

Gambling in the Context of Other Recreation Activity: A Quantitative Comparison of Casual and Pathological Student Gamblers

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The motivations for gambling of recreational and pathological student gamblers were described and compared with their motivations for other leisure activities. Students ($n = 996$) at the University of Nevada, Las Vegas completed self-report questionnaires including the South Oaks Gambling Screen and the Recreation Experience Preference scales. Despite statistical differences, pathological gamblers and recreational gamblers shared seven of the top ten ranked motives for gambling.

Gambling has become, over the past decade, an important recreational activity in the United States. In 1975, Nevada was the only state that offered casino gambling, thirteen states had lotteries, and 68% of adults had gambled (Commission on the Review of the National Policy Toward Gambling, 1976). By 1997, all but two states (Hawaii and Utah) had ratified some form of commercial gambling and 86 percent of the North American adult population had participated in games of chance (National Opinion Research Center, 1999). In 1997 consumers in America were spending more than \$50.9 billion gambling. More than one of every ten dollars spent on leisure activities was spent gambling, with more money being spent on gambling than was being spent on tickets to sporting events, movies, theme parks, video games, and recorded music combined (Christiansen, 1998).

Gambling in College Students. The increase in the prevalence of gambling has stimulated a considerable body of research that has examined the rates and motives of pathological gambling. Unfortunately, in this literature little attention has been given to college age populations. For example, of the 120 studies analyzed in Shaffer, Hall, and Vander Bilt's (1997) comprehensive meta-analysis that examined the incidence of problem gambling, most were conducted with adult samples. Only 12% of the studies directly addressed the population of college students. It is important to study gambling in college age populations because there is evidence that college age gamblers are more likely to have problems related to gambling than adults (Frank, 1987, Lesieur, 1988). In addition, most pathological gamblers report beginning gambling during this age (Custer, 1982; Livingston, 1974). Interventions designed to deal with pathological gambling may be most effective when focused on college age populations, i.e., before pathological gambling patterns well established.

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Studies that have examined the incidence of pathological gambling in college students have produced a variety of prevalence estimates. For example, Lesieur, Cross, Frank, Welch, White, Rubenstein, Moseley, and Marie, (1991) gathered data from six campuses in five states including the University of Nevada, Reno (UNR). These authors found an overall pathological gambling rate of 5.5% (3.6% for students at UNR). Similarly, Oster (1992) looked at the gambling behavior of students enrolled in University of Nevada, Las Vegas (UNLV) introductory psychology courses. Eleven percent of students in the sample fell within the "probable pathological" group. Ladouceur, Dubé, and Bujold (1994) determined the prevalence of pathological gambling from three colleges in the Quebec City area of Canada. The rate of occurrence for pathological gambling was 2.8% overall, with males displaying significantly higher rates (5.7%) than females (0.6%).

Although gambling creates a real problem for a minority of college age gamblers, the majority of student gamblers seem to be doing so without major problems. For example, Frank (1988) investigated underage gambling by college students on a campus located near the casinos of Atlantic City. He found that 66% of the students who had gambled were underage, and that the number remained stable over time. Students reported playing with less money than they were carrying, which suggested that most of their gambling was controlled and recreational (cf. Yuan, Yuan & Janes, 1996).

Motives for Gambling. Comparing the motives of college students for gambling with their motives for other recreational activities may help us understand what attracts young adults to gambling. In addition, comparing the motives of pathological college gamblers with the motives of recreational college gamblers may help us understand why some students become pathological gamblers and other students do not. However, most research on gambling motivation has examined the causes of adult pathological gambling and only a few studies have examined motivation for recreational gambling. For example, Cotte (1997) found the following motives for adult recreational gambling: cognitive self-classification, communing, competing, emotional self-classification, learning and evaluating, risk-taking, self-determination, and seeking a "rush". Also, Coyle and Kinney (1990) contrasted compulsive gamblers' motives for gambling with their motives for other recreational activities. Participants reported that risk and sensation seeking were more important for gambling than for other recreational activities. They reported being with family, exercise, and relating to nature as more important for other recreational activities than for gambling (See Jang, Lee, Park, and Stokowski (2000) for another example).

