Natural and Treatment-assisted Recovery From Gambling Problems:

A Comparison of Resolved and Active Gamblers

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Abstract

Aim: An exploratory study was conducted to understand the process of recovery form gambling problems.

Design: Media recruitment was used to identify a resolved (n=43) and a comparison group of active pathological gamblers (n=63).

Participants: Participants showed evidence of significant problems related to gambling as well as high rates of comorbid mood and substance use disorders. The median length of resolution was 14 months with a range of 6 weeks to 20 years.

Findings: Resolved gamblers reported a variety of reasons for quitting gambling, mostly related to emotional and financial factors. They did not experience a greater number of precipitating life events compared with active gamblers but did report an increase in positive and a decrease in negative life events in the year after resolution. Both resolved and active gamblers who had relatively more severe problems were more likely to have had treatment or self-help involvement whereas those with less severe problems, if resolved, were “naturally recovered”.

Conclusions: The results support the need for a continuum of treatment options for problem gamblers and provide helpful information about recovery processes.

In North America and elsewhere opportunities to gamble have increased over the past few years (Ladouceur, 1996; Lesieur & Rosenthal, 1991). With this enhanced availability has come an increase in the prevalence of problems related to gambling (Shaffer, Hall & Vander Bilt, 1997). Gambling problems are broadly defined as maladaptive gambling behavior that disrupts personal, family, or vocational pursuits. In the DSM-IV (APA, 1994) pathological gambling is included as an impulse disorder and the diagnostic criteria are modeled after the substance dependence criteria.

There is a small body of empirical literature on the evaluation of treatment of problem gambling (see reviews by Lesieur & Blume, 1991; Lopez Viets & Miller, 1997; Murray, 1993; Walker, 1993). Generally, these treatment evaluations suffer from small sample sizes, lack of control groups and poor follow-up rates. Conclusions about the relative efficacy of the various treatment modalities and the effective ingredients of treatment are impossible to make. The objective of the present investigation was to study the recovery process of individuals who have successfully overcome a serious gambling problem. Understanding the process of change experienced by these problem gamblers has important implications for both secondary and tertiary intervention policy and programs. For maximal effectiveness, factors that are associated with change need to be promoted and barriers to recovery need to be minimized.

Evidence for Natural and Treatment-assisted Recovery

Recovery from addictive problems without formal treatment has become increasingly recognized as a common phenomenon (Institute of Medicine, 1990; McCartney, 1996). For example, a recent Canadian general population survey revealed that natural recovery from alcohol problems is the most typical pathway to recovery (Sobell, Cunningham, & Sobell, 1996). Similarly, most smokers quit on their own (DiClemente & Prochaska, 1982). Although similar studies are not available for people with problems with gambling, it is probable that many resolve their difficulties without treatment. First, compared with other addictions, treatment and self-help groups were

relatively unavailable, at least until recently. Second, epidemiological studies of prevalence typically report the existence of many "former gamblers". We recently examined the results of 22 prevalence surveys and found that 39% of those people who have ever had a gambling problem reported no problems in the past year (Hodgins, Wynne, & Makarchuk, 1999). In short, it appears that recovery from gambling is common, and it is likely that many of those who recover make these changes without treatment. However, these prevalence data are based on unvalidated self-reports and likely over-estimate the recovery rate (Hodgins et al., 1999). No cross-sectional or longitudinal study has been designed to examine this issue specifically.

Studies of the process of natural recovery have been reported for a variety of alcohol and other drug problems. In the majority of earlier studies, small groups of former users were recruited through media advertisements and interviewed with unstructured interview schedules about their experiences. More recent studies have used more rigorous methodology. For example, in an alcohol recovery study, Sobell, Sobell et al., (1993) noted that a number of design features were incorporated including: larger sample sizes, a comparison group of non-treated individuals with active alcohol problems, verification of self-reports by collaterals, use of a strict definition of no treatment, the requirement of longer-term recoveries, and the use of standardized measures where available (Sobell, Sobell, & Toneatto, 1992). In this study, the majority of resolved former drinkers reported that a cognitive evaluation of the effects of their drinking preceded their recovery and that spousal support was important in maintaining problem-free status. Similar results have been reported by others for other types of drugs (e.g., Biernacki, 1990; Toneatto, Sobell, Sobell & Rubel, in press). Sobell, Sobell at al. (1993) also examined the role of life events in recovery. Compared with a control group of non-resolved participants, resolved participants did not report a greater number or different constellation of life events in the year before recovery. In another smaller study, however, participants were asked about life events in the two years before and the year after

recovery. Significant differences were found between resolved and non-resolved groups, which suggests that changes in several areas of functioning such as health, legal and work problems evolve over time to motivate change (Tucker, Vuchinich, & Gladsjo, 1994).

