

Problem and Pathological Gambling Among College Athletes

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Background. Problematic gambling is common in college students, and in particular, athletes.

Methods. The frequency of problem and pathological gambling was determined among 636 college athletes at three Midwest universities using the South Oaks Gambling Screen (SOGS). The Gambling Attitude Scale (GAS) was used to assess college athletes' attitudes toward gambling in general and toward four modes of gambling (casinos, betting on horse races, lottery and the Internet). A profile of college athletes' gambling attitudes and behavior was developed through the data obtained from each of these instruments.

Results. Nearly 15% of respondents had a SOGS score ≥ 3 , indicating problem or pathological gambling. Those at risk for a gambling problem gambled frequently, had family and/or friends with perceived gambling problems, were nonwhite, older, started gambling at a younger age, preferred games of skill, and held positive attitudes toward gambling in general and Internet gambling, in particular.

Conclusions. Gambling problems are widespread among college athletes who constitute a vulnerable group. Specific interventions are needed to target this group.

Keywords Gambling, College student athlete, Gambling attitudes, Problem gambling, Pathological gambling

Because there are more opportunities to gamble, more people gamble today than in the past (1). As opportunities to gamble have increased, so too have the problems associated with excessive or compulsive gambling. Excessive and problem gambling behaviors are increasing on college campuses. College students and college student athletes who gamble are at risk for developing financial and emotional problems as a result. This study identifies a profile of college student athletes who are at the most risk.

The Commission on the Review of the National Policy toward Gambling (2) estimated that 3.1% of the national sample could be probable or potential compulsive gamblers. A recent meta-analysis by Shaffer and colleagues regarding prevalence in the United States and Canada estimated the prevalence of probable problem and pathological gamblers to be 5.4% of adults (1). A problem gambler is defined by a score of 3 or 4 on the South Oaks Gambling Screen (SOGS). A pathological gambler is defined as a person who scored ≥ 5 (3).

College students—particularly college athletes—appear to be among the most vulnerable age groups. Lesieur and colleagues

(3) used the South Oaks Gambling Screen (SOGS) to survey 1,771 college students from six colleges and universities in five states. These investigators found that 85% of the students had gambled at some point in their lifetimes; 44% had gambled with \$10 or more in one day and 12% had gambled with \$100 or more in one day. The 5-state mean prevalence rate for problem and pathological gambling (that is, the proportion of students who scored 3 or more on the SOGS) was 20.5% (3). A study by Winters and associates (4) using the SOGS to gauge the prevalence of problem and pathological gambling in college students at two universities yielded somewhat lower rates. Table 1 shows prevalence of problem and pathological gambling in several studies.

Two of the studies mentioned in Table 1 specifically examined college athletes. Bourn (5) found that the rate of problem gambling for the athletes (3.6%) was almost identical to the rate of problem gambling among all college students (3.9%); yet, the rate of pathological gambling among the athletes in his sample was significantly higher among the athletes than the others (7.8% versus 4.9%). Bourn (5) also found college student-athletes were three times more likely to experience pathological gambling than nonathletes and former athletes.

Rockey (6) reported that the athletes in his study (in comparison to all students) had higher rates of both problem and

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Table 1 A Comparison of Lifetime Prevalence of Problem and Pathological Gambling in Studies of College Students and Athletes Using the SOGS

Author & Year	College Student or Athlete	Problem Gambling	Pathological Gambling	Problem and Pathological Gambling Combined	N
Lesieur, 1991	Student	15.0%	5.5%	20.5%	1771
Winters, 1998	Student	4.5%	2.9%	7.4%	1361
Bourn, 1998	Student	3.9%	4.9%	8.8%	432
	Athlete	3.6%	7.8%	11.4%	196
Rockey, 1998	Student	7.3%	3.8%	11.1%	954
	Athlete	12.4%	6.2%	18.6%	128
Current Study	Athlete	5.2%	9.4%	14.6%	620

pathological gambling. Of the athletes surveyed, 12.4% scored in the problem range (compared to 7.3% of all students) and 6.2% scored in the pathological range. Again, differences were greater when athletes were compared to nonathletes; the former were twice as likely as the latter to score in the pathological range.