Current Research. This research focused on the motives of college students engaged in recreational and pathological gambling. The first object of this research was to identify the motives for recreational gambling reported by college students. This group has received relatively little attention in the literature. The second objective was to contrast the motives of the recreational gambling group with those of the pathological gambling group. It is important to compare motives for pathological and recreational gambling

to help identify persons at risk. The final objective was to compare these students' motives for gambling with their motives for other recreational activities. Comparing motives for gambling to motives for other recreational activities will help us understand what attracts college students to gambling as opposed to other recreational activities.

Method

Participants

A total of 996 participants was recruited from students enrolled in psychology classes at the University of Nevada, Las Vegas, between April and November 1998. Participation in the study was restricted to students who reported they had gambled. The sample was 53.8% female and 46.2% male, with an average age of 21 years. The percentage of students under the age of 21 in this sample (67.6%) is consistent with that reported in other college studies (66%, Frank, 1988; 56.3%, Oster, 1992; 56.9%, Oster & Knapp, 1994). Sixty-one percent were of European descent, 16.2% were of Asian descent, 7% of African descent, 6.3% Hispanic, 5.4% mixed racial heritage, 0.7% Native American, and 3.3% of students responded to the "other" category".

Procedure

Participants were asked to answer questions in a self-report questionnaire describing their recreation participation, motives for recreation, gambling participation, and motives for gambling. Questionnaire packets included: demographic questions, questions about frequency of recreational and gambling behaviors, the South Oaks Gambling Screen (Lesieur & Bloom, 1987), and the Recreation Experience Preference Scales (Driver, 1983). In an effort to minimize response distortion, before beginning the questionnaires the participants were assured of the confidentiality of their responses. The packets were constructed so that the order of the scales was varied across the participants. Demographic questions included the following: age, gender, major, class standing, grade point average, Nevada residence, length of residence, location of residence (on or off-campus), ethnic or racial background. Participants completed the questionnaires in small groups (three to four persons) in an experimental room located in the psychology laboratory.

South Oaks Gambling Screen. The South Oaks Gambling Screen (SOGS) is a reliable, valid indicator of gambling problems (Lesieur & Blume, 1987; Volberg & Banks, 1990). It has been translated into many languages for use with diverse populations (Abbott & Volberg, 1991; Ladouceur, 1994; Martinez-Pina et al. 1991). The SOGS is scored as follows: range = 1-20 with, 0 = no problem, 1-4 = some problem, and 5 or more = probable pathological gambler (Lesieur & Blume, 1993). The South Oaks Gambling Screen was used to differentiate levels of gamblers for description and comparison. Questions one and two of the SOGS are not scored, but address different

TABLE 1
Gender Differences in Recreational, Problem, and Pathological Gamblers

Gambling Level	Gender	
	Males	Females
Recreational	12.8%	22.3%
Problems	26.6	27.2
Pathological	6.8	4.3

forms of gambling participation. They were modified for use with this sample to reflect local forms of available legalized gambling (Lesieur & Blume, 1993). Categories for gambling participation were adapted from the Las Vegas Convention and Visitors Authority's (1995-96) *Clark County Residents Survey*, which provided an accurate list of local choices. Included were the following locations where gambling is offered in the Las Vegas area: casinos, convenience stores, gas stations, grocery stores, local bars, and restaurants. Also included were the following legal gambling options: slot machines, video poker, other video machines (21, keno, etc.), bingo, blackjack (live table games), poker (live table games), craps, keno (live), and race/sports book betting. The category of "other" was included for those students who primarily bet in less formal settings (e.g. on their golf games, or while playing cards with friends).

Recreation Experience Preference Scales. The Recreational Experience Preference (REP) scales were designed to measure the extent to which specific experiences are desired (their value) and expected from individuals choosing to engage in specific leisure activities (Driver, 1983). Currently, there are nineteen general recreation experience preference "domains" (scales) into which forty-three REP "dimensions" (subscales) are empirically grouped. The REP scale was chosen because the scale is one the most commonly used method to assess recreational motivation. As a result there is an extensive literature that has demonstrated the reliability of the subscales with alphas ranging from .68 to .79 (Driver, 1977, 1983). Also a number of studies have examined the construct validity of the subscales (e.g., Rosenthal, Waldman, & Driver 1982; Tinsley, Driver, & Kass, 1982).

