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

By Don L. Rockey, PhD
Department of HPERS, Shepherd College
Shepherdstown, West Virginia, USA
E-mail: drockey@shepherd.edu

Kim R. Beason, EdD
Department of HESRM, University of Mississippi
Oxford, Mississippi, USA

James D. Gilbert, EdD
Department of HESRM, University of Mississippi
Oxford, Mississippi, USA

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

For correspondence:
Don Rockey, PhD, Assistant Professor
Department of HPERS, Shepherd College
Box 3210, Shepherdstown, WV, USA 25443
Phone: (304) 876-5404
E-mail: drockey@shepherd.edu

Don Rockey, PhD, graduated in leisure management from the University of Mississippi in 1998. He was assistant professor in the departments of Health, Physical Education, and Recreation at Missouri Western State College, Southwest Texas State University, and at Shepherd College (WV). His research interests are focused on determining the differences in motivation and in gambling participation between college athletes and non-athletes. He has made several conference presentations.

Kim Beason, EdD, CPRP, is an associate professor of Parks and Management at the University of Mississippi. His research contributions include co-operation dynamics between the casino industry and local tourism advocacy groups, and the economic and social effects gambling has on college students' leisure expenditures.

Jim Gilbert, EdD, CRPR, is an associate professor and program director of Parks and Recreation Management and assistant chair of the department of Health, Exercise Science and Recreation management at the University of Mississippi.

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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Research methods

Understanding the school culture: Guidelines for conducting gambling research in secondary schools

By Jennifer L. McPhee, MSc
Brock University
St. Catharines, Ontario, Canada
E-mail: jmcphee@arnie.pec.brocku.ca

Robert S. Canham, BEd
Brock University
St. Catharines, Ontario, Canada

Abstract

This article provides an overview of the importance of youth gambling research, the methodological issues faced when conducting research in secondary schools, and recommendations for conducting effective youth gambling research that benefits academia, the community, staff, students and parents within the school systems. Based on our recent experience, we

advocate a research approach that integrates the findings of youth gambling research into school curriculum, community youth agencies and the development, evaluation and enhancement of program and policy interventions. By doing so, we find that we are able to foster strong, respectful relationships with the community and encourage collaboration, co-operation and multidisciplinary alliances. If researchers follow these guidelines, they can ensure that youth gambling research goes beyond scholarly publishing and is transferred and applied within the community to reduce youth gambling problems.

Key words: adolescent gambling, research methodology, school-based research, youth research

Introduction

This generation of youth is the first cohort to grow up in an era when gambling is easily accessible, socially acceptable and extensively promoted. Prevalence studies continue to indicate that between 52% to 89% of youth gamble (National Research Council, 1999), 4% to 8% of adolescents have gambling problems (Gupta & Derevensky, 1996; Fisher, 1992; Jacobs, 2000; Shaffer & Hall, 1996, 2001; Wynne, Smith & Jacobs, 1996), while another 10% to 15% of adolescents are at risk of developing a gambling problem (Gupta & Derevensky, 1998; Shaffer & Hall, 1996, 2001; Wynne et al., 1996). Moreover, youth problem gambling is two to four times higher than adult problem gambling (Shaffer, Hall & Vander Bilt, 1999). Although recently these prevalence rates have been challenged as being inflated (Derevensky & Gupta, 2000; Shaffer & Hall, 2001), it is clear that gambling behaviours of adolescents should be of interest to parents, educators, researchers, social workers and others concerned about young people.

Need for further youth gambling research

While research on youth gambling has focused on prevalence rates, correlates, risk factors, theoretical frameworks and coping processes, these areas of research cover only a small part of a comprehensive understanding of youth gambling. To date, no research has examined protective factors that may act as buffers for youth problem gambling nor

the interaction between protective factors and risk factors. Few longitudinal studies have been conducted and the development, evaluation and proven effectiveness of youth education, prevention and treatment interventions are still in the early stages. Once compiled, this information indicates that youth gambling research is still in its infancy, and further studies need to be conducted in order to better understand this area of inquiry. A more comprehensive understanding of youth gambling and youth problem gambling will allow for the development and refinement of effective education, prevention and treatment interventions that reduce the harm of youth problem gambling. It is therefore very important that appropriate procedures be in place when research in schools is conducted to ensure that access to students is maintained.

Methodological issues

Although there is an urgent need for further youth gambling research, it is often difficult to access a representative population of adolescents. Currently, the majority of youth gambling studies consist of small samples of adolescents. While some studies recruit youth via telephone interviews, the majority recruit youth from the school system. Two approaches are generally used in order to obtain parental consent for a child's participation in school-based research. The first procedure involves active parental consent: parents are asked if their children can participate. The second type involves passive parental consent: parents are informed that their non-response implies permission for their children to participate in the study. At this time, many schools are moving toward the former consent procedure.

Unfortunately, the implementation of active consent procedures, employed to protect students, often result in low parental response rates, low participation rates and a distinct subpopulation of youth that threaten the external validity of the study (Anderman et al., 1995; Dent et al., 1993; Noll, Zeller, Vannatta, Bukowski & Davies, 1997; Ross, Sundberg & Flint, 1999; Severson & Ary, 1983). Research has found that youth who do not receive parental permission are quite unique compared to those who do receive permission. For example, youth without parental consent are rated by peers and teachers as being less popular (Frame & Strauss, 1987; Noll et al., 1997), less academically competent (Frame & Strauss, 1987; Noll et al., 1997), more socially withdrawn (Frame & Strauss, 1987; Noll et al., 1997), more aggressive (Frame & Strauss, 1987; Noll et al., 1997), higher in risk-taking (Dent et al., 1993), less assertive (Dent et al., 1993), have lower self-esteem (Dent et al., 1993) and tend to engage in substance use and other problem behaviours (Dent et al., 1993; Kearney, Hopkins, Mauss & Weisheit, 1983; Severson & Ary, 1983).

Overall, the literature suggests that youth who typically would not receive parental consent are generally at a higher risk for a number of health and social problems. Given that research on youth gambling often looks at many of these comorbid risk factors, our research team believes that it is imperative for high-risk youth to be included in our research samples — especially when assessing the effectiveness of youth gambling prevention programs. If they are not included, youth gambling prevention programs, interventions and policies will not meet the needs of this population of youth, who in fact are the target of the intervention in the first place (Dent et al., 1993; Noll et al., 1997; Ross, et al., 1999; Severson & Ary, 1983). We believe that school board officials need to be educated about these issues, and researchers need to advocate for the adoption of an informed but passive parental consent procedure, which will provide a more representative sample of youth.

However, given the likelihood of having to continue with active consent procedures, we would like to suggest to youth gambling researchers several strategies that we have found to be effective in boosting response rates. Based on our past experience, we will recommend a set of guidelines for conducting school-based research that have been accepted favourably by school officials, teachers and parents in our region. As a result of these positive experiences, the school environment/community remains open to continuous research.

School-based research

Before our research team developed any protocols for our youth gambling research, we hired an educational consultant who was both a former teacher and principal in many of the secondary schools in our region. The consultant's role was to educate our research team about the secondary school system and to liaise with school officials in order to recruit secondary schools for participation in our study. During the process of contacting school administrators, our educational consultant found that the majority advocated youth research and understood its importance; however, several well-merited criticisms about past school-based research were also brought to our attention. Many school administrators reported problems with past research efforts:

- youth surveys were too long;
- survey questions were not age-appropriate (or contained unsuitable

content);
- surveys were not administered in an organized fashion;
- surveys placed too many demands on school and staff time;
- the research process often disrupted the school schedule, and;
- survey results often were not disseminated to schools (and the community) in a comprehensive manner.

Based on these criticisms, it was evident to us that past researchers often did not meet the needs of the schools. Procedures for school-based research appeared to be both unreasonable and impractical, taking up far too much of the teachers' and students' time, and significantly disrupting the school schedule. Conversations with school administrators in our region demonstrated that such procedures gave school staff a poor impression of school-based research. To our knowledge, these issues led school board officials in our region to move away from passive consent procedures and to adopt informed and active parental consent procedures, to develop their own research review committees, and generally, to overhaul their procedures and protocols for school-based research. Despite these difficult circumstances, our research team felt that it was our duty to address the concerns and criticisms that were voiced by many school officials. To do so, we developed a new set of guidelines and protocols for conducting school-based research. The guidelines that our research team developed were effective for data collection and received favourably by school officials, teachers and staff as indicated in their project evaluation forms. Our research team would like to share the protocols and guidelines that we used with other youth researchers, and hope that by doing so, we can advance procedural standards for youth research and lay a foundation for improved practices in school-based research.

Forming a multidisciplinary committee to guide the research project

As researchers, we have an obligation to understand school culture and to plan well so that disruption to the school schedule and demands upon school staff are minimized. As mentioned previously, our research team hired a former principal to fulfill a role as our educational consultant. Our consultant's background and knowledge about the school system ensured that our research team was conscientious about school culture and did not repeat past mistakes. In addition, our research team recruited several other persons who became part of our advisory committee, which guided the youth gambling project. Members of our committee included

researchers, parents, youth and clinicians from a community alcohol, drug and gambling treatment agency. Our multidisciplinary team was crucial in developing survey materials and procedures that met the needs of school administrators, teachers, students, parents and the community. Committee members provided helpful suggestions and ensured that our research project overcame the many difficulties often faced when conducting research in schools. The committee made certain that our survey contained suitable and comprehensive questions for youth. Parent committee members ensured that the consent procedures and materials were comprehensive and reasonable, given the busy schedules of most parents. Our educational consultant ensured that the research procedures were both reasonable and feasible within the school system. In addition, we pilot tested our survey two grades below our target audience to ensure that the survey was set at an appropriate reading level and was comprehensible to teens with a wide range of reading skills.

Ensuring minimal disruption to the school, staff and students

Our research team decided that the most effective way to gather data in the shortest period would be to survey an entire school. The challenge for us was to find a time within a school's busy schedule when students could complete a survey. We were mindful that surveying students would ultimately result in a loss of instructional time for the schools. For example, if 1,000 students were to complete a 30-minute survey, the school would have to give up 500 hours of instruction time. As researchers, we were conscious of this and developed a 20-minute survey. Our concern was that a survey which ran over the time limit would have a serious effect on the atmosphere, efficiency and order in the school.

The school's timetable should dictate the length of data gathering sessions, and researchers must work within these parameters. Our research team was fortunate because the participating schools had timetables that included a block of time for a Teacher Advisory Group's (TAG) class. In Ontario, TAG is a class that is not part of the mandatory school curriculum. Instead, this class promotes development of yearly educational plans, goal-setting and decision-making skills and helps students come to understand themselves as individuals. One teacher is assigned to approximately 20 students, and these students attend the same TAG class regularly until they graduate from high school. Our research team was fortunate because the research conducted during TAG classes raised awareness about the issue, provided an opportunity for

class discussion and did not infringe upon school curriculum.

Not all schools will have such an ideal setting for administering a survey; however, most schools will have blocked-off time for football games, assemblies or other special events, which are more amenable to accommodating research than regular classes. It's not difficult to set up a special timetable for an event such as a research survey provided the research team presents a specific request and then ensures they abide by the terms. Having an educational consultant as a member of your research team can be very useful as she or he will already understand the schools' timetables and be able to work more easily with school officials. to find an appropriate time to administer the survey. Our educational consultant brought knowledge, sensitivity and understanding to this process; often other research team members do not possess a broad understanding of the secondary school system.

To further accommodate the schools' busy schedules, our research team also ensured that demands on teachers and other staff were minimal. For example, our team was responsible for mailing consent forms directly to parents, tracking responses, forwarding reminder slips, conducting telephone follow-ups and administering the survey. In addition, we recruited and trained senior students who administered the surveys in every classroom and ensured consistency in the way the survey was conducted and reduced the demands on the teacher. Preparation, including maps of the school and class lists indicating which students have parental consent, was critical to minimizing the burden on school staff and disruption to the students' timetables. School Survey Procedures and Protocols in **Appendix A** contains the procedures for administering the survey, which all research assistants followed.

