

# Gambling Behaviors of Former Athletes: The Delayed Competitive Effect

Stephen M. Weiss\*  
Sherri L. Loubier

## Abstract

Gambling behaviors in current athletes, former athletes and non-athletes were examined. Gambling tendencies were determined from participants' responses on the South Oaks Gambling Screen (SOGS). A delayed competitive effect among athletes that might surface in the form of pathological gambling was investigated. To test this novel theory, participants were divided into three groups: athletes who are currently playing sports, former athletes who used to play competitive sports and non-athletes who have never participated in competitive sporting events. A 2 x 3 independent groups ANOVA was utilized comparing SOGS scores across gender and athletic status. The mean score for former athletes on the SOGS was significantly higher than for both current athletes and non-athletes as was the frequency of those classified as "probable pathological" gamblers suggesting the possibility that a delayed competitive effect might exist among former athletes. Additionally, a higher percentage of former athletes were involved in sports gambling.

**Keywords:** gambling behavior, gambling tendencies, athletes, former athletes, non-athletes, South Oaks Gambling Screen, SOGS

High profile cases involving college and professional athletes have inspired an increased interest in investigating whether involvement in athletics is a contributing factor in the development of problem or pathological gambling. Most research has focused on the college environment with a large body of literature drawing attention to the behaviors of college students in general. There is also a smaller but growing literature focusing on student-athletes and their gambling behavior.

## Literature review

Few published studies have directly compared the gambling behaviors of athletes and non-athletes (Engwall, Hunter, & Steinberg, 2004; Rockey, Beason, & Gilbert, 2002; Sullivan-Kerber, 2005) and there is conflicting evidence as to a college athlete's degree of susceptibility insofar as problem or pathological gambling behaviors are concerned.

The *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision (DSM-IV-TR, 2000) reports that the lifetime prevalence of pathological gambling in college students may be as high as 8% which is more than double that estimated by community studies on adults in the general population. Lesieur et al. (1991) investigated gambling among university students and reported that pathological gambling among these individuals may be as much as eight times higher than the general population. Other researchers believe that college students are the segment of our population with the highest rates of problem gambling (Shaffer, Hall, & Vanderbilt, 1999; Neighbors, Lostutter, Cronce, & Larimer, 2002). Additionally, Engwall et al. (2004) found high rates of pathological gambling among college students.

\*Stephen M. Weiss,  
Corresponding author  
Assistant Professor,  
Psychology  
Adams State College  
Alamosa, CO 81102  
Phone: 719-587-8175  
Email: stephenweiss@adams.edu

Sherri L. Loubier, R.N.  
Manchester Memorial Hospital  
Armston, CT 06231  
Phone: 860-559-6296  
Email: SherriLynn913@aol.com

Although one recent national survey (Labrie, Shaffer, LaPlante, & Weschler, 2003) suggests that the above estimates are exaggerated, there nevertheless is much concern that these young adults are at a very high vulnerability to gambling problems. In fact, Neighbors et al. (2002) predicted that future investigations would reveal that gambling is part of the “college experience” (p. 368) for a high percentage of students. If this is true, there is little reason to think that the high rates of problem gambling (reported in the above studies) will subside.

A second body of literature spotlights the student-athlete as a high-risk individual insofar as the susceptibility to gambling problems is concerned. Recently, there has been an upsurge in research on this segment of the college population. For instance, a national survey study utilizing a random sample of 648 males competing on NCAA Division I basketball and football teams found high rates of sports gambling activity. More than one quarter of these individuals admitted to gambling on college sports. Approximately 4% of these student-athletes bet on games in which they had played in. Both of these are clear NCAA rules violations (Cullen & Latessa, 1996). In a follow-up study, Cross, Basten, Hendrick, Kristofic, and Schaffer (1998) used data collected by Cullen and Latessa to further analyze the self-reported gamblers. They found that these gambling student-athletes were more likely to have a permissive attitude towards risk-taking behaviors than their non-gambling peers. A more recent study conducted by the NCAA, consisting of over 21,000 participants, revealed that there is little change in the percentage of student-athletes who are gambling on sports. Results of the study show that 20% of males and 5% of females wagered on collegiate sporting events over the past year. Possibly even more alarming was that 35% of males and 10% of females had violated NCAA rules by betting on collegiate sporting events in the past year. Additionally, well over half of this sample was involved in some form of gambling activity over the past year (NCAA, 2004). Other researchers have mentioned that it is evident that gambling on sports has infiltrated college athletics (Rockey & King, 2006).

