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Gambling by college athletes: An association between problem gambling and athletes

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Abstract

This investigation compares the prevalence rates of pathological and problem gambling between college athletes and non-athletes. Participants in the study included 954 students enrolled in health and safety classes from nine universities belonging to the Southeastern Conference (SEC). Of these students, 129 (14%) were classified as athletes. The South Oaks Gambling Screen (SOGS), designed to measure pathological gambling, was used as the testing instrument. Participants were asked additional questions to determine athletic participation and to gather demographic information. Cross tabulations, Pearson chi-square tests and Cramer's V tests were used to determine if there were significant associations between groups. On the whole, significant associations were not found between athletes and non-athletes and pathological and problem gambling; however, a statistically significant association was found between problem gambling and female athletes. The prevalence rates of pathological and problem gambling among athletes were 6.2% and 6.2%, while the prevalence rates among non-athletes were 3.4% and 3.3%.

Key words: college students, athletes, gambling

Introduction

Pathological gambling is a condition that affects many Americans and is a concern of psychology professionals. According to the American Psychiatric Association (1994, p. 615), pathological gambling is a persistent and recurrent maladaptive gambling behavior that disrupts personal, family and vocational pursuits. Problem gambling is more encompassing than pathological gambling because it includes all patterns of gambling behavior that may compromise, disrupt or damage family, personal or vocational pursuits (Lesieur & Rosenthal, 1991). Research (Culleton, 1985; Shaffer, Hall & Vander Bilt, 1999, Sommers, 1988; Volberg & Steadman, 1988, 1989) has suggested that the prevalence rates of "probable pathological gamblers" in the United States are between 1.4% and 3.4%.

While pathological gambling can infiltrate all segments of society, research suggests that college students are particularly susceptible to the risks and effects of pathological gambling. The rate of pathological gambling among college students is four to eight times higher than the rate of adults not currently enrolled in college (Lesieur, et al., 1991). Similarly, Frank (1990) reported prevalence rates of pathological gambling among college students attending a college in New Jersey to be 6%. Ladouceur, Dubé and Bujold (1994) found the prevalence rates of pathological gambling among college students in Quebec City to be 2.8%

A subsegment of the college student population is college athletes. Despite strict rules created by the National Collegiate Athletic Association (NCAA) prohibiting college athletes from gambling, popular media suggest that college athletes still gamble. Although the media draw attention to the cases of college athlete gambling, few studies have been conducted to research the gambling participation rates of athletes. Weiss (1995) discovered that athletes are more likely than non-athletes to exhibit maladaptive behaviors, including gambling. In another study conducted at the University of Cincinnati, Cullen and Latessa (1996) reported that 25% of the 648 football and basketball players surveyed in Division I gambled on sporting events. One recent study (Cross, 1999) found that nearly 72% of all athletes gambled in some manner during their four years of college eligibility.

The primary purpose of this study is to compare the prevalence rates of pathological and problem gambling between college athletes and the general student body (non-athletes), using the South Oaks Gambling Screen (SOGS). While previous research has not examined this issue, researchers posited that the rates for athletes would be higher than the rates for non-athletes.

Participants

The data for this investigation were obtained from non-athletes and athletes who attended universities that are members of the Southeastern Conference (SEC) of the NCAA. A sample of convenience was drawn from first aid or health and safety classes during the Spring 1998 semester. These particular classes were chosen because many universities offer them, a diversity of students participate in them and they typically have large enrollments.

Nine hundred and fifty four non-athletes and athletes representing nine of the 12 universities belonging to the SEC volunteered to participate in the study. Based upon estimates of college enrollments and athletic participation rates, provided by the SEC office (Pigg, L., personal communication, March 15, 1999), 8.7% (n= 24,000) of college students attending all 12 SEC institutions are classified as athletes. For this study, an "athlete" was defined as any participant who at the time of the study was a member of a varsity intercollegiate athletic team. Approximately 13.5% (n= 129) of the respondents were athletes. Since the survey was administered during class time, the participation rate was very high (95%).

