1.5 years ago but has been gambling in a controlled manner for the past ten months (two days per month; about $300 on VLTs). He attended outpatient counselling and GA during his period of abstinence. He would like to cut back although he described himself as not experiencing any current problems. His initial SOGS score was 9.

The remaining three participants who reported that gambling was not currently a problem at Time 2 acknowledged that VLT play had been a problem previously

when they gambled more heavily. None reported ever having quit gambling and all gamble occasionally (i.e., once every few months). Two of the three did not have any treatment for either gambling or mental health problems and one attended GA and outpatient counselling. Time 1 SOGS scores were 9, 10, and 10. One reported that her gambling decreased when she stopped using cocaine (she was cocaine dependent at the initial interview) and the other two, both men, consciously cut back on gambling because of major financial problems.

The remaining 28 participants (70%) were currently gambling and described themselves as having a current gambling problem at Time 2. The mean Time 1 SOGS score for this group was 12.4 (SD = 2.8). The majority (24) had gambled in the past two weeks. The mean number of days of gambling per month during the follow-up interval ranged from 8.1 (SD = 7.6) to 10.6 (SD = 10.0), and paired t-tests revealed no statistically significant changes over time.

Table 1 displays information about participant functioning over the follow-up interval and Table 2 displays current psychiatric functioning at Time 2. Less than half had had treatment for their gambling problem during the follow-up interval. A substantial number experienced a depressive episode or alcohol or other drug use disorders during the follow-up period, as assessed by the SCID. At Time 2, 22 participants (79%) indicated that they planned to reduce or quit gambling in the next month (preparation stage), 3 participants (11%) in the next six months (contemplation), and 3 participants (11%) did not plan to change in the next six months (precontemplation). Most had the goal of quitting the types of gambling that had caused problems (43%) and 21% wanted to quit all types of gambling. Cutting back on gambling was the goal for 29%, and 7% were unsure.

Previous change attempts

Of the 28 participants who were currently gambling and reporting a gambling problem, 17 reported a serious attempt to either quit (71%) or reduce their gambling (29%) during the follow-up period. The majority described the decision as completely conscious (59%), and the most frequently cited reasons for the change attempt, based upon the 15-item Reasons for Resolution checklist, were financial problems (88%), emotional factors (88%), hitting rock bottom (53%), problems with spouse (53%), family/children (47%), and humiliating event (47%).

Participants were also asked to describe their reasons for relapsing back into gambling. The mean ratings on the Reasons for Gambling Questionnaire items are displayed in Table 3. The most important reasons were to escape from thoughts or feelings, wanting to win, and not caring any more.

Discussion

A majority of this sample of problem gamblers, who had acknowledged a gambling problem and had reported the intention to quit or reduce their gambling, made a serious change attempt during the subsequent three-and-a-half-year period. Only 11 (28% of those interviewed) reported no attempt to change. However, despite their efforts at change, relatively few were free of problems at the follow-up assessment—only 7 (17.5%) were not currently gambling and 5 were gambling but not reporting problems (12.5%).

The small group of individuals who reported continuing to gamble but without problems is notable. This group reported infrequent gambling compared to the problematic group. Clearly, gambling is not a major focus of their leisure time. Compared to the other participants, it appears that they generally had less serious gambling problems initially, as assessed by the SOGS. Non-abstinent goals and outcomes may be more realistic for individuals with fewer negative consequences, as has been found for people with alcohol problems (Klingemann et al., 2001; Monti, Rohsenow, Colby, & Abrahms, 1995).

Consistent with this possibility, the successfully abstinent group, by comparison, had the highest SOGS scores. Abstinence may be a more feasible goal for those with more severe problems (Hodgins, Leigh, Milne, & Gerrish, 1997; Hodgins, Peden, & Cassidy, 2003). The successfully abstinent group did not necessarily recover through treatment or GA involvement. Three of the seven attended treatment and one additional participant entered a residential alcohol treatment program. A number of the participants, in fact, reported quitting drinking and smoking concurrent with quitting gambling. Again, these results are similar to findings in the alcohol treatment area, where it is increasingly recognized that tackling tobacco at the same time as alcohol is an effective strategy (Monti et al., 1995).

Comorbid depression and substance use disorders including smoking were highly prevalent in the sample. About half the sample of those continuing to gamble problematically experienced a depressive episode during the follow-up interval. Overall, 70% met the DSM-IV criteria for a lifetime mood disorder, and 34% had a current mood disorder at the follow-up assessment. Previous longitudinal research suggests an association between a positive mood disorder history and poorer outcome from gambling disorders (Hodgins et al., 1997; Hodgins et al., 2003).