Although this high rate of gambling activity does not automatically mean a high rate of problem gambling, there are indications that there may be a relationship. The findings of the above-mentioned NCAA study support such a contention as almost 15% of male student-athletes playing at Division I schools were classified as potential problem gamblers or worse. Interestingly, respondents from smaller schools (NCAA Division II and NCAA Division III) had slightly higher estimates, 16% and 19% respectively (NCAA, 2004).

Few studies offer direct comparisons of the gambling tendencies between athletes and non-athletes. From an extensive review of the literature, it appears that these studies are exclusive to the college setting. In one such study, researchers found that almost 15% of student-athletes were classified as problem or pathological gamblers. Additionally, these participants held positive attitudes towards gambling and many were involved in internet gambling (Sullivan-Kerber, 2005). Engwall et al. (2004) reported that both male and female athletes were more likely to be involved in problem and pathological gambling than were their college non-athlete counterparts. Rocky et al. (2002) compared the prevalence rates of pathological and problem gambling among student-athletes and student non-athletes. Interestingly, although these researchers found higher rates of probable pathological gambling among the male athletic sample, contrastingly they found higher rates of problem gambling in the male nonathletic sample. In an unpublished study, Rocky (1998) found no significant differences in prevalence rates of pathological gambling among athletes and non-athletes but did find that athletes had a higher rate of problem gambling than did non-athletes. This second finding was observed primarily in male athletes. In another unpublished study, Bourn (1998) found current student-athletes were more likely to be classified as pathological gamblers than were both student non-athletes and student former athletes. Both of the unpublished authors caution of the growing dangers of problem and pathological gambling among athletes and recommend that college administrators (Bourn) and college coaches and athletes (Rockey) be better educated about the warning signals of gambling.

The measuring tool used by most researchers involved in gambling studies is the South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1987). The original SOGS is based on a lifetime incidence of gambling behaviors. Therefore, this screen would detect both active gamblers and those in remission. Later, the SOGS was slightly revised to include shorter time frames. Lesieur and Blume (1993) recommended using either the past six months or the past year to accurately classify individuals who are currently experiencing gambling-related difficulties. This screen is a validated, reliable instrument for screening populations for gambling problems (Lesieur & Heineman, 1988). Several other studies have used general addictive or maladaptive behavior measures to determine diagnostic categories. Although, the SOGS has been the subject of several critical reviews, it remains the most popular scale in evaluating degrees of gambling and is still considered to be a valid tool (Gambino, & Lesieur, 2006).

### **Rationale of current study**

The current study was motivated in part by Curry and Jiobu (1995) who suggested the possibility that there may be a consequence related to an athlete's internalizing their competitive motivations. These researchers suggested that this effect might not surface until after someone's formal playing days are over. A question that might be posed is whether a former athlete who no longer has the sporting event to quench his or her competitive thirsts will turn to gambling in general and possibly specifically to sports gambling to satisfy these needs? The rationale here is that an athletes vs. non-athletes comparison is better to be made after someone's "retirement" from their sport. It appears that testing an idea similar to that posited by Curry and Jiobu is novel insofar as published gambling studies are concerned. In an unpublished Master's thesis, Bourn (1998) compared the gambling tendencies of active college student-athletes, non-athletes, and former athletes. However, in this study the former athletes were college students aged 18 to 23, who had participated in a varsity level high school sport. These former athletes had only been inactive from their sport for a short time (potentially as little as a few months). Additionally, Bourn defined a former athlete as a full-time undergraduate student who had not ever participated on a varsity college athletic team. This determination opens the possibility that these individuals were still participating in organized sports such as in city leagues or on intramural teams. Another limitation to this study was the sample utilized. Bourn surveyed participants who were current college students. A high percentage of these individuals were under the legal age to gamble. Although, not the objective of Bourn's study, the design used would be a deterrent to accurately testing a delayed competitive effect that might show up in the form of elevated gambling tendencies.