Educating school administrators and staff

In addition to accommodating the schools, it is also important to educate all staff by providing them with a brief overview of the study and the research procedures. This step is beneficial because it reduces resistance, increases awareness and establishes support and co-operation. To meet these objectives, our research team sent an information package to all principals for review. In addition, this package remained in each school's office for parents, staff and other interested parties to view at their convenience. The information package contained the following: cover letter, overview of our research, research objectives, survey, copy of the

alternative task (see description of alternative task below), parent and youth consent forms, debriefing form, thank-you letter and a set of detailed procedural instructions. **Appendix A** contains all of these documents.

The cover letter indicated that the project manager would be in touch to schedule a meeting with the principal to discuss the information package and to set up a time and date to administer the survey if permission was granted. Our educational consultant and project manager then met with each principal and explained the purpose of our research, its importance to youth, schools and the community, and the procedures that would take place from the beginning to the end of the research project. If the principal gave permission for the survey to be administered, then the educational consultant and project manager set up a date to present the same information to all school staff. This 15 minute presentation allowed the teachers and research team to develop a rapport as teachers were fully informed of the procedures and given the opportunity to express any concerns or ask questions. This presentation increased teachers' awareness of youth problem gambling and motivated them to join us in this endeavour. The importance of the issue, the minimal work required by the staff, and the promise to feedback comprehensive results and recommendations to school staff seemed to motivate parents, students and school staff to assist us with our research project. Principals announced when the survey would be administered, information was printed in school newsletters, and teachers reminded students to have their parents sign and return consent forms.

Obtaining parental consent

In the past, a process of passive consent was the norm, whereby parents only indicated that they did not want their child to be involved. But now it's more likely that school board policy will require active and informed consent. This procedure not only requires more administrative time but also demands careful presentation. Our research team employed several strategies to increase response rates since active and informed consent was required. Firstly, our team used several communication channels such as school newsletters, parent council meetings, student council meetings, morning announcements, local newspapers (an article about the project that coincides with the consent process) and radio stations to inform schools, teachers, parents, students and our community about our research project. It was also useful to educate teachers at staff meetings about our research and to prepare homeroom announcements to assist in

promoting the survey. As well, we developed a package for parents that included the consent form; a brief description of the study, written in appropriate language, and contact names and phone numbers for addressing concerns. Parents could check off a section on the consent form indicating that they wanted a copy of results.

We were only permitted to obtain parental consent in writing; however, other researchers may find it useful to establish multiple channels for providing consent (mail, phone, e-mail). Lastly, parents who did not forward a consent form by the specified date were forwarded a reminder notice and then sent an additional package if a response was still not sent. Telephone follow-up is also another strategy to increase response rates if the school board and university's ethics committee allow for this protocol. We found that by providing parents with the project manager's phone number and e-mail address, we increased response rates and opened channels of communication. In fact, many parents contacted our project manager to ask for additional consent forms, to discuss the issue of problem gambling and to indicate their support for the project. Of note, one parent, whose son had already completed the survey, offered to assist with the administration of the survey in the remaining schools.

For those students who do not receive parental permission, it is important to provide an alternative activity. We developed a brief activity: a reading on youth gambling, followed by open-ended questions related to this reading. The purpose of this alternat activity was to ensure that all students were kept busy, to decrease the likelihood that students without permission would be identified, and to ensure that all students were involved in an educational experience. The majority of students and teachers who recently participated in our survey and the alternative activity showed a genuine interest in youth gambling and expressed a new awareness afterwards. Many teachers requested additional copies of the alternative activity to use and discuss in follow-up TAG classes.

Disseminating the results

One of the most important elements in the contract between our research team and the schools was to provide comprehensive and clear results from the survey, and recommendations based on these findings. Without this effort to disseminate information, the schools, students and parents might have felt that their time and energy was wasted. The results were presented in both written and verbal formats. We developed a

comprehensive executive summary of our results (written in simple language), which we mailed to parents who expressed an interest in the study's findings. **Appendix B** contains the executive summary for parents.

Similarly, we developed a comprehensive report for school administrators and youth agencies in the community, which included the results of our study, illustrative graphs and applicable recommendations. **Appendix C** contains the comprehensive report.

Interesting and interactive presentations were made to principals, students, teachers, parents and youth agencies to increase awareness about youth gambling, provide a snapshot of our results, suggest recommendations based on these results and provide an opportunity for discussion. Where applicable, we provided specific recommendations based on the surveys' results along with links to youth gambling prevention materials, curriculum and treatment resources. These presentations provided a nice transition from research to application while further increasing awareness. All of these steps helped to ensure that our research team left a positive impression, which in turn led theschools to welcome our research team back for further research.

Ethical issues

One of the ethical questions that our committee faced was over how specific the feedback to individual schools should be. On one hand, some schools hoped that the information gathered in the survey could be used to inform administrators about the extent of problems or activities in their schools, and thus, help them decide whether or not they need prevention/education and/or treatment interventions. But on the other hand, there was the potential complication that the media would compare the results of different schools, which could have ramifications for the school boards. In the end, we did not provide any separate feedback to individual schools. In hindsight, this ethical issue should have been discussed with all school administrators before the surveys were administered. If a particular principal is interested in his or her school's results, we recommend that these results be provided verbally and that a comparison is made only to the overall results —not to each school individually.

Conclusion

With youth gambling on the rise and youth gambling research still in its infancy, it is imperative that researchers continue to have access to the school system and its target population. An acceptance and understanding of the school environment is needed to carefully plan and organize school-based research that is both effective and unobtrusive. Most importantly, findings from youth gambling research need to be disseminated in a comprehensive manner that benefits teachers, principals, parents, students and the community. Transferring and gearing research findings to different audiences (besides just academia) can increase awareness and in itself act as a prevention tool. If findings are disseminated appropriately and comprehensively, other community members will have the opportunity to take advantage of the practical applications of this research. In turn, youth gambling research can be used to guide the development of new policies, education, prevention and treatment interventions all aimed at reducing the harm of youth problem gambling. It is hoped that this article, our experiences and the proposed guidelines will lay a foundation for best practices in youth gambling school-based research.

Acknowledgements: *The authors gratefully acknowledge the Ontario Problem Gambling Research Centre for funding and supporting this research.*

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Appendices

Appendix A Sample information package for principals

Letter to principal
Information sheet on youth gambling
School survey procedures and protocols
School newsletter and announcement
Letter to parent/guardian
Parent/guardian consent form
Student consent form
Youth gambling survey
Alternative activity – Level I
Alternative activity – Level II
Debriefing form for students

Appendix B Cover letter to principals

Evaluation form
Comprehensive report for principals

Appendix C Letter to Parent/guardian

Executive summary of results for parents

This article was peer-reviewed.
Submitted: July 22, 2002
Accepted: September 5, 2002

For correspondence:
Jennifer L. McPhee, MSc
Project Manager, Youth Gambling Research Initiative
Brock University
Community Health Sciences
500 Glenridge Avenue
St. Catharines, Ontario, Canada L2S 3A1
Phone: (905)-688-5550, ext.4566
E-mail: jmcphee@arnie.pec.brocku.ca

Jennifer McPhee, MSc. is the manager of the Youth Gambling Research Group (YGRG) at Brock University. Previously, she was a clinician in inpatient and outpatient treatment centres providing counselling services to youth, adults and families affected by substance use and related problems. Last year, Jennifer and the YGRG conducted research examining the applicability the of the Transtheoretical Model of Change (TMC) to adolescent problem gambling. In the upcoming year, the YGRG will validate the psychometric properties of the TMC subscales and study the relationships between parenting factors (parenting style/ practices, parental gambling attitudes, knowledge and behaviours toward youth gambling) and adolescent gambling behaviors. Jennifer is a member of the board of directors of the Responsible Gambling Council (Ontario).

Bob Canham, MEd is a retired secondary school principal, formerly with the Niagara District Secondary School and Beamsville District Secondary School. Currently chair of the Niagara Alcohol and Drug Assessment Service board of directors, he has volunteered with that organization for 20 years. Bob is a consultant for the Youth Gambling Research Group at Brock University, advising on youth, secondary schools and the dissemination of research results.

Issue 7 —December 2002

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Issue 7 —December 2002

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Appendix A

Sample information package for principals

Letter to principal

Dear <insert principal's name>:

We have enclosed some materials for your consideration as we complete the details of conducting the youth gambling survey at your school. We will be in touch shortly to set up some dates for the survey, and a meeting to discuss your requests regarding the survey and whether or not you would like us to speak to your staff about this questionnaire.

The survey should take about 20 minutes and require no more than 30 minutes including instructions and handing out and collecting materials. For those students who are not taking the survey, we have prepared an alternative activity that has various levels of difficulty. These activities can be used for follow up discussions between students who have done the survey and those who have only read information on youth gambling.

<insert the name of the superintendent of the school board> has been kept informed of the progress and the processes of this research project. The consent process will be handled by the research project office. In this package, we have included a sample announcement, which can be used to obtain signatures from parents or guardians who can then return them in the pre-addressed, pre-stamped envelopes to our office.

We have also included an information sheet on youth gambling for school counsellors and teachers, which includes statistics on the high prevalence rates of youth gambling in Canada.

We are currently in touch with someone who is developing curriculum for secondary schools that addresses gambling issues. We hope to provide you with this curriculum for pilot testing in the <insert time of year>. The units are 30 minutes long and might fit into your TAG schedule and program.

We will be in touch with you, but please do not hesitate to contact us at the telephone numbers provided below. Thank you very much for assisting us with this important research.

Sincerely,

<insert contact telephone numbers>

Information sheet on youth gambling

Questions & answers

Why are you researching youth gambling?

- Results from six research studies already completed in Canada have indicated that 7% to 28% of teens have serious gambling-related problems. Given that average-sized classrooms in Canadian high schools seat 28 students, as many as four teens in every class may be experiencing serious gambling-related problems.
- Between 1984 and 1999 youth gambling increased from 45% to 66%, and by the year 2005, this rate is expected to rise to 80%.
- Adolescent prevalence rates for problem gambling are two to four times higher than adults.

The above points clearly illustrate that the community should be concerned with this issue and need to work toward preventing youth problem gambling.

What is the purpose of this survey?

Previous research in Canada has shown that 7% to 28% of teens in Canada have serious gambling-related problems. Since we already know that youth gambling is a problem, we want to move beyond this and find out how to prevent youth gambling, help youth at risk and assist youth problem gamblers so they can reduce or quit their gambling. Our survey specifically looks at types of teen gambling behaviours and how teens go from experimental gambling to problematic gambling. The results from this survey will be used to help us develop prevention, treatment and harm reduction interventions that will meet the needs and preferences of youth in the Niagara region.

What is the definition of gambling?

Gambling is "the act of risking money or something else of value on an activity with an uncertain outcome." Playing cards or video games for money, buying raffle tickets, betting on who is going to win the next game of pool or wagering your favourite CD on the outcome of a sports event —it's all gambling.

What is the legal age to gamble?

- In Ontario, persons under the age of 19 are not permitted to enter a casino.
- Persons under the age of 19 are not permitted to purchase or redeem tickets at a racetrack.
- Persons under the age of 18 are not permitted to purchase or sell break-open, scratch, lottery or Pro-Line tickets.
- Persons under the age of 18 are not permitted to enter a bingo hall.
- The above age restrictions vary from province to province.

Why do youth gamble?

- Most youth report that they gamble because it's exciting and enjoyable.
- Money is not the predominant reason why youth gamble – money is used as a vehicle that enables them to continue playing.
- Youth gamble for many reasons:
- to cope with daily stresses and feelings of depression
- to win money
- for instant gratification
- to escape
- to feel less lonely
- to feel powerful
- to feel like they can take control of a social situation
- to feel less shy
- to make friends

What age do youth start gambling at?

Problem gamblers report starting gambling at a serious level at approximately age 10.

What types of gambling do youth engage in?

- Male teens prefer games of skill (e.g., betting on card games, pool, sports teams) while female teens prefer games of change (e.g., bingo, scratch tickets).
- Canadian youth gamblers are most interested in bingo, lottery tickets, instant gratification games (e.g., scratch tickets, pull-tab cards), dice, board games and betting money on games of skill such as pool, cards, golf and sports teams (sports betting).

