



Health Promotion and Protection

2008 Nova Scotia Adolescent Gambling Exploratory Research
Identification of Risk and Gambling Harms among Youth (13-18 years)

September 2008

FINAL REPORT

Prepared by Focal Research Consultants



Turning Information into Insight

Focal Research Consultants Ltd.

7071 Bayers Road, Suite 326 • Halifax, Nova Scotia • B3L 2C2

Phone 902.454.8856 • Fax 902.455.0109 • Email focal@focalresearch.com

TABLE OF CONTENTS

2008 NS Adolescent Gambling Exploratory Study - Summary	i
KEY FINDINGS	ii
Harm and Risk Profile of Adolescents.....	ii
<i>Adolescent Harm Measure</i>	<i>iii</i>
<i>Adolescent Risk Measure</i>	<i>iii</i>
<i>Harm Indicators.....</i>	<i>v</i>
<i>Risk Indicators</i>	<i>vii</i>
Interaction between Parents and Adolescents.....	viii
<i>Parental Influence on Adolescent Gambling.....</i>	<i>viii</i>
Context of Adolescent Gambling.....	ix
<i>Stresses and Risk-Taking Behaviour.....</i>	<i>ix</i>
<i>Exposure to Information/Messages about Gambling Consequences</i>	<i>ix</i>
<i>Perceptions about Gambling Activities and Gambling Risk.....</i>	<i>ix</i>
<i>Recognition of Gambling Problems</i>	<i>x</i>
<i>Access to Resources and Internet.....</i>	<i>x</i>
Profile of Adolescent Gambling.....	x
<i>Beliefs about Odds of Winning</i>	<i>x</i>
<i>Motivations to gamble.....</i>	<i>xi</i>
<i>Extent of Adolescent Gambling</i>	<i>xi</i>
<i>Problematic Gambling Behaviours</i>	<i>xi</i>
<i>Gambling Consequences.....</i>	<i>xii</i>
<i>Sources of Financial Losses.....</i>	<i>xii</i>
Conclusions:	xiii
Discussion:	xv
NSHPP Recommendations:	xvi
SECTION 1: INTRODUCTION & METHOD	1
1.1 Introduction	1
1.2 Method	2
1.2.1 2007 Nova Scotia Adult Gambling Prevalence Study - Sampling Frame.....	2
1.2.2 2007 Nova Scotia Adolescent Gambling Exploratory Research Study.....	3
1.2.3 Data Collection.....	4
1.2.4 Staff Training Ethic and Standards.....	4
1.3 Analysis Approach	5
1.3.1 Review of Adolescent Problem Gambling Measurement.....	5
1.3.2 Risk factors	7
1.3.3 The Focal Youth Gambling Risk Screen [®] (FYGRS [®]).....	8
1.3.4 Analysis.....	11
<i>Margins of Error</i>	<i>12</i>
1.5 Adolescent Gambling Activities.....	13
1.4 Limitations.....	15
SECTION 2: MEASURE OF ADOLESCENT GAMBLING RISK AND HARM	16
2.1 Harm and Risk Profile of Adolescents.....	16
2.1.1 Harm Measure	17
<i>Scoring for FYGRS[®] Harm Measure.....</i>	<i>19</i>
<i>Number of Adolescents Classified as Harmed Gamblers</i>	<i>20</i>
2.1.2 Risk Measure.....	21

<i>Problematic Gambling Behaviours</i>	21
<i>Other Risk Indicators</i>	23
2.2 Modeling Harm and Risk Factors	27
2.2.1 Harm Indicators	27
2.2.2 Risk Indicators	30
SECTION 3: PARENTAL INFLUENCE ON ADOLESCENT GAMBLING .	35
3.1 Profile of Parental Involvement in Adolescent Gambling	35
3.2 Modeling Parental Involvement for Adolescent Gambling Harm and Risk	37
3.2.1 Adolescent Profile	41
3.2.2 Resources and Opportunity Risk Factors	41
Facilitation of Adolescent Gambling	41
Influence of Gambling by Others	42
3.2.3 Beliefs	42
3.2.4 Motives to Gamble	43
3.2.5 Behaviours	44
3.2.6 Gambling Outcomes	45
3.2.7 Consequences of Gambling for Active Gamblers	45
SECTION 4: ADOLESCENT GAMBLING PROFILE	47
4.1 Adolescent's Gambling Environment	47
4.2 Adolescent Beliefs, Motives, Gambling Participation	53
4.3 Gambling Outcomes for Adolescents	56
SECTION 5: Tables & Figures	60
APPENDIX A	90
Focal Youth Gambling Risk Screen <i>FYGRS</i>®	90
Adolescent's Environment and Characteristics	90
Beliefs	91
Motives/Drive State	92
Gambling Behaviours (Last Year)	93
Outcomes	95
Consequences/Harms	95
APPENDIX B - Bibliography	98

TABLE OF TABLES

Table 1: Margins of Error	13
Table 2: Harm Indicators by Gambling Risk Segments	20
Table 3: Risk Indicators by Gambling Risk Segments	25
Table 4: The Relationship between Component Harm Measures with Overall Harm Measure.....	27
Table 5: The Relationship between Gambling Outcomes with Overall Harm Measure	28
Table 6: Possible Influences on Suffering Consequences/Harms due to Gambling.	29
Table 7: Correlation between Problematic Gambling Behaviours and Individual Risk Factors.....	30
Table 8: Influences and Concurrent Factors in Problematic Gambling Behaviour	31
Table 9: Consequences of Problematic Gambling Behaviour (Association with Consequences).....	33
Table 10: Profile of Parental Involvement in Their Youth's gambling.....	35
Table 11: Parental Influences on Youth Gambling Involvement and other risky/harmful behaviours	39
Table 12: Adolescent Profile	60
Table 13: Self-Reported Stress and Coping Strategies	61
Table 14: Perceptions and Risk Taking (Ranked)	62
Table 15: Activities Perceived as Gambling	63
Table 16: Key information Influencing Youth's Attitudes to Gambling	64
Table 17: Sources of Information Related to Gambling or Risks for Gambling Problems	65
Table 18: Assumed Consequences of Gambling	65
Table 19: Occasions where Parents Purchase Lottery Tickets for Youth.....	66
Table 20: Youth's Perception of Problem Gamblers	66
Table 21: Gambling Behaviour (Ranked): Ever Participated in Gambling.....	67
Table 22: Current Gambling Behaviour (Ranked): Past Year Participation.....	69
Table 23: Losses due to Current Gambling Behaviour (Ranked).....	71
Table 24: Internet Usage Profile.....	72
Table 25: Recent Gambler (Past Three Months) Profile.....	73
Table 26: Gambling Profile in Past Three Months.....	74
Table 27: Self-Assessment of Gambling Problems	75
Table 28: Gambling Behaviours (Ranked)	76
Table 29: Gambling consequences	77
Table 30: Largest Losses due to Gambling at One Time.....	79
Table 31: Largest Amount Ever Won at One Time.....	79
Table 32: Debt Consequences of Gambling	80
Table 33: Largest Amount Ever Gone into Debt.....	80
Table 34: Positive Consequences.....	81
Table 35: Efforts to Stop Gambling (In the last 12 months)	81
Table 36: Perceived Impact of Gambling Losses	82
Table 37: Perceived High Risk Forms of Gambling (Ranked).....	83

