

An Examination of University Student Gambling Practices

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Abstract

Concerns about student gambling behavior are often based on the popular opinion that students gamble all the time, that students spend too much money gambling, and that students readily become addicted to gambling. The purpose of this study was to examine whether popular opinions related to student gambling are factually based. This was done by examining the relationship among demographics, gambling practices, and views of personal gambling practices of Central Michigan University students. The study results suggest that these popular opinions regarding student gambling may not be factual, or at least may not be as serious as initially perceived. **KEYWORDS:** *gambling, student gambling, gambling behavior, gambling practices*

Introduction

The gaming industry has experienced rapid expansion over the past years as laws have passed that legalized more types of gambling. Gaming's growth began in 1931 with the legalization of gaming in Nevada and has developed to the point that it is a dominant economic force in many states and communities (Cook & Yale, 1994). As of 1994, all but two states have some type of legalized gambling (Ferber & Chon, 1994; Boger, 1994). In the 1990s, it appears that casino gaming is a major catalyst for continued economic development in the gaming industry. The 1988 Indian Gaming Regulatory Act facilitated gaming development by giving Native American tribes the right to establish gaming facilities on reservations or other tribal lands (Boger, 1994). Today, more than 91 tribes in 19 states operate

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some type of gaming operation (Feldman, 1993; Leedham, 1993). The state of Michigan has experienced significant economic growth from gaming during 1982 to 1992 as Native American casino gaming operations grew into a multimillion dollar enterprise (Daubenmier, 1993).

One such tribal gaming operation is the Soaring Eagle Casino in Mt. Pleasant, Michigan, opened by the Saginaw Chippewa Indian tribe in 1987. Gaming activities at the Soaring Eagle include blackjack, slot machines, and bingo. The casino is currently undergoing an expansion that, once completed, will make it the largest casino in Michigan and one of the largest in a small town setting in the United States.

Given the increasing popularity of gaming and its profitability, gambling will likely be an integral part of the Mt. Pleasant area, producing many benefits and related impacts. Mt. Pleasant, a community of approximately 25,000, is the home of Central Michigan University (CMU). Central Michigan University is a mid-sized liberal arts university with a student enrollment of approximately 16,000. The proximity of the Soaring Eagle Casino to the University creates a unique situation. The casino provides the University community with recreation and employment opportunities, while the University provides the casino with a new supply of potential customers each year. Because of this relationship, understanding the effect of the casino on student gambling behavior is important.

Nearly 30 percent of the freshmen felt that they spent more money gambling than intended.

Purpose of Study

Little research has been done to understand better the impact gaming has on CMU students and, in general, students' behaviors related to gambling. The purpose of this study was to determine the relationship between selected socio-demographic variables of CMU students related to gambling and various gambling behaviors and personal views of gambling. The study had three major objectives.

1. To determine select socio-demographic variables of CMU students related to gambling. Such variables include gender, year in school, location of residence, purpose of gambling, and frequency of gambling.
2. To identify various student gambling practices. Such practices include the frequency of gambling, the amount of money spent gambling, the amount of money won gambling, and the amount of money lost gambling.
3. To determine views about personal gambling practices of CMU students. Views of personal gambling practices include the purpose of gambling, views regarding the frequency of gambling, views regarding the amount of money spent and lost gambling.

Importance of Study

Many studies have examined the social and economic impact of gambling on communities but few have examined the effect of gambling on university students (Aasved, Schaefer & Merila, 1995; Curry & Jiobu, 1995; Browne & Browne, 1994; Thin & Hsu, 1994; Vallen, 1993). Given the proximity of CMU to the Soaring Eagle Casino, the effect of local gaming operations on the student population is of interest. Very few studies have focused on university students and this void in the literature presents a serious concern: university officials may not have the information they need to be proactive when dealing with issues related to student gambling. The studies that do exist (Black, 1994; Lesieur, Cross, Frank, Welsch, White, Rubenstein, Moseley, & Mark, 1991) suggest that gambling has potential negative impacts on students. Examining student gambling practices provides information helpful to understanding student gambling behavior. In addition, such knowledge aids in dealing with gambling-related problems when they arise. Ackerman and Piper (1996) and McEvoy (1991) suggest that student affairs officials should be informed about and ready to respond to student gambling problems. Ackerman and Piper (1996) also stress that as the number of students who gamble increases, so will associated gambling problems. These problems may range from skipping a couple of classes to something more serious, such as developing an addiction to gambling. Having a knowledge of student gambling practices is an essential first step to dealing with such problems.