Forty-four items were chosen from 22 subscales of Driver's (1983) REP scales to assess different psychological outcomes desired and expected from participation in gambling and other recreational activities. Subscales were chosen based on previously cited research to reflect twenty-two dimensions relevant to gambling (Table 2). In addition to these established REP dimensions, items were developed and incorporated in the same format to assess the importance of winning. These items were added to both scales evaluating students' favorite recreation and gambling activities. The identical format was used to assess favorite other recreational activities. Students were in-

structured to answer the REP scales referring to their *one* favorite gambling activity and their *one* favorite recreational activity, respectively. Responses were made on a 5-point Likert-type scale ranging from "not at all important" (1) to "extremely important" (5), indicating the degree to which each statement was an important motivation for enjoyable gambling and other recreational experiences. Recreational activities were adapted from the Las Vegas Convention and Visitors Authority's Clark County Residents Survey (1995-96) which provided an comprehensive list of choices available in the greater Las Vegas metropolitan area.

Results

Classification of gamblers. The South Oaks Gambling Screen was used to differentiate levels of gamblers for description and comparison (Cronbach's $\alpha = .80$). Items on the SOGS (Lesieur & Blume, 1987) were summed to produce a composite score for each individual. Individuals were then assigned to groups according to the traditional classification scheme recommended by Lesieur & Blume, 1993, and employed in prior cited research with college students (Lesieur et al, 1991; Oster, 1992). Those students scoring 0 on the SOGS (range 0-20) were classified as recreational gamblers, $N = 349$, 35%. Those scoring from 1-4 were indexed as problem gamblers, $N = 536$, 53.8%. Students scoring 5 and above were grouped as pathological gamblers, $N = 111$, 11.1%. When gender differences in the SOG categories were examined there were significantly more female recreational gamblers than male recreational gamblers, $p < .01$, (Table 1).

Pearson correlations provided additional support for SOGS classifications as higher SOGS scores were associated with higher levels of other gambling indicators. A significant positive association was found between students' scores on the SOGS and the largest amount of money they had gambled in a day ($r = .42$, $p < .01$), the largest amount of money lost in a day ($r = .45$, $p < .01$), and the largest amount of money won in a day ($r = .33$, $p < .01$). There was also a significant but negative association found between students' scores on the SOGS and the amount of time they spent gambling in casinos ($r = -.15$, $p < .01$). No linear relationship was found between students' SOGS scores and their frequency of gambling in restaurants, bars, or stores.

Motives of recreational versus pathological gamblers. Profile analysis was used as a special application of MANOVA to examine the differences between groups of gamblers on the 23 subscales of the REP applied to gambling (Table 2). The grouping variable was students' SOGS classifications as either recreational, problem, or pathological gamblers. Assumptions were met regarding normality of the sampling distribution, linearity, and multicollinearity. Due to a difference in sample sizes between groups of gamblers that would be expected in a normal population, the assumption of homogeneity of variance-covariance matrices was violated. As an alternative to additional data transformation, sample sizes were examined in relation to var-

TABLE 2
REP Motives for Gambling Participation Recreational vs. Pathological Gamblers

Recreational Gamblers	Mean	Pathological Gamblers	Mean
1. Winning	2.97	1. Winning	3.75*
2. Exploration	2.65	2. Excitement	3.46*
3. Excitement	2.53	3. Risk	3.30*
4. Being with friends	2.52	4. Autonomy	3.13*
5. Being with similar people	2.50	5. Independence	3.05*
6. Risk	2.44	6. Escaping daily routine	3.02*
7. Observing other people	2.39	7. Exploration	2.97
8. Autonomy	2.33	8. Being with friends	2.90*
9. Escaping daily routine	2.27	9. Competence testing	2.89*
10. Meeting new people	2.19	10. Control/power	2.88*
11. Reinforces self-image	2.19	11. Skill development	2.86*
12. Independence	2.14	12. Tension releaser	2.82*
13. Competence testing	2.11	13. Physical rest	2.78*
14. Skill development	2.11	14. Being with similar people	2.78
15. Physical rest	2.06	15. Reinforces self-image	2.77*
16. Tension releaser	2.01	16. Slow down mentally	2.77*
17. Control/power	2.00	17. Escaping role overloads	2.70*
18. Slow down mentally	1.99	18. Observing other people	2.60
19. Escaping role overloads	1.98	19. Meeting new people	2.57*
20. General learning	1.94	20. Social recognition	2.56*
21. Social recognition	1.78	21. General learning	2.47*
22. Escaping family	1.76	22. Escaping family	2.38*
23. Introspection	1.70	23. Introspection	2.26*

Note. * indicates pathological gamblers rated the motive as significantly more important than recreational gamblers ($p < .01$)

iances and covariances of cells. Alpha was considered conservative as the larger variances and covariances were associated with larger sample sizes (Tabachnick & Fidell, 1996). To further guard against Type I error, alpha was set at $p < .01$, and Pillai's criterion was used to evaluate multivariate significance (Olson, 1979).