<i>Table 38: Availability of Resources to Gamble</i>	83
<i>Table 39: Access to gambling</i>	84
<i>Table 40: Role of Others/Adults in Facilitating Gambling</i>	85
<i>Table 41: Motivations for Gambling</i>	86
<i>Table 42: Believe Can Win in Long Run</i>	87
<i>Table 43: Somewhat or Very Interested in Participating in These Forms of Gambling When Turn 19 years old (Ranked)</i>	88
<i>Table 44: Opportunities to Gamble (Ranked)</i>	88
<i>Table 45: Exposure to Educational or Community Events</i>	89
<i>Table 46: Influence of Others</i>	89

TABLE OF FIGURES

<i>Figure 1: Structural Equation Model for Problem Gambling</i>	9
<i>Figure 2: Distribution: Sum of Total Harm Indications</i>	20
<i>Figure 3: Risk Factor Model</i>	21
<i>Figure 4: Distribution: Sum of Problematic Gambling Behaviour Scores</i>	22
<i>Figure 5: Distribution: Sum of Risk Indications</i>	24
<i>Figure 6: Risky Behaviour Profile</i>	63

2008 NS Adolescent Gambling Exploratory Study - Summary

In order to examine gambling risk among adolescents the Nova Scotia Department of Health Promotion and Protection (NSHPP) commissioned survey research with youth 13 to 18 years living in randomly selected households throughout the province. During the 2007 Nova Scotia Adult Gambling Prevalence Study (n=2,500) 282 adolescents aged 13 to 18 years were identified residing within 214 randomly-selected households (response rate=77.2%). In March 2008, these households were re-contacted to obtain parental permission for qualified youth to take part in exploratory research examining adolescent gambling in the province. Once permission was obtained, a survey was first completed with a parent/guardian (n=74) and then an independent survey was conducted with each eligible adolescent living in the household (n=85). The survey data was then linked for parents and their respective child(ren). In total 30% of eligible respondents identified during the household screen for the Adult Prevalence Study met all necessary conditions for participation. The 'representativeness' of the sample was assessed by comparing the household profiles of those taking part in the study (n=74) versus those that did not (n=140). There were no significant differences for demographic profiles or on any of the other key measures surrounding gambling involvement, attitudes or play patterns.

To assist in identifying and assessing key factors for gambling risk and harms among adolescents a new measure was used; the **FOCAL YOUTH GAMBLING RISK SCREEN © (FYGRS©)**. **FYGRS©** was specifically designed to independently identify gambling Harm (i.e., consequences) and Risk (i.e., pre-harm factors) among adolescents. Therefore, there are two primary and independent measures comprising **FYGRS©**; the Harm Measure and the Risk Measure. This new screen uses both formative and reflective constructs to focus on the identification of various and diverse pre-harm risk indicators and gambling related consequences specific to adolescents. This is in sharp contrast to most gambling screens modified for use with adolescents that tend to rely on reflective constructs, comprised of highly correlated items used primarily for measuring gambling problems among adults.

The results of the 2008 Nova Scotia Adolescent Gambling Exploratory Research using the new **FOCAL YOUTH GAMBLING RISK SCREEN © (FYGRS©)** are promising; providing valuable insight into risk factors for gambling among adolescents in the province. The research found that 7% of participating youth were experiencing gambling related Harm with an additional 12% scoring at Risk for gambling harm but not yet scoring for consequences. While the findings should be confirmed in continued research, a number of key indicators were identified that distinguish adolescent gamblers from their adult counterparts including: the impact of parental gambling attitudes and behaviours; the role of gambling normalization in facilitating adolescent involvement in gambling and in elevating risk; and, the distinctive aspects of the adolescent gambling experience that contribute to risk, including behaviours, attitudes, motivations and beliefs. An understanding of the factors impacting risk for gambling harm among youth should provide guidance in formulating policy and strategy and in helping inform education and prevention efforts targeting adolescent gambling in the province.

KEY FINDINGS

Adolescent Gambling Activities

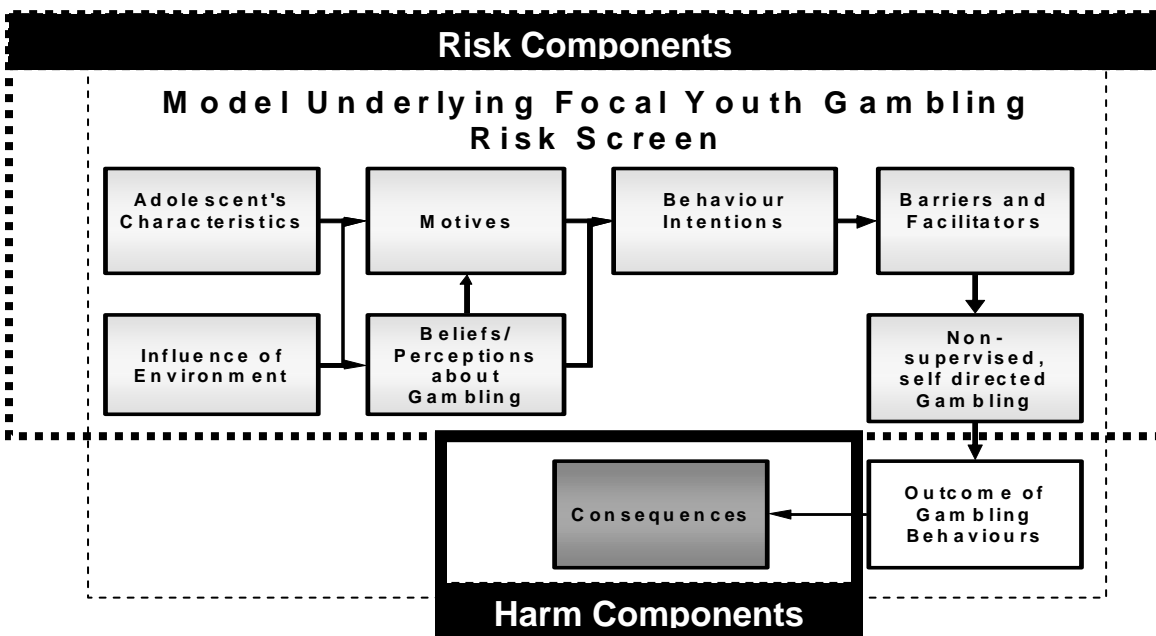
In the current study, adolescent gambling was divided into two primary categories of informal versus formal gambling activities that are played by adolescents for money and/or things of value. (See Section 1.5 for detailed description).