In the present investigation, the stages of change model (Prochaska, DiClemente, & Norcorss, 1992) was used as a conceptual framework to guide the exploration of the change process of the resolved gamblers. We were specifically interested in understanding the factors that participants perceived as initiating and maintaining their recoveries, the role of life events in recovery, and differences between naturally recovered and treatment assisted recoveries. In addition, comparisons of gamblers' recoveries were made to previous results for recoveries from alcohol problems.

Method

Recruitment of Participants

Participants were solicited through advertisements in newspapers and from announcements of the project on local radio and television. Respondents were considered eligible if they scored above 4 on the South Oaks Gambling Screen (SOGS see below, which suggests probable pathological gambling, Lesieur & Blume, 1987) and were willing to provide the name of at least one family member or friend who was in the position of corroborating the participant's gambling problem and resolution. Eighty-seven percent of the participants were recruited through the media and 13% through word of mouth. Overall, there was no significant difference between the sources for resolved and non-resolved gamblers although resolved gamblers were slightly more likely to be recruited through "word of mouth" through the recovery community ($X^2(1)= 3.8$, $p<.06$).

Interview Content Domains and Instruments

A series of structured interview questions and self-report scales were administered in either a face-to-face meeting or a telephone interview if a face-to-face meeting was not possible.

Participants were reimbursed $11.00 Cdn. for parking expenses.

For the Resolved group, the content domains of the interview were: (1) lifetime gambling and related problems; (2) comorbid depression and substance abuse; (3) life events in the two years prior to and one year following the resolution of their gambling problem; (4) reasons for resolution (contemplation and determination stages); (5) actions taken (process of change, action stage); (6) maintenance factors; (7) perceived barriers to seeking treatment.

For the nonresolved group, Domains 1, 2 and 7 were the same and Domains 4, 5, and 6 were not relevant. For domain 3, each participant was asked to recollect life events in a three year period that matched a three year period recalled by a participant in the resolved group. This comparison is useful because higher or lower rates of life events in the recovered group compared with the non-recovered group suggests that these events may be functionally related to recovery (Sobell et al., 1993). Finally, domain 8, readiness to change, was assessed in the nonresolved group.

1. Lifetime gambling and related problems Structured interview questions were used to assess lifetime gambling and related problems and other background demographic variables. A structured interview of DSM-IV criteria for pathological gambling, modeled after the SCID-R (see below), was developed to determine whether participants met criteria for the period of heaviest gambling in their lifetime. **2. Comorbid Conditions** The Psychoactive Substance Use and Mood Disorders modules of the Structured Clinical Interview for the DSM-IV (SCID-R; Spitzer et al., 1990) were administered. The SCID is a semi-structured interview that inquires about the frequency and intensity of symptoms and provides a diagnosis. A smoking history was also added. **3. Life Events** Life events during the three year target period were assessed using the Life Event Questionnaire (LEQ; Vuchinich, Tucker, & Harllee, 1986) which assesses events in eight categories: work, residence, marriage and intimate relationships, family and children, friendship and social activities, finances, physical health, and legal matters. The interview involves first helping the participant

remember that period of his or her life as completely as possible using various memory cues such as world and community events and then administering a structured checklist of 79 life events. The LEQ yields a frequency score for each category and for total positive and total negative events. It was used in the Tucker et al.(1994) study and showed good agreement with collateral reports. In a previous study with inpatient alcoholics, the LEQ also showed excellent retest reliability over a two-week period (Vuchinich et al., 1986). **4. Reasons for Resolution** A semi-structured and structured interview was designed to assess the reasons for resolution of the gambling problem. After a date of resolution was established (i.e., date of last gambling) the participant was asked to describe the reasons for the decision. First we asked participants an open-ended question: "Describe what led you to stop gambling". Responses were fully probed and were recorded by the interviewer. After the open-ended responses were obtained, the participant was asked to describe the resolution 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; Sobell et al., 1993). **5. Actions** A similar interview process was used to assess the actions taken. Participants were asked how they terminated their gambling problem in an open-ended interview ("Did you consciously do anything to help you achieve this goal?"). **6. Maintenance Factors** Participants were first asked in an open-ended interview about how they maintained their change ("Describe what factors helped you to avoid a relapse to problem gambling after you resolved your problem") Then, following Sobell et al. (1993) and Tucker et al. (1994), they were asked the extent to which 17 factors helped or hindered their resolution. Each factor was rated on an 5-point scale (1=no help, 3=helped somewhat, 5=helped very much). **7. Perceived Barriers to Treatment** Participants were asked to rate the importance of eight potential reasons for not seeking treatment (as identified by Sobell et al., 1992): embarrassment, no help needed, unable to share problem,

stigma, wanted to handle problem on own, cost, availability, and other barriers. Each was rated on a Likert scale ranging from 0 (not important) to 5 (extremely important). **8. Readiness to change** Nonresolved participants were asked about their intention to change using the Prochaska et al. (1992) algorithm questions: precontemplation (not in the next 6 months), contemplation (in the next 6 months) and determination (in the next month). **9. South Oaks Gambling Screen** The SOGS was used as the initial screening instrument for participants entering the study. It is a 20-item scale that has been used both as a self-report scale and in telephone surveys. The questions are modeled after the DSM-III criteria for pathological gambling and inquire about lifetime gambling problems. The scale has been used to identify gamblers in substance abuse and psychiatric populations and in community surveys. Participant scores on the SOGS correlate well with both collateral reports and clinician ratings.