In a preliminary investigation of the delayed competitive effect, Weiss and Loubier (2008) looked at former athletes who had been inactive from their sport for a minimum of 10 years. Despite significant findings indicating a possible delayed competition that might arise in the form of elevated gambling tendencies among former athletes, the authors nevertheless viewed that study as exploratory in nature. With this the case, the authors acknowledged some limitations and attempted to remedy these in the current study.

From a review of literature, studies comparing athletes and non-athletes appear to use convenience samples taken from the traditional college environment. In a preliminary investigation of the delayed competitive effect, Weiss & Loubier (2008) used a somewhat different college sample than most other studies. Participants surveyed were nontraditional college students who had recently returned to academia after a hiatus of several years. Although, this sample did not have the age limitations of some of the other studies which used traditional college students or student-athletes, it nevertheless was convenient in nature. This limitation was addressed in the current study as we went away from the college campus and randomly sampled individuals in several strategic areas in two states (CT and CO). A second limitation had to do with the design of our first study which lacked a sample of current athletes. Including current athletes would allow for

direct comparisons to determine whether former athletes were more at risk than active athletes. Therefore, we added this third athletic status group to the current study. We also felt that both the former athlete and non-athlete samples should also be redefined. In the earlier study, former athletes were operationalized as being inactive from their sport for a minimum of 10 years. It is possible that by using a 10-year determination, we may have missed a crucial time frame where a heightened need for competition is apparent. We surmised that this heightened time frame would probably occur much sooner than the 10-year lag we had previously used. Therefore, we included in this group any individual who was a former athlete with no regard to how long they had been “retired” from their sport. As it is possible that later in a former athletes’ life this heightened need for competition may have died down, we felt this redefined sample better represented those that might have been subjected to a delayed competitive effect. We also redefined the non-athlete sample to include anyone who had not played sports. In the earlier study, this group was restricted to those individuals who had graduated from high school a minimum of 10 years ago thus offering a fair comparison with the original former athlete sample. Therefore, in the current study we removed most age restrictions. The only age restriction that was imposed was that participants be a minimum of 21 years of age. We imposed this constraint so the entire sample would be of legal age to gamble.

Considering the results of our first study (Weiss & Loubier, 2008), we predicted that former athletes would have significantly higher SOGS scores than both current athletes and non-athletes. In accordance with this prediction, it was also expected that the higher scores would likely equate to more former athletes being classified as “probable pathological” gamblers. Also, we expected that former athletes would have significantly higher rates of involvement in gambling that had greater elements of skill. Specifically, sports gambling and card playing (poker) were investigated. We felt that there would be no difference among the athletic status groups in their involvement in betting on events that were essentially chance-based. Specifically, we looked at slot machine gambling.

## Method

### *Participants*

The data for this investigation were obtained from 300 participants randomly selected from the general population in Colorado and Connecticut. From this random selection, equal numbers of participants were assessed from the following three athletic status categories: former athletes, current athletes, and non-athletes. Additionally, equal numbers of males and females comprised each of the three athletic status groups. Participants were required to sign an informed consent form and ethical approval was obtained from Adams State College’s Internal Review Board. Participant anonymity was assured in order to encourage truthful responses from the participants.

Mean ages were relatively similar for each of the athletic status groups: former athletes (32.80 years), current athletes (34.17 years), and non-athletes (32.20 years). The age of participants ranged from 21 to 59 years.

### *Sampling*

Participants were given “former athlete” status only if they had participated in varsity high school or college athletics. To be considered for this sample, the participant must have self-reported as not currently being involved in an organized competitive sporting event or currently playing on a competitive team in an organized league. A participant was given “current athlete” status only if he or she had played a varsity high school or college sport and was currently playing in an organized competitive sporting event or currently playing on a competitive team in an organized league. We included in this sample any participant involved in college athletics, organized “city” leagues, and professional athletes. Participants in this group were involved in a variety of activities. These activities included diverse types of teams (baseball, basketball, football, hockey,

rugby, softball, and volleyball) and individual (triathletes, long distance runners, golfers, and tennis players) sports. To qualify as a non-athlete, the individual must have never been involved in competitive athletics. This was operationalized as not ever having been a varsity high school or college athlete or currently playing on a competitive team in an organized league.