Why is youth gambling increasing?

- While parents, educators and the media emphasize the dangers of smoking, alcohol use and drug use, children and teens are not educated about the potentially addictive qualities of gambling.
- Society views gambling as a fairly harmless behaviour with few negative consequences — this is supported by findings that children and teens often gamble for money with their parents and other well-intentioned family members.
- Laws regarding the sale of lottery and scratch tickets to youth are often not enforced.
- Access to illegal and legal gambling activities has increased (e.g., more casinos).

How do you know if you have a gambling problem?

- Do you think about gambling at odd times of the day?
- Do you keep spending more and more money on gambling?
- Do you become restless, fed up or bad tempered when you try to reduce your gambling?
- Do you gamble to escape from problems?
- Do you gamble to win back your losses?
- Do you lie to people to hide how much you gamble?
- Do you steal money to gamble?
- Are relationships with friends or family strained because of your gambling?
- Have you have missed school or work a lot to gamble?

If you say, "yes" to 4 or more of these items you may have a gambling problem.

How do you know if a teenager has a gambling problem?

- They repeatedly lie to family and friends.
- They borrow money to support their gambling behaviour.
- They sacrifice school, parents and friends in order to continue their gambling.
- They engage in "chasing" behaviours (try to win back their losses).
- It is difficult to determine if a teen has a gambling problem because some of these behaviours (e.g., lying, skipping school, arguing with parents) are part of the teenage years.

What is low-risk or responsible gambling?

- gambling legally (e.g., at or above the legal gambling age)
- gambling socially — not alone
- setting a limit to the amount of time and money that you spends gambling
- not borrowing money to gamble
- not letting gambling interfere with school, work or family
- not gambling to cope or escape from problems

If someone has a gambling problem where can he or she go for help?

N.A.D.A.S. Gambling Treatment	905-684-1183
Problem Gambling Help Line (24-hour telephone counselling)	905-684-1859
Problem Gambling Help Line (toll free)	1-888-230-3505

Other youth help centres that address a wide range of youth issues:

Distress Centre Niagara	905-688-3711
Kids Help Phone	1-800-668-6868
Niagara Centre for Youth Care	1-800-263-4944
Niagara Alcohol and Drug Assessment Service (N.A.D.A.S.)	905-684-1183
Family and Children's Services	905-937-7731

School survey procedures and protocols

To indicate students' eligibility, the researchers (not the school) will track which students obtain parental consent by using class lists.

Each research assistant will assemble a package containing a class list, which indicates eligible students; general information; consent forms and questionnaires for each of the eligible students; alternative tasks for the remaining students, and instructions to the teacher.

Research assistants will be given a script to read to the classes, which will explain the nature of the study to the students.

The research assistants will also provide students with the following information prior to the commencement of the survey:

- Name of the study
- Who is conducting and supporting the study
- Purpose of the study (The purpose of this study is to better understand youth gambling behaviours.)
- The reason why these particular students were chosen to participate in the study (Students attending secondary schools throughout the <insert region> were voluntarily selected. Students were not chosen due to personal characteristics or behaviours.)
- Voluntary involvement (Students can drop out of the study at any time. They can skip any questions that they do not feel comfortable answering. To participate in this study, students must fill out the consent forms that are distributed and return them when asked to do so.)
- Confidentiality and anonymity (All information they provide is private. They will not be required to write their names on the questionnaire.)
- Questionnaire information (Students will be asked to answer questions about gambling, substance use, school achievement, extra-curricular activities and risk-taking behaviours. They will be given 20 minutes to complete the questionnaire.)
- Instructions on how to properly fill out the questionnaire (E.g., Please use a pencil, no pens; bubbles must be completely filled in; if answers are changed, completely erase old answers)
- Instructions on completion of questionnaire (E.g., Fold survey in half and put it in the large envelope marked "surveys" at the front of the class.)
- Debriefing form (The students will be thanked for their participation. The teacher and/or research assistant will read the debriefing form and answer any questions.)
- Students will be informed of community resources and reminded of school counsellors and nurses if they need to discuss any issues.

School newsletter and announcement

(For newsletter)

Attention Parents/Guardians:

<insert name of university> and <insert name of alcohol and drug assessment service> are trying to find out more about youth who gamble in the <insert region>. With parental permission, high school students in the <insert region> will have the opportunity to complete a survey on youth gambling.

Please expect to receive a letter in the mail in <insert month and year>. The letter will explain this project in more detail. There will also be a permission form that parents/guardians need to sign. We request that you return the permission form in the pre-addressed, pre-stamped envelope which is enclosed. Please indicate if you want your child(ren) to participate in this survey. If you have any questions about this project please contact <insert name of contact person>.

(

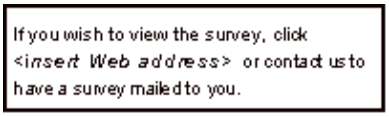
For school announcement)

All students at <insert name of high school> have been invited to take part in a <insert name of university research project> on teen gambling. Information and a permission form have been mailed to your home. Please remind your parents/guardians to sign the permission form and mail it back to <insert name of university>. <insert name of university> thanks you for your participation in this important research.

Letter to parent/guardian

Dear Parent/Guardian:

All students at <insert name of high school> are invited to take part in a very brief study about youth gambling. The goals of the study are to (1) find out more about teenagers' gambling behaviours, and (2) find out why some adolescents progress from experimental gambling to problem gambling. The study will consist of an anonymous and short paper-and-pencil survey.



The survey will ask your children about their gambling behaviours, school work, after-school activities, substance use and risk-taking behaviours. There are no questions about religion, sexuality or violence. The survey will be carried out during school time, in the classroom, and will take about 20 minutes to complete. The survey is totally anonymous; there are no identifying marks or codes, and there is no place for children to put their names.

When the results of the study are reported, all answers will be grouped together, so no one can trace a specific answer back to one student. Your child's involvement in this study is completely voluntary, meaning that she or he can skip questions or stop doing the survey at any time. If your child doesn't complete the survey, this will not affect your child's school grades in any way.

Next <insert time of year> the results of this study will be presented to teachers and students, posted at the main office of the school and on our Web site. Results will also be presented in professional and scholarly forums. If you so request, a summary of the study results can be mailed directly to you.

To indicate whether your child can or cannot take part in the study, please complete the enclosed permission slip and return it to us in the pre-addressed, pre-stamped envelope. Or if you would like to talk to someone about the study, please contact <insert contact name> or the <insert name of university office of research services>. This study has been approved by the <insert name of regional board of education>, the school's principal and <insert name of university ethics review committee>.

Thank you for considering our study.

Parent/guardian consent form

Please indicate whether your child(ren) CAN *or* CANNOT participate in the survey, then sign and return this form in the pre-addressed, pre-stamped envelope.

(Please print.)

Child's name _____ Child's birthdate _____
month / day / year

Child's name _____ Child's birthdate _____
month / day / year

I understand the nature of the study, and I DO give permission for my child(ren) to take part in the study.

_____
Parent/Guardian signature

Date _____

Address _____
_____
_____

I understand the nature of the study, and I DO NOT give permission for my child(ren) to take part in the study.

_____
Parent/Guardian signature

Date _____

Address _____
_____
_____

If I give permission for my child(ren) attending <insert name of high school> to participate in this study, I understand that I will be allowing my child(ren) to partakeicipate in a study which asks questions about gambling, behaviours related to gambling, school work and after-school activities. Results of this study will help health professionals and educators develop better prevention and treatment interventions for <insert name of region> youth. My child(ren)'s participation in this study will be completely voluntary. Therefore, my child(ren) can skip any questions on the survey or withdraw from the study at any time for any reason. All information provided by my child(ren) is anonymous and will be kept confidential. Results of this study will never identify my child(ren).

If you wish to see a copy of the survey go to <insert Web address>. If you have questions about your child(ren)'s participation in the study, contact <insert contact name> or the office of research services at <insert name of university>. Results of this study will be published and presented through professional and scholarly forums. Results will also be posted on our Web site. However, if you would like to receive a written summary of the results, please check here ☐ . (The results will be available in the <insert time of year>). This study has been approved by the <insert name of school board> and <insert name of university ethics review committee and file number>.

Student consent form

Your parents/guardians gave you permission to take part in a study about gambling. The goals of this study are to find out (1) more about teenage gambling, and (2) why some teenagers gamble a little and others gamble a lot.

You should know that the survey is totally anonymous. This means no one —not your parents, your teachers, not even your friends —will know what you wrote on the survey. And when the results of the study are reported, everyone's answers will be grouped together so no one can trace your answers back to you. You should also know that your involvement in this study is completely voluntary, which means you can skip questions or stop doing the survey at any time.

If you agree to be in this study, you will be given a paper-and-pencil survey. The survey will ask questions about your gambling behaviours, school work, after-school activities, substance use and risk-taking behaviours. It will take you about 20 minutes to complete.

If you want to do the survey, read this, then sign your name.

Any questions I had about the study have been answered, and I understand that

- I am agreeing to be in this study, which asks questions about gambling, school and other behaviours (like drinking and smoking).
- My answers on the survey are anonymous, so *no one*, except me, knows what I wrote.
- My answers on the survey will be kept strictly confidential (this means private).
- My participation in this study is completely voluntary. Therefore, I can skip any questions, or even stop doing the study at any time for any reason.
- My answers will be grouped with other students' answers, then used to develop prevention and treatment programs for teenagers in the <*insert name of region*>.

Signature _____ **Date**_____

If you have any questions or concerns about the study, you may contact <insert contact name> .

Thank you for your help!

This study has been approved by your school and by the <insert name of university ethics review committee and file number>.

Youth gambling survey

[Not available online.]

(A copy of the survey was enclosed in the package for principals to review.)

Alternative activity: Level I

Please read the following article and answer the questions below:

Most people think that only adults have gambling problems. This is not true. Youth in Canada and the United States have been surveyed, and these surveys show that between 4% to 8% of teenagers (mostly males) have serious gambling problems, and another 10% to 14% of teenagers are at risk of developing a serious gambling problem. These numbers are alarming.

Teenagers who have gambling problems usually start gambling at age 10 or 11. Teens participate in many types of gambling, such as playing cards or bingo for money, games of skill, scratch and pull-tab cards, sports betting and sometimes going to the casino. Lottery tickets are teenagers' favourite way to gamble. Did you know that it is illegal to purchase lottery tickets and scratch tickets if you are not 18?

Most parents and teens think that gambling is not dangerous. Again, not true Ñ gambling can be dangerous. Teens that have gambling problems constantly think about gambling, spend more money than they want to, gamble to escape their troubles, miss school, steal to pay back their debts, lose friends and argue with parents or family members because of their gambling.

Most teens do not have gambling problems, and most teens report that they gamble just for fun, but it is important to remember that there are also negative consequences to gambling. Gambling can become an addiction just like cigarettes, alcohol and drugs. While teens are usually warned by parents, teachers and the media that alcohol and drugs are addictive, they are not warned about the negative effects of gambling. As well, the media and the government make gambling appealing to teens by naming tickets after children's games (e.g., bingo, Monopoly, Battleship) and using slogans such as "Everyone's a Winner." It has been reported that the increase in teen gambling is due to the aggressive marketing of these lottery tickets and the increase in the availability of gambling opportunities in Canada and the United States.

We hope more information will be made available to teens, parents, schools and our communities to let everyone know that gambling can lead to problems similar to alcohol and drugs. If people are more educated about the consequences of gambling then maybe they will be more careful, and there will be fewer gambling problems.

Questions

What is the most surprising fact in this article?

Why is there an increase in youth gambling?

How do you feel about the government aggressively marketing lottery tickets to kids?

What do you think should be done to ensure that young people do not develop gambling problems?

Why do you think it's mostly males who become problem gamblers?

What problems do you think adolescent problem gamblers are likely to experience?

Alternative activity: Level II

Teen gambling

- 4% to 8% of teens (more guys than girls) have serious gambling problems.
- Another 10% to 14% of teens are at risk of serious gambling problems.