Collateral Interviews

Participants were asked to provide the name of one or two family members or friends who would be able to confirm their gambling history. A research assistant, blind to the participant's interview, telephoned one collateral for each participant and conducted a brief interview. Eighty-three collaterals were successfully contacted. Collaterals were asked to provide the resolution date (when applicable), number of years of problem gambling, and a description of the gambling activities in the year prior to the resolution and since the resolution. Collaterals were also asked to rate the certainty of each of their responses.

We examined agreement on a number of major variables to assess the general reliability of the participants' self-report: how long gambling had been a problem (years, r=0.61), treatment involvement (kappa=0.65, 83% agreement), type of gambling problem (kappa = 0.68, 81% agreement), and length of resolution (in months, r=0.88). For each of these variables, collaterals who were more certain of the accuracy of their report showed higher agreement with the

participants. These results suggest substantial agreement and support the reliability of the participant's self-report.

Results

Participants

Forty-three resolved and 63 non-resolved gamblers were interviewed. Eighty-two percent of participants were interviewed in person. The primary reason for a telephone interview was living outside of the immediate area.

There were no significant differences between the resolved and non-resolved participants in demographic characteristics, comorbid conditions, or SOGS scores. Half the sample was female and the mean age was 42 years (SD=10) with a range from 21 to 70 years old. Two participants were Native Canadians; one Asian; and one East Indian with the remainder being Caucasian. About half were married or living common-law (47%) and 23% were never married. Seventy-two percent reported a high school or greater education. In terms of employment, 56% were employed full-time and 25% were unemployed.

The mean SOGS score was 12 (SD=3) indicating a significant degree of gambling problems. Ninety-four percent met the DSM-IV criteria for pathological gambling and of those remaining (5 nonresolved) a mean of 3.3 criteria, of required 5, were met. In terms of types of gambling problems, about half reported that their primary problem was video lottery terminals (VLTs); 8% reported that their primary problem was casinos; 4% horse racing; and 2% bingo. Thirty-seven % reported problems with mixed games, including VLTs.

According to the SCID interview, almost half the sample had experienced a lifetime depressive disorder including major depressive disorder (43%), dysthymia (3%) and bipolar II disorder (3%). Current depressive episodes were reported by 18%. Lifetime alcohol dependence (37%) or abuse (14%) was identified in about half of the participants with current problems in 5%.

Other drug use lifetime disorders were found in 27% of the sample with 4% reporting current problems. About a quarter of the sample had both lifetime mood and substance use disorders and four participants had both current mood and substance use disorders.

The 43 resolved gamblers reported resolutions lasting from 6 weeks to 20 years with a mean length of 3.5 years and a median time of 14 months. Eighty-one percent reported that their initial goal was to quit gambling, while the remaining 19% stated that they wished to cut back. Eighty-four percent reported that they stopped immediately ("cold turkey") while the remaining participants reported tapering out. On a 5 point scale anchored with "completely conscious" and "completely out of awareness", sixty-five percent reported that their decision was "completely conscious" compared with 14% who chose the midpoint, 16% who reported that it was "somewhat out of their awareness" and 5% who reported that it was "completely unconscious".

Of the 63 nonresolved gamblers, 93.5% reported that they planned to quit in the next month (determination stage), and 3.3% reported planning to quit in the next six months (contemplation). The remaining 3.3% reported that they did not plan to quit in the next six months (precontemplation).

Predictors of Treatment-seeking

Over half of the participants reported no treatment, 63% of non-resolved and 53% of resolved gamblers. A small proportion reported a minimal amount of treatment that they did not perceive as significant in their recovery and the remainder reported significant treatment involvement. We defined moderate or greater involvement as 5 or greater sessions or exposures of either self-help or gambling focused treatment. Significant treatment was reported by 16% of the non-resolved group and 33% of the resolved group. A discriminant function analysis was conducted to identify which variables best predicted entry into treatment from a range of potential predictors: demographics (age, gender), gambling type (VLT or other), severity of problem (SOGS,

number of DSM-IV criteria), current or lifetime comorbid diagnoses (alcohol, other drug, depression), and recovery status (resolved, non-resolved). The sole variable that discriminated entry into treatment was severity of problem, number of DSM-IV criteria. According to post hoc Scheffé tests, individuals who reported moderate or greater treatment had experienced more DSM-IV criteria (Mean=8.1, SD=1.2) compared with those reporting no treatment (6.5, SD=1.7, $p<.002$). Those reporting minimal treatment had experienced a mean of 7.0 criteria (SD=1.3), not significantly different than the other two groups.