### *Questionnaires*

An athletic status questionnaire was administered prior to testing to determine students' gender and athletic status. Participants' gambling classifications were determined from their responses on the South Oaks Gambling Screen (Lesieur & Blume, 1987). The past-year version of the SOGS was used for this study.

### *Procedure*

Researchers in two states (CO and CT) selected a wide array of venues for data collection. For example, several storefronts were utilized. Included were two large shopping chains, a bookstore, a fitness center, and two fast-food restaurants. The athletic status questionnaire and the SOGS were distributed to all participants.

## **Results**

In each of the analyses of the current study, we tested differences using a significance level of .05. The first statistical analysis utilized was 2 x 3 independent groups analysis of variance (ANOVA). The ANOVA was employed to compare gambling scores across gender and athletic status of all participants involved in this study. Participants' scores on the SOGS constituted the dependent variable. Former athletes obtained higher mean scores on the SOGS ( $M = 1.830$ ) as compared to both current athletes ( $M = 0.960$ ) and non-athletes ( $M = 0.380$ ). These scores were significantly different,  $F(2, 294) = 8.653, p < .001$ . The mean score for males ( $M = 1.4333$ ) on the SOGS was significantly higher,  $F(1, 294) = 6.623, p = .011$ , than the mean score for females ( $M = 0.680$ ). No significant interaction between gender and athletic status was found,  $F(2, 294) = 0.919, p = .400$ .

The second set of statistical analyses conducted included a pair of Chi-square analyses. The Chi-square analyses were used to compare the frequency of "probable pathological" gambling behavior; one across athletic status and the other across gender. In total, 23 of the 300 participants (7.6%) were classified as "probable pathological gamblers." The former athletes sampled had significantly higher frequencies of pathological gambling behavior (Chi-square = 7.157,  $p = .028$ ). More former athletes were classified as probable pathological gamblers (13.0%) than were both current athletes (7.0%) and non-athletes (3.0%). Males had significantly higher frequencies (12.0%) of pathological gambling behavior (Chi-square = 7.958,  $p = .005$ ) than females (3.3%).

Three additional chi-square analyses were performed to determine the frequency of involvement in different types of gambling. The first of these analyses was performed to compare the frequency of sports gambling among the athletic status groups. Former athletes had the highest frequency of involvement in sports gambling followed by current athletes and non-athletes (chi-square = 11.948,  $p = .018$ ). The next chi-square analysis was performed to compare the frequency of poker card playing for money among the three groups. Again participants in the former athletes' group had the highest frequencies of poker card playing (chi-square = 13.212,  $p = .010$ ). The final chi-square analysis was performed to compare the frequency of slot-machine playing among the three groups. There were no significant differences (chi-square = 4.377,  $p = .357$ ).

Former athletes who admitted to betting on sports also had the highest mean SOGS scores. This difference was not seen in the other two gambling activities investigated here (poker card playing and slot machine playing). See Table 1 for descriptive statistics concerning these three chi square analyses.

**Table 1. SOGS scores for different types of gamblers.**

Group	Sports Gambling		Poker		Slots	
	n	SOGS	n	SOGS	n	SOGS
Former Athlete	23	4.565	42	2.690	21	2.047
Current Athlete	14	2.642	27	1.518	24	1.666
Non-Athlete	9	0.111	19	0.789	30	0.766
All Participants	46		88		75	

### Discussion

Recent gambling related infractions by athletes and athletic teams at both the larger college and professional levels and two large surveys conducted by the NCAA (Cullen & Latessa, 1996; NCAA, 2004) indicate that the rate of problem or pathological gambling may be higher among athletes than non-athletes. Data obtained in the current study suggest that “retired” athletes may be a segment of the athletic population which is the most susceptible to pathological gambling. From the data collected here, it also appears the high SOGS scores of former athletes were due in large part to involvement in sports gambling.