Background Information

Most gambling related research falls into three general categories: (a) gaming growth, trends and legal issues, (b) economic and social impacts of gaming, and (c) the impact of gambling practices, specifically, the negative consequences associated with problem gambling lifestyles. Several researchers note that though gaming may economically benefit a community, other impacts need to be addressed. There are both positive and negative impacts, socially and economically, for communities with gaming operations (Ferber & Chon, 1994; Thin & Hsu, 1994). One of the potential negative social impacts is the development of problem gambling. Smith, Volberg and Wynne (1994) found twenty-two studies conducted in North America since 1984 on this topic. The research varies as to the exact percentage of those who experience problem gambling, with estimates ranging between 1.4 percent and 8 percent of the population (Hunter & Bleinberger, 1995; Volberg, 1994; Corelli, 1994). Most studies focused on defining and treating problem gambling. Some studies found that problem gambling is not limited to adults but is also experienced by young adults and teens (Corelli, 1994; Rosenthal, 1992).

Very little research has been conducted on why people gamble and gambling behavior in general. The research conducted suggests that the excitement, amusement, stimulation, and "rush" provided by gambling and the interest in winning money are factors that motivate people to gamble (Karlins, 1992; Wexler & Wexler, 1992). While there are some studies related to gambling in the general population, very few have explored the gambling practices of college students. Those studies that do exist have focused on types of gambling other than in casinos or on eco-

conomic impacts related to gambling. Even fewer studies have focused on college students' casino gambling such as in this study.

Brown and Brown (1994) studied the gambling behavior of American college students but only as it related to lotteries. Curry and Jioba (1995) examined college student athletes and their motives for gambling on sporting events. Beason, Rockey, Lee and Gilbert (1996) examined the economic impact of University of Mississippi students gambling at a nearby casino. Their results showed that 40 percent of students sampled had gambled at the casino. Of those that did gamble, most did so about twice a semester and spent about \$42. This study did not examine student profiles and perceptions of gambling behavior.

Williams (1990) conducted a telephone survey of college students at the University of Massachusetts and found that most students reported that they had participated in some form of gambling activity including casinos, lotteries, and parimutuel betting. A variety of factors related to students' gambling behaviors were found, including gender, grade point average, team sport participation, social practices, religious background, and frequency of alcohol consumption.

Lesieur et al. (1991) examined gambling practices in general and pathological gambling behavior in particular among college students. They reported 85 percent of the college students gambled, 23 percent on a weekly basis. The authors also suggested that approximately 8 percent of college students were likely to become problem gamblers. A follow-up telephone study of more than 600 college students (Lesieur & Blume, 1993) found that 33 percent of the students were exhibiting behaviors suggesting the potential to develop serious gambling problems.

Methodology

Questionnaire Development

Data were collected using a self-administered questionnaire. The questionnaire was developed through cooperation with University officials from the student counseling center and the Dean of Students. These officials stated that variables that are easily used to target segments of the student population are most important when applying study results. The survey instrument was pretested in six CMU classes encompassing a wide range of students. Because of the pretest, the following independent variables were included in the study: gender, year in school, location of residence, purpose of gambling, and frequency of gambling. Year in school was segmented by the four undergraduate classes and was used to stratify the sample. Location of residence was divided into three segments: campus housing, locals who lived off campus and traveled less than 10 miles to school, and commuters who traveled more than 10 miles to school. A question was asked to learn if the purpose of gambling was related to making money or for entertainment. The dependent variables gathered were whether the student gambled last semester, amount of money gambled, amount of money won, amount of money lost, views regarding the frequency of their gambling, and views regarding the amount of money spent and the amount of money lost gambling.

Sample

The study population consisted of all undergraduates at Central Michigan University who were enrolled full-time during spring semester, 1996. The CMU registrar's office provided a list of all undergraduates currently enrolled at CMU. From this list, a stratified random sample of the study population was developed. The sample was stratified by year in school (freshmen, sophomores, juniors, and seniors) for representativeness and to ensure that each stratum had sufficient sample size for analysis.