Reasons for Resolution

We used two methods to assess specific reasons for resolution in the resolved group, open-ended questioning and a checklist. For the open-ended questioning, all responses were reviewed and a coding scheme was derived through a content analysis (Taylor & Bogdan, 1984). Two raters independently categorized each participant's response. Each participant's response could be coded into more than one response category. Agreement between the two raters was high, suggesting good reliability. For individual categories, percent agreement ranged from 98 to 100%. Disagreements were discussed with a third rater and final determination was made. Table 1 displays the categories and the percentage of people citing each. A full description of the definitions of the categories is available from the authors. The two major reasons for resolution cited were negative emotions and financial concerns. For example, stress, panic, depression, and guilt were common negative emotions that were related to the decision to cease gambling. Financial concerns such as "always losing money", "money getting tight", and "missed having a lot of money" were reported.

As shown in Table 2, responses to the checklist showed good concordance between the preexisting categories and those identified in the content analysis. For example, with both methods the most frequently reported reasons for resolution were emotional concerns, financial problems,

and family influences. Not surprisingly, participants identified a greater number of reasons when presented with a checklist (mean=6.4, SD=2.9) than in response to an open-ended question (2.7, SD=1.2). In all cases where categories overlap, the checklist method yielded larger figures. The one category that emerged from the content analysis that was not covered by the checklist was termed "incompatible with desired self-image or goals". This category, reported by 23% of recovered gamblers, refers to reasons for resolution such as wanting to be a role model for the family", feeling "ashamed", and questioning "what have I turned into?"

Actions Taken to Resolve

Through content analysis twelve categories of actions were uncovered as described in Table 3. Percent agreement ranged from 98% to 100% for the individual categories. Resolved gamblers reported a mean of 2.2 actions (SD=1.1) with 93% reporting at least one action and 7% reporting "nothing". The two largest categories were termed "stimulus control" and "new activities". Stimulus control involved limiting access to gambling, mainly by staying away from gambling locales or locales associated with gambling. Restricting access to money was coded as a separate category. Of interest, only 5% reported limiting access to money as a specific action taken. New activities included participating in some form of exercise, reading, spending time with family members, and becoming more involved with work.

Three other categories comprised actions reported by about a quarter to a third of participants. These were "treatment", cognitive strategies, and social support. Treatment reflects involvement in treatment programs or self-help groups, mainly Gamblers Anonymous. Of the 14 resolved gamblers who were categorized as having moderate or greater treatment involvement, 12 reported treatment as an action taken. "Cognitive" actions, reported by 26%, included a variety of strategies such as consciously thinking about the negative aspects of gambling or the benefits of quitting, using "self-talk" and "thought stopping". Social support, reported by 23%, involved

seeking support from family or friends

Factors Maintaining Changes

We used open-ended questioning and a checklist to assess participants' perspective of factors maintaining the changes they had made in gambling behaviors. The open-ended responses were content analyzed and 13 categories were derived as described in Table 4. Interrater agreement ranged from 95% to 100%. Participants reported a mean of 2.4 factors (SD=1.2), and all but one participant reported at least one factor. The most frequently cited factor was "involvement in new activities", similar to the report of actions taken. Again, 12 participants (28%) reported treatment involvement as helpful in maintaining their resolution. Social support from family or friends was reported by 30%. The remaining top categories were all cognitive-behavioral in nature: remembering negative aspects/anticipating negative consequences (33%), focusing on improvements (19%), cognitive (16%) and stimulus control (12%). As with actions, only 5% reported that they limited access to money as a maintenance strategy.

Table 5 displays the checklist of maintenance factors for this sample and for resolved drinkers (Sobell et al., 1993). Participants endorsed a mean of 8.2 maintenance factors (SD=3.3). Examining the list of factors, four of the top five, all endorsed by more than 60% of the participants, were cognitive-motivational in nature, and the remaining one was "financial status change". All of these factors were rated as very helpful, greater than 4 on the 5-point rating scale. The next two categories, endorsed by more than 50%, were changes in recreational/leisure and social life activities. The next group of factors were family, friends, spousal, and GA/self-help support, endorsed by greater than 37%.

Compared with recovered drinkers, gamblers differed in a number of ways. Not surprisingly, financial status changes were more likely to be endorsed as influential for gamblers. However, gamblers also were more likely to cite the cognitive-motivational factors of "recall of

problems", "gaining self-respect and goal commitment" and " sense of accomplishment/pride". Drinkers were more likely to endorse "spousal support".

The Role of Life Events in Recovery

We asked resolved participants to identify significant life events occurring during the two years prior to recovery and in the year post-recovery. As a comparison we asked the nonresolved participants to identify life events in a three-year period chosen to match the three-year period of recovered participants. A matched time period was possible for 40 of the 43 recovered gamblers, 25 of whom had recoveries of at least one year.