The sample consisted of 129 athletes. Almost 57% (n= 69) of the athletes were males and 74% (n= 89) of the athletes were between 19 and 21. Seventy-three percent (n= 88) of the athletes were white, 20% (n= 24) African-American, 3.3% (n= 4) other, 2.5% (n= 3) Hispanic, 0.8% (n= 1) Asian and 0% Native American.

Of the 825 participants who were classified as non-athletes, 32% (n= 256) were males and 67% (n= 545) were between 19 and 21. Eighty-two percent (n= 662) of the non-athletes were white, 11.3% (n= 91) African-American, 2.7% (n= 22) Hispanic, 2.9% (n= 23) Asian, 0.5% (n= 4) other and 0.2% (n= 2) Native American.

Instrumentation

The South Oaks Gambling Screen, the most widely used instrument to measure pathological gambling, was administered to each participant. This diagnostic tool is based on the seven criteria for pathological gambling as proposed by the DSM-III-R and has been found to be both reliable and valid (Lesieur & Blume, 1987). A score of five or higher on the 20-item index represents pathological gambling. Previous research (Abbott & Volberg, 1996) suggests that a score of three or four indicates that the individual has problem gambling tendencies; therefore, any student scoring three or four was classified as a problem gambler.

Procedure

Researchers mailed the surveys to a contact person at each participating university. The contact person administered the testing instruments during class time in hopes of securing a high return rate of usable surveys. In addition, to help ensure truthful responses, subject anonymity was assured by requiring that subject names did not appear on the surveys and surveys were coded to indicate only university affiliation. After all classes participated in the study, the contact person mailed the surveys back to the researchers. When the surveys were received, they were hand-scored and then analyzed.

Data analysis

Frequency rates and cross tabulations were calculated to allow the researchers to establish prevalence rates of gambling for the different subcategories of participants. Pearson chi-square tests were performed to determine if relationships existed between the variables. For any Pearson chi-square tests that were found to be significant ($p < 0.05$), Cramer's V tests were calculated to measure the strength of these relationships. By using Cramer's V tests, the researchers were able to measure the degree of association between variables.

Results

Eighty-one percent (n= 104) of the athletes and 81.3% (n= 670) of the non-athletes surveyed reported that they gambled. In total, 4% (n= 36) of the 954 participants were found to exhibit signs of pathological gambling (Table 1). Approximately 6% (n= 8) of the 129 athletes surveyed scored five or higher on the SOGS, while 3.4% (n= 28) of the 824 non-athletes scored five or higher. Overall, 3.7% (n= 35) of the 954 participants were found to exhibit signs of problem gambling. Approximately 6.2% (n= 8) of the 129 athletes surveyed scored three or four on the SOGS, while 3.3% (n= 27) of the 824 non-athletes scored three or four. In addition, male athletes were found to have a higher

prevalence rate of pathological gambling, 11.6% (n= 8) compared to male non-athletes at 6.6% (n= 17). On the other hand, male non-athletes had a higher prevalence rate of problem gambling than male athletes, 8.2% (n= 21) and 5.8% (n= 4), respectively. While more female non-athletes exhibited signs of pathological gambling (1.5% and 0.0%), the prevalence rates of problem gambling were higher in female athletes, 1.1% (n= 6) and 5.7% (n= 3), respectively.

Table 1

Summary of Athlete and Non-Athlete Rates of Pathological and Problem Gambling (%)*

Athletic Status	n=	Pathological %	n=	Problem %	n=
All participants	954	3.8	36	3.7	35
Athlete	129	6.2	8	6.2	8
Non-athletes	824	3.4	28	3.3	27
Males	325	7.7	25	7.7	25
Male non-athletes	256	6.6	17	8.2	21
Male athletes	69	11.6	8	5.8	4
Females	603	1.3	8	1.5	9
Female non-athletes	550	1.5	8	1.1	6
Female athletes	53	0.0	0	5.7	3

*The discrepancies in the population numbers are due to incomplete participant responses. One person failed to answer the athletic participation question. Twenty-six people failed to answer the gender question.