Students in the sample were initially sent a self-contained mail questionnaire eliciting information on their gaming practices and beliefs about gaming. Students were asked to return the postage-paid questionnaire through campus mail or U.S. mail. Two days after the initial mailing, a follow-up postcard was sent to all those sampled thanking them for participating and reminding those who had not yet returned the questionnaire please to do so. Two weeks after the original questionnaire was sent, a replacement questionnaire was mailed to all nonrespondents. An incentive offering the opportunity to win various prizes in a drawing of all respondents was used to increase the response rate. The use of incentives has been shown to increase response rates (McCall, 1992). The incentives used were inducements to win a U.S. Savings Bond, a CMU sweatshirt, and a one night stay at a Marriott Hotel.

Analysis

Known characteristics of the student population were compared with the sample to check for potential differences. Paired t-tests were used to assess significant differences based on gender and year in school between the population and

the sample. Descriptive statistics including means, medians, frequencies, percentages, and standard deviations were calculated for the study variables. The variables frequency of gambling, amount of money gambled, amount of money won, and amount of money lost were measured on an interval scale

Fifty percent of the respondents who had gambled spent between \$1 and \$25 . . .

but then resealed to represent categorical concepts that were more meaningful to understanding gambling behavior. For example, though the variable "amount of money won" was an interval level measurement, it made more intuitive sense to categorize these amounts into groupings that students can relate to when thinking about amounts won. For instance, there could be significant statistical differences between \$20 and \$22 won, but to the student gambler, this difference is probably too small to be perceived. After consulting the pretest groups about the cut off points for grouping values, the categories used in the analysis were created. Cross tabulations were computed and chi-square tests were used to determine if differences existed for gender, year in school, location of residence, purpose of gambling, and frequency of gambling based on gambling practices or views of personal gambling practices.

It should be noted that responses regarding views of personal gambling practices and actual gambling practices all refer to gambling at the Soaring Eagle Casino during the 1995 fall semester. These results do not, therefore, take into account views or practices related to other establishments, other forms of gambling, or other time periods.

Results

A total of 801 questionnaires were sent out. After the initial mail-out and the reminder postcard, the response rate was 53 percent (422 responses). A replacement questionnaire was sent, after which 140 individuals responded, leading to an overall response rate of 70 percent. Of the 562 returned, 540 were usable and included in the analysis.

A check was conducted to find if the response rates were consistent across the strata. Comparing the sample with known characteristics of gender and year in school showed that the sample was representative of the population. The analysis showed that the male to female ratio of the sample was the same as the population. In addition, as for year in school, the sample was always within one to 3 percent of the population for each of the four classes and not significantly different statistically.

Characteristics of Respondents

Table 1 summarizes the characteristics of the respondents. The majority of respondents (58 percent) were female. Thirty percent had a senior class standing, with the remaining 70 percent nearly equally divided among the remaining classes. The results for gender and year in school correspond to differences in the population. An equal number of students (45 percent) lived in campus housing and local housing (within 10 miles of campus).

Most respondents (59 percent) had gambled last semester. Of those who gambled at the Soaring Eagle last semester, 62 percent gambled one or two times, 28 percent gambled three to five times, and the remaining 10 percent of respondents gambled between six and 40 times. Of those who had gambled, the mean number of times was 3.4. Over a semester, students spent between \$1 and \$2000 gambling, with the mean being about \$73 and the median being about \$27. Fifty percent of the respondents who had gambled spent between \$1 and \$25, while a nearly equal number spent \$26 to \$50 or more than \$50. Respondents won between zero and \$3000 over the last semester, with the mean being about \$64 and the median being \$5. Most students (47 percent) won no money. Over the course of a semester, students lost between zero and \$2000, with the mean being about \$49 and the median being \$20. Most students (85 percent) lost \$50 or less.

Most respondents (87 percent) view gambling as a form of entertainment rather than a way to win money. Of those who gambled, 7 percent felt they gambled too frequently last semester. In addition, 17 percent indicated that they often gambled

Female respondents spent less money gambling and lost less money gambling than males.