Changes in numbers of life events from the pre-resolution period (Time 1) to the post-resolution period (Time 2) were examined for these 25 participants using separate ANOVAs for each of the eight life event categories and total negative and positive life events. Time 1 refers to the two years prior to resolution for the resolved group and the "matched" two years for the nonresolved group. Time 2 refers to the one-year period following resolution for the resolved participants and the matched one-year period for the nonresolved participants. The data for Time 1 (covering a 2 year period) were divided by two in order to have both Time 1 and Time 2 reflect a 12 month period. The modified Time 1, therefore, indicates the number of events per year over the two-year period. A 2x2 ANOVA was conducted for each life event category with one between group factor (resolved, non-resolved) and one repeated factor (time 1 and 2). Significant interactions between group and time were found in two categories, finances ($F(1,48)=4.7$, $p<.05$) and health ($F(1,48)= 3.9$, $p<.054$). Significant interactions were also uncovered for number of positive ($F(1,48)=8.6$, $p<.005$) and negative events ($F(1,48)=14.9$, $p<.0001$). These four significant interactions are plotted in Figure 1 and were probed using simple main effects tests (Kirk, 1982) to compare the two groups at each time and the change from Time 1 to 2 for each group ($\alpha=.05$). Significant differences are indicated with asterisks on Figure 1. Resolved participants showed

significant reductions from Time 1 to 2 in health and negative events and significant increases in positive events whereas non-resolved participants showed stable levels of events. During Time 1, resolved and non-resolved participants did not differ in number of events in any of the areas, but by Time 2 resolved gamblers reported fewer financial and negative events and more positive events. Together these results suggest that life events do not play a significant role in precipitating recovery but instead may be important in maintaining recoveries. In short, life for the recovered gamblers appears to have improved in terms of increased positive events and decreased negative, financial and health events. In examining the health events reported, they were primarily changes in health habits (e.g., decreased sleep) or increase in physician visits but not major injuries or illness.

Reasons for Not Seeking Treatment

The majority of both the resolved and nonresolved participants reported that they had never sought treatment for their gambling problem. Each was asked to complete a checklist of reasons for not seeking treatment. The major factor for both resolved and non-resolved gamblers was the desire to handle their problem on their own. Eighty-two percent endorsed this factor with a mean importance rating of 4.1 (SD=0.9) indicating "considerably important". Five factors were rated as at least moderately important by about half the participants – embarrassment/pride (50%), no problem/no help needed (50%), ignorance of treatment or availability (55%), unable to share problems (49%), stigma (53%). Compared with resolved gamblers, there was a trend toward non-resolved gamblers being more likely to endorse embarrassment/pride as a factor (59% versus 35%;$p<.07$) as well as no problem/no help needed (61% versus 36%, $p<.06$). Relatively few participants endorsed negative attitudes towards treatment as a factor (24%) and none of the resolved gamblers reported that cost was a reason for not seeking treatment compared with 23% of non-resolved gamblers ($p<.02$).

Discussion

In the present investigation we were able to recruit both active and recovered problem gamblers through media announcements. The general demographic characteristics of these gamblers were similar to the problem gamblers identified in the Alberta prevalence survey (Wynne, Smith & Volberg, 1994). Moreover, they were individuals with substantial gambling problems as indicated both by high SOGS scores (mean = 12) and by DSM-IV criteria (94% of the sample met criteria).

The participants reported a variety of types of gambling problems although the largest group had experienced problems with video lottery terminals (VLTs) which is a type of gambling that has caused significant public concern in Alberta since its introduction in 1993. Because VLTs have only recently been available we were unable to require a minimum two year period of resolution as an inclusion criteria for the study although this timeframe has been adopted in other recent recovery studies (e.g., Sobell et al., 1993). If we had adopted a two-year minimum period of resolution, our active gambling group would have had a different type of gambling exposure and involvement than our recovered group could possibly have had. As a result of not having a minimum recovery timeframe, a proportion of the resolved respondents may not have had stable recoveries and may have subsequently relapsed. At present little is known about the course of recovery from problem gambling. Nonetheless, gamblers' self-reports of their status when interviewed were confirmed with collateral interviews.

The data are self-reported and retrospective describing the attributions for recovery offered by the participants. People need to "make sense " of their lives and their behaviors (Heatherton & Nichols, 1994; Hodgins, el-Guebaly, & Armstrong, 1995). Assessing life events systematically in the active group provided a type of control for this bias but prospective studies of these factors are crucial. We also attempted to collect data concerning the reasons for resolution and maintenance

factors using two methods. First, respondents were asked in an open-ended interview to describe their experience and subsequently they completed a checklist adapted from previous research. A comparison of responses showed substantial overlap in the type of reasons and factors reported. However, the open-ended method consistently elicited fewer reasons per person than did the checklist despite probing of responses. A further investigation of the relative validity of these methods is important.

