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**Gambling, Problem Gambling, and Attitudes Toward Gambling in a Sample of College Students**

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### Abstract

The present study explored gambling prevalence and attitudes toward gambling among college students. A sample of 274 Humber College students participated in an online survey from September 15th to December 15th, 2013. The survey included a scale to measure problem gambling as well as questions regarding attitudes toward gambling. The study found that 9.9% of college students were classified as moderate problem gamblers and 2.2% were classified as having a severe gambling problem. In terms of attitudes, 59.9 % of participants believed that gambling is morally wrong, and 69% felt that gambling does more harm than good; however, 81% believed that all types of gambling should be legal. For the harm and morality questions, problem gamblers had more negative attitudes towards gambling. The study also indicated significantly higher scores on the PGSI/CPGI for males in comparison to females. The results suggest that problem gambling is more common amongst college students than in the general adult population.

*Keywords:* problem gambling, college students, morality, views on legality

## Gambling, Problem Gambling, and Attitudes Toward Gambling in a Sample of College Students

The gambling industry uses attractive advertisements and the availability of gaming opportunities, including online gaming, to increase the likelihood of gambling participation. For most people gambling is entertainment, a form of leisure, or a social recreational activity, but some people develop problem with gambling (Wiebe, Mun & Kauffman, 2006; Wiebe, Single, & Falkowski-Ham, 2001). Disordered gambling is a compulsive pattern of gambling behavior in which an individual continues to gamble in spite of the harmful consequences. It is an addiction-like disorder that involves pre-occupation with gambling and chasing despite any negative outcomes (American Psychiatric Association, 2013). Risk for a gambling disorder ranges from low to moderate to severe (Ferris & Wynne, 2001). In this study, we examine problem gambling (PG) as the combination of moderate (subclinical) and severe gambling problems (disordered).

Some studies have identified a higher prevalence of PG among college students compared to other segments of the population (Blinn-Pike, Worthy & Jonkman, 2006; Williams, Connolly, Wood, and Nowatzki, 2006; Wiebe et al., 2001; Wickwire et al., Whelan, West, Meyers, McCausland, & Leullen, 2007) and that it is particularly high amongst athletes (Huang, Jacobs, Derevensky, Gupta, & Paskus, 2007). If a student gambles excessively it may threaten their academic success, financial stability, social life, and psychological well-being. Given that PG could affect the individuals' financial stability and psychological well-being, it is understandably seen as a public health concern (Korn, Gibbins, & Azmier, 2003). For college students, PG might have severe consequences for their future career goals. The current paper examines college gambling at Humber college.

According to Blinn-Pike, Worthy & Jonkman (2006), the estimated prevalence of PG among college students is 7.8%, which is higher than the 5% rate found among the general population in the United States and Canada. Similarly, Williams, Connolly, Wood, and Nowatzki (2006) found a 7.5% prevalence rate of PG among university students in Lethbridge, in comparison to a 5.2% prevalence rate among the adult population in Alberta. Estimates of student gambling have been as high as 11.9% (Chan, Zane, Wong, & Song, 2015) and as low as 5% (Moore et al., 2013), while rates identified by other studies fall between these two extremes (e.g., Williams et al., 2006; Mubarak & Blanksby, 2013;). Similar results were found in Australia, with Mubarak and Blanksby (2013) finding that 8.6% of their sample were classified as problem gamblers and 3.1% were classified as probable pathological gamblers or with severe PG. Benson, Norman, and Griffiths (2012) obtained comparable results. These data are summarized in Table 1. These numbers are much greater than the rates reported for the adult population in Canada. For example, Cox, Yu, Afifi, & Ladouceur, (2005) report that the 12-month prevalence of gambling problems in Canada was 2.0%.

Previous gambling-related research shows that the growth of the gambling industry has led to increased rates in prevalence of PG and indicates a significant public health risk. The current generation of young adults is influenced by the increasing number of legalized opportunities in the gaming industry (Williams et al., 2006), which leads to a higher prevalence rate of PG among young adults in comparison to the general population. In terms of gender, some studies indicate higher prevalence rates among males in comparison to females. Buckle, Dwyer, Duffy, Brown, and Pickett (2013) state that in their sample, men scored higher on the South Oaks Gambling Screen and engaged in more gambling activities such as sports lotteries, Internet gambling and card gambling. Similar results were found by Moodie (2008), with male

problem gamblers numbering 6.9% compared to 1.9% for females. Other studies involving student samples (Cook et al., 2016; Lesieur et al., 1991), treatment samples (Rush, Moxam, & Urbanoski, 2002), and the general population (Volberg Abbott, Rönnerberg, & Munck, 2001) have consistently shown a greater number of males than females involved in PG.