According to Pillai's criterion, the profiles deviated significantly from parallelism ($F(22, 435) = 41.17, p < .01$). Groups of recreational and pathological gamblers did not assign the same pattern of importance to REP motives for a favorable gambling experience.¹ The levels test also found re-

¹The problem gambling group was omitted because it is not well defined in the literature. Lesieur and Blume (1993) the creators of the SOGS suggest their scale may have insufficient sensitivity to detect problem gamblers and caution against using their scale to identify problem gamblers. If the problem gambler group contains characteristics of both the recreational and pathological gamblers it would be difficult to identify unique motivational patterns. In order to avoid this problem we compared the two well defined groups (recreational and pathological gamblers).

liable differences between these groups when scores were averaged over the 23 REP motives for gambling ($F(1, 456) = 204.22, p < .01$). Because the assumption of equal variance was not met, Dunnett's C tests were used to examine the differences between groups of gamblers with regard to ratings of importance assigned to the 23 REP motives for gambling. Pathological gamblers rated 20 REP motives for gambling as significantly more important than recreational gamblers did for the enjoyment of their gambling experiences (Table 2). In addition, Table 2 illustrates the rank order of importance for REP gambling motives both within and between these groups.

Recreational and pathological gamblers REP motives for gambling versus other recreational activities. Profile analyses of repeated measures were used to compare groups of gamblers' motives for participating in their favorite gambling activities with their motives for participating in their favorite other recreational activities. To describe student recreational gamblers' ($N = 349$) motives for participation in gambling and other recreational activities, items from Driver's (1983) REP scales were averaged to produce a composite score for each individual on each of the twenty-three motives respectively. Composite scores on each motive were then computed for the recreational gamblers as a group. Group means were rank-ordered from largest to smallest to reflect the relative order of importance of each motive within the group for each activity (Table 3).

Using Wilk's criterion, recreational gamblers' motives for gambling and other recreational activities differed significantly from parallelism ($F(22, 325) = 50.68, p < .01$). The levels test found reliable differences between gambling and other recreational activities when scores were averaged over the 23 REP motives ($F(1,346) = 296.45, p < .01$). Within the group of recreational gamblers, significantly lower mean scores of importance were assigned to gambling rather than their other recreational activities, with the exception of winning. Table 3 illustrates the rank order of importance for REP gambling and other recreation motives for the recreational group.

In turn, pathological gamblers' motives for gambling and other recreational activities differed significantly from parallelism according to Wilk's criterion ($F(22,89) = 11.85, p < .01$). The levels test found reliable differences between gambling and other recreational activities when scores were averaged over the 23 REP motives ($F(1,110) = 66.78, p < .01$). Within the group of pathological gamblers, significantly lower mean scores of importance were assigned to gambling rather than to other recreational activities, with the exceptions of winning and risk. Table 4 illustrates the rank order of importance for REP gambling and other recreation motives for the pathological group.

Other analyses. Dunnett's C tests were used following multivariate analysis to examine the differences between groups of gamblers with regard to ratings of importance assigned to the 23 REP motives for gambling. Although the purpose of this paper did not extend to the differences between problem and pathological gamblers, several significant differences were found and may serve as the impetus for further research. Pathological gamblers ranked the importance of the following 14 REP motives for gambling significantly

TABLE 3
Recreational Gamblers Motives for Favorite Recreational and Gambling Activities