Informal gambling activities refer to non-commercial forms of gambling, that are largely self-organized or occur between family, friends, or acquaintances at home, school, or in other venues and areas that youth congregate including: card games, outcomes for video games or arcade games; one-on-one skill games such as 'Quarters' or 'Bloody Knuckles'; coin pitching; dice games; sports bets; dares; outcomes of 'schoolyard' fights or competitions.

Formal gambling activities refer to commercial and organized gambling activities that are intended to generate funds/business for those operating the activity. This included provincially regulated and age-restricted gambling available for adults in the province, as well as, regulated, non-restricted commercial gambling activities: lottery draw tickets; instant tickets and breakopens; VLTs; casino gambling; sports lottery; horse racing; charity raffles and draws; 50/50 tickets; bingo in bingo halls or charity events; video games for prizes at arcades; internet gambling; on-line bingo or ticket purchasing; on-line Poker gambling; internet gambling for play/fake money or points.

Harm and Risk Profile of Adolescents

The goal of the study was not to identify adolescent problem gamblers but rather to identify risk factors that contribute to negative gambling consequences and outcomes for adolescents living in Nova Scotia. **FOCAL YOUTH GAMBLING RISK SCREEN © (FYGRS©)** is designed to independently identify gambling harm (i.e., consequences) and risk (i.e., pre-harm factors) among adolescents. Therefore, there are two primary measures comprising **FYGRS ©**; the Harm Measure and the Risk Measure. (Refer to Appendix A)



Adolescent Harm Measure

Measurement of gambling harm differs fundamentally from identification of problem gambling. For example, **gambling harm** refers specifically to negative impacts that occur as a consequence of gambling activity and behaviour. In contrast, **problem gambling** refers to a set of characteristics of the gambler (i.e., behaviours, beliefs, outcomes) that signal problems and/or risk for having problems.

Based on standard definitions of problem gambling only one adolescent taking part in the study self-identified as a current problem gambler, one indicated past problem gambling and one expressed concern that he/she may be at-risk of becoming a problem gambler. Remaining youth participating in the survey did not feel they were problem gamblers or at-risk for gambling problems, although some of these adolescents reported problematic gambling behaviour and negative consequences associated with their gambling.

However, when using the new **FYGRS**© adolescent screen, six participating adolescents were found to trigger for negative consequences in at least three of five life areas measured including; life style consequences, financial consequences, social consequences, personal consequences, and anxiety/guilt ('torment').

Overall, 7% of Nova Scotian adolescents taking part in the study (n=6) were identified as experiencing gambling Harm. Collectively, these Harmed adolescents accounted for 76% of the negative gambling consequences reported by participating youth. On average, these adolescents had seven times as many indications of "harm" as those adolescents categorized as At-Risk.

Financial (e.g., impacts for debt, borrowing, losses) and personal consequences (e.g., impacts for self/preoccupation) were mentioned by all of the Harmed adolescents in the current study, followed by two-thirds reporting life style consequences (e.g., impacts for activities/responsibilities) and anxiety/guilt associated with their gambling. Only two adolescents indicated any social consequences (e.g., impacts for relationships) and both scored as Harmed adolescents.

Adolescent Risk Measure

While the Harm measure of **FYGRS**© is designed to identify those youth experiencing negative consequences due to gambling, the Risk measure identifies At-Risk adolescent gamblers before they develop any gambling related harm (i.e., those with pre-harm risk for experiencing gambling harms).

The Risk component of **FYGRS**© is comprised of characteristics, behaviours, situations, and circumstances associated with adolescent problematic gambling behaviours.

There were nine behaviours that collectively comprised 'Problematic Gambling Behaviours'. This group of behaviours was found to be both symptomatic of adolescent gambling Harm (i.e., behaviours associated with gambling consequences and harms) as well as being a precursor for harm (i.e., associated with Risk for developing gambling consequences).

Response to the following items was used to identify other pre-harm risk factors.

Problematic Gambling Behaviours (nine items)

- *I sometimes gamble in order to win back the money I have lost.*
- *If I win, I would like to gamble with my winnings rather than quit.*
- *I often spend more time gambling than I intend to.*
- *I sometimes exceed the amount of money I intended to spend in order to win back money I have lost.*
- *I often have trouble stopping/quitting when I am ahead.*
- *I often gamble for longer periods than I intended.*
- *I have cheated at gambling in order to win.*
- *I often spend more money gambling than I intended.*
- *I have gambled in places where I must lie about my age or use a fake ID.*

Overall, 80% of youth taking part in the study did not engage in any of the problematic behaviours measured. However, 20% reported at least one of these above behaviours in the last year with 10% triggering on more than one indicator.

In addition to problematic gambling behaviours, there was fourteen other risk factors identified that were indicative of adolescent gambling Risk. These 15 key Risk indicators have implications for prevention and harm reduction associated with adolescent gambling in Nova Scotia.

Key Risk Indicators:

Behavioural Indicators:

- 1) *Exhibiting 'Problematic Gambling Behaviour' (see nine behaviours above),*
- 2) *Number of days gambled in the last three months,*
- 3) *Number of informal forms of gambling they have participated in over the last year,*
- 4) *Number of organized or formal forms of gambling they have participated in over the last year.*

Motivational Indicators:

- 5) *Gambling for the thrill of beating others,*
- 6) *Gambling to make money,*
- 7) *Gambling to gain social status,*
- 8) *Having a strong drive to gamble regularly or whenever possible.*

Exogenous Indicators:

- 9) *Access to and/or knowledge of gambling know-how,*
- 10) *Adults who pay for or finance access to organized forms of gambling,*
- 11) *Adults who facilitate access to gambling,*
- 12) *Easy access to organized commercial forms of gambling,*

- 13) Exposure to opportunities to gamble,
- 14) Others close to the adolescent who are gamblers and encourage gambling.