Table 1

*The prevalence of problem gambling from previous studies of student populations.*

Year	Author	Prevalence
2006	Williams, Connolly, Wood, & Nowatzki	7.6%
2013	Moore et al.	5%
2013	Mubarak & Blanksby	8.6%
2015	Chan, Zane, Wong, and Song	11.9

Table 1

The prevalence figures listed in Table 1 refer to severe and moderate PG. Most of the published studies, such as those mentioned in Table 1, indicate that the prevalence rate among college and university students is considerably higher than in the general population. Although the above-mentioned studies indicate that leisure is the main reason for gambling among students, the higher prevalence of PG in this group, as compared to the general public, strongly suggests that this category of young adults is more vulnerable to gambling addiction. Flashing lights, advertisements of winning, attractive gamers, the dream of wealth, escaping stress, and peer impact could be some of the factors that attract young adults to gambling games.

The literature also shows a significant correlation between positive attitudes toward gambling and PG among university and college students. Yi and Kanetkar (2010) state that moderate- to high-risk gamblers demonstrate more positive attitudes toward gambling than low-

risk gamblers and non-gamblers. Likewise, Mattson, MacKillop, Castelda, Anderson, and Donovan (2008) report that cognitive distortions and positive attitudes towards gambling play significant roles in university and college students' gambling behaviors.

Further, previous studies indicate that religion and faith are negatively correlated with gambling. In his study of religion and PG in the United States, Hoffmann (2000) found that attending religious activities and faith in God are negatively associated with gambling. For example, he found that individuals who attend religious services on a weekly basis "are about 21 percent less likely than those who do not attend religious services to have gambled" (Hoffman, 2000, p. 498).

The current research focused on achieving the following objectives:

- To describe and analyze the severity level of PG among Humber college students
- To explore students' attitudes towards gambling
- To explore the difference between males and females in terms of attitudes and gambling problems.

## **Methodology**

### **Procedure and Participants**

An online survey was designed to collect information from participants. The project was approved by the Humber Research Ethics Board. Several approaches were used to recruit participants. For instance, printed flyers were distributed to Humber students, and at the end of the survey, participants were asked to forward a link to their classmates and students from other programs at Humber, utilizing a snowball sampling technique was used to inform students about the project. Additionally, some instructors and program coordinators posted links to information

regarding the study on their course websites. The estimated time to complete the online survey was 15-20 minutes. The online survey was hosted by fluidsurvey.com from September 15th to December 15th, 2013. A total of 274 students from different academic programs at Humber College took part in the survey. The students were asked to complete the survey one time only though the research team was not able to maintain technical control over the number of times students actually took the survey. Of the sample of 274 participants, 99 were males and 171 were females. Two participants did not indicate their gender and another two identified as “other”.

## **Measures**

The online survey was composed of three main sections. The first section included sociodemographic questions about gender and age, as well as a self-evaluation of economic status and religious faith. The second section consisted of three questions measuring attitudes towards gambling that were taken from Williams et al., (2006). The first question asked, “Which best describes your belief about the benefit or harm that gambling has for society?” The responses ranged from “The harm far outweighs the benefits” (-2) to “The benefits far outweigh the harm” (+2). The second question asked, “Do you believe that gambling is morally wrong?” (Yes / No). The third question asked was “Which of the following best describes your opinion about legalized gambling?” and responses ranged from “All types of gambling should be legal (+1)” to “All types of gambling should be illegal (-1).

The final section of the survey included the Problem Gambling Severity Index of the Canadian Problem Gambling Index (PGSI/CPGI), which is a nine-item scale used to measure gambling problems (Ferris & Wynne, 2001). The PGSI/CPGI was used in the survey to measure the severity level of PG among Humber College students. The responses on all items are scored as Never (0), Sometimes (1), Most of the time (2), and Almost always (3). The responses are added

up and the total can range from 0 to 27. A score of 0 indicates non-problem gamblers, a score of 1-2 indicates low-level problems, a score of 3-7 indicates a moderate level of problems, and a score of 8 or more indicates a severe gambling problem (Ferris & Wynne, 2001).