Significant associations were not found between pathological and problem gambling and athletic participation (x^2= 2.41, df= 1, p= 0.12 and x^2= 2.96, df= 1, p= 0.09). While the scores on the SOGS ranged from 0 to 14, the mean score for non-athletes on the SOGS was 0.60 (95% CI: 0.50-0.70), while the mean score for athletes was 1.01 (95% CI: 0.63-1.39). In addition, the mean score for those individuals who were classified as pathological gamblers was 7.11.

When the data were adjusted for gender differences, the researchers found only one statistically significant association between athletic participation, gender and gambling: female athletes and problem gambling (x^2= 6.71, df= 1, p= 0.01 and Cramer's V= 0.11, n= 595, p< 0.05). Significant associations were not found between female athletes and pathological gambling (x^2= 0.04, df= 1, p= 0.38). Additionally, significant associations were not found between male athletes and non-athletes and pathological (x^2= 1.88, df= 1, p= 0.17) and problem gambling (x^2= 0.32, df= 1, p= 0.57).

Slot machines, poker machines and lotteries were the most common forms of gambling used by participants in the survey. Forty-nine percent (n= 465) of the total sample responded that they participated in these types of activities (Table 2). Athletes most commonly participated in games of skill, such as golf, bowling or billiards, and 51.9% (n= 67) of them responded that they participated in the same kind of gambling. Forty-nine percent (n= 403) of the non-athletes participated in lotteries, which was the most common gambling activity for this group. Statistically significant associations were found between athletes who played cards (x^2= 6.24, df= 2, p= 0.04 and Cramer's V= 0.08, n=953, p= 0.04), dice (x^2= 22.54, df= 2, p= 0.00 and Cramer's V= 0.15, n= 953, p= 0.00), slot machines and poker machines (x^2= 10.14, df= 2, p= 0.01 and Cramer's V= 0.10, n= 953, p= 0.01), games of skill (x^2= 19.21, df= 2, p= 0.00 and Cramer's V= 0.14, n= 953, p= 0.00) and pull tabs and paper games (x^2= 19.21, df= 2, p= 0.00 and Cramer's V= 0.14, n= 953, p= 0.00).

Table 2

Summary of the Gambling Preferences of Participants (%)*

Type of Gambling	Non-Athletes n= 824	Athlete n= 129	MalAt n= 69	FemAt n= 53	MalNA n= 255	FemNA n= 550	Overall n= 953
Numbers/ lotteries	48.9	48.1	50.7	43.1	49.4	48.6	48.8
Slot/poker machines	48.7	49.6	49.3	52.8	53.5	46.0	48.8
Cards	39.2	49.6	66.7	28.3	62.5	27.9	40.6
Casino	37.0	39.5	40.5	37.7	45.1	32.5	37.4
Games of skill**	33.1	51.9	66.7	32.1	67.3	16.9	35.7
Bingo	23.7	23.3	22.3	26.4	18.9	25.3	23.6
Sports	23.3	22.4	30.4	11.3	50.1	10.7	23.2
Dice games	17.9	31.8	41.2	11.3	32.5	11.5	19.8
Bet animals	17.5	15.5	14.5	15.1	24.9	14.2	17.2
Tabs/paper	16.4	20.2	20.9	20.8	13.9	17.4	16.9
Stocks	16.5	17.8	19.4	17.3	23.8	13.0	16.7
Other forms	3.4	5.4	12.7	0.0	6.5	2.9	3.7

*The discrepancies in the population numbers are due to incomplete participant responses. One participant failed to answer the athletic participation question. Twenty-six participants failed to answer the gender question. One participant failed to answer the gambling preference question. An incomplete response on this question does not impact SOGS scores since it is not used to measure pathological gambling when using the

SOGS.