Almost all of the active gamblers were "ready to quit", reporting that they were planning to quit within the next month. Participating in the research project may have been a way to ease themselves into examining their problem. A follow-up study of these individuals is planned to determine the subsequent course of their disorder.

Most of the resolved gamblers indicated that their goal was to quit gambling as opposed to cutting back or controlling their gambling and that this was a conscious decision. They gave a variety of reasons for quitting, mostly related to emotional and financial factors. Specific life events did not appear to precipitate the change. Emotional reactions to a range of events, however, were viewed as pivotal. It may be helpful to clinicians to recognize that typically individuals reported that a number of factors were involved in their decisions to change and that they did not necessarily "hit bottom" in advance of quitting. Active gamblers were experiencing as many negative life events as those who resolved their gambling problem were.

About a quarter of participants reported that they changed because their gambling was incompatible with their self-image and they did not like to see themselves as having a gambling problem. Struggling with a new identity has been suggested as a critical element in general behavior change (Heatherton & Nichols, 1994) and in quitting drinking (Ungar, Hodgins, & Ungar, 1998).

Resolved gamblers were generally similar to alcohol and other drug treatment seekers

(Cunningham et al., 1994, 1995) in terms of the proportion endorsing each reason for resolution. Two exceptions to this general trend are noteworthy. First, fewer gamblers reported engaging in an evaluation of the pros and cons of their behavior when making their decision. This difference is significant because of emphasis placed on cognitive reappraisal in efforts to foster self-change in alcohol abusers (e.g., Sobell & Sobell, 1993). Such a strategy may be effective with a smaller proportion of problem gamblers compared with alcohol abusers. Fewer gamblers than drinkers also reported that a lifestyle change was significant in resolving their problem. This type of precipitant did not, in fact, emerge in the content analysis as a separate category. This difference may reflect that regular drinking is more socially imbedded and tied to general lifestyles than is regular gambling.

Resolved gamblers reported engaging in a variety of helpful actions in reaching their goal of resolving their gambling problem. The predominant change strategies they employed were behavioral and cognitive motivational. Behavioral strategies included stimulus control (e.g., staying away from gambling situations) and engaging in new non-gambling activities (e.g., starting new hobbies or projects). These strategies were almost universally endorsed. Common cognitive-motivational actions included recalling past problems with gambling and anticipating future problems and, for the non-treated in particular, using “will power”. It may be true that successful change requires cognitive and behavioral change and that clinicians can use this information in helping gamblers increase their repertoire of change strategies. The results are also consistent with the notion that people are likely to attribute “success” to intrinsic factors and “failure” to external factors (Heatherton & Nichols, 1994; Hodgins, Ungar, el-Guebaly & Armstrong, 1997). Of note, few participants reported that limiting access to finances, an external constraint, was important in achieving success. This finding is intriguing because one of the common thrusts of counseling problem gamblers is to help them control their access to money. We did not ask participants

directly if they limited their access to money - perhaps they did but did not perceive it as beneficial.

Consistent with Tucker et al. (1994), whereas life events did not play a central role in precipitating recovery, a reduction in negative life events, and in health and financial events in particular, and an increase in positive life events appeared important in maintaining resolutions. Participants also reported that engaging in new activities, remembering negative consequences and general support were important in maintaining their changes.

A significant proportion of the recovered gamblers was naturally recovered, having had no involvement with self-help or formal treatment interventions. As has been found with other types of addictions (Humphreys, Moos, & Cohen, 1997; Weisner, 1993), gamblers with less severe problems (as indicated by the number of DSM-IV criteria met) were more likely to resolve without treatment and those with more severe problems were more likely to report moderate or greater treatment involvement. Other factors such as demographics and comorbid disorders did not predict treatment involvement. These findings support the notion that there is a continuum of severity of gambling problems that require a continuum of responses. At the lower end of problem severity, individuals are more likely to initiate and achieve change in their gambling behavior without the use of formal treatment or self-help groups. These individuals realistically believe that they can stop without intervention. Over 80% of the non-treated participants reported that they did not seek treatment because they wanted to “do it on their own”. At the more severe end of the spectrum, gamblers report having sought treatment or participated in Gamblers Anonymous and reported that this involvement was helpful in overcoming their problem. Clearly, the need for an organized and accessible treatment system is supported. In addition, it may also be possible to promote individuals to engaging in self-change or “natural recovery”. This promotion may be possible through providing general public information and education or through secondary interventions that make information easily available to problem gamblers in a way that protects their privacy. We

have an ongoing study examining this possibility in which self-help materials promoting change are provided to problem gamblers through the mail.