Characteristic Indicator:

- 15) The number of other risky behaviours in which the adolescent has engaged in the past (e.g., drinking, unprotected/unplanned sex, reckless driving).

In addition to the six Harmed adolescent gamblers (n=6; 7%), there were 10 youth taking part in the study (12%) identified as being at Risk for experiencing harms due to gambling. As predicted all of those classified as Harmed gamblers also triggered on the Risk measure. However, none of the 10 adolescents scoring for Risk triggered for consequences on the Harm measure. Therefore, the results indicated that the approach (FYGRS[©]) was successful in discriminating between Harm (i.e., those experiencing consequences) and Risk (i.e., those not yet experiencing consequences).

The findings suggest that in 2008 approximately one in five adolescents in Nova Scotia was either experiencing measurable gambling related Harm (~7%) or found to be exhibiting pre-harm Risk for developing gambling harms (~12%).

Harm Indicators

The experience of adolescent gambling and resulting risk for harm differs from that of adults primarily due to the availability of the various age-restricted gambling activities. Forms of commercial gambling, such as lottery draws and sports lotteries, support the regularity inherent in adult gambling patterns in Nova Scotia. In particular regular involvement in riskier continuous forms of gambling such as electronic gambling machines (e.g., VLTs, slots) and casino table games drive much of the gambling harm experienced by adults in Nova Scotia¹. In the past adolescents have generally been protected from this higher level of risk by controlled distribution and age-restriction for these forms of gambling. Therefore, when assessing gambling consequences for adolescents it is necessary to take into account the nature of their exposure to higher-risk gambling opportunities as well as their frequency of acting when such opportunities are presented.

It is also necessary to take into account a growing trend for adolescents to have increased exposure to other less well studied, higher-risk forms of gambling in their home through changes in gambling technology, advertising, and delivery. This means that previously more benign forms of gambling engaged in by some youth (e.g., card games with friends and family, lottery tickets) are being promoted and delivered in ways associated with increased risk (e.g., online, on television, on mobile phones, through parental gambling activity).

As noted previously problematic gambling behaviours were most strongly associated with negative consequences for youth; that is 'how' youth gamble is more predictive of

¹ 2007 Nova Scotia Adult Gambling Prevalence Study, Final Report , Nova Scotia Health Promotion and Protection, Focal Research Consultants Limited

harm than frequency and amount of gambling. Regardless, all of the following factors were significantly associated with negative consequences for adolescent gamblers although to a lesser extent than observed for gambling behaviour: the number of different types of gambling engaged in the last year; the number of organized or commercial types of gambling; the number of days gambled in the last three months; and, the number of different types of informal gambling an adolescent was engaged in.

Contrary to expectations, it was not ‘recent’ gambling behaviour (e.g., gambling behaviours in the last three months) that was most strongly associated with adolescent’s experience of gambling harms. Instead, the best predictor of experiencing consequences due to gambling was the largest amount ever lost at one time gambling and the largest amount ever won. This suggests that gambling events that cause problems for adolescents do not necessarily occur on a regular or ongoing basis but can be infrequent or even rare occurrences for which there are extended negative consequences. This has important implications for how adolescent gambling is measured and addressed.

Other factors associated with experiencing harms were whether adolescents reported gambling losses in the last three months and whether they had lost a lot of money participating in at least one type of gambling in the last year.

Reporting they had won or come out ahead in the last three months was inversely related to harm, suggesting that ‘winners’ were less inclined to be experiencing negative gambling consequences. Adolescent gamblers are more often involved in skill-based, non-commercial forms of gambling. Therefore, it appears that this experience with gambling for which one can ‘come out ahead’ in the long run may not be associated with harm for youth. For example, regular involvement in some forms of gambling such as pitching coins or playing video games may produce increased skill, increased wins and few negative consequences or harms. This should be explored and confirmed in further research.

Two-thirds of those scoring as Harmed adolescent gamblers reported easy access to opportunities and resources to gamble and a strong desire to engage in regular gambling activity. Harmed adolescents were most likely to gamble for the “thrill of beating others” and “to make money” and almost all had engaged in high-risk gambling behaviour in the past as compared to none among those scoring for Risk. They also reported greater access to and involvement with commercial forms of gambling and more exposure to adult gambling behaviours in their household (e.g., gambling by parents and guardians).

Involvement in most organized or commercial forms of gambling was low and there was little to no harm or risk associated with those games that had higher involvement levels such as charity raffles 50/50 draws or lottery ticket play. However, there were two forms of commercial gambling that emerged as posing higher risk for adolescents, not only due to their rates of involvement with the activity but also due to beliefs and behaviours associated with these types of gambling. Adolescents have less experience or understanding of the “house edge” and how commercial gambling work. Most adolescent gambling experience suggests that skill can influence the outcome and that

they can become more skilful over time with experience and practice. This persistence, which typically pays off in most other situations that are familiar to youth, will contribute to problems with commercial gambling. Commercial arcade games that offer participants a chance to win prizes for example by stopping buttons in the right place appear to be designed with this in mind by making it appear that winning prizes is due to skill that can be acquired through experience. Surprisingly bingo was another form of gambling some adolescents thought they could improve at over time. These two forms of organized gambling, arcade games played for prizes and bingo, had some degree of participation and an indication of causing harm although further research into these forms of gambling is required to fully understand the relationships.

According to the results of this study, there appeared to be no connection for participating adolescents between suffering negative consequences from gambling and being motivated to take action. It may be that external stimuli, such as advertisements or information that warn about relevant dangers associated with gambling and link consequences to gambling behaviours, are required to reach youth who are unlikely to come forward on their own. It may also be that current information is not necessarily relevant for adolescent gambling experience.

Risk Indicators

Comparatively, At-Risk adolescent gamblers more often reported involvement with informal, non-commercial types of gambling were more likely to gamble to gain social status and to report easy access to information or “know-how” about how to gamble. In contrast to Harmed gamblers few reported high access to gambling opportunities or the motivation to gamble regularly, which may be serving to help prevent the development of gambling harm.