## **Results**

### **Sample Description**

As previously mentioned, the sample was composed of 99 (36.4 %) males and 171 (62.87 %) females. Two individuals identified themselves as “other”, and another two did not specify their gender. In terms of race and ethnicity, 53.3% identified themselves as White, 11.8% as Black, 9.9% as South Asian, 3.3% as Latin and 3.3% as Chinese, with the rest identifying themselves as from different ethnicities. Eighty-five percent indicated that they lived in urban areas while 15% lived in rural areas. Seventy-one point four percent indicated that they are single, 25.3% married, 0.4% separated, 0.4% widowed, and 2.6% chose the option of “other”. The average age was 23.4 (SD = 7.2). In terms of how students viewed their own financial status, 4.0% indicated very weak status, 31.4% weak, 16.8% intermediate, 25.5% comfortable without savings, 17.2% comfortable with savings, and finally 5.1% very comfortable with good savings.

**Prevalence of Gambling and Problem Gambling Behavior**

The following table indicates the division of the sample based on the PGSI/CPGI score:

Table 2

*Division of the sample based on the PGSI/CPGI score.*

	Frequency	Percent
Non Gamblers-(0)	184	67.1
Low Risk Gamblers- (1-2)	57	20.8
Moderate Problem Gamblers- (3-7)	27	9.9
Severe problem Gamblers (8+)	6	2.2
Total	274	100

Table 2

As seen in Table 2, the majority of students (67 %) scored zero on the PGSI/CPGI, indicating that they are non-problem gamblers or non-gamblers. About 9.9% however could be classified as moderate problem gamblers. Table 2 also shows that 2.2 % of participants were severe problem gamblers. Combining moderate problem and severe problem gamblers indicates a prevalence of 12.1 % in the sample used in this study. The calculated total score for the PGSI/CPGI in the sample ranged from 0 to 11 and had a mean of 0.85 (SD = 1.71). For moderate and severe problem gamblers, the mean was 4.6 (SD = 2.29). Eighteen males (54.54%) and 15 females (45.45 %) fell under this category.

**Student Attitudes toward the Harm of Gambling**

Students were asked to verify their perception about the harms and benefits associated with gambling, and responses were classified based on students’ involvement in gambling. Problem and moderate gamblers were combined in one category while the second category referred to low risk gamblers and non-gamblers as indicated in the following table:

Table 3  
*Student attitudes towards the harm and benefits of gambling based on the PGSI/CPGI.*

Students Attitudes	Non-problem and low risk	Moderate and Severe PG	Total	Endorsement %
The harm far outweighs the benefits	89	8	97	35.4
The harm somewhat outweighs the benefits	86	7	93	33.9
The benefits are about equal to the harm	52	15	67	24.5
The benefits somewhat outweigh the harm	9	1	10	3.6
The benefits far outweigh the harm	5	2	7	2.6
Total	241	33	274	100

Note: PG = moderate or severe problem gambler.

Table 3

Table 3 indicates that 35.4 % of participants believed that gambling is very harmful to society and that 33.9% of participants believed that the harms associated with gambling somewhat outweigh the benefits. Ten participants (3.6%) believed that the benefits far outweigh the harms associated with gambling. In other words, 69.3 % of the sample agreed that the harm outweigh the benefits. As shown in Table 3, the majority (175=72.6%) of non-gamblers and low-risk gamblers agreed that the harm of gambling (somewhat or far) outweighs the benefits, but only 15 participants (45.5%) who are problem gamblers endorsed this item (somewhat or far). In contrast, compared to non-problem and low risk gamblers (21.5%) a higher proportion of the moderate to severe PG (45.5%) felt that the harm and the benefits were about equal. Very few people felt the benefits outweighed the harms (somewhat or far) but the proportion who endorsed the statement was

somewhat higher for the problem gamblers (9.0%) than for the non-problem and low risk (5.8%). These differences were significant based on Chi -square ( $n = 274$ ) = 11.7,  $p < .05$ ). Thus, non-problem gamblers had a somewhat more negative view of gambling than problem gamblers.