Table 1. Characteristics of Respondents

STUDY VARIABLES	PERCENTAGE OF SAMPLE	MEAN	MEDIAN	RANGE
Gender				
Male	42%			
Female	58%			
Class Standing				
Freshmen	24%			
Sophomore	23%			
Junior	23%			
Senior	30%			
Location of Residence				
Campus Housing	45%			
Local	45%			
Commuter	10%			
Gambled Last Semester?				
Yes	59%			
No	41%			
Frequency of Gambling				
I or 2 Times	62%	3.4	2	1-40
3 to 5 Times	28%			
6 or more Times	10%			
Amount of Money Gambled				
\$ 1 to \$25	50%	\$73	\$27	\$1-\$2000
\$26 to \$50	26%			
more than \$50	24%			
Amount of Money Won				
\$0	47%	\$64	\$5	\$0-\$3000
\$1 to \$50	34%			
\$51 or More	19%			
Amount of Money Lost				
\$0 to \$50	85%	\$49	\$20	\$0-\$2000
\$51 or More	15%			
Purpose of Gambling				
Entertainment	37%			
Way to Make Money	13%			
Gamble Too Frequently?				
Yes	7%			
No	93%			
Spent More Money than Intended?				
Yes	17%			
No	83%			
Lost More Money than Intended?				
Yes	29%			
No	71%			

n=540 for the above categories

more money than they had intended, and 29 percent responded that they lost more money than initially intended.

Chi-square analysis was used to find out if differences existed for gender, year in school, location of residence, purpose of gambling, and frequency of gambling based on gambling practices or views of personal gambling practices.

Table 2. Significant Differences for Gender

STUDY VARIABLES	FEMALE	MALE	ROW N
Amount of Money Gambled (n=306)			
\$1 to \$25	61%	37%	153
\$26 to \$50	24%	28%	79
more than \$50	15%	36%	74
Chi-Square = 22.169, p = .0001			
Amount of Money Won (n=313)			
\$0	52%	41%	147
\$1 to \$50	36%	31%	106
\$51 or more	12%	28%	60
Chi-Square = 12.888, p = .0015			
Amount of Money Lost (n=342)			
\$0 to \$50	90%	78%	305
\$51 or more	10%	22%	37
Chi-Square = 6.561, p = .0104			
Gamble Too Frequently? (n=317)			
Yes	3%	12%	22
No	97%	88%	295
Chi-Square = 9.470, p = .0020			

Gender

Significant differences exist between genders for the amount of money spent and lost gambling (Table 2). Female respondents spent less money gambling and lost less money gambling than males. Males tended to win larger amounts (28 percent of the males compared with 12 percent of the females won \$51 or more). The fact that males tended to spend more money, win more money, and lose more money than females is likely related to the frequency of gambling. More males than females (12 percent and 3 percent, respectively) indicated that they thought they gambled too frequently. In summary, females tended to gamble less frequently, spend less money, win less money, and lose less money than males. This relationship seems to suggest that if a gambling problem is to develop, it is more likely to be with males rather than females. These results support those of Rosenthal (1992), who found that two thirds of pathological gamblers are males. Rosenthal (1992) also suggested that traits such as competitiveness, ability with numbers, and interest in the strategy of games foster gambling. These traits, which are more often associated with males than females, may in part explain the difference in frequency of gambling.

Table 3. Significant Differences for Year in School

STUDY VARIABLES	FRESH	SOPH	JUNIOR	SENIOR	ROW N
Amount of Money Gambled (n=304)					
\$1 to \$25	45%	43%	61%	52%	152
\$26 to \$50	29%	40%	15%	17%	78
more than \$50	26%	17%	24%	31%	74
Chi-Square = 18.007, p = .0062					
Gambled More Money than Intended? (n=311)					
Yes	28%	18%	11%	13%	55
No	72%	81%	89%	87%	256
Chi-Square = 9.963, p = .0188					

Year in School

Significant differences exist for the amount of money spent based on the year in school (Table 3). More upper classmen fell in the lower spending categories than did under classmen--61 percent of the juniors and 52 percent of the seniors were in the \$1 to \$25 spending category. However, more seniors (31 percent) than under classmen also fell in the highest spending category. In general, (a) juniors and seniors tended to either spend a little money (\$1 to \$25) or a lot (more than \$50), and (b) the number of freshmen and sophomores in each spending category decreased as the amount of money spent increased. Perhaps fewer under classmen fell in the higher spending categories because they may be less likely to be employed as upper classmen and therefore have less discretionary money.