Motivations underlying gambling behaviour were important in identifying risk and harm. As noted for Harm, youth were at greater risk if they gambled in order to make money or for the thrill of beating others at the game. Ease of access to gambling opportunities, having resources available and the influence of others in their environment were all found to contribute to adolescent gambling Risk. All of these factors have significant implications for how gambling is advertised and promoted, portrayed in the media and made available in the community.

At-Risk youth tended to have greater resources to pay for their gambling, reported influence from others around them who gambled or encouraged them to gamble, had opportunities to gamble at home or at school, and had adults who facilitated their gambling and/or helped to pay for it. Finally, At-Risk youth gamblers were more likely to have participated in other forms of risky behaviour in the past making this group a key target for other social and health issues.

In contrast to Harmed adolescents for whom involvement in commercial forms of gambling was found to be most strongly associated with consequences, it appears that adolescent Risk is most often associated with involvement in informal, skill-based type gambling with the exception of two forms of “youth-oriented” commercial gambling

products; arcade gambling machines played by youth to win prizes and online gambling sites played without money.

Thus, the findings suggest that while informal games of chance are not as likely to cause problems for youth this experience seems to place them at risk for future harm when this experience is applied to commercial forms of gambling played for real money.

Interaction between Parents and Adolescents

Parental Influence on Adolescent Gambling

Parents and other adults should be considered as an important target for messages concerning adolescent gambling. The influence of adults, based on their behaviour and their willingness to facilitate youth gambling, was found to be associated with problematic adolescent gambling behaviours. About one in three adolescents reported that adults had purchased lottery tickets for them or gave them tickets as gifts, 13% had gambled at bingo halls with adults, 4% had wagered on line with adults and 4% said adults had bet money on the outcome of sports events for them and/or paid for other forms of gambling.

Even more important is the growing trend towards adolescents having increased exposure to high-risk gambling at a household level either online, on television or through adult's gambling behaviour. Such exposure normalizes the behaviours and appears to be associated with increased harm and risk for youth.

There were two adult behaviours that seem to pose particular risk for adolescents: exposure to adult poker nights and adult gambling on the internet, even with play money, both of which are gambling behaviour youth are exposed to in their homes. In fact, based on the linked responses of adults and their child(ren), a significant percent of adults hosted card nights for money and gambled on the internet with play money with youth present. In exploratory analysis these behaviours were found to be strongly associated with many gambling risk indicators and harms exhibited by adolescents in the current study.

Regardless of the parent's level of involvement in gambling, gambling was a common topic of discussion. Discussions between parents and youth represented an important source of information for youth. In many cases opportunities for discussion of gambling risks occurred spontaneously or in response to media coverage, exposure to television advertising or through first-hand knowledge of someone having problems with gambling. Curiosity was also noted as a motivator for information and many parents shared information about their personal gambling experiences with their youth. While facilitation of gambling by adults was associated with risk for adolescents, discussion of gambling between parents and youth was not and was even found to have some benefits.

Most parents have limited information about adolescent gambling services or risks. There appears to be opportunities for supporting parent's interactions with their youth through education and information.

Context of Adolescent Gambling

Stresses and Risk-Taking Behaviour

Only 13% of adolescents taking part in the study said their life was stress and worry free. The single largest stress factor was concern over their education, schoolwork and going to college (73% of adolescents). This was followed by concern for personal relationships with friends and family (12%). There was no mention of gambling and one person worried about friends involved in drugs. Teenagers typically coped with these stresses by talking with others; primarily friends (12%) or family (6%). Gambling was not mentioned as a stress reliever.

Youth were more likely to have engaged in excessive drinking (36%), physical fighting (38%), driving an ATV without a helmet (28%), reckless driving (13%) and unprotected sex (15%) than gambling with all of their money (5%).

Exposure to Information/Messages about Gambling Consequences

Adolescents received a multitude of messages about the impact of gambling. Almost one in three adolescents reported that they have learned that if you gamble “you can lose everything you own, like your car and house” (29%), “lose all your money” (18%), with potential to “become addicted” (13%), all messages that could be considered more relevant to adults than youth.

The largest single source for this information over the last year was television advertising (62%), followed by school (21%). Just over one in four (28%) reported exposure to gambling information at educational or community events in the last year.

Perceptions about Gambling Activities and Gambling Risk

Poker is the first activity that comes to the mind of many adolescents when they were asked to think of gambling activities that they and their friends would consider gambling (44%), followed by sports betting (16%), lottery tickets (9%) and general ‘betting on things’ (8%). Less than 5% mentioned the following as gambling activities (although more than half had gambled on at least one of these activities at some time in the past); coin tossing or pitching, bingo, gambling with dice, dares for money, betting on the outcome of internet or video games, sports or other types of betting pools, and 50/50 draws.

Interest in participating in organized forms of gambling when they turn nineteen was high especially for lottery tickets such as 6/49 (46%) followed closely by playing poker games such as Texas Hold ‘em for money (40%). Casino gambling (32%) and bingo (28%) were also popular. Although less popular choices, some adolescents indicated interest in sports gambling (18%), VLTs (12%), daily lottery tickets (11%), and internet poker (2%).

Adolescents felt that some forms of gambling were high risk such as VLTs and slots (82%), playing poker on the internet (67%), as well as purchasing daily lottery tickets (22%). Only about one in 10 felt gambling or betting with friends, playing poker at home or purchasing scratch tickets or lottery tickets was risky (8% - 14%).

Adolescents reported no risk associated with two commercial forms of gambling that seem to be particularly attractive and/or accessible to youth; arcade games played for prizes (40% ever played; 22% played in last year) and, to a lesser extent, wagering on-line using play money or points (24% ever played; 17% played in last year). It could be argued that both these forms of ‘kiddy’ gambling are training youth for adult versions of higher-risk gambling options. However, due to significant differences between how the youth and adult versions perform (e.g., implied skill, higher odds of winning, capped losses), this experience may be placing youth engaged in these forms of gambling at greater risk.

Recognition of Gambling Problems

Adolescents primarily identified a problem gambler as someone who “spends all their money on gambling” (41%), “is always trying to borrow money from others” (34%) and “is always short of cash or has no money to spend on things” (11%). They recognized that there is a certain lack of control, or an inability to stop, on the part of problem gamblers (24%). Most of the cues mentioned signal problem gambling by adults and focus on identifying consequences. This means that gambling harms have already occurred.