Curry and colleagues (7) surveyed 492 athletes at three Midwestern colleges, and concluded that gamblers and athletes are driven by two common motivations: competition and extrinsic rewards. Competition, which is also a motive for some types of gambling, is a key component of the athlete's socialization. He or she is expected to compete against teammates for position and against opponents for victory (7). For the athlete, gambling may be another opportunity to attain status by demonstrating greater skill, knowledge, or courage. Extrinsic rewards constitute another overlapping motive between gambling and athletics. Curry and Jobu (7) further suggest that athletes are more prone than other students to gain satisfaction from extrinsic rewards such as scholarships, fame, awards, money and careers. Extrinsic rewards are also important to gamblers, who are, after all, motivated by the opportunity to win money.

The purpose of this research was to examine attitudes toward gambling among college athletes at three Midwest universities, and to determine the prevalence of problem and pathological gambling in this sample. The author hypothesized that demographic and behavioral variables place some college athletes at a greater risk for developing pathological gambling.

METHODS

Institutional Review Board approval was obtained from all three Midwest universities. One university reviewed and approved the proposal and informed consent document (ICD) and the other two schools offered reciprocal approval. In conducting the research, the athletic departments at each of the three universities notified athletes who were members of intercollegiate sports teams of a mandatory class or meeting. An effort was made to schedule the meeting when most athletes were likely to attend. Scheduling was a challenge because these universities offer many different sports for men and women so competition, training, practice and class interfered

with the meeting for some students. The students who did not attend were not contacted to find out why.

Athletic directors reported approximately 1170 athletes to be team members at the three schools. A total of 636 athletes attended the class or meetings at the three universities designated for the study; 182 at college A, 255 at college B, 199 at college C. The ICD was read to the athletes who attended the meeting. Each student received a copy of the ICD with the research instruments. Students were offered the opportunity to participate, refuse or skip items. No compensation was available.

Both the SOGS and the GAS were administered to the students. The SOGS (8,9) elicits information on the extent to which respondents have participated—at any point in their lives—in 14 specific types of gambling activities; a question about Internet gambling was added. The SOGS also gauges the probability that the respondent may be a problem or pathological gambler, based on responses to 20 specific questions, which are correlated with the diagnostic criteria for pathological gambling found in the DSM-IV (10). Finally, the SOGS includes additional items that provide insight into the respondent's association with gambling. These include questions concerning the largest amount of money gambled on any one day; whether or not family members or significant acquaintances have had a gambling problem; whether or not the respondent has had credit lines with bookies or casinos and the amount of money owed as a result of gambling. An additional question was added which asked the age at which the respondent first gambled.

The GAS assesses one's attitude toward gambling in general, as well as specific types of gambling (e.g., casino, horse track, lottery and the Internet). Kassino (11) reported subscale test-retest reliability coefficients of .83, .62, .85, and .85 for the above 4 scales, respectively. An Internet gambling scale was added to the GAS for the purpose of this study. There are 9 items for each of five types of gambling and 21 statements seeking a respondent's political view along a liberal-conservative continuum such as "All Americans are entitled to government sponsored free or low cost health care" and "I think gay and lesbian marriages are a bad idea." Two statements are risk-related statements: "I am a thrill seeker" and "I like to take risks." Finally, questions about gender; ethnicity; college class (freshman, sophomore, etc.); membership in a fraternity or sorority; and current grade point average were added.

Responses to this questionnaire were used to sort the students on seven scales. Five scales relate to the extent to which respondents have positive attitudes toward gambling in general and toward specific types of gambling: casino gambling, betting on the horses, engaging in state lotteries and the Internet. One scale assesses the respondent's liberal-conservative views and the remaining assessed desire to take risks. Scores for each item range from 1 to 6 with 6 indicating the most positive attitude and 1 the least. Mean values for each scale determine the GAS scores.