Motives for Gambling	Mean	Motives for Recreational Activities	Mean
1. Winning	2.97	1. Being with similar people	3.81
2. Exploration	2.65	2. Exploration	3.54
3. Excitement	2.53	3. Escaping role overloads	3.49
4. Being with friends	2.52	4. Tension releaser	3.47
5. Being with similar people	2.50	5. Being with friends	3.43
6. Risk	2.44	6. Excitement	3.34
7. Observing other people	2.39	7. Slow down mentally	3.30
8. Autonomy	2.33	8. Skill development	3.14
9. Escaping daily routine	2.27	9. Escaping daily routine	3.11
10. Meeting new people	2.19	10. Meeting new people	3.08
11. Reinforcing self-image	2.19	11. Reinforcing self-image	3.06
12. Independence	2.14	12. Competence testing	3.04
13. Competence testing	2.11	13. Autonomy	3.03
14. Skill development	2.11	14. Observing other people	2.98
15. Physical rest	2.06	15. General learning	2.85
16. Tension releaser	2.01	16. Independence	2.80
17. Control/power	2.00	17. Control/power	2.71
18. Slow down mentally	1.99	18. Physical rest	2.68
19. Escaping role overloads	1.98	19. Winning	2.62
20. General learning	1.94	20. Escaping family	2.53
21. Social recognition	1.78	21. Social recognition	2.47
22. Escaping family	1.76	22. Risk	2.44
23. Introspection	1.70	23. Introspection	2.36

higher than problem gamblers ($p < .01$): autonomy, competence testing, control-power, escaping daily routine, escaping family, escaping role overloads, excitement, independence, physical rest, releasing tension, risk taking, slowing down mentally, social recognition, and winning. Problem gamblers ranked the importance of ALL 23 REP motives for gambling higher than recreational gamblers ($p < .01$).

Significant differences of importance assigned to the REP motives for participation in favorite other recreational activities were also found between the pathological gamblers and other groups. Pathological gamblers ranked the REP motives of winning and social recognition as more important to their enjoyment of their favorite recreational activities than did both problem and recreational gamblers ($p < .01$). Pathological gamblers also ranked the following REP motives as significantly more important than recreational gamblers with regard to their other favorite recreational activities ($p < .01$): control/power, excitement, and risk.

Discussion

This research focused on the motives of college students classified as recreational and pathological gamblers. The first objective of this research

TABLE 4
Pathological Gamblers Motives for Favorite Recreational and Gambling Activities

Motives for Gambling	Mean	Motives for Recreational Activities	Mean
1. Winning	3.75	1. Excitement	3.82
2. Excitement	3.46	2. Being with similar people	3.68
3. Risk	3.30	3. Tension releaser	3.63
4. Autonomy	3.13	4. Being with friends	3.61
5. Independence	3.05	5. Escaping role overloads	3.57
6. Escaping daily routine	3.02	6. Winning	3.56
7. Exploration	2.97	7. Slow down mentally	3.55
8. Being with friends	2.90	8. Exploration	3.50
9. Competence testing	2.89	9. Autonomy	3.45
10. Control/power	2.88	10. Skill development	3.40
11. Skill development	2.86	11. Reinforces self-image	3.39
12. Tension releaser	2.82	12. Competence testing	3.60
13. Physical rest	2.78	13. Escaping daily routine	3.32
14. Being with similar people	2.78	14. Control/power	3.28
15. Reinforces self-image	2.77	15. Independence	3.25
16. Slow down mentally	2.77	16. Meeting new people	3.23
17. Escaping role overloads	2.70	17. Physical rest	3.09
18. Observing other people	2.60	18. Social recognition	3.08
19. Meeting new people	2.57	19. Risk	3.05
20. Social recognition	2.56	20. General learning	3.04
21. General learning	2.47	21. Observing other people	3.03
22. Escaping family	2.38	22. Introspection	2.76
23. Introspection	2.26	23. Escaping family	2.67

was to identify the motives of recreational gambling reported by college students. The second objective was to contrast the motives of the recreational gambling group with those of the pathological gambling group. The final objective was to compare these students' motives for gambling with their motives for other recreational activities.