The findings suggest that there may be opportunities for alerting adolescents to risk factors that are specific to youth thereby promoting awareness for pre-harm prevention (e.g., customizing “Yellow Flag” moments for adolescents and parents).

Access to Resources and Internet

Adolescents have access to gambling opportunities, the knowledge of how to gamble and financial resources to do so. Approximately one-third of adolescents had easy access to opportunities to gamble at home or school with friends or family. A little over one-third reported they knew people who can teach them how to gamble and a similar percentage know how to gamble on the internet if they want to. Many adolescents had a regular source of money with which to pay for gambling and some (9%) knew people who will give them money so that they can gamble. For some of these teens gambling with all their money and losing it could mean substantial annual losses.

Profile of Adolescent Gambling

Beliefs about Odds of Winning

Many adolescents believe that that they can come out ahead gambling regardless if it was a commercial or a non-commercial form of gambling. This could be a result of the fact that overall, many adolescent gamblers were often involved in skill-based, non-commercial gambling which has no built in “house-edge”. Involvement in these forms of gambling may partially explain the fact that many adolescents do not experience the expected negative consequences associated with regular gambling. For example, regular involvement in some forms of gambling such as pitching coins or playing video games for money may produce increased skill, increased wins, and few negative consequences or harm.

Due to the fact that most adolescents are learning about gambling through their involvement in skill-based and/or lower risk activities, there is an opportunity for providing clear messages about the varying risks inherent in different forms of gambling activities embedded within youth prevention messaging and education prior to the onset of participation in riskier gambling activities.

Motivations to gamble

Most youth gamble for fun and entertainment. However, about one in four were motivated to beat an opponent, the thrill of competition and to make money, all of which are reasons associated with Risk and gambling Harm for youth.

Extent of Adolescent Gambling

Adolescents report experience with a variety of gambling activities, primarily charity draws and activities that fall outside of traditional adult forms of gambling. The most common form of gambling was charity or 50/50 draws (48%), followed by spending money on arcade games in order to win big prizes (40%). Other activities that adolescents have participated in were skill-based, non-commercial forms of gambling activities such as playing card games for money (35%) or playing video games with friends for pooled cash prizes (14%). About one-fifth of adolescents had ever bet on non-professional sports such as school sporting events that adolescents play or watch.

Some adolescents have also participated in other forms of informal gambling such as one-on-one skill games like quarters or bloody knuckles (24%), coin-pitching games (12%), dice (6%), and/or bet on the outcome of schoolyard fights or competitions (2%). Many have bet on the outcome of professional sports (11%) either through commercial forms of gambling such as ALC's Sport Select or informally with friends or family.

Other forms of gambling that adolescents frequently participated in were playing bingo in bingo halls (14%), and gambling with fake money or points on the internet (21%). A few older teens had purchased lottery draw tickets (7%) or instant lottery tickets such as breakopens and scratch tickets (12%) but for the most part, there is very little participation in most other commercial, regulated forms of gambling. There was some indication that a few adolescents (5%) had placed bets at racetracks.

Playing patterns were more erratic and opportunistic than that noted for adults. Half had gambled during the past three months and 27% were wagering on something at least once a month on average. When gambling 22% of teens typically spend an hour or more gambling each week, and 14% were spending more than two hours. While one-third of youth gambled anytime throughout the year, the remaining adolescents gambled most often during the school year. Only one-quarter reported summer gambling habits. While most gambling occurred during the school year, youth reported that it usually happened outside the school environment, at home, in arcades or other venues youth gather.

Problematic Gambling Behaviours

About one in six adolescents said that they had chased losses when gambling. Almost all of the remaining problematic gambling behaviours were exhibited only by High School

youth. This suggests that problematic types of behaviours likely develop over time and primarily manifest themselves as adolescents get older, have greater access to money, fewer constraints on their free time, and are able to access higher risk forms of gambling on a more regular basis. Therefore, policy or practices that increase adolescent's exposure to commercial or higher-risk gambling can also be expected to be associated with increased Risk and Harm for youth in the province.

Gambling Consequences

Adolescents who gambled reported experiencing negative consequences and 23% felt they would have been better off if they had never started gambling. These harms include financial as well as academic, social, familial and emotional (e.g., feeling guilt, anxiety, depression). Fourteen per cent of adolescents continued to gamble despite bad things that had happened to them because of their gambling. Active gamblers in both Junior High (33%) and High School (24%) said they wanted to stop participating in some forms of gambling, although some Active gamblers in High School indicated they were unsuccessful in their attempts to stop (7%) and 2% have sought information and help in order to control their gambling.

Not all consequences of gambling were perceived to be negative. Many adolescents felt they experienced benefits from gambling most of which were consistent with commercial advertising for adult gambling activities including "having a lot of fun" (36%), feeling more prestigious ("better off") in the eyes of others (23%), "getting a thrill from beating others" (16%), "sometimes winning big at gambling" (14%), "having others admire [them] for being a good gambler" (9%) and having more money to spend because they gamble (9%).

Despite experiencing negative consequences associated with their gambling none of the adolescents taking part in the current study said that at this time they need more information or help from others because they gamble.

Sources of Financial Losses

The single largest source of gambling losses over the last year for teens was charity raffles (33%), although none of the adolescents said they had lost a lot of money at this form of gambling. Those in Junior High were much more likely to report losses from this form of gambling than youth in High School (46% versus 28%). The major threat to High School adolescents in terms of losses appears to be playing cards for money or 'things of value' (21%). Currently, most card games youth were involved in are based on skill. This experience has significant implication for Risk and Harm development as these older youth grow up and become involved in commercial versions of the game.

Playing arcade gaming machines for prizes was also noted as a significant source of losses for 8% of older youth as was bingo (6%) and instant lottery tickets such as breakopens and Scratch 'n Wins (5%).