Similarly, a majority of the students (59.9 %) reported believing that gambling is morally wrong, while 24.1% reported that it was not immoral and about 16.1% of the participants were unsure, as indicated in Table 4. The Chi-square ( $n = 241, 2$ ) = 4.73, on the relationship between problem gambling and beliefs about morality was not significant.

Table 4

*Student attitudes toward the morality of gambling based on the PGSI/CPGI.*

Is gambling morally wrong?	Non-problem and low risk	Moderate and Severe PG	Total	Percent
Yes	141	23	164	59.9
Unsure/don't know	37	7	44	16.1
No	63	3	66	24.1
Total	241	33	274	100

Table 4

On the third attitude question, the majority of the participants (81%) indicated that all types of gambling should be legal, 6.2% indicated that some types of gambling should be illegal, and 12.8% believed that all types of gambling should be illegal. This is shown in Table 5:

Table 5

*Student attitudes toward legalized gambling based on the PGSI/CPGI.*

Opinion about legalized gambling	Non-problem and low risk gamblers	Moderate and Severe PG	Total	Percent
All types of gambling should be illegal	196	26	222	81.0
Some types of gambling should be legal and some should be illegal	17	0	17	6.2
All types of gambling should be legal	28	7	35	12.8
Total	241	33	274	100

Table 5

There was no significant relationship between problem gambling and attitudes toward the legality of gambling, Chi-square ( $n= 274, 2$ ) = 4.4, ns. In other words, the majority of participants believed all types of gambling should be legal.

### **The Correlation between Religious Beliefs, attitudes, and Gambling**

The following Spearman's rho table shows the matrix of correlations between religious beliefs and various attitudes towards gambling on one hand and gambling behavior on the other. Note that harm was scored such that higher scores indicate a belief that the benefits outweigh the harm, and morality was scored such that high scores mean that the person does not thing

gambling is morally wrong. As shown in Table 6, there was no correlation between gambling problems and religious beliefs  $r = 0.01$ . The data do indicate, however, that religious beliefs were more likely to believe that gambling was morally wrong,  $r = 0.17$ ,  $p < 0.001$ , and that the harms outweighed the benefits,  $r = 0.21$ ,  $p < 0.05$ , indicating that religious people had more negative views of gambling. Morality and beliefs about harm were correlated,  $\rho = .17$ ,  $p < .01$ . Problem gamblers were less likely to believe that gambling is harmful,  $\rho = -.12$ ,  $p < .01$  or immoral,  $r = -.16$ ,  $p < .05$ . Other analysis found that females scored lower on the PGSI,  $r = -.20$ ,  $p < .01$ . The sex difference in problem gambling is also shown in Table 7. More males (18.2%) scored in the moderate or severe problem range on the PGSI/CPGI than females (8.8%), and this difference was also significant.

Table 6

*Correlations between religious beliefs, gambling attitudes, and PGSI/CPGI score.*

	1.	2.	3.	4.	5.	6
1. My religious beliefs give me a great amount of comfort and security in life	1.000					
2. Total PGSI/CPGI	.01	1.00				
3. Harm (harm outweighs benefits = +2; benefits outweighs harm = -2)	.21**	-.12*	1.00			
4. Is gambling morally wrong? (Yes = 1; No = -1)	.17**	-.16*	.17**	1.00		
5. Legalization (all legal = 1; all illegal = -1)	-.05	.08	-.13*	-.11	1.00	
6. Gender (female = 2; male = 1)	.12	-.20**	.20	.04	-.05	1.00

For this analysis the two people who endorsed “other” for gender were treated as missing values. Two tailed significant \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Table 6

Table 7

*Sample size and percentage of sex by the categories on the PGSI/CPGI.*

	Non and Low risk Gamblers		Moderate and Severe problem gamblers		Total
Males	81	81.8%	18	18.2%	99
Females	156	91.2%	15	8.8%	171
Total	237	87.8%	33	12.2%	270

Table 7

A few other demographic variables were examined including age, financial security, relationship status and ethnicity which was dummy coded into White (n = 145), Black (n = 32), South Asian (n = 30) and East Asian (n = 20). None of them we related to problem gambling. Financial security was only related to religiosity,  $-17, p < .01$ . In addition, people who were white were less likely to report being religious,  $r = -.25, p < .01$ , and Blacks were more likely to report being religious  $r = .21, p < .01$ . The belief that gambling is immoral was negatively associated with being white,  $r = -.23, p < .001$  and being married,  $r = -.14, p < .05$ , and was positively associated with being South Asian  $r = .16, p < .05$ .