**Some age appropriate examples of games of skill are betting on billiards and bowling.

To further analyze the differences between athletes and non-athletes, gender and athletic status was compared to the types of gambling in which the subjects preferred to participate in. Statistically significant associations were found between male non-athletes and betting on sports (x^2= 8.53, df= 2, p= 0.01 and Cramer's V= 0.16, n= 322, p= 0.00) and playing slot machines (x^2= 6.20, df= 2, p= 0.05 and Cramer's V= 0.14, n= 322, p= 0.05). The results also suggest that male athletes have a statistically significant association with playing dice games (x^2= 9.85, df= 2, p= 0.01 and Cramer's V= 0.18, n= 323, p= 0.01). Statistically significant associations were found between female athletes and betting on horses and dogs (x^2= 10.42, df= 2, p= 0.05 and Cramer's V= 0.13, n= 603, p= 0.05) and betting on games of skill (x^2= 16.90, df= 2, p= 0.00 and Cramer's V= 0.17, n= 603, p= 0.00).

The majority of the participants gambled relatively small amounts of money. Slightly over 71% (n= 757) of the participants indicated they gambled less than $100 in one visit, and only 9.1% (n= 87) gambled over $100 (Table 3). Thirty-three percent (n= 324) of non-athletes responded that they gambled between $10 and $100. Athletes gambled similar amounts of money compared to non-athletes with 36.9% (n= 50) gambling between $10 and $100. Although the majority of athletes and non-athletes gambled between $10 and $100, a statistically significant association was found between athletes and the amount of money gambled (x^2= 17.74, df= 6, p= 0.01 and Cramer's V= 0.14, n= 952, p= 0.01). There were no significant associations between male athletes and non-athletes and the amount of money gambled (x^2= 4.03, df= 6, p= 0.67). Similar results were found for female athletes and non-athletes and money spent gambling (x^2= 6.00, df= 5, p= 0.31).

Table 3

Amount of Money Spent on Gambling (%)*

Largest Amount Gambled in One Day	**Non Athletes n=823**	**Athlete n=129**	**MalAt n=69**	**FemAt n=53**	**MalNA n=255**	**FemNA n=550**	**Overall n=952**
Never gamble	20.0	17.8	8.7	32.1	8.2	25.8	19.7
$1 or less	9.2	3.3	1.4	5.7	1.2	13.1	8.4
$1 less than $10	29.3	25.6	20.3	34.0	23.5	31.2	28.8
$11 less than $100	33.2	38.8	49.3	20.8	49.0	25.6	33.9
$101 less than $1000	7.4	13.2	17.4	7.5	16.5	3.2	8.2

$1001 less than $10,000	0.9	0.8	1.4	0.0	1.6	0.4	0.8
Over $10,000	0.0	0.8	1.4	0.0	0.0	0.0	0.1

*The discrepancies in the population numbers are due to incomplete participant responses. One participant failed to answer the athletic participation question. Twenty-six participants failed to answer the gender question. One participant failed to answer the amount of money spent gambling question. An incomplete response on this question does not impact SOGS scores since it is not used to measure pathological gambling when using the SOGS.

Discussion

The results of this study suggest that there was no significant association between pathological gambling and college athletes. Although the researchers hypothesized from previous findings (Weiss, 1995; Cullen & Latessa, 1996; Cross, 1999) and found that athletes as a whole had a much higher rate of pathological gambling compared to non-athletes, the current study found no significant associations. In fact, among female participants the results demonstrate that female non-athletes had a higher prevalence rate of pathological gambling than female athletes.

While statistically significant associations were not found for pathological gambling and athletes, male athletes were found to have a very high prevalence rate of pathological gambling. Out of the four groups, the prevalence rate for male athletes was almost two times higher than the next highest group, male non-athletes. Despite the fact that none of the female athletes suffered from pathological gambling, these prevalence rates for men were high enough to cause the rates of pathological gambling among athletes to be higher than the rates for non-athletes.