Significant differences exist based on the year in school in relationship to the perception of how much money was spent. Nearly 30 percent of the freshmen felt that they spent more money gambling than intended. This may be because fresh-

Table 4: Significant Differences for Location of Residence

STUDY VARIABLES	CAMPUS	LOCAL	COMMUTER	ROW N
Gamble Last Semester? (n=539)				
Yes	69%	54%	44%	317
No	31%	46%	56%	221
Chi-Square = 12.989, p = .0015				
Amount of Money Lost (n=341)				
\$0 to \$50	90%	78%	81%	304
\$51 or more	10%	22%	19%	37
Chi-Square = 6.139, p = .0464				

men did spend a lot (26 percent fell in the highest spending category). Perhaps freshmen, living away from home for the first time, are learning to manage money and perceive they could be doing a better job no matter how much was spent gambling. Whatever the cause, freshman may need special guidance in appropriate money management. Of the three remaining classes, less than 20 percent of the students in each felt they spent more money than intended.

Location of Residence

Where a student lives seems to have implications for whether or not he or she gambled (Table 4). Students who lived in campus housing responded that they were more likely to gamble last semester (69 percent) than did those living locally (54 percent) or those commuting (44 percent). It may be that gambling is a curiosity activity and students want to try it when they arrive at CMU. As such, underclassmen were very inclined to go gambling and most of them live in campus housing as University policy dictates. This observation suggests that underclassmen will be more inclined to gamble than upperclassmen. Although whether or not a student gambled differed by location of residence, the frequency of gambling did not significantly differ based on where the student lived. In other words, once the

Table 5: Significant Differences for Purpose of Gambling

STUDY VARIABLES	FORM OF ENTERTAINMENT	WAY TO WIN MONEY	ROW N
Amount of Money Gambled (n=278)			
\$1 to \$25	52%	30%	125
\$26 to \$50	27%	18%	79
more than \$50	21%	52%	74
Chi-Square = 15.011, p = .0005			
Amount of Money Lost (n=341)			
\$0 to \$50	87%	64%	304
\$51 or more	13%	36%	37
Chi-Square = 9.150, p = .0024			
Gamble Too Frequently? (n=315)			
Yes	5%	21%	22
No	95%	79%	293
Chi-Square = 10.858, p = .0009			
Gamble More Money than Intended? (n=315)			
Yes	15%	38%	55
No	85%	62%	260
Chi-Square = 11.041, p = .0007			
Lose More Money than Intended? (n=315)			
Yes	23%	47%	88
No	77%	53%	227
Chi-Square = 9.470, p = .0020			

decision was made to gamble, the frequency of gambling did not differ based on where the student lived.

The amount of money lost also differed by location of residence. Those respondents living in campus housing tended to lose less than those living locally or

Table 6: Significant Differences for Frequency of Gambling

STUDY VARIABLES	1-2 TIMES	3-5 TIMES	>5 TIMES	ROW N
Amount of Money Gambled (n=304)				
\$1 to \$25	75%	12%	0%	152
\$26 to \$50	21%	43%	9%	78
more than \$50	4%	45%	91%	74
Chi-Square = 180.76, p = .0001				
Amount of Money Won (n=311)				
\$0	62%	28%	12%	147
\$1 to \$50	33%	40%	18%	104
more than \$50	5%	32%	70%	60
Chi-Square = 96.93, p = .0001				
Amount of Money Lost (n=341)				
\$0 to \$50	97%	73%	21%	304
more than \$50	3%	27%	79%	37
Chi-Square = 84.48, p = .0001				
Gamble Too Frequently? (n=315)				
Yes	2%	3%	46%	22
No	98%	97%	54%	293
Chi-Square = 84.14, p = .0001				
Gamble More Money than Intended? (n=315)				
Yes	12%	22%	39%	55
No	88%	78%	61%	260
Chi-Square = 16.28, p = .0003				
Lose More Money than Intended? (n=315)				
Yes	25%	28%	49%	89
No	75%	72%	51%	226
Chi-Square = 7.84, p = .0020				

those commuting. Respondents living locally tended to lose more than other resident groups: 22 percent lost \$51 or more, while 19 percent of the commuters and only 10 percent of those in campus housing lost this amount.