RESULTS

A total of 636 surveys were distributed and returned—620 persons completed the SOGS and 556 completed at least one of the GAS scales; 363 (57%) were men and 273 (43%) were women. Respondents ranged in age from 18–27 years with a mean age of 20 ($SD = 1.4$). In terms of race, 79% were white, 16% were black, and 6% had other ethnic backgrounds. Nearly 97% were single, 184 (29%) were freshman, 156 (25%) were sophomores, 182 (29%) were juniors and 114 (18%) were seniors. The mean grade point average (GPA) was 3.0 ($SD = 0.5$); and 6% were fraternity or sorority members.

The extent of participation in each form of gambling assessed with the SOGS is shown in Table 2. These results indicate that, to the extent that athletes gamble, they are most likely to engage in games of skill such as betting on golf, bowling or playing cards for money.

While nearly one-quarter (24.1%) of the college athletes claimed never to have gambled, SOGS scores indicate that 15% have either problem or pathological gambling. More than one in five of the male respondents (21%) had SOGS scores ≥ 3 , while only 5.2% of the women did. Of respondents who scored in the probable problem or pathological range, all but one started gambling between the ages of 6 and 18. Additional information collected on the SOGS suggests that about one-

Table 2 Percent of Athletes' Participation in Type of Gambling Listed on SOGS (N = 620)

Type of Gambling	No.	Percent
Play pool, bowled or golfed for money	292	48
Play cards for money	268	44
Bet on the lotteries	259	42
Play slot machines, video poker, or other gambling machines	244	38
Gamble at a casino	213	35
Play dice games	189	31
Play bingo for money	173	28
Bet on sports	133	22
Play the stock or commodities market	132	22
Paper games other than lottery	125	20
Bet on horses, dogs or other animals	112	18
Gamble on the Internet	60	10
Other forms of gambling	42	8

Table 3 College Athletes' Responses to the GAS

Scales	Mean	Standard Deviation	Reliability
General	3.5	1.18	.88
Casino	4.1	1.05	.81
Horse race	3.0	1.10	.86
Lotto	3.9	.88	.72
Internet	2.3	1.17	.80
Liberal-Conservative	3.6	.70	.76
Risk-taking	4.2	1.33	.75

third of the respondents who had engaged in some form of gambling indicated that they had gambled more than they had intended.

Positive attitudes were generated toward casino (4.1) and lottery (3.9) forms of gambling. Negative attitudes were shown in horse racing (3.0) and Internet (2.3). Table 3 provides the mean and standard deviation for the various GAS as well as the "liberal-conservative" and risk-taking scales. Liberal-conservative scores averaged 3.6 indicating a neutral response. Risk-taking scores were the highest for this population with a mean of 4.2. (a score of 4 signifies "mildly agree.") Internal consistency estimates of reliability were computed for the various scales of the GAS. The values for coefficient alpha indicate satisfactory reliability for all scales (see Table 3).

A multiple regression analysis was conducted to predict the total SOGS score from six variable sets (see Table 4). The SOGS total was the dependent variable. The independent variables were grouped as follows: Set 1—demographic information (age, gender, marital status and ethnicity); Set 2—college related factors (year in school, grade point average, and membership in a fraternity or sorority); Set 3—number of family members and friends with gambling problems; Set 4—age at which the student first gambled; Set 5—attitudes toward various modes of gambling, liberal or conservative leaning and tendency toward risk-taking behavior (as measured on the GAS); and Set 6—frequency of gambling behavior.

The general conclusions of the overall analysis are that several variables predicted problem gambling behaviors as indicated by SOGS scores and that these predictions hold after controlling for the effects of all other variables in the set. The variables that predict gambling problems or higher SOGS scores are: frequency of gambling behavior; number of family members or friends with gambling problems; race (i.e., being a minority group member); and age (that is, being older rather than younger).