As predicted, former athletes obtained higher mean scores on the SOGS and had higher frequencies of pathological gambling than the other athletic status groups. If the delayed competitive effect is at least in part causing this difference, it is important to detect the types of gambling that are being undertaken by these individuals. One way to distinguish between forms of gambling would be to look at an individual’s perception of the amount of skill involved in the gambling activity. Reber (2000) mentioned that different forms of gambling lead to vastly different expectations insofar as whether or not the gambler expects to win or not. Reber mentioned some classic forms of gambling having “high expectations.” These include poker, blackjack, horse racing, and sports betting. Apparently, depending on the skill of the participant, an individual can bring with them into the event either a positive or negative expectation.

The findings of the current study indicate that former athletes have a clear preference for forms of gambling where skill (high expectations) is involved. In particular, betting on sports was much more popular among this group than for the others. Although, it is beyond the scope of the current study to determine if this higher involvement with sports gambling necessarily translates into higher rates of pathological gambling on sports, it appears safe to say that this possibility exists. Supporting this notion, former athletes who admitted to wagering on sports had relatively high SOGS scores that on average ( $M = 4.565$ ) would classify them as a problem gambler. Those admitting to betting on sports

*Data obtained in the current study suggest that “retired” athletes may be a segment of the athletic population which is the most susceptible to pathological gambling.*

from the other two athletic status groups had much lower SOGS scores thus indicating that these individuals are more likely to take part in these activities in a recreational manner.

We also looked at the frequency in which participants wagered on the card game of poker. This is a game that requires players to possess several elements of skill in order to be successful (Reber, 2000). As with sports gambling, former athletes had the highest rate of poker card playing.

Slot machine gambling was examined as the form of gambling that was primarily chance-based. As expected, no differences were found among the three athletic status groups. Being primarily a chance-based activity, the delayed competitive effect would most likely not apply. If we are correct in our belief that competitive motivations seem to be enhanced by perceptions that one's skill, knowledge, and experiences are integral to success, a strictly chance-based activity probably would not be as inviting to the former athlete as a skill-based activity. Although, further research involving different skill and chance activities is needed to confirm this point, the higher frequencies of former athletes involved in the two skill-based activities investigated here (sports gambling and wagering on poker) point to this possibility.

### **Implications and future research**

In view of several past studies indicating that college athletes are at a higher risk than the general population for involvement in problem and pathological gambling (Bourn, 1998; Engwall et al., 2004; NCAA, 2004; Sullivan-Kerber, 2005; Rockey, 1998) it is evident that athletes are a part of our population warranting increased investigation. Taking into account that the findings presented here show an even higher rate of pathological gambling tendencies in former athletes, it seems possible that young adults (student-athletes) are showing the early signs of what may escalate into a more serious gambling problem once their playing careers are over. Particularly alarming is that this contrasts to other studies, which have investigated young people in general and have found that early gambling involvement does not necessarily lead to problems later in life (Slutske, Jackson, and Sher, 2003; Winters, Stinchfield Botzet, & Slutske, 2005).

Ongoing research efforts utilizing a random non-academic sample may prove fruitful in gaining a better understanding of the delayed competitive effect described here. It seems reasonable to focus specifically on the extent of ex-athletes' betting involvement in other games of skill not investigated here (for example, horse racing) to help determine the negative repercussions, if any, that such involvement may have. A future study may also look to determine if the ex-athlete is gambling on sports in general or specifically the game they once participated in. Another recommendation would be to repeat this study with non-gamblers excluded to determine whether the three athletic status groups differ in their risks for gambling problems depending on the specific mode of gambling.

### **References**

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders*, (4<sup>th</sup> ed., Text Revision). Washington, DC: American Psychiatric Association, 2000.
- Bourn, D. (1998). *Gambling behavior among college student-athletes, non-athletes, and former athletes*. Unpublished Master's Thesis, Springfield College.
- Cross, M., Basten, J., Hendrick, E., Kristofic, B., & Schaffer, E. (1998). Student-athletes and gambling: An analysis of attitudes towards risk-taking. *Journal of Gambling Studies*, 14(4), 431-439.
- Cullen, F., & Latessa, E. (1996). The extent and sources of NCAA rule infractions: A national self-report study of student-athletes. *A report to the National Collegiate Athletic Association*. Overland Park, KS.