Purpose of Gambling

Respondents who thought of gambling as a form of entertainment tended to spend less money (52 percent spent \$1 to \$25) than those who viewed it as a way to win money (52 percent of this group spent more than \$50) (Table 5). Similarly, students who viewed gambling as a form of entertainment tended to lose less money. Nearly three times as many of those that see gambling as a way to make money lost more than \$50, as compared with those that see gambling as a form of entertainment. This observation may be because those who gamble to win money versus

those who gamble for entertainment are more likely to continue to gamble after a loss in an attempt to win their money back (Lesieur, et al., 1991).

Differences also existed for views of personal gambling practices related to the frequency of gambling, amount of money spent, and the amount of money lost. Students who see gambling as a way to make money rather than as a form of entertainment had a greater tendency to feel that they gambled too frequently, spent more than intended, and lost more than intended. Perhaps students who view gambling as a form of entertainment feel they have more control since their expectations are met (i.e., they were entertained), whether they win money or not. Students who view gambling as a way to make money gamble more and spend more in an attempt to fulfill their expectations of making money. These may be the students that potentially develop gambling problems.

Frequency of Gambling Last Semester

Those who gambled one or two times were considered infrequent gamblers, those who gambled three to five times were considered moderately frequent gamblers, and those who gambled more than five times were considered frequent gamblers.

The more frequently a student gambled, the more money he or she spent (Table 6). Those who gambled the most frequently tended to win more money (70 percent won more than \$50) than those gambling less frequently. However, frequent gamblers also tended to lose more money than less frequent gamblers.

Views of personal gambling practices also differed based on the frequency of gambling. Students who gambled the most often were most likely to feel that they gambled too frequently. Of those who gambled the most often, almost half (46 percent) felt that they gambled too frequently compared with only 3 percent of moderately frequent gamblers and 2 percent for those who gambled the least. Also, as frequency of gambling increased so did the student's perception that he or she spent more money than intended and lost more money than intended.

These results can aid University officials by showing which segments of the student population have the greatest probability of potentially developing a problem related to gambling.

Discussion

Decision making requires the use of appropriate data necessary to support actions. However, decisions are often made without the necessary information to make valid and reliable choice but instead are based upon suppositions, conjectures and opinions. To overcome these problems, it must be determined if the perceptions are true. The results of this study provide some of the information that University officials need to decide if common perceptions regarding student gam-

bling are founded in the facts. Such an understanding is important if student gambling behavior is to be dealt with in a proactive manner.

Concerns about student gambling behavior are often based on the popular opinion that students gamble all the time, that students spend too much money gambling, and that students readily become addicted to gambling. These negative behaviors are then thought to lead to poor academic performance and inappropriate social behavior. When opinions are reinforced with public sentiments, perceived problems can become the focus of decisions. For example, parents who are evaluating potential schools for their children may interpret perceived problems related to gambling to be real enough to influence negatively their perception of that school. The study results suggest that these popular opinions regarding student gambling may not be factual or at least may not be as serious as initially perceived.

Contrary to popular belief, students do not gamble all the time. Although the results of the study show that 59 percent of students did gamble at the Soaring Eagle last semester, of those who did gamble, 62 percent did so only one or two times. In other words, 41 percent of students did not gamble at all, and only 22 percent of students gambled more than twice last semester.

Regarding students spending too much money, the study found that the median amount of money spent gambling at the Soaring Eagle during the semester was approximately \$27. About one-half of all students who gambled spent between \$1 and \$25. Taking into account winnings made during gambling and subsequently respent, the median amount lost was about \$20 during the semester. Most students (47 percent) did not win any money, but for those who did the median amount won was \$5. In summary, most students did not spend very much nor win very much money gambling.