 Types of gambling that teens participate in:

-  card playing for money
- bingo for money
- games of skill (such as pool and darts) for money
-  scratch and pull-tab cards
- sports betting
- casino gambling.

Did you know that it is illegal to buy lottery tickets and scratch tickets if you are not 18?

Teens that have gambling problems

-  think about gambling all the time
- spend most of their money on gambling
- gamble to get away from their problems
- miss school to gamble
- steal to pay back money
- lose friends
- argue with parents and family because of their gambling.

Gambling can become an addiction just like cigarettes, alcohol and drugs.

If more teens know that gambling can lead to problems then maybe they will be more careful and there will be fewer gambling problems.

Please answer the following questions:

What type of gambling do you think kids your age do?

Write down three bad things that can happen if you gamble a lot.

What can we do so that teens don't have gambling problems?

In the space below, draw a poster that will show how to prevent teens from gambling.

Debriefing form for students

Thank you!

We appreciate your time and co-operation in completing our survey. The answers you have provided will be grouped with the answers from all other participants. Once compiled, this information will help us understand how and why teenagers gamble. In fact, health professionals, counsellors, teachers and others will use this information to develop better prevention and treatment interventions for young people in the <insert name of region>.

Sometimes, after you do a survey like this, you may want to talk to someone about your answers. If you want to talk about anything that we covered in this study, please see your guidance counsellor or school nurse. If you don't want to do that, you can call one of the following places instead.

Kids Help Phone	1-800-668-6868
N.A.D.A.S. Gambling Treatment	905-684-1183
Problem Gambling Help Line (toll free)	1-888-230-3505

The final results of this study will be posted in several areas at your school, or you can find them on our Web site at <insert Web address>. You can also get information about the results —or any other part of this study —by contacting the researchers at <insert phone number> .

Did you know?

- In Canada, 4% to 8% of teenagers have a serious gambling problem, and 10% to 14% of teenagers are at risk of developing a serious gambling problem.
- Many teenagers do not think that hockey pools, Pro-line/Sports Select, break-open tickets or lottery tickets are gambling activities — ***they are!***
- Youth gambling problems are increasing.

Appendix C

Letter to parent/guardian

Executive summary of results for parents

Letter to parent/guardian

Dear Parent/Guardian:

The <insert name of university> would like to thank you for allowing your child(ren) to participate in our youth gambling survey. Our research team has received a lot of positive feedback from the schools and students who participated in it. Teachers, students and parents have indicated that the survey and information provided served as a useful tool by creating awareness and educating students about youth gambling issues.

The results of this survey from <insert number of schools> schools indicated that the prevalence rate of youth gambling is the same as shown in studies across North America. Some students responded that they are non-gamblers who gamble occasionally. This may indicate that some confusion exists about what activities constitute gambling. Students whose answers indicate they are at risk (15%) or are experiencing problems around gambling (6%) are about the same as shown in other studies.

Those who gamble and those who don't have different perceptions of the dangers. Not surprisingly, non-gamblers see gambling more negatively, and gamblers focus on the positive outcomes. Both groups believe that some luck is involved in gambling.

Risky behaviours seem to go together; gamblers are more likely to use alcohol, smoke cigarettes or be involved in drug use. Of those who are experiencing problems around gambling, 80% are male and 20% female. Again, this is consistent with other studies.

One of the challenges in dealing with youth problem gambling is convincing adolescents to seek help. An interesting finding in our study showed that all teenagers who admitted to having a gambling problem were told by someone else they had a gambling problem. This suggests that good communication within the family unit is important, that counsellors have a role to play, and even the observations of peers can help an individual recognize a gambling problem.

As promised, our research team would like to share with you some of the key findings from our survey.

Survey responses

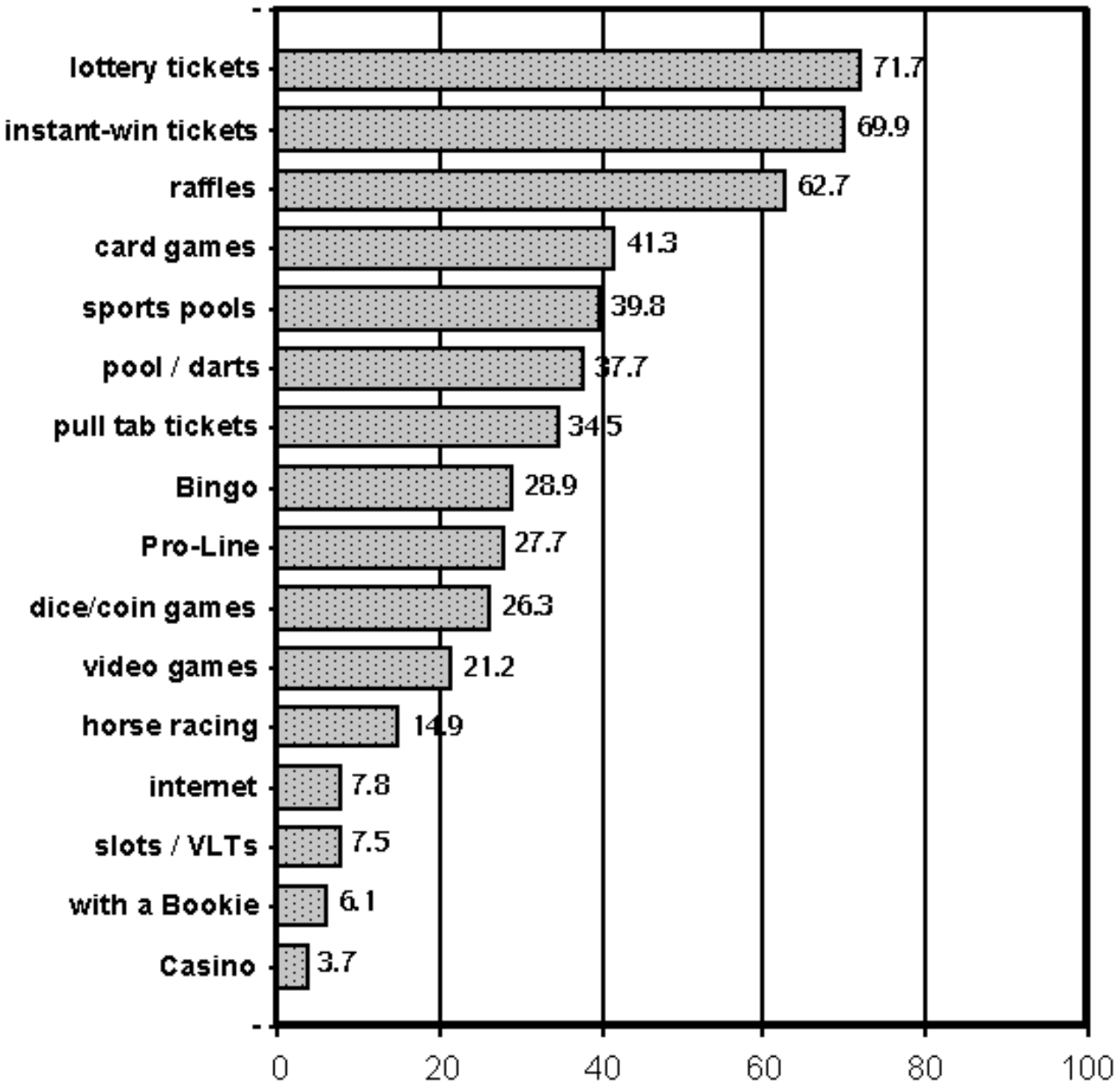
Prevalence rate of teen gambling in the Niagara region:

- 28% of high school students reported that they have never gambled
- 72% reported that they do gamble

Frequency of gambling among teens in the past year:

- 25.2% reported that they have not gambled at all in the past year
- 31.4% reported gambling a few times in the past year
- 22.5% reported gambling at least once a month
- 9.2% reported gambling at least once a week
- 1.7% reported gambling every day
- 9.7% did not answer this question

Preferred gambling activities:



Preferred gambling activities:

- The majority of teens reported they played lottery tickets and instant-win tickets.
- Teens most frequently engage in gambling activities such as cards, darts or pool for money as well as sports pools and Pro-Line.

Self-perception of gambling behaviours:

- 26.3% of teens labelled themselves as a non-gamblers
- 46.9% of teens labelled themselves as non-gamblers who gamble sometimes
- 18.5% of teens labelled themselves as occasional gamblers; 6.6% as regular gamblers; 1.7% as problem gamblers

Beliefs about the positive outcomes and negative consequences of gambling:

- Gamblers were more likely to believe that gambling has positive outcomes.

Occasional gamblers were more likely than non-gamblers to believe that gambling has positive consequences.

- Non-gamblers saw more negative consequences associated with gambling than occasional gamblers and regular gamblers.

Temptation to gamble:

- Gamblers felt a greater temptation to gamble under both positive outcomes and negative circumstances compared to occasional and non-gamblers.

Skill versus luck:

- Gamblers more frequently believed that skill was needed to be a good gambler than non- gamblers and occasional gamblers did.
- All groups believed that a little bit of luck was needed to be a good gambler.

Alcohol use, drug use and smoking among teens that gamble:

- Gamblers reported more alcohol use, drug use and cigarette smoking in comparison to non-gamblers and occasional gamblers.

Clinical measures of teen gambling, according to an adolescent screening tool used to assess level of gambling severity:

- 6% of the students surveyed were identified as gambling at problematic levels
- 20% of these students were female and 80% were male
- Very few of these teens labelled themselves as problem gamblers.

Summary

This information indicates that there is a need for effective prevention/education and harm reduction interventions that can possibly serve to protect youth against gambling problems. We plan to use this information to guide the development of such programs and to ensure that these programs meet the needs of youth in <insert name of region>.

The results of the <insert name of survey> suggest that education about responsible gambling is important, that family plays a role in developing appropriate attitudes, and that our youth need some protection. They also need the opportunity to develop their own defences against the possibility of developing gambling problems.

If you have any questions about the results of this study please contact <insert name of contact person>. A 20-page descriptive report of this research is available for your review at the office of your child(ren)'s school or you can download this report from our Web site at <insert Web address>.

Thank you again for your allowing your child(ren) to participate in this research project.

Sincerely,

Executive summary

(Sample) Table of contents

1.0 Initial Findings

1.1 Who was surveyed?

A total of 2,252 students (1,067 or 47.8% were girls and 1,163 or 52.2% were boys) from nine high schools in the Niagara Region completed surveys for this study. The remaining 22 students did not indicate their gender. Students came from all grades, and their average age was 15.4 years.

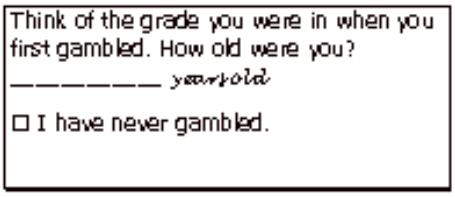
Most of these students engaged in after-school activities, only 10% reported doing nothing after school. Sports, clubs or

work were the most common after-school activities. The majority of students indicated that their school grades were good, and three-quarters of all students said their overall average exceeded 70%.

1.2 What is gambling?

The cover page of the survey offered students this definition of gambling: "Gambling is betting money, or anything of value on activities such as Sports Select/Pro-Line, lottery tickets, scratch tickets, slot machines, poker machines, card games, dice games, sports pools, games of skill (like pool or darts), arcade and video games and Internet betting games."