### Discussion

This study showed that the majority of students (67 %) are non-problem gamblers or non-gamblers. The study also showed, however, that gambling is common among college students, as indicated in Table 1. In the current study, nearly 10% (9.9) scored as moderate problem gamblers and a further 2.2% scored as severe problem gamblers. These numbers are consistent with previous studies (see Table 1) that claim a higher prevalence of PG in student populations in comparison to

the general population (Chan et al., 2015; Moore et al., 2013; Mubarak & Blanksby, 2013; Williams et al., 2006). As shown in Table 1, previous research has found that the prevalence rate of PG (combining moderate and severe) ranges from 5.0% to 11.9%. The current study found that 12.1% of participant students scored as either moderate or severe problem gamblers.

The most interesting finding in the study is the contradiction between the three attitude questions. Most of the sample reported that the harm of gambling outweighs the benefits (69.3%) and that gambling was immoral (59.9%). Nevertheless, 81% of the participants thought that all types of gambling should be legal. The students apparently want the freedom to gamble even though many consider gambling to be immoral and harmful. Some of the participants backed this up with comments such as “All, it is an absurd idea that the government can tell me what I can and can't do with my money.” Another participant commented that “Any gambling that is made illegal would go underground anyway.” It appears that endorsing legal gambling is viewed as a better option than prohibition as a way to avoid some of the problems associated with illegal gambling, such as organized crime (Ferentzy & Turner, 2009). It should be noted that at this time Canada was considering abandoning the prohibition of cannabis and this political change may be related to responses to this question. A study in England also found that most people had a negative attitude towards gambling, but were opposed to prohibition (Orford, Griffiths, Wardle, Sproston, & Erens, 2009). Further investigation in future research studies may reveal a better understanding of this contradiction.

Further, the present study found that males were more likely to have gambling problems than females. This finding is consistent with the bulk of the literature on gambling problems, which has found PG to be more common amongst males (Buckle, et al., 2013; Cook et al., 2016; Lesieur et al., 1991; Moodie, 2008; Rush et al., 2002; Volberg, et al., 2001). For example, Moodie (2008)

reported that 6.9% of males, compared to only 1.9% of females, were problem gamblers. Similarly, Buckle et al. (2013) found that males scored higher on the South Oaks Gambling Screen and engaged in more gambling activities in comparison to females.

Perhaps the greater involvement of males in gambling is a result of a patriarchal culture in which males are more encouraged to take risks in many aspects of life, including gambling, (Gneezy, Leonard, & List, 2009). Patriarchal capitalist culture also puts more pressure on males to achieve financial success (Cavendish, 2010), which in turn may lead to economic strain. Consequently, some males may be driven to gambling as a way to escape their financial burdens.

The study also found that religious beliefs were positively related to the view that gambling is harmful and immoral. These correlations indicate that strong religious beliefs play an important role in shaping negative attitudes toward the gambling industry. However, this idea is undermined by the lack of any correlation between religious beliefs and opinions about legalized gambling ( $r=.05$ ) or with gambling problems. The relationship between attitudes towards gambling, gambling, and religion are complex. These findings, however, were based on only 4 questions. A future study should examine the link between religion, attitudes and gambling in more detail.

### **Limitations**

There are some limitations involved with this study. Data was collected using an online self-report survey. The authors had no control over how often the participants completed the survey other than to ask them to only complete it once. As well, the data was not collected with a known probability, so the generalizability of the data is unknown. In addition, the survey did not collect information about participants' gambling activities or about risk factors for PG.

## Conclusions

In summary, the present study found that a fairly high percentage of the students surveyed had either moderate or severe gambling problems. These findings are consistent with the results of previous studies about the prevalence rate of PG in college and university students. The results, however, need to be replicated. Future investigations should conduct this study on a larger scale in order to more accurately assess the issue of PG amongst college and university students, as well as to measure any associated mental health, financial and social problems among students. Given that many studies share similar results with regards to the higher prevalence rate of PG in college and university students in comparison to the general public, it is recommended to organize workshops focused on the impact of PG on health, mental health, finance, violence, and academic achievement so as to raise awareness in this population.

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