Conclusions:

Based on the results of the exploratory research the following conclusions can be made:

- Adolescent gambling was found to differ strongly from that of adults especially in terms of the following characteristics;
 - Reduced access to commercial or regulated gambling, in particular higher-risk forms such as VLTs or casino gambling,
 - Less regularity of involvement, with adolescent gambling more likely to be episodic, sporadic or opportunistic rather than habitual in nature,
 - More involvement in non-commercial, skill-based, competitive or charitable/fundraising types of gambling that typically offer youth social or other non-monetary benefit in addition to the chance to win something of value,
 - Gambling is more social for adolescents typically occurring with friends and family with increased probability of winning (i.e., one of the participants will win) and/or coming out ahead over time (e.g., practice and experience can produce improved outcomes),
 - Gambling is often incidental rather than the purpose of the activity (e.g., 50/50 draws at an events or function, betting on outcomes of video games or sporting events, wagering for one-on-one games of skill to make outcomes “more interesting”),
 - Gambling outcomes are less extreme (i.e., wins losses) due to factors limiting the amount of time or money spent (e.g., lower bet levels, no house edge, limited free or unsupervised time),
 - Gambling impacts differ and consequences are less severe due to fewer financial, professional and familial responsibilities (e.g., gambling losses do not impact basic living conditions such as food, housing, clothing)
- Given these differences between the gambling experiences of adults versus youth, the use of traditional problem gambling screens are likely inappropriate for assessing gambling impacts for youth and will be irrelevant for youth in self-evaluating (i.e., self-reporting) their gambling involvement.
- Many of the differences observed directly contribute to reduced rates of gambling problems among adolescents (i.e., act as protective factors) while harms and risk factors unique to adolescents may not be detected by adult screens modified for use with youth.
- The new approach used in the current study (**FYGRS©**) was successful in identifying and discriminating adolescent gambling Harm (i.e., negative consequences) from Risk (i.e., pre-harm risk factors), yielding practical information for monitoring gambling impacts for youth as well as the effectiveness of prevention and harm reduction efforts.
- Key factors associated with harm and risk for youth in Nova Scotia included:

- Increased accessibility to gambling especially commercial forms of the game;
 - Applying experience with informal types of gambling that are skill-based and/or do not include random fixed outcomes or a 'house-edge' to commercial gambling products;
 - Engaging in problematic gambling behaviours (e.g. chasing losses, gambling with winnings, lying about their age or using fake id to gamble, spending more time and/or money gambling than intended
 - Being exposed to gambling by adults especially in the home (e.g., online, internet, poker nights, on television);
 - Being exposed to gambling 'know-how', and versions of gambling which provide training or practice for youth such as arcade gaming machines played for prizes or online gaming for points or fake money (i.e., normalization and promotion of gambling);
 - Gambling to make money, the thrill of beating others, or for social status;
 - Having parents or others facilitate or encourage youth to gamble (e.g., provide funds, access or information about how to gamble).
- Youth involvement in commercial gambling was most often associated with gambling Harms whereas experience with informal forms of gambling contributed most strongly to Risk.
 - Regulations and social policy restricting adolescent exposure and access to high-risk forms of commercial gambling such as VLTs and casino gambling appears to have been effective in protecting adolescents in Nova Scotia from the negative gambling impacts experienced by adults involved in these forms of gambling.² No participating youth reported gambling at any of the two casinos in Nova Scotia and only one High School student had played the more widely distributed VLTs.
 - Age restrictions for other more accessible forms of commercial gambling do not appear to be as effective: at least one in ten adolescents have purchased lottery tickets; 29% have had adults buy lottery tickets for them; 27% have received tickets as gifts; 14% having played bingo using their own money; 11% have played the sports lottery and 5% have bet on horse racing.
 - Adolescent gambling harm and risk was also found to be associated with involvement in commercial gaming activities that specifically target children's involvement in gambling for prizes, points or prestige and can be seen as training youth for adult gambling (e.g., arcade gaming machine, online gambling for points, gambling toys).
 - Risk factors for youth in Nova Scotia, as identified in this exploratory research have implications for policy and practices surrounding exposure to gambling through in-

^{2 2} 2007 Nova Scotia Adult Gambling Prevalence Study, Final Report , Nova Scotia Health Promotion and Protection, Focal Research Consultants Limited, p.

home access (internet gambling), adult gambling behaviour in-person or in the media, and advertising and promotion of gambling.

Discussion:

In adulthood, the risk of problem gambling development is related to access and involvement in particular gambling activities (e.g., continuous electronic forms, such as VLTs). Adolescents can be expected to have reduced access to higher risk forms of gambling. Instead, they learn about gambling through their experience with informal and less risky forms of gambling. Consequently, they have less understanding of the “house edge” and how commercial gambling works, placing them at greater risk should they participate in commercial gambling when they reach 19 years of age. This is of particular relevance as research conducted over the past five years by Nova Scotia Department of Health Promotion and Protection has illustrated that the 19-34 year old population has the highest levels of risk and problem gambling among total adults in Nova Scotia.

In the current study, almost all adolescents who presently gamble were interested in continuing to gamble when they reached the age of 19. Most adolescents were interested in playing lottery tickets or bingo at bingo halls. However, those who were exhibiting problematic gambling behaviours were much more likely to be interested in riskier forms of gambling, such as playing VLTs and gambling on the internet. As well, a large proportion felt they could win in the long run while playing these forms of gambling placing them at increased risk due to misunderstandings about game characteristics and outcomes. Consequently, identification of risk among this group becomes a more important issue in order to avert problem development as their accessibility increases with age.

As expected, the adolescent gambling harms identified did not have the same magnitude of severity or ramifications as typically observed for adults. For example, the amount of debt reportedly accumulated by youth rarely exceeded \$20 and there were few signs of bullying associated with adolescent gambling or repayment of related debt. Almost all adolescents felt that losing ‘a lot’ of money gambling would have marginal impacts or consequences for them at this time in their life. This does not mean that adolescents do not experience serious problems with gambling; only that this type of impact will be a rare and, therefore, will not be relevant for the majority of youth in the province. However, there was strong evidence that many youth were experiencing negative impacts due to their gambling and had developed problematic gambling behaviours, motivations, and beliefs that pose significant risk as they grow older and/or gain access to commercial forms of gambling.

As noted, 7% of participating youth were reporting negative consequences in relation to their gambling and an additional 12% were found to be exhibiting risk for gambling harm in the future. This means that about one in every five adolescents in Nova Scotia is being adversely impacted to some degree by their personal involvement in gambling. Academic troubles, damaged relationships, and negative emotional impacts such as feeling guilt, anxiety, and depression were some of the negative consequences of adolescent gambling. Yet only a small number of adolescents have reached out for help,

few are aware of risks factors or signs to watch for, and there is uncertainty surrounding when or where to go to for help.

Parents and other significant adults in the lives of adolescents play a key role in educating youth about the risks of gambling as well as curtailing their access. Therefore, it is important that these adults are included in any initiatives targeted at the prevention of problematic gambling behaviours before these behaviours become entrenched and linked to more significant consequences. Alerting parents to the role of parental and adult gambling in contributing to adolescent risk is also indicated.