Classification of gamblers. The overall prevalence rate for pathological gambling reported in this study (11.1%) may appear to be higher than the rates published in other studies employing the SOGS. In the literature pathological gambling rates range between 2.8% (Ladouceur et al., 1994) and 11.2% (Oster and Knapp, 1994). However, in a recent meta-analysis Shaffer et al. (1997) reported the prevalence rate for pathological gambling among college students to range between 4.67 and 6.56%. One explanation for the higher rate found in the present study, may be that the Las Vegas metropolitan area provides more exposure to gambling opportunities than are provided in most other cities. Another explanation for the discrepancy between the rate found by Shaffer et al. (1997) and the rate found in the present study may be in the different ways prevalence rates can be calculated. One method provides a conservative estimate of pathological gambling prevalence because it divides the number of pathological gamblers in the sample

by the total number of participants in the sample (including those who have never gambled). A second method provides a more liberal estimate of pathological gambling as it divides the number of pathological gamblers in the sample by the number participants in the sample who *have* actually gambled. Because participation in this study was limited to those students who had actually gambled, the second and more liberal method was used to compute the prevalence rate of pathological gambling. The prevalence rate for pathological gambling reported in this study would drop if nongamblers had been included.

REP motives for recreational gambling. Recreational gamblers' REP motives for gambling found in this study were consistent with the characteristics of recreational gambling detailed by Cotte's (1997) observational research. For example, competing (winning), communing (being with friends, similar people), risk-taking (risk), seeking a rush (excitement), and self-definition (reinforcing self-image) all occurred within the top ten ranked motives of the recreational gamblers in this study. Support was also found for the motives of learning/evaluating (competence testing, skill development, and general learning), and cognitive self-classification (social recognition), but with less assigned importance.

The REP motives reported by gamblers in this study also fit Campbell's (1975) theory of gamblers as "action-adventurers" seeking adventure and excitement in their play. Exploration and excitement were ranked second and third respectively by the recreational gamblers in this study. Campbell also observed that people played to escape from the normal demands of their lives and it provided them with an opportunity to make decisions and experience control. These attributes were also found in this study, but ranked higher by the pathological gamblers than the recreational gamblers: escaping daily routine (6/9), autonomy (4/8), control/power (10/17).

REP motives for recreational versus pathological gambling. The pathological gambling group was more motivated to gamble than the recreational gambling group with regard to REP motives for gambling. For example, both groups listed the following seven motives within their top ten motives for gambling: autonomy, being with friends, escaping daily routine, excitement, exploration, risk, and winning, but the pathological group assigned higher mean values of importance to these attributes. It appears that motives of different groups of gamblers were not so dissimilar in and of themselves. The differences appeared in that pathological gamblers believed that these motives were more important in their enjoyment of gambling than recreational gamblers.

Although a statistical significance was found between groups for the motive of winning which was added for this study to the established REP motives, there was no practical difference as all groups ranked winning as their number one motive for a favorable gambling experience. Ironically, although students expressed winning as their most important REP motive for enjoyment of gambling, 81% chose entertainment as opposed to winning

(14.1%) when a separate question directly asked their primary reason for gambling. It seems that winning is the primary motive for students' "favorable" gambling experiences, but relatively few of them gamble expecting to win.

REP motives for gambling versus other recreational activities. When the motives for gambling were compared with motives for other recreational activities a couple of important findings emerged. First, recreational student gamblers had similar motives for engaging in gambling and other recreational activities. For recreational gamblers exploration, being with friends, and being with similar people were all in the top five motives for both recreational and gambling activity. However, pathological gamblers had dissimilar motives for engaging in recreational and gambling activities. For pathological gamblers only the motive of excitement was rated in the top five motives for both recreational and gambling activity (cf. Croyle & Kinney, 1990). Second, students in this study assigned more importance to motives for other recreational activities than to motives for gambling activities. This finding held for both recreational and pathological gamblers. Simply put, although gambling can be a highly motivating recreational activity, it does not appear to be the most highly motivating recreational activity for either pathological or recreational gamblers.

The findings of the study may have important implications for the identification and treatment of pathological student gamblers. The similarity between the motives of recreational and pathological gamblers, suggests that it may be difficult to identify which students are at risk for becoming pathological gamblers by simply examining their motivations for gambling, i.e., both recreational and pathological gamblers have similar motivations for gambling. Instead, when identifying potential pathological gamblers, it may be more useful to compare their motives for gambling to their motives for other recreational activities. That is, recreational gamblers have similar motives for both gambling and other recreational activities, where as, pathological gamblers have dissimilar motives. Also, the finding that student pathological gamblers find other recreational activities more motivating than gambling is reason for optimism. Perhaps interventions that emphasize the importance of these other activities will be most successful with pathological student gamblers.

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