DISCUSSION

Nearly one in six college athletes who participated in the study had either problem or pathological gambling, figures considerably higher than what is seen in the general adult population. Clearly, college athletes are an especially vulnerable

Table 4 Multiple Regression Analysis of Variables with SOGS Total

Independent Variables	Set 1 Sig.	Set 2 Sig.	Set 3 Sig.	Set 4 Sig.	Set 5 Sig.	Set 6 Sig.
Age	.103	.029*	.031*	.011*	.008**	.046*
Gender	.002**	.018*	.014*	.145	.867	.510
Race	.071	.183	.172	.331	.190	.044*
Marital status	.055	.113	.342	.284	.170	.155
Year in school		.098	.105	.292	.175	.246
College GPA		.139	.354	.417	.553	.274
Fraternity/sorority		.034*	.025*	.056	.037*	.160
Family members and/or friend with gambling problems			.000***	.000***	.000***	.008**
Age first gambled				.000***	.003**	.065
Liberal/conservative					.964	.750
Risk taking					.7857	.822
GAS – General					.002**	.052
GAS – Casino					.346	.201
GAS – Horse					.835	.859
GAS – Lotto					.865	.660
GAS – Internet					.026*	.234
Sum of Gambling						.000**
Frequency Adjusted R2	.076	.100	.201	.240	.353	.451

Note. Dependent Variable: South Oaks Gambling Screen Score.

* $p < .05$ ** $p < .01$ *** $p < .001$.

population prone to developing a gambling disorder. Of two recent studies addressing prevalence among college athletes, Bourne (5) reported lower figures and Rockey (6) slightly higher figures.

There was no association between grade point average and SOGS scores. This finding is consistent with those of Rockey (6), who hypothesized that athletes' grades are monitored closely and that support is available for athletes whose grades threaten eligibility for competition. He hypothesized that given this close monitoring, athletes with gambling problems that affect academic performance (and hence eligibility) are assisted before grades suffer. There was a significant finding relating student age to higher SOGS scores; that is SOGS score increased with advancing age. Lesieur and colleagues (3) in a study of college students also found that age was positively correlated with pathological gambling. One possible explanation is that frequency of problem gambling behaviors in these students could be related to increased exposure to gambling. Rockey (6), in his sample of college students (nonathletes), found a significant association between age and problem and pathological gambling, but he did not find the same correlation in college athletes.

Rockey (6), also examined and analyzed the correlation between problem and pathological gambling and membership in a fraternity or sorority. Athletes who were members of a fraternity or sorority were found to have higher rates of pathological and problem gambling. The regression analysis for this study indicated that membership in a fraternity significantly predicted an increased SOGS score in Sets 2, 3 and 5 (see Table 4). However, membership in a fraternity was no longer significant

when the variable "frequency of gambling" was added to the regression analysis in Set 6.

Several limitations merit discussion. First, the data were obtained by self-report. While the SOGS has been validated against alternate measures, few researchers have included independent criterion measures not based on self-report. Second, this study's focus on college students at three midwestern universities should not be considered representative of college students in general. Third, this study assessed lifetime, not current SOGS data. While this represents the more common use of this instrument, results do not necessarily represent current gambling behavior. Finally, participation in the study was limited to meeting attendance. While 97.5% (620 of 636) of the college athletes who attended the meetings participated in the study, only 54% of the total number of athletes attended the meetings.

CONCLUSIONS

More work is needed to better identify and understand college athletes at high risk for problem gambling. Specifically, methods need to be developed to enhance education about the hazards of gambling for college athletes. Development of an early detection program for at-risk athletes could help prevent problems for the individual in the future.

While this study focused on college athletes, gambling has become a university wide problem. As cited by Lesieur (3), Bourn (5), and Rockey (6), college students have from two to three times the risk of noncollege students for more problem and pathological gambling. Ackerman and Piper (12) have

warned universities to expect an increase in gambling-related problems. Thus, research to identify the extent of university involvement in educating and treating problem and pathological gambling is needed.

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