The implications of a comorbid substance abuse problem are less clear from previous research. In the group of continuing problematic gamblers, 25% experienced problematic alcohol use, 11% other drug use, and 79% were smokers during the follow-up interval. Only two individuals in this group quit smoking during this interval. Untangling the association between these disorders is an important future research direction (Hodgins et al., 2003).

Although ultimately they were not successful, over half of continuing problematic gamblers made an attempt at change during the follow-up interval. The descriptions of the precipitants of these attempts were similar to descriptions obtained from successful quitters (Hodgins, Makarchuk, el-Guebaly, & Peden, 2002), with most indicating emotional and financial factors as important. These same factors were also cited as the reasons for relapse. We have previously noted that the most frequent reasons for relapse, wanting to win and wanting to escape from feelings, parallel clinical observations about subtypes of problem gamblers, the thrill-seekers and the escape gambler (Hodgins & el-Guebaly, 2004).

One of the limitations of this study is the follow-up rate and sample size. Only 73% of those who agreed to be contacted for a follow-up were successfully located and interviewed. Women and individuals who were not alcohol dependent were more likely to be interviewed. Otherwise this follow-up sample appeared similar to the group not interviewed. More frequent contact with the participants may have improved the follow-up rate. More frequent assessments would also minimize memory problems and increase the accuracy of the reporting. Re-assessment of severity of gambling problems at regular intervals, using the SOGS or DSM-IV criteria, would also be informative. In the current study, these measures were only administered at Time 1.

The sample size limited the analysis to descriptive statistics and, therefore, generalizations need to be made cautiously. Nonetheless the results do provide directions for further work. The importance of understanding the implications for the high prevalence of comorbid disorders and their impact on outcome is underscored. In addition, the course of gambling disorders needs further study. We did not observe in this group of self-acknowledged problem gamblers that their problems were transitory, as observed in a general population sample (e.g., Slutske et al., 2003). It appears that our sample had generally more severe problems than the previous general population samples and may, therefore, have been less likely to transition as readily back to non-problem gambling. Participants were likely to begin the study in the preparation stage of change and to end the study in the same stage. That is not to say that the status quo was maintained—in contrast, most participants moved into action and through relapse stages. A small group, as well, reported stable non-abstinent outcomes. Understanding the dynamic nature of the course of gambling disorders is important.

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Tables

Table 3

Mean ratings on Reason for Relapse questionnaire items (N = 17)

Reason for relapse	M	SD
escape from thoughts or feelings	4.0	1.5
wanted to win	3.5	1.5
didn't care anymore	3.4	2.0
felt bored	3.2	1.7
felt anxious or tense	3.0	1.7
felt tempted to gamble out of the blue	2.9	1.9
felt pressured by financial debts	2.8	1.9
felt angry/frustrated with self	2.7	1.8
felt angry/frustrated because of relationship	2.6	1.9
needed to win back past losses	2.6	1.9
felt sad	2.5	1.6
had opportunity and had to give in	2.5	1.5
felt lucky	2.3	1.8
in situation where in habit of gambling	2.2	1.9
wanted to see what would happen	2.1	2.0
felt worried/tense because of relationship	2.0	1.9
felt others were being critical	1.9	1.7
felt physically uncomfortable, wanting to gamble	1.8	1.5
felt in a good mood	1.6	1.5
opportunity to gamble happened out of the blue	1.4	1.5
felt physically ill or in pain	1.2	1.5
someone invited me	1.0	1.7
saw others	1.0	1.5
having a good time	0.9	1.6

Note. Rated on 0 to 5 point scale – "not at all important" to "extremely important."

Table 1

Functioning over the follow-up period

		N	%
Treatment for gambling problems	No	16	57
	Minimal	4	14
	Yes	8	29
Treatment for mental health problems	No	18	64
	Minimal	2	7
	Yes	8	29
Depressive episode[1]		14	50
Manic episode[1]		0	0
Alcohol dependence/abuse		7	25
Other drug dependence/abuse		3	11
Quit smoking		2	7

[1]$n = 27$

Table 2

Functioning at Time 2 assessment

		N	%
Lifetime Mood Disorder[1]	None	8	30
	MDD	17	63
	Bipolar II	2	7
Current Mood Disorder[1]	None	18	67
	MDD	8	30
	Bipolar II	1	4
Lifetime Alcohol Diagnosis	None	14	50
	Abuse	8	29
	Dependence	6	21
Current Alcohol Diagnosis	None	22	79
	Abuse	0	0
	Dependence	4	14
	Dependence –early partial	2	7
Lifetime Drug Diagnosis	None	19	68
	Abuse	4	14
	Dependence	5	18
Current Drug Diagnosis	None	25	89
	Abuse	2	7
	Dependence	1	4
Current Smoker		22	79

[1]$n = 27$
Note. Current refers to past month. MDD = Major
depressive disorder.

natural course

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recovery

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relapse

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change process

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