Additionally, the results of the current study suggest that athletes have a higher rate of problem gambling than non-athletes do. These findings support Weiss' (1995) findings that college athletes have a higher rate of problem gambling. According to Curry and Jiobu (1995), the socialization of athletes includes a continuous emphasis on competition. This competitive nature "spills over" from the playing fields to the athletes' lives. Gambling in its many forms gives the athletes additional outlets in which to compete.

Conversely, when the data were adjusted for gender, male athletes actually had a lower rate of problem gambling than male non-athletes. This finding does not support Curry and Jiobu's (1995) conclusions. According to the current results, competition may not serve as a stronger motivation for gambling among athletes than non-athletes. Male non-athletes may also turn to gambling as a means to compete with others.

The results also suggest that gender impacts the rates of problem and pathological gambling. Although athletes as a whole group were found to have a higher prevalence rate of problem gambling, male athletes actually had a lower prevalence rate than male

non-athletes. Further analysis of the prevalence rates of pathological gambling suggest that male athletes had a higher rate than non-athletes. On the other hand, female non-athletes had a higher rate of pathological gambling than female athletes. To further cloud the issue, the current study found that the only statistically significant association between athletes and problem gambling was among female athletes. It should be noted however that according to the Cramer's V test the association between female athletes and problem gambling was weak.

Despite the relatively high prevalence rates among athletes and non-athletes, the results from both groups suggest a relatively low mean score on SOGS. In fact, neither group's mean scores were in the problem or pathological range. Although these results suggest that gambling may not have reached the problem stage for either group, it does suggest that many college students are social gamblers. Since college athletes are strictly prohibited from gambling by the NCAA and risk losing their eligibility to compete, it does suggest a problem for college athletes and the NCAA. In addition, even gambling among non-athletes suggests a problem for college administrators because of the high participation rates —not to mention that most forms of gambling in the United States are illegal until the age of 21. The results suggest that college administrators have to worry about another illicit behavior occurring on their college campuses.

The results also suggest that only a relatively small portion of the participants suffered from pathological and problem gambling. These findings support the previous findings of Frank (1990) and Ladouceur, et al. (1994). Additionally, they seem to contradict the findings that the prevalence rates of pathological gambling among college students are four to eight times higher than what the rates are for the adult population (Lesieur, et al., 1991).

Although only a relatively small portion of the participants showed signs of pathological and problem gambling, males in both groups had a higher rate of pathological and problem gambling. These findings support previous studies which suggest that males are more likely to gamble than females (Lesieur & Klein, 1987; Lesieur, et al., 1991; Browne & Brown, 1994; Ladouceur, et al., 1994; Curry & Jiobu, 1995; Weiss, 1995;) as well as suffer from pathological and problem gambling (Lesieur, et al., 1985; Sommers, 1988; Volberg & Steadman, 1988, 1989; Ladouceur, et al., 1994).

In addition, the results of this study suggest that athletes prefer to gamble on games of skill such as bowling and billiards; researchers found that this was the largest difference between athletes and non-athletes. We can speculate that because athletes choose to participate in games of skill, they prefer gambling activities that are competitive. By placing bets on these activities, athletes increase the risk, which adds to the level of competition. Athletes, like people who are addicted to alcohol or drugs, build up a tolerance to the "adrenaline rush" associated with competition. They need to be actively competitive even when the activities are friendly or for fun (for example, playing nine holes of golf with friends). To be more competitive they wager money on the outcome of the game. A good example of this phenomenon is Michael Jordan, who got in trouble by wagering on golf in such a manner. These findings are also supported by the fact that athletes can make money from the skills they have perfected during their competitive sports careers. Since opportunities to work are limited by the NCAA and school and practice restraints, being proficient at a sport offers athletes an alternative way to earn money.