1.3 Who has gambled?



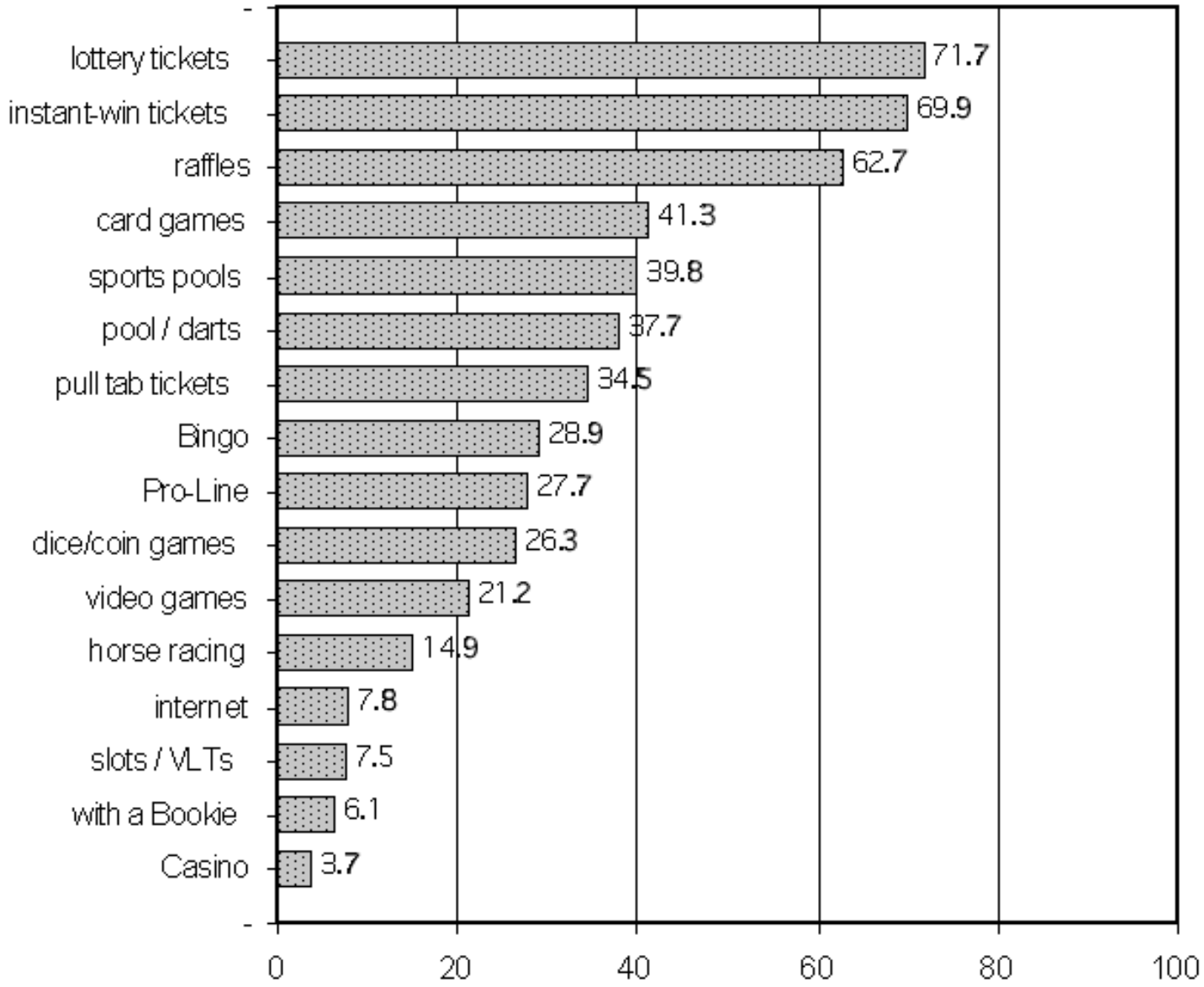
Students were asked when, if ever, they had first gambled. In response to this question, about one-quarter (28%) said they had never gambled. Among the 72% who had gambled, most started gambling between the ages of 8 and 12, the average age was 10. Similarly, when asked how often they had gambled in the past year, about one-quarter (25.2%) said they had not gambled at all. Nearly one-third (31.4%) said they had gambled a few times in total. Almost one-quarter (22.5%) gambled at least once a month, 9.2% gambled at least once a week and 1.7% gambled every day.

1.4 How do teens gamble?

The students were given a list of 16 gambling or betting activities and asked to check all the activities they had done in the past year. Figure 1 (below) shows the different types of gambling activities that students engaged in.

1.5 Figure 1: Percent of students engaging in various gambling/betting activities

[KL1]



1.6 Self-perceptions of gambling

To determine how teens perceived their own gambling behaviours, we asked them to describe their gambling according to one of five categories, as shown in Table 1 (below).

1.7 Table 1: How teens see their own gambling status

Self-Perceived Gambling Status	Number	% of Sample
Non-gambler who never gambles	573	26.3
Non-gambler who gambles sometimes	1,023	46.9
Occasional gambler	403	18.5
Regular gambler	143	6.6
Problem gambler	37	1.7
Total	2,252	100

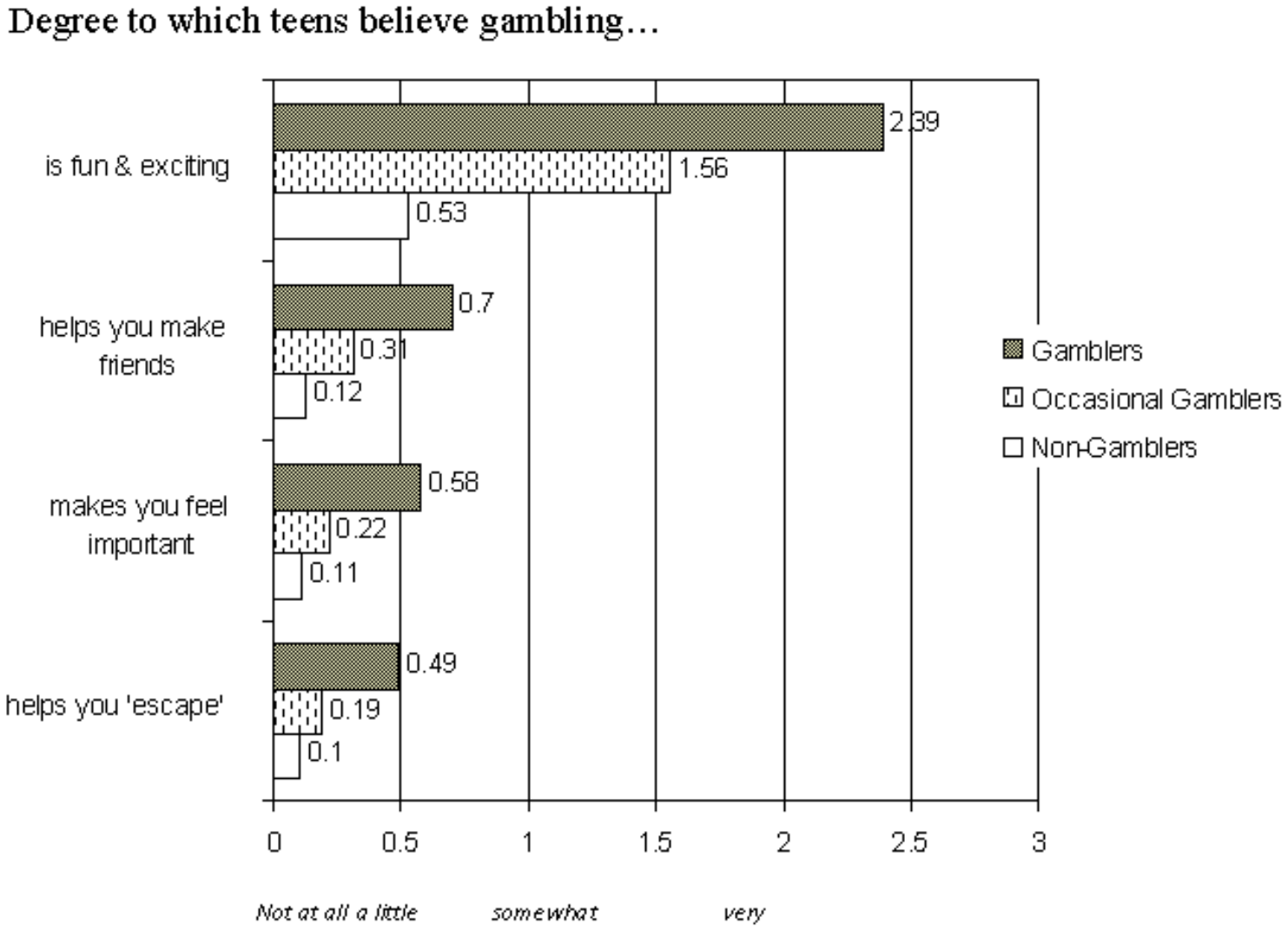
As Table 1 shows, about one-quarter of teens label themselves as non-gamblers who never gamble. This is consistent with earlier responses also showing that one-quarter of teens had not gambled in the past year, if ever. On the other hand, nearly half of all students describe themselves as "non-gamblers who gamble sometimes." These students may be purchasing lottery tickets, playing cards for money, participating in sports pools or engaging in other types of betting activities without realizing that they're gambling. Some of these teens will progress to more serious, potentially problematic levels of gambling.

2.0 Comparing non-gamblers, occasional gamblers and gamblers

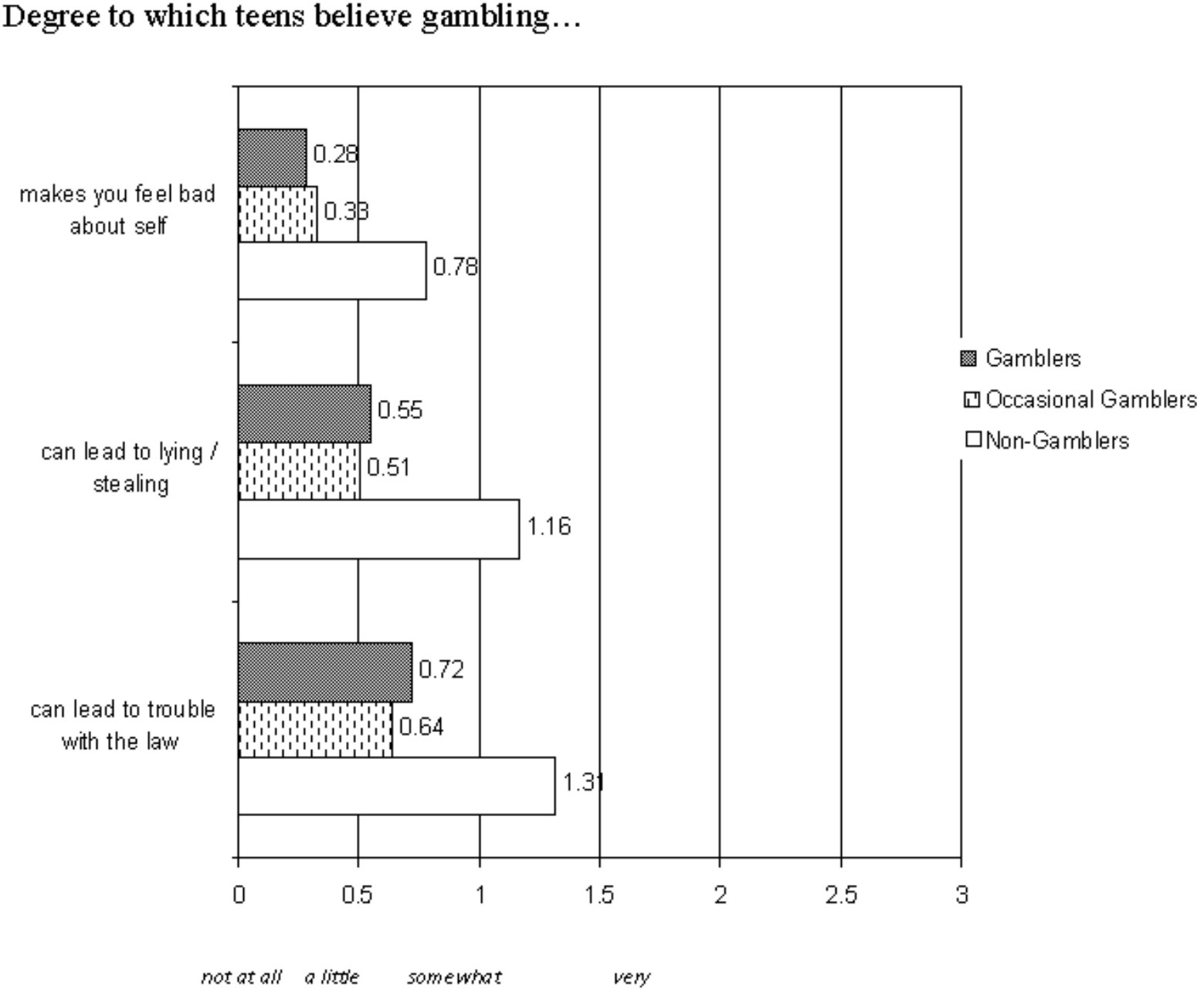
Students were grouped based on their gambling frequency and perceived gambling status. Non-gamblers were students who indicated they had not gambled in the past year, and who saw themselves as non-gamblers who never gamble. Occasional gamblers included students who gambled, but not regularly. Gamblers were students who reported gambling at least once a month, and who saw themselves as occasional, regular or problem gamblers.