The finding that the major reason for not seeking treatment was the desire to handle the problem without help has consistently been reported in studies of people with serious alcohol and other drug problems who have not accessed treatment (Cunningham, et al., 1993; Grant, 1997). A common interpretation is that this attitude is in part related to stigmatization of addiction problems. In our sample, like samples of alcohol and other drug problems, about half of those not accessing treatment directly identified this factor. About half also reported embarrassment/pride as important factors. Clearly public campaigns aimed at shifting attitudes towards treatment seeking for gambling problems are crucial.

Rates of comorbid mood, alcohol, and other drug disorders were high. Over 50% of the gamblers reported lifetime alcohol problems, about 50% reported lifetime mood disorders and a third reported other drug problems. These findings are consistent with the results from other studies and with clinical impressions (Crockford & el-Guebaly, 1998) although solid epidemiological studies are not available. Routine clinical screening for these comorbidities is warranted with appropriate intervention as necessary. It is interesting that comorbid problems did not appear to increase the likelihood of treatment seeking. We did not ask participants about their involvement in treatment for these comorbid problems. However, it may be helpful to provide gambling treatment services that are integrated into or coordinated with general mental health and addiction services. Certainly cross training of service providers is important.

In conclusion, this project provides an exploratory portrait of the recovery process in problem gambling. The results provide some suggestions for future clinical and research directions that will hopefully be of benefit in combating this growing challenge.

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Figure Caption

Figure 1. Mean event occurrences per year for significant interaction effects on Life Event Questionnaire. T1 = two year period prior to resolution for resolved gamblers and matched time period for non-resolved gamblers. T2 = one year post resolution for resolved gamblers and matched time period for non-resolved gamblers.

* significantly different via simple main effects test

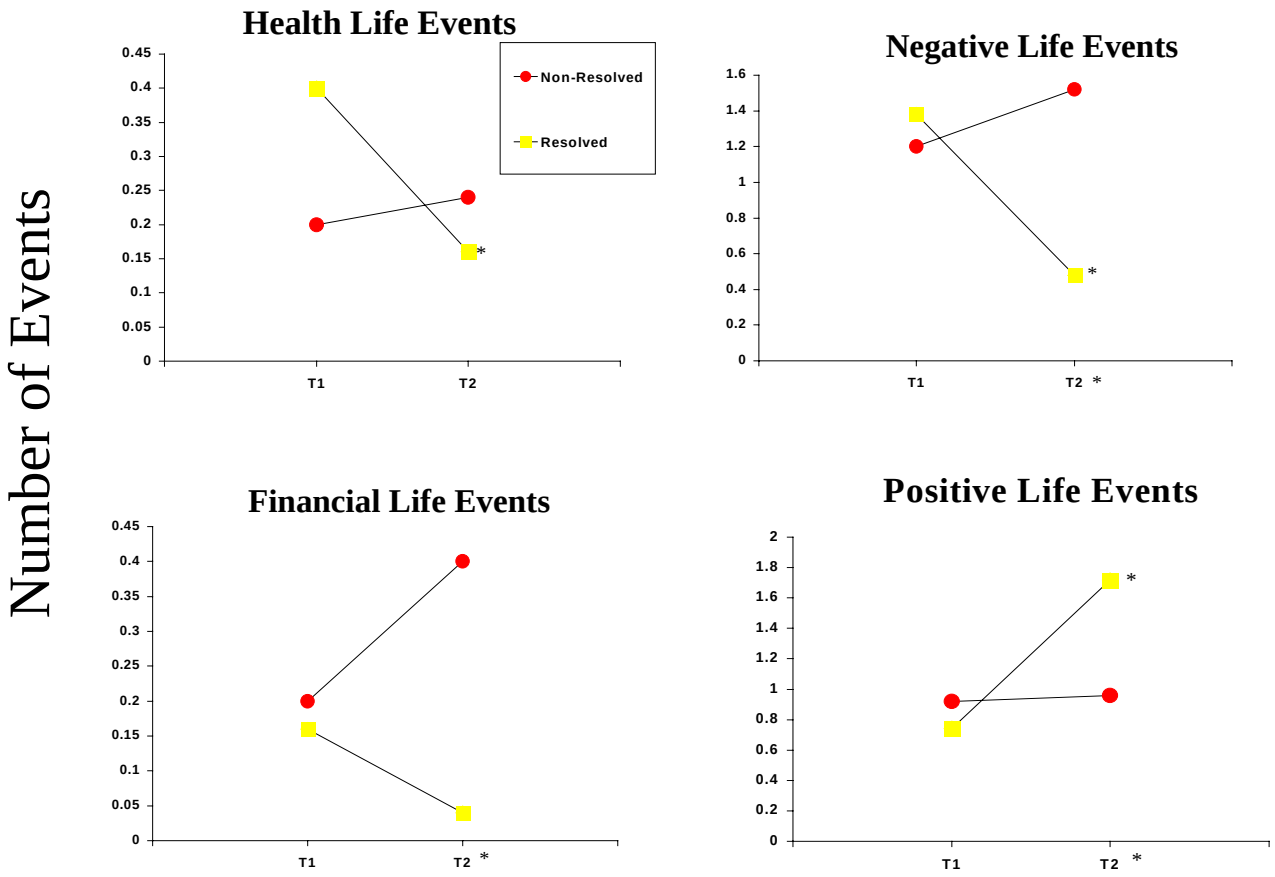
Number of Events
Health Life Events
Non-Resolved
Resolved
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
T1
T2
*
Negative Life Events
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
T1
T2
*
Financial Life Events
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
T1
T2
*
Positive Life Events
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
T1
T2
*