- Curry, T., & Jiobu, R. (1995). Do motives matter? Modeling gambling on sports among athletes. *Sociology of Sport Journal*, 12, 21-35.
- Engwall, D., Hunter, R., & Steinberg, M. (2004). Gambling and other risk behaviors on university campuses. *Journal of American College Health*, 52(6), 245-255.
- Gambino, B., & Lesieur, H. (2006) The South Oaks Gambling Screen (SOGS): A rebuttal to critics. *Journal of Gambling Issues*. Retrieved October 11, 2008 from <http://www.camh.net/egambling/issue17/gambino.html>.
- Labrie, R., Shaffer, H., LaPlante, D., & Weschler, H. (2003). Correlates of college student gambling in the United States. *Journal of American College Health*, 52(2), 53-62.
- Lesieur, H., & Blume, S. (1987). The South Oaks Gambling Screen (The SOGS): A new instrument for the identification of pathological gamblers. *American Journal of Psychiatry*, 144, 1184-1188.
- Lesieur, H., & Blume, S. (1993). Revising the South Oaks Gambling Screen in different settings. *Journal of Gambling Studies*, 9(3), 213-223.
- Lesieur, H., Cross, J., Frank, M., Welch, M., White, C., Rubenstein, G., Moseley, K., & Mark, M. (1991). Gambling and pathological gambling among university students. *Addictive Behaviors*, 16, 517-527.
- Lesieur, H., & Heineman, M. (1988). Pathological gambling among youthful multiple substance abusers in a therapeutic community. *British Journal of Addictions*, 83, 765-771.
- NCAA. (2004). 2003 NCAA national study on collegiate sports wagering and associated behaviors. Indianapolis, IN: National Collegiate Athletic Association.
- Neighbors, C., Lostutter, T., Crouce, J., & Larimer, M. (2002). Exploring college student gambling motivation. *Journal of Gambling Studies*, 18(4), 361-370.
- Reber, A. (2000). On ethical issues, public morality, and institutional gaming. 11<sup>th</sup> *International Conference on Gambling and Risk-Taking*. Las Vegas, NV.
- Rockey, D. (1998). A comparison of pathological and problem gambling between college students and college athletes. Unpublished doctoral dissertation, The University of Mississippi.
- Rockey, D., Beason, K., & Gilbert, J. (2002, December). Gambling by college athletes: An association between problem gambling and athletes. *The Electronic Journal of Gambling Issues*, 7. Retrieved October 30, 2007, from [http://www.camh.net/egambling/issue7/research/college\\_gambling.html](http://www.camh.net/egambling/issue7/research/college_gambling.html)
- Rockey, D., & King, C. (2006). Sports wagering. *New Directions for Student Services*, 113, 43-51.
- Shaffer, H., Hall, M., & Vanderbilt, J. (1999). Estimating the prevalence of disordered gambling behavior in the United States and Canada: A research synthesis. *American Journal of Public Health*, 89, 1369-1376.
- Slutske, W., Jackson, K., & Sher, K. (2003). The natural history of problem gambling from age 18 to 29. *Journal of Abnormal Psychology*, 112(2), 263-274.
- Sullivan-Kerber, C. (2005). Problem and pathological gambling among college athletes. *Annals of Clinical Psychiatry*, 17(4), 243-247.
- Weiss, S., & Loubier, S. (2008). A preliminary study investigating a delayed competitive effect in athletes. Unpublished manuscript.
- Winters, K., Stinchfield, R. Botzet, A., & Slutske, W. (2005). Pathways of youth gambling problem severity. *Psychology of Addictive Behaviors*, 19(1), 104-107.

Article submitted: 11/26/07

Sent to peer review: 11/26/07

Reviewer comments sent to author: 4/15/08

Author revised version received: 10/20/08

Article accepted for publication: 10/20/08