The three groups of gamblers were compared in terms of their attitudes toward gambling, temptations to gamble and beliefs about the involvement of skill and luck in gambling. These comparisons are presented in Figures 2 and 3 (below).

2.1 Figure 2: Teens' beliefs about the positive outcomes of gambling

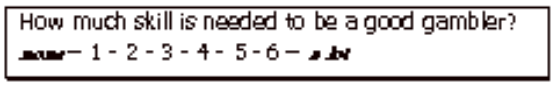


2.2 Figure 3: Teens' beliefs about the negative consequences of gambling



Gamblers were more likely than occasional gamblers to believe that gambling has positive outcomes, and occasional gamblers were more likely than non-gamblers to believe that gambling has positive outcomes. Non-gamblers saw more negative consequences than either gamblers or occasional gamblers.

Compared to the other two groups, gamblers felt more tempted to gamble under both positive circumstances (e.g., when feeling good or socializing) and negative circumstances (e.g., when feeling stressed, after already losing money). On a four-point scale with 1 representing "not at all tempted" and 4 representing "very tempted," gamblers' scores for positive circumstances ranged from 2.4 to 2.8, while occasional and non-gamblers' scores ranged from 1.2 to 1.7. The single exception was that occasional gamblers scored 2.1 for wanting to gamble when feeling lucky. For negative circumstances, gamblers' scores ranged from 1.5 to 2.1, while the other two groups had scores of 1.2 to 1.7.



Students were asked to rate how much skill is needed to be a good gambler. Gamblers felt that some skill was needed; on average they chose a 4.0 score. Non-gamblers and occasional gamblers, on the other hand, believed less skill was needed; on average they chose 3.1 and 3.2, respectively. Surprisingly, all three groups agreed that a little bit of luck is needed to be a good gambler. On average, for this attribute, they all chose close to 4.6.

2.3 Risky behaviours among non-gamblers, occasional gamblers and gamblers

In adolescence, teens often engage in risk-taking behaviours. Furthermore, risky behaviours tend to encourage other high-risk behaviours. As shown in the following table, drinking, drug use and smoking are often associated with gambling.

2.4 Table 2: How often non-gamblers, occasional gamblers and gamblers engage in risky behaviours

Frequency of Behaviour	Never	Sometimes (1 to 8 times per month)	Often (3 to 7 times per week)
	Alcohol consumption		
Non-gamblers	57.2	40.9	1.9
Occasional gamblers	37.8	56.2	6.0
Gamblers	20.3	64.4	19.4
	Drug use		
Non-gamblers	80.7	15.3	4.0
Occasional gamblers	73.7	18.2	8.1
Gamblers	53.1	24.4	22.4
	Cigarette use		
Non-gamblers	81.7	9.7	8.6
Occasional gamblers	75.9	12.4	11.8
Gamblers	67.7	12.1	20.2

3.0 Youth problem gambling

In addition to using self-reporting 'to identify students' level of gambling, this study also used a classification measuring system called the South Oaks Gambling Scale-Revised for Adolescents (SOGS-RA). This measure classifies adolescents into three categories: (1) gamblers with no problems; (2) gamblers at risk of having problems; and (3) problem gamblers.

The SOGS-RA is commonly used by clinicians to determine an adolescent's level of gambling severity. Teens who

answer yes to at least five of the 11 SOGS-RA statements are classified as gambling at a problematic level (meaning that their gambling has caused social, emotional or financial problems for them). Figure 4 (below) illustrates the percentage of teens who answered yes to each of the 11 SOGS-RA questions.

These findings illustrate that boys scored considerably higher than girls on every SOGS-RA question, and 6% of students are already gambling at problematic levels. Of these teens, who were identified as gambling at problematic levels, 20% were girls and 80% were boys.

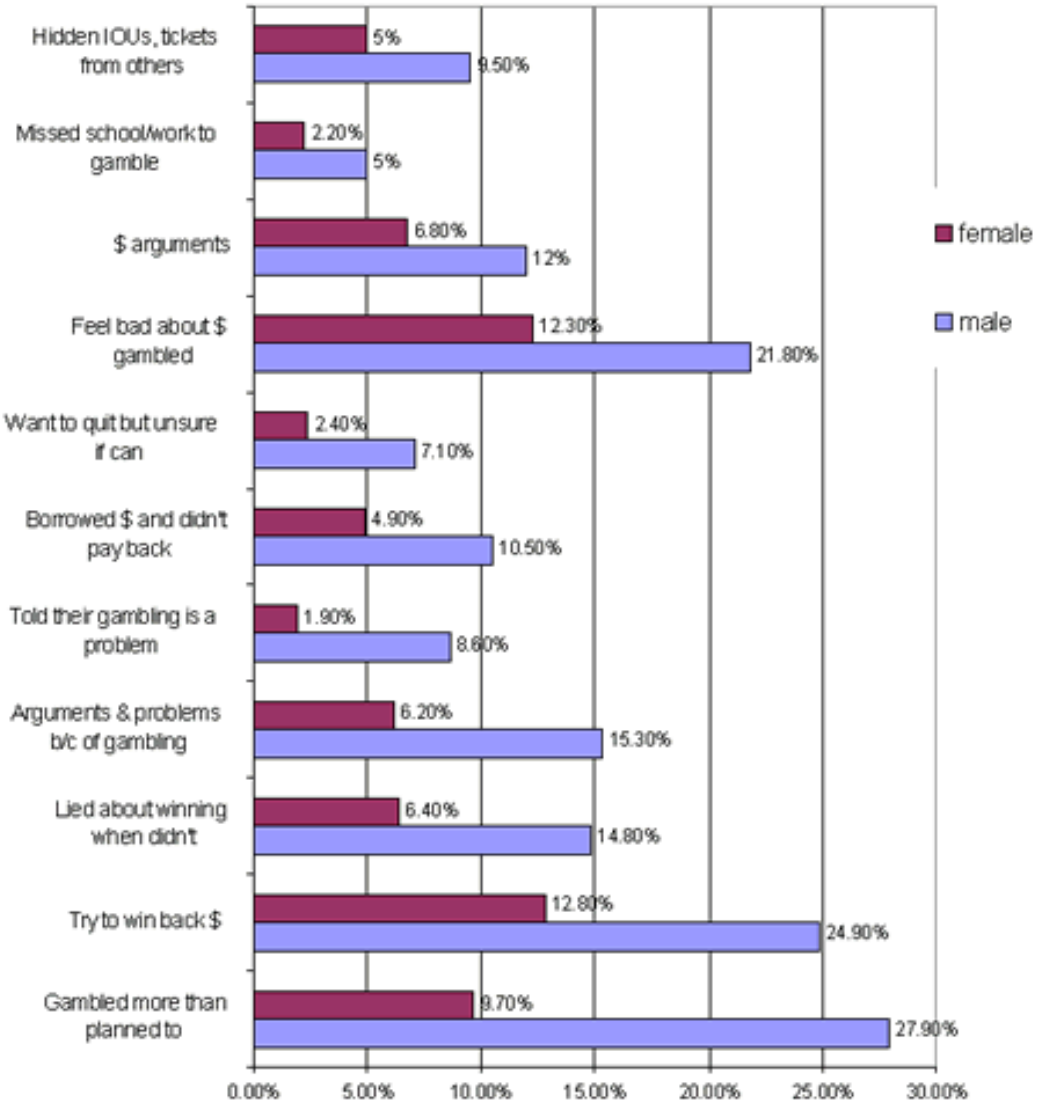
3.1 Most teens classified by the SOGS-RA as gambling problematically underestimate the severity of their gambling

This study examined whether teens classified as problem gamblers by the SOGS-RA perceived themselves as problem gamblers. Among teens classified as problem gamblers, only 14% recognized that they were gambling at problematic levels, 5% saw themselves as non-gamblers who never gamble, 13% saw themselves as non-gamblers who gamble sometimes, 28% saw themselves as occasional gamblers and 33% saw themselves as gamblers. Thus, teens that are considered to be gambling at problematic levels are more likely to perceive themselves as gamblers rather than problem gamblers.

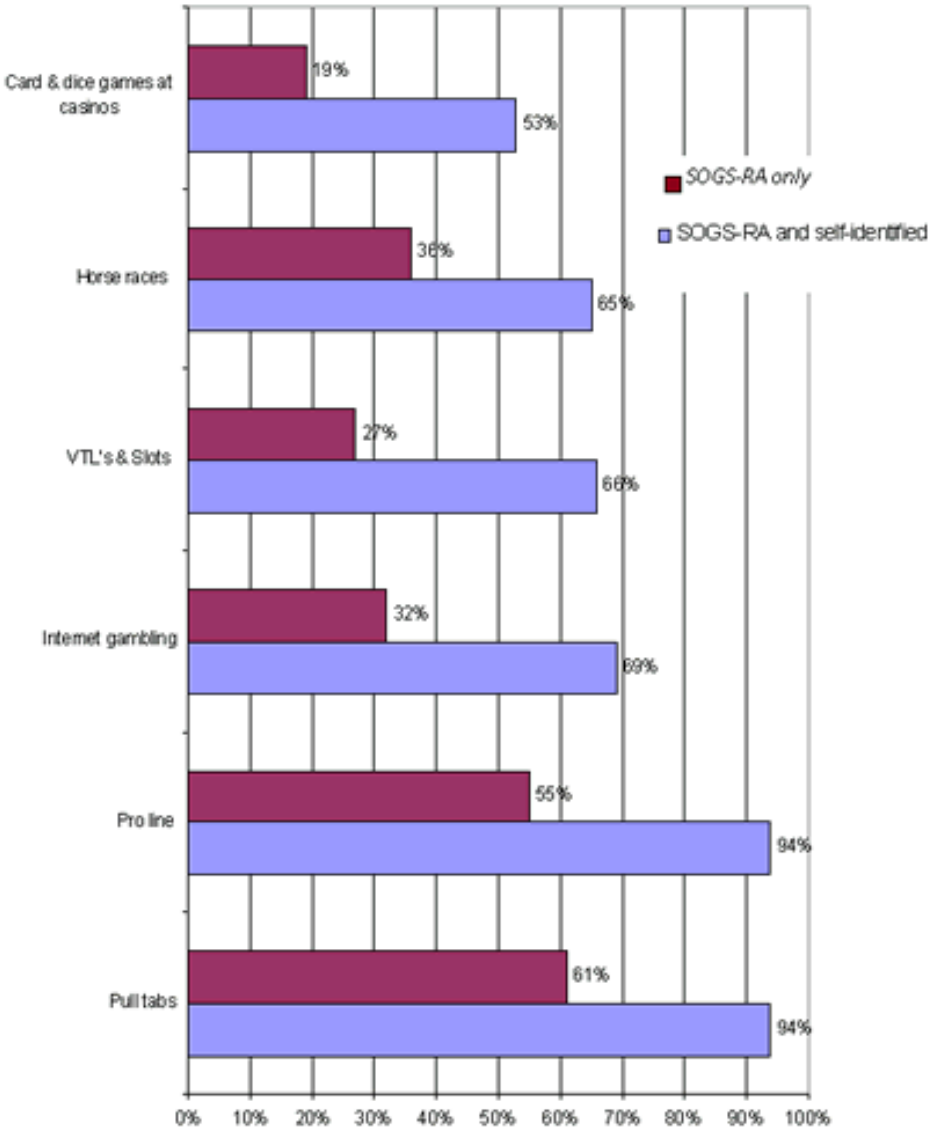
3.2 Differences between teens who recognize the severity of their gambling and those who do not

Characteristics of teens who did and did not accurately identify their problematic gambling were examined. Teens who accurately perceived their problematic gambling reported significantly higher rates of involvement in many gambling activities (see Figure 5). Many teens failed to recognize their problems. The average age for problematic gambling, which was identified by the SOGS-RA, was 15.