The fear that students may become addicted to gambling was also not found true. More than 87 percent of students responded that their purpose of gambling was primarily for entertainment purposes. These students did not gamble to make money. In addition, only 7 percent thought that they gambled too frequently. Perhaps because of the relatively small amounts of money gambled, only 17 percent responded that they spent more than intended and 29 percent thought that they lost more than intended. Because Mt. Pleasant, where CMU is located, is a small community, opportunities for entertainment and recreation are more limited than would be the case in larger towns. As such, the Soaring Eagle provides an important entertainment alternative for students.

In addition to providing data necessary to form accurate pictures of student gambling, this study describes how various groups differ, providing behavioral and marketing information for officials at both the University and the Soaring Eagle Casino. These results can aid University officials by showing which segments of the student population have the greatest probability of potentially developing a problem related to gambling. In this manner, officials can target specific student segments with tailored messages designed to alter behavior. The results suggest that if a gambling problem is to develop, it is more likely to be with males than with females, with freshmen than with upper classmen, with frequent gamblers than with infrequent gamblers, and with those who view gambling as a way to make money than with those who view it as a form of entertainment. Knowing the gambling practices and perceptions of students in these groups is a first step in facilitating behavioral change and potentially avoiding problem gambling behavior.

Those who may wish to facilitate behavior change should be encouraged by the fact that students who seem to have the greatest potential for developing a gambling problem were often the ones that felt that they may be gambling more frequently or spending more money than they wanted. Often, the first step in dealing with a problem is to acknowledge that a problem exists. Since these students already acknowledge this fact, they may be more susceptible to behavioral change.

University officials can also work with casino operators to achieve common goals related to avoiding potential negative student gambling behavior. The University should understand that the casino provides an important source of entertainment for students and that students will continue to patronize the Soaring Eagle. At the same time the casino must appreciate that many CMU students are their customers. Since most students go to the casino for entertainment, the casino can use this information in their marketing and promotional efforts, thus attracting students who may have a lower probability of developing problematic gambling practices. In this regard, the casino can continue to build their student-based clientele and assist the University in controlling negative gambling behavior. Thompson, Pinney, and Schibrowski (1996) suggest that casinos can make a less gambling-oriented market profitable by developing non-gambling revenue generating activities such as entertainment or meals—the same aspects that attract the majority of students to the Soaring Eagle.

The key to handling these potential problems lies in taking a proactive stance toward student advocacy and unacceptable gambling behavior.

Conclusion

In summary, this study found that CMU students did not gamble all the time, did not spend all their money gambling, and have not readily become addicted to gambling. Though these results may suggest to CMU officials that inappropriate gambling behavior may not be as wide spread as initially thought, a red flag of concern is raised about the future. As suggested by Ackerman and Piper (1996), as student gambling increases, so will gambling related problems. With the new expansion of the Soaring Eagle Casino, student gambling activities will probably increase. The question then is not whether students gambling problems will arise, but *when* they will arise. The key to handling these potential problems lies in taking a proactive stance toward student advocacy and unacceptable gambling behavior. The University should acknowledge that gambling problems will inevitably arise and develop an action plan to mediate these problems. The University needs to have open lines of communication with the Soaring Eagle Casino and work together to develop action plans that are mutually beneficial to all parties involved.

In order for university and tribal officials to understand student gambling properly and develop viable action plans to prevent and counter gambling problems, appropriate information about student gambling behavior is needed. As such, two lines of additional research are suggested. The first line suggests that better understanding of the cause and effect of various factors related to student gam-

bling is needed. While some of these effects are understood (such as frequency of gambling, amount of money won and lost), little is known about their causes. It is the information about these "causes" that university officials require so they can modify the "effects" of problematic gambling behavior. It is suggested that an "experience sampling" study be done to understand these causes and effects of gambling behavior. The experience sampling would require a long-term longitudinal study of students where detailed information about the relationship of various gambling related facets are obtained.

The second line of research builds on the experience sampling results. After the causes and effects of gambling behavior are known, research on the best method to modify existing gambling behavior should be determined. If students' attitudes and beliefs about their gambling practices are known, efforts to modify them may lead to a change or reinforcement in behavior. As such, use of most accurate information that successfully modifies behavior should be used by the university. At the same time that negative behavior is changed positive behavior should also be reinforced. The prevention of a problem can be easier than modification of an existing problem.

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