Again, these findings were affected when adjusted according to gender. Although they were similar (67.3% and 66.7%), male non-athletes had a higher rate of participation in gambling on games of skill than male athletes. Female athletes had a much higher rate of participation in games of skill compared to female non-athletes. One possible reason for this finding is that it may still be more socially acceptable for men and female athletes to participate in these activities than it is for female non-athletes. Unfortunately, women still face some barriers to participation in these games of skill.

As outlined in the NCAA eligibility rules, participation in gambling is prohibited. The NCAA is particularly intolerant about sports gambling because it threatens the integrity of college athletics. One would expect these rules to minimize this type of behavior. Although the survey instrument did not measure gambling on college athletics, the survey did measure gambling on sport. There was no statistically significant association found between athletes and non-athletes and gambling on sports, which is of particular concern to the NCAA. These findings suggest that many college athletes still gamble on sports, particularly male athletes (30.4%). These results further support Cullen and Latessa's (1996) findings that 25% of their surveyed athletes gambled on sports.

Gambling large amounts of money is one of the indicators of pathological gambling, according to the DSM-IV (American Psychiatric Association, 1994). The results of this study indicate that the majority of both athletes and non-athletes gamble relatively small amounts of money, between $10 and $100 per episode. These findings correspond with the findings of previous studies. Rockey, Beason, Lee, Stewart and Gilbert (1997) found that the average amount spent by college students during a visit to a casino was $41.55. Similarly, Frank (1990) found that 78% of the students surveyed gambled with less than $50. Other studies (Lesieur, et al., 1991; Ladouceur, et al., 1994; Devlin & Peppard, 1996) reported similar results.

Despite the fact that the majority of the sample gambled a relatively small amount of money, a significant association was found between athletes and the amount of money gambled. The results suggest that athletes gamble more during one episode of gambling than non-athletes. It should be noted though that the Cramer's V test suggests that this association is weak and that factors other than athletic status are involved. This is further supported by the lack of association when adjusted for gender.

Although this study has investigated the prevalence rates of pathological and problem gambling among athletes, its conclusions are limited. The most significant limitation of this study is the number of athletes in the sample. For a prevalence study to be effective, the sample should be larger. Instead of measuring pathological and problem gambling during the participant's college years, SOGS measures throughout the student's life time, which is another limiting factor of this study.

Despite its limitations, this study is an important first step in determining whether college athletes have a significant problem with gambling. No previous studies have addressed the issues of athletes and pathological gambling. Only one significant association in the prevalence rates of pathological and problem gambling was found between non-athletes and athletes; however, the NCAA benefits from knowing that 80% of their athletes gamble and that 22.1% of them gamble on sports. This information may be used to establish programs and treatment modalities that assist athletes in need before their problems become addictive, and they establish ruinous behavior, which could jeopardize

their academic or athletic success as well as the integrity of intercollegiate athletics.

Obviously more research is needed in this area. One recommendation for future research is to measure the differences in competitive behaviour among groups. It would also be beneficial to measure gambling participation in college athletics as well as NCAA-sponsored games in which the athletes are participating. Another area that requires further study is whether or not athletes, after their eligibility expires, gamble more because their need to compete is no longer satisfied through athletic participation.

Comparing in-season and off-season gambling habits to measure the effects of discretionary time on the athletes' gambling habits is also recommended. Finally, a comparison of college athletes participating in the NCAA Divisions I, II, III and the National Association of Intercollegiate Athletics is an additional direction that would allow comprehensive comparisons to be made between athletes that receive scholarships and athletes who do not.

Acknowledgements: *Special thanks to Dr. Steven Awoniyi and Dr. Katherine Snyder for their assistance*.

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This article was peer-reviewed.
Received: March 26, 2001
Accepted: January 14, 2002

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Cramers's V is a measure of association derived from chi-square and it is particularly useful with categorical data. Values can range from 0.0 to 1.0. Here's an aid to help remember its parameters:

-A value less than .33 indicates a weak relationship.

-A value between .34 and .67 indicates a modest relationship.

-A value greater than .67 indicates a strong relationship. back to top

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