Table 1
Reasons for Resolution from Open-ended Questions

Reason	No. of people Reporting Factor	% of People (n=43)
Negative Emotion	19	44%
Financial Concerns	18	42%
Family Influence	11	26%
Incompatible with Desired Self-image or Goals	10	23%
Lack of Financial Resources	9	21%
Hitting Rock Bottom	8	19%
Confrontation by others	8	19%
Social Support	6	14%
Spiritual Influences	5	12%
Cognitive Appraisal (pros and cons evaluation)	5	12%
Legal Influences	4	9%
Out of Awareness	4	9%
Rational Appraisal	4	9%
Environmental Change	4	9%
Fear of Future Negative Consequences	1	2%

Table 2
Reasons for Resolution From Checklist

Reason[a]	Resolved Gamblers (n=43)	Alcohol Community Sample[b] No Treatment (n=48)	Alcohol Community Sample[b] Treatment (n=16)	Alcohol/Drug Treatment[c] More Severe (n=126)	Alcohol/Drug Treatment[c] Less Severe (n=122)
Financial problems	93.0%				
Emotional factors	86.0%				
Hit rock bottom	65.0%	16.7%	68.8%	70.2%	38.8%
Family/children	62.8%				
Confrontation	48.8%				
Pros and cons evaluation	46.5%	62.5%	62.5%	87.0%	85.2%
Humiliating event	41.9%				
Traumatic event	27.9%	27.1%	50.0%	50.8%	25.4%
Problems with spouse[d]	34.9%	10.4%	50.0%	70.7%	54.9%
Work related problems	32.6%				
Physical health	30.2%	18.8%	31.3%	34.4%	9.8%
Religious involvement	23.3%	20.8%	12.5%	12.0%	1.7%
Legal problems	20.9%				
Change in another addictive behavior	14.0%				
Major lifestyle change	14.0%	50.0%	37.5%	48.0%	31.0%

Notes:
a. Sobell et al., 1993b
b. Cunningham et al., 1995
c. Cunningham et al., 1994
d. Actual wording in alcohol studies “warning from spouse/other”

Table 3
Actions From Open-ended Interview Questions

Action	No.of People Reporting Action	% of People (n=43)
Stimulus Control/Avoidance	21	49%
New Activities	20	47%
Treatment	12	28%
Cognitive Strategies	11	26%
Social Support	10	23%
Spiritual	5	12%
Will Power/Decision Making	4	9%
Miscellaneous	3	7%
Nothing	3	7%
Limited Access to Money	2	5%
Self Reward	2	5%
Confession to Others	2	5%

Table 4
Maintenance Factors from Open-ended Interview Questions

Factor	No. of people Reporting Factor	% of people (n=43)
New Activities	19	44%
Remembering Negative Aspects/ Anticipating Future Negative Consequences	14	33%
Social Support	13	30%
Treatment	12	28%
Focusing on Improvements in life	8	19%
Cognitive Strategies for Urges	7	16%
Stimulus Control/Avoidance	7	16%
Spiritual	5	12%
Insight into Gambling Behaviors	4	9%
Lack of Finances	4	9%
Focusing on Family Responsibilities	3	7%
Limiting Access to Money	2	5%
Self Reward	1	2%

Table 5
Factors Maintaining the Change - From Checklist

Maintenance factor	Resolved Gamblers (n=43)	Resolved Drinkers[a] (n=120)
Past gambling problems recalled	86.0%	19.2%
Self control/will power	79.0%	64.2%
Financial status change	62.8%	23.3%
Gain respect/ goal commitment	62.8%	8.3%
Sense of accomplishment/ pride	62.8%	20.0%
Recreational/leisure activities change	58.1%	45.0%
Social life activities change	53.5%	47.5%
Family support	46.5%	45.8%
Friends support	41.9%	50.8%
Spouse support	37.2%	66.7%
Change in friends	37.2%	36.7%
GA/Self Help	37.2%	6.7%
Physical health change	32.6%	47.5%
Major lifestyle change	30.2%	35.8%
Religious influence	32.6%	20.0%
Alcohol/drug use change	14.0%	11.7%
Residence change	14.0%	12.5%
Change in jobs	14.0%	16.7%
Smoking habits change	4.7%	12.5%
Change in diet	4.7%	33.3%
Employers support	2.3%	14.2%

Note: a. Sobell et al., 1993a