3.3 Figure 4: Percentage of affirmative responses to the SOGS-RA questions as a function of gender



3.4 Figure 5: Comparison of the kinds of gambling preferred by problematic gamblers identified only by the SOGS-RA vs. SOGS-RA and self-identified problematic gamblers



In addition, teens who accurately identified themselves reported more alcohol and drug use and less involvement in after-school activities (e.g., work, sports, clubs, etc.) in comparison to their counterparts. These teens also reported gambling at an earlier age and placing larger bets when gambling. Table 3 (below) outlines these differences in more detail.

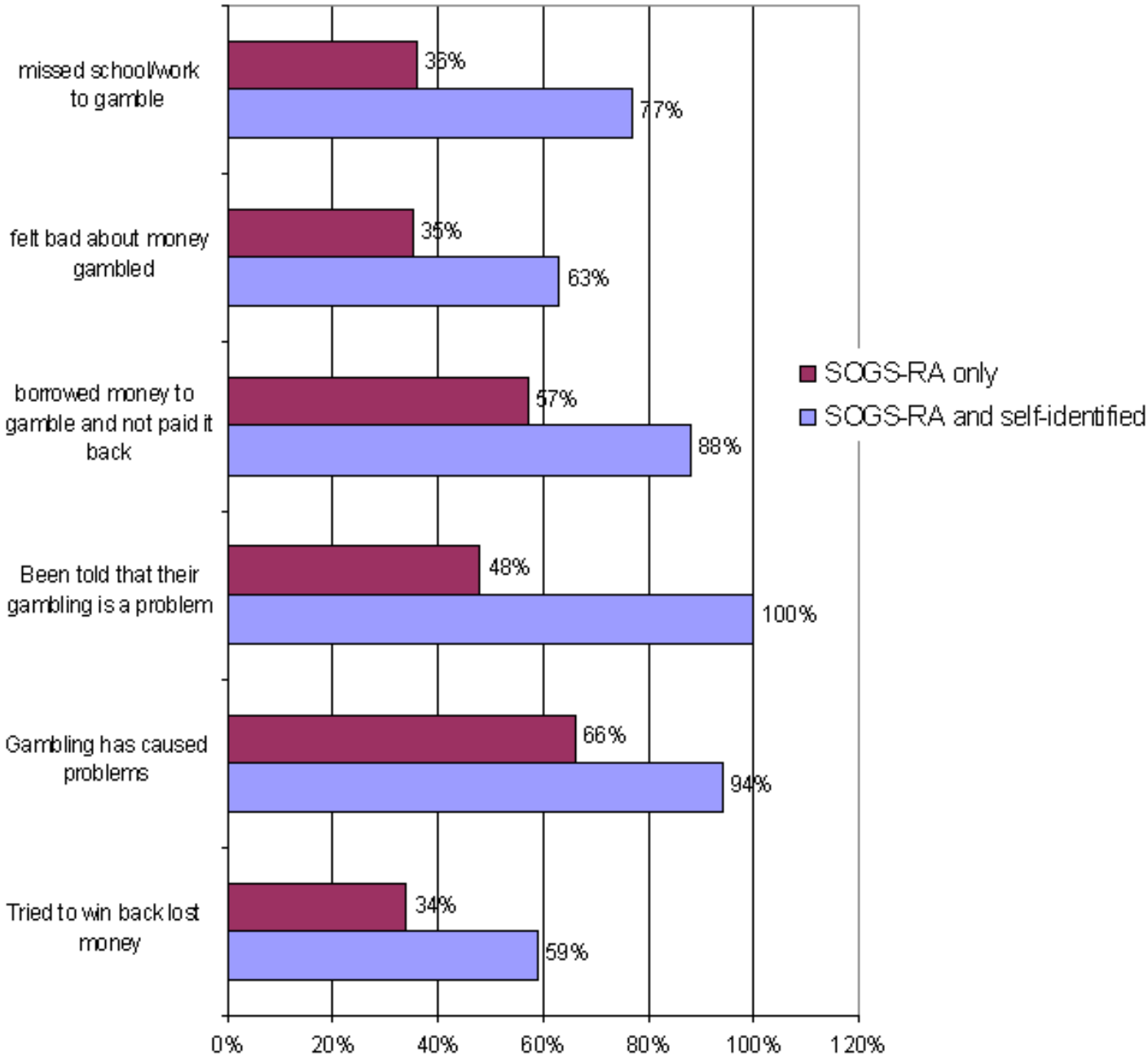
3.5 Table 3: Comparison of problematic gamblers identified by the SOGS-RA vs. SOGS-RA and self-identified problematic gamblers on various factors

	SOGS-RA and self-identified	SOGS-RA only
Alcohol use (3 to 7 times a week)	75%	35%

Drug use (3 to 7 times a week)	71%	35%
No involvement in after-school activities	41%	13%
Age began gambling	8 years old	10 years old
Average amount spent in past month	$1,081	$100

It was thought that the teens who accurately identified themselves might have higher scores on the SOGS-RA in comparison to the teens that did not accurately self-identify, assuming that the former group may have an increased awareness of their gambling severity. Indeed, those teens who accurately self-identified scored (on average) 8/11 on the SOGS-RA while those teens who did not scored (on average) 6/11. A score of five or more (answering yes to five or more questions) out of 11 indicates problematic gambling. Figure 6 illustrates these differences by identifying specific questions from the SOGS-RA which these two groups differed significantly.

3.6 Figure 6: Comparison of problematic gamblers identified by the SOGS-RA vs. the SOGS-RA and self-identified problematic gamblers on questions from the SOGS-RA



While all of these differences remain limited by the small number of teens who gamble at problem levels (120 students), the significant differences that have been reported by accurate self-identifiers (e.g., placing large bets, engaging in a multitude of gambling activities, gambling at an early age, feeling bad about their gambling) may be contributing factors in their greater level of awareness, compared to teens that did not accurately self-identify.

3.7 Do teens who gamble problematically want to quit or reduce their gambling?

While it may appear that the students who accurately self-identify have a greater awareness of their problem in comparison to those who did not accurately self-identify, no differences were found in their responses to the question "Do you plan to stop gambling in the next six months?" Twelve per cent of teens who accurately identified themselves as problem gamblers indicated that they wanted to quit in the next six months, while 15% of teens that did not accurately identify themselves as problem gamblers indicated that they wanted to quit. When asked "Do you want to reduce your gambling in the next six months?" none of the teens who accurately identified themselves wanted to reduce their gambling, while some (21%) teens who did not accurately self-identify indicated that they wanted to reduce their

gambling in the next six months.

4.0 Conclusions

This study provides preliminary data on patterns of gambling behaviour in teens along a continuum from experimental to problem gambling. The current research examines the types of gambling activities teens participate in, the pros and cons teens associate with gambling, how tempted teens are to gamble, risky behaviours associated with gambling and how teens perceive their own gambling behaviours. In addition, individual differences were examined among teens who classified themselves as problem gamblers. It is our intent that findings from this study will be used to guide the development of youth gambling prevention, education and treatment interventions.

In terms of teens' gambling behaviours, this survey revealed that a large percentage of teens (72%) in the Niagara Region do gamble. The range of gambling activities was broad-based and showed high participation rates in lottery tickets, instant-win tickets, raffles and games of skill, such as card games, sports betting and betting money on games of pool or darts. Most research thus far has also found high rates of youth participation in these gambling activities (Gupta & Derevensky, 1998; Jacobs, 2000). In this study, the top four gambling activities that boys participated in were scratch tickets, betting on sports teams, raffles and playing games of skill for money. The top four gambling activities that girls participated in were scratch tickets, raffles, break-open tickets and bingo. Past research that has examined gambling preferences among youth has consistently found that boys prefer games of skill and girls prefer games of luck (Gupta & Derevensky, 1998; Jacobs, 2000).

A majority (72%) of the teens in this study indicated that they gambled in the past year; however, most of them labelled themselves as non-gamblers who gamble sometimes. Very few teens perceived themselves as occasional gamblers, regular gamblers or problem gamblers. This is not surprising given the fact that people often identify themselves with labels that differ from the way they behave (Tagliacozzo, 1979). For example, how many cigarettes would it take to call yourself a smoker? It is possible that teens may perceive themselves as non-gamblers who gamble sometimes because they participate in only a few gambling activities or because they do not consider what they do as gambling. In fact, results from this study show that teens who perceived themselves as non-gamblers who gamble sometimes participated in fewer gambling activities than teens who perceived themselves as occasional, regular or problem gamblers. Past research has suggested that activities such as instant-win tickets may not be viewed as gambling because they are easily accessible, often based on childhood games (such as Monopoly or Battleship), easy for underage youth to purchase illegally and often given to teens by well-intentioned family members (Korn & Shaffer, 1999). It is important to keep in mind that the activity of gambling in itself does not necessarily lead to a gambling problem. However, these findings further exemplify the need to develop prevention and education materials that will create more public awareness and allow youth and their families to make healthy decisions about their gambling behaviours.

Another dimension of this study examined teens' beliefs about the positive and negative consequences of gambling as well as their temptation to gamble. These factors were examined along a continuum of non-gambling, occasional gambling and gambling. Teens were grouped into these categories based on their reported gambling frequency and perceived gambling status. Findings showed that gamblers were more tempted to gamble and more likely to associate positive consequences with gambling in comparison to teens in the remaining categories.

Future research is needed to determine whether these beliefs lead teens to gamble more or if gambling frequently leads to adopting these beliefs. Some researchers have suggested that a teen's first big win can lead to several cognitive distortions regarding the odds of winning and the positive outcomes of gambling (Stinchfield & Winters, 1998). Moreover, it is reasonable to expect that some teens may attribute more positive consequences than negative consequences to gambling since the costs of gambling for teens are very different than those for adults. Unlike their adult counterparts, teens do not often have a job or spouse to lose nor do they incur such large debts. Together, these findings emphasize the value in educating teens about the odds of winning and the negative consequences associated with

problem gambling. Prevention programs that are aimed at teaching teens the definition of gambling, the odds of winning at gambling and the problems that arise from problematic gambling may help teens to make healthier, more informed choices, and in turn, reduce the harm associated with youth gambling.

The examination of risky behaviours and gambling was emphasized in this study. Overall, findings indicate that risky behaviours tend to cluster; teens who were categorized as gamblers (based on frequency of gambling and self-perceived gambling status) reported more alcohol use, drug use and cigarette use in comparison to their counterparts. When examining the percentage of teens who reported using alcohol and drugs three to seven times a week, differences between groups (non-gamblers, occasional gamblers and gamblers) were greatly magnified in comparison to group differences where substance use was less frequent. These results indicate that substance abuse and gambling problems are closely related.

Many other studies have also found that rates of alcohol, drug and cigarette use tend to be highest among teens with moderate and severe gambling problems compared to non-gamblers or at-risk gamblers (Griffiths & Sutherland, 1998; Ladouceur, Dube & Bujold, 1994; Vitaro, Ferland, Jacques & Ladouceur, 1998). Previous studies have shown that gambling and substance use are linked in a network of other youthful problem behaviours (e.g., delinquency) (Proimos, Durant, Pierce & Goodman, 1998). It is evident that further research is needed to better understand the relationship between gambling and substance use among adolescents. More research can help determine whether gambling increases substance use, substance use increases gambling or other factors influence both of these patterns. Although more comprehensive research is needed, these preliminary findings have potentially important implications for the design of interventions aimed at preventing or treating problem gambling in teens. For example, these results highlight the need to screen adolescents seeking treatment for alcohol and drug problems for gambling problems and to screen adolescents seeking gambling treatment for alcohol and drug problems.

This study also examines the prevalence of problem gambling in this sample of teens. Students completed a survey measure, called the SOGS-RA, which is used by clinicians to determine an adolescent's level of gambling severity. Using the SOGS-RA, six per cent of teens from this study were identified as gambling at problematic levels. Comparisons were made to determine if teens who were classified as problem gamblers according to the SOGS-RA also identified themselves as problem gamblers. Results showed that the majority of teens who were identified as gambling at problematic levels (by the SOGS-RA) perceived themselves as regular gamblers, and only 14% of them perceived themselves as problem gamblers. Individual differences between teens who did perceive themselves as problem gamblers and teens who did not perceive themselves as problem gamblers were examined. Many interesting results were found. For example, teens who did perceive themselves as problem gamblers reported higher rates of involvement in many gambling activities, gambled at an earlier age, placed larger bets, indicated higher rates of substance use and were less involved in school activities than their counterparts. Of interest, all 14% of teens who perceived themselves as problem gamblers reported that others told them they had a gambling problem. Given these findings, it is possible that the combination of the above factors (e.g., being told they have a problem, placing large bets, etc.) may be responsible for the increased awareness that these teens have about their gambling behaviours. Thus, developing interventions that allow teens the opportunity to examine these different factors (or life areas) may raise awareness and assist teens in evaluating their gambling behaviours.

Surprisingly, teens that did not self-identify accurately as problem gamblers expressed more of an interest in reducing or quitting their gambling in comparison to their counterparts. A larger sample of problem gamblers is needed to further explore these results. These findings may explain the low percentage of teens who seek treatment for their gambling problems. Perhaps those teens who recognize they are gambling problematically do not want to change. Further research is needed in this area. It is important to note that this study also asked teens "If you think you have a gambling problem why don't you seek help to reduce your gambling?" Few teens answered this question; therefore the results are not representative. Future studies that attempt to examine if problem gamblers want to quit or reduce their gambling and whether or not teens want to seek treatment is important as it will help guide the development of effective interventions.

The present study attempts to better understand adolescents' patterns of gambling behaviour from experimental to problem gambling. Findings from this research can be used as baseline data that can guide further research aimed at developing effective education/prevention and treatment interventions that meet the needs of youth. The authors acknowledge that more comprehensive research needs to be carried out to further explore adolescent gambling and effective strategies that can be used to develop youth gambling interventions. While data from this study is preliminary, further analyses will be conducted and published in the form of a monograph at a later date. It is predicted that the findings from this study in combination with findings from future studies will be helpful in guiding the development of interventions aimed at preventing or reducing youth gambling problems.

If you have any questions concerning the findings that are outlined in this report, or if you are interested in further results, please contact Ms. Jennifer McPhee, Project Manager of the Youth Gambling Research Initiative, by phone at (905) 688-5550, ext. 4566 or by e-mail at jmcphee@arnie.pec.brocku.ca.

If you are interested in learning more about the issues around youth gambling, please refer to any of the following Web sites or the references cited at the end of this report.

Youth Gambling Web sites:

www.gamblingresearch.org

www.camh.net/egambling

www.responsiblegambling.org

www.education.mcgill.ca/gambling

www.aadac.com

www.ccsa.ca

www.thewager.org

Free, confidential counselling services are available for persons with gambling problems at the N.A.D.A.S. Problem Gambling Program located in St. Catharines, Ontario. Please call (905) 684-1183 to arrange for an appointment. Free telephone counselling is also available at the Problem Gambling Hotline (24-hour service) at (905) 684-1859.

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Appendix B

Cover letter to principals

Dear <insert principal's name>:

The first phase of <insert name of university, e.g., Brock University's > youth gambling research is nearing completion, and we have prepared a special report for schools, complete with an executive summary for principals.

Although we are pleased with the project thus far, there were several limitations to a survey such as this. We had a total of 2,252 students, but in some of the categories, only a handful of students were represented. As well, in a survey of this nature, we have to consider the tendency for a small percentage of youth to over or under report about their behaviours. These actions do not diminish the significance of the report but are a cautionary note on interpreting the data. This survey is one step in an attempt to understand the complexities of adolescents and problem/addictive behaviours.

As discussed previously, our research team would like to provide you and your staff with an interesting and interactive presentation that will explain the key findings of our research and suggest recommendations for secondary schools based on these results. Links to youth gambling prevention materials, curriculum and treatment resources will also be provided during this presentation. We will be in touch shortly to set up a date.

In order for our research team to evaluate how the entire research process was for all participating schools, we are asking principals to complete the enclosed evaluation form. Please do not put your name on the form Ñ all information is confidential. Please forward the form to <insert contact name and school board>. <insert contact name> will ensure that confidentiality is maintained by placing all evaluations together in an envelope and forwarding it to <insert name of university>.

Thanks very much for being a part of this important work. Let's hope that we can continue to work together in providing education, counselling and other forms of assistance to young people who face so many challenges as they grow up.

Sincerely,

Feedback to the youth gambling research team Evaluation form

Our research team is interested in knowing how the entire research process was for you and your school. Please complete the following form and forward it to <insert name of contact> at the <insert name of school board>. Your comments and feedback are greatly appreciated.

Was communication effective in planning the administration of the youth gambling survey?

_____

Did the research team administer the survey with minimal disruption to your school?

_____

Did staff and students' awareness of youth gambling increase as a result of participating in this research project?

_____

Would you or your school participate in further activities with this project?

_____

Was the research report understandable and informative?

_____

Additional Comments:

_____

Comprehensive Report for Principals

Report on Adolescents and Gambling:
Attitudes and Behaviours of Youth in the Niagara Region
(Sample report) March 2002
The Youth Gambling Research Initiative
Brock University
St. Catharines, ON
L2S 3A1
Phone: (905) 688-5550 Ext. 4566
www.youthgambling-research-initiative.ca

Authors: Dr. Kelli-an Lawrance, PhD
Dr. John Yardley, PhD
Lisa Root, MSc
Bob Canham, BEd
Jennifer McPhee, MSc

Acknowledgements: The authors of this report gratefully acknowledge the Ontario Problem Gambling Research Centre (O.P.G.R.C.) for funding this important study. More than 2,000 students from nine secondary schools in the Niagara Region completed our survey, which addressed adolescents' attitudes and behaviours related to gambling. We extend our sincere thanks to these students as well as the principals, teachers, staff members and school board officials who so generously assisted us with this study. Thanks is also extended to the members of our aAdvisory Committee for their contributions to this project. Members include the following: Dr. Kelli-an Lawrance (chair), Dr. John Yardley, Lisa Root, Bob Canham, Jennifer McPhee, Angela Lippert, Heather Travis, and Kristie Willson. Finally, we would like to thank our excellent team of research assistants for their devotion to the project and their assistance in administering the surveys. Many thanks to: Aimee Beaubien, Nicole Barroni, Katie Burrows, Christena Butts, Michael Clark, Ben Custers, Bonnie Davis, Wayne Deruiter, Tara Doyle, Lyndsay Elliott, Jason Failes, Anita Federici, Chrissy Fera, Eva Gazso, Anthony Goodman, Ruma Goswami, Rob Kappes, David Lawrence, Kellie Murphy, Fern Pham, Casey Phillips, Andrea Ross, Caroline Richardson, Caroline Sottile, Nancy Santamaria, Caroline Sottile, Tanya Scott, Marcelle Sloetjes, Karilyn Reid, Wendy Shanahan, Jamie Sheepwash, and Chris Van Nest.

Executive summary

Over the past year, the Youth Gambling Research Initiative has focused on (1) exploring youth gambling perceptions and behaviours, and (2) examining patterns of gambling behaviour in teens along a continuum from experimental to problem gambling. Our goal is to better understand how some youth progress from experimental gambling to problem gambling and why some don't. We believe that if we gain a better understanding of this process, we can use this information to guide the development of prevention/education and harm reduction interventions.

A questionnaire was completed by 2,252 secondary school students in the Niagara Region. This self-report survey included questions that asked teens how often they gambled, what types of gambling they did, what tempted them to gamble and how they perceived their own gambling behaviours. In a survey of this nature we have to consider the tendency for a small percentage of youth to over and under report about their behaviours; however, these actions do not diminish the significance of the information in this report. Preliminary findings are outlined in this descriptive report. The report is designed to function as an information guide for school boards, related agencies, students who participated in the survey and the parents of these students. Most importantly, the information contained in this report will be used to guide the development of interventions aimed at preventing or reducing youth gambling problems.

Survey responses

Prevalence rate of teen gambling in the Niagara region:

- 28% of high school students reported that they have never gambled
- 72% reported that they do gamble

Frequency of gambling among teens in the past year:

- 25.2% reported that they have not gambled at all in the past year
- 31.4% reported gambling a few times in the past year
- 22.5% reported gambling at least once a month
- 9.2% reported gambling at least once a week
- 1.7% reported gambling everyday

Preferred gambling activities:

- The majority of teens reported they played lottery tickets and instant-win tickets.
- Teens most frequently engage in gambling activities such as cards, darts or pool for money as well as sports pools and Pro-Line.

Teens' self-perceptions of their gambling behaviours:

- 26.3% of teens labelled themselves as a non-gamblers
- 46.9% of teens labelled themselves as non-gamblers who gamble sometimes
- 18.5% of teens labelled themselves as occasional gamblers; 6.6% as regular gamblers; 1.7% as problem gamblers

Beliefs about the positive outcomes and negative consequences of gambling:

- Gamblers were more likely to believe that gambling has positive outcomes.
- Occasional gamblers were more likely than non-gamblers to believe that gambling has positive outcomes.
- Non-gamblers saw more negative consequences associated with gambling than occasional gamblers and regular gamblers.

Temptation to gamble:

- Gamblers felt a greater temptation to gamble under both positive outcomes and negative circumstances compared to occasional and non-gamblers.

Skill versus luck:

- Gamblers more frequently believed that skill was needed to be a good gambler than non-gamblers and occasional gamblers did.
- All groups believed that a little bit of luck was needed to be a good gambler.

Alcohol use, drug use and smoking among teens that gamble:

- Gamblers reported more alcohol use, drug use and cigarette smoking in comparison to non-gamblers and occasional gamblers.

Clinical measures of teen gambling.

According to an adolescent screening tool used to assess teens' level of gambling severity:

- 6% of the students surveyed were identified as gambling at problematic levels
- 20% of these students were female and 80% were male
- Very few of these teens labelled themselves as problem gamblers

Comparing teens who accurately labelled themselves as problem gamblers to teens who did not:

- Teens who accurately labelled themselves as problem gamblers showed higher scores on the clinical screen and reported higher involvement in gambling activities. They also placed higher bets, gambled at a very young age, used more alcohol and drugs and didn't participate in any after-school activities.

Do teens who gamble problematically want to quit or reduce their gambling?

- 12% of teens who accurately identified themselves as problem gamblers indicated that they wanted to quit in the following six months.
- 15% of teens who did not accurately identify themselves as problem gamblers indicated that they wanted to quit.
- None of the teens who accurately labelled themselves as problem gamblers wanted to reduce their gambling in the following six months.
- 21% of teen problem gamblers who did not label themselves as problem gamblers reported wanting to reduce their gambling in the following six months.

Based on the findings outlined in this report, it appears that:

- A significant number of teens are involved in gambling.
- A significant number of teens are gambling illegally.
- Teens who view themselves as gamblers see more positive outcomes than negative consequences of gambling, are more tempted to gamble and use more alcohol and drugs.
- A clinical gambling screen indicated that 6% of these students gamble at problematic levels.
- Some of them recognized the severity of their gambling but many underestimated the severity.
- Several differences have been found between teens who recognize the severity of their gambling and those who do not.
- The majority of students who do, do not want to seek counselling for their problematic gambling.

Summary

This information should be invaluable to help youth, families, educators, health and social services personnel, and policy makers better understand the factors leading to youth gambling and the issues it encompasses. This information speaks to the need for prevention/education and harm reduction interventions, and for adolescents it can possibly serve as protection against potential gambling problems. We plan to use this information to develop such materials, which will be made available to others who will support this endeavour.