The focus for public health policy will need to take into account the different nature of gambling risks and harms for youth in order to be seen as relevant and providing value for risk reduction among this group. A primary focus to prevent or reduce problematic gambling behaviours before they become entrenched and linked to more significant consequences is indicated.

Although exploratory in nature, the sample size and methodology for the current study was sufficient to provide considerable insight regarding the nature of adolescent gambling in Nova Scotia, and the key factors associated with risk and gambling harms within this group. The information obtained and analysis undertaken was suitable for exploratory purposes but results should be treated as preliminary until confirmed in further research.

NSHPP Recommendations:

Recommendation 1

It is recommended that the Department of Health Promotion and Protection continue to ensure that treatment services for youth at-risk or harmed by gambling, and their families, are accessible through the CHOICES program at the IWK Health Services Centre and the Addiction Services offices within the District Health Authorities.

Recommendation 2

It is recommended that the Department of Health Promotion and Protection continue to support the development, implementation and evaluation of youth gambling prevention programming delivered through the Addiction Services officers with the District Health Authorities.

Recommendation 3

It is recommended that the Department of Health Promotion and Protection support further research in the area of adolescent gambling to enable a clear understanding of the needs of Nova Scotian youth including:

- The establishment of a prevalence rate for adolescent gambling in the province.

-
- An understanding of the impact of gambling advertising on the gambling intentions and behaviours of youth.

SECTION 1: INTRODUCTION & METHOD

1.1 Introduction

In 2007, Nova Scotia Health Promotion and Protection (NSHPP) commissioned a new gambling prevalence study that included the Adult Gambling Prevalence Study as well as two new components intended to address gambling risk among young adults (19-34 years) and adolescents (13-18 years) in the province: 2007 Yellow Flag Post-Campaign Evaluation Among Young Adults (19-34 years) in Nova Scotia³ and the 2008 Nova Scotia Adolescent Gambling Exploratory Research.

In previous prevalence research⁴, NSHPP had identified young adults in Nova Scotia as a key target due to elevated risk and problem gambling rates found within this group.

In an effort to understand the elevated levels of gambling risk among young adults, NSHPP wished to examine risk for adolescents in Nova Scotia in an effort to improve prevention and early intervention efforts.

Jacobs (2000) had estimated that based upon prevalence rates in the United States and Canada more than 15.3 million youth (ages 12–17) have been gambling with or without parental permission. Gupta and Derevensky (1998) found approximately 80% of adolescents age 12–17 reported having gambled at some time during the previous 12 months, with 35% gambling at least once per week. The data further revealed 13% of adolescents were found to have some gambling related problems, with 4%–6% having problems that were considered more serious.

In the latest Nova Scotia Student Drug Use Survey (2007)⁵ 60% of students had taken part in at least one of 9 gambling activities in the 12 months prior to the survey, with 6% reporting use of fake identification or having lied about their age in order to participate in gambling activities. Over one-third of students reported having played scratch tabs (38%) or card games (34%) for money over the last year, with about one in 20 taking part in video lottery play (5.7%) or internet gambling for money (4.8%). Overall, 3% of students were found to be “At-Risk” gamblers and 2% were identified as engaging in “problem” gambling behaviours. The percentage of students who met definitions of “At-

³ 2007 Yellow Flag Post-Campaign Evaluation Among Young Adults (19-34 years) in Nova Scotia, NSHPP Final Report (2008). Focal Research Consultants Ltd, Halifax: NS

⁴ 2003 Nova Scotia Gambling Prevalence Study, Final Report NSHPP (2003). Focal Research Consultants Ltd, Halifax: NS

⁵ Nova Scotia Student Drug Use 2007 Highlights Report (2007). Poulin, C and McDonald, W, Halifax: NS. Located at www.gov.ns.ca/hpp/repPub/NS_Highlights_2007.pdf

Risk” or “problem” gambling ranged from 2.7% in grade 7 to 5.8% by grade 12, and tended to be higher among male students (6.7%) as compared to their female peers (2.0%).

To date, estimates of adolescent risk and problem gambling were based on the use of various adult screens that have been adapted for use with youth including primarily:

- **DSM-IV-J**, Diagnostic Statistical Manual-IV Adapted for Juveniles (Fisher, 1992),
- **SOGS-RA**, a revised version of the South Oaks Gambling Screen developed by Winter et al (1993).
- **MAGS**, Massachusetts Adolescent Gambling Screen (Shaffer et al., 1994)

Such screens have not necessarily been validated for use with adolescent populations despite widespread use. Moreover, aside from identifying the proportion of the population of interest scoring for risk or problems the results of such screens offer limited value in social and public policy application or as input to public health strategy.

To assist NSHPP in identifying and assessing key factors for gambling risk and harms among adolescents in Nova Scotia as well as providing practical information upon which to base policy and program decisions, Focal Research used a new measure in the current study; the Focal Youth Gambling Risk Screen (**FYGRS**®).

Exploratory research using this new measure was undertaken with parents (n=74) and youth (n=85) living in selected households throughout Nova Scotia as identified during the 2007 Nova Scotia Adult Gambling Prevalence Study.

1.2 Method

1.2.1 2007 Nova Scotia Adult Gambling Prevalence Study - Sampling Frame

The 2007 Nova Scotia Adult Gambling Prevalence Study commissioned by Nova Scotia Health Promotion and Protection (NSHPP), marked the fourth gambling prevalence study to be conducted in the province (1993, 1996, 2003, 2007) and the second using the new Canadian Problem Gambling Index (CPGI; 2003, 2007). The Final Report for the 2007 Adult Gambling Prevalence Study described the prevalence of gambling and problem gambling among adults 19 years of age and older who are permanent residents of Nova Scotia, living in private households in the province (n=2,500) as well as changes that occurred between 2003 and 2007.

From October 5 to December 21, 2007, a household screen was completed with 1,661 randomly selected households. The screen identified all people living in each randomly

selected household by age and gender with an overall response rate of 77.2%. In total 3,185 adults were identified as living in these random selected households of whom 2,500 adults (78.5%) successfully completed a telephone survey incorporating standardized and adapted instruments (e.g., CPGI-PGSI) as well as customized questions to measure gambling prevalence and other correlates.

Results for total adults in the study were accurate within $\pm 1.96\%$ at the 95% confidence interval (95 times out of 100).

The random household sampling frame compiled during the 2007 Adult Gambling Prevalence Study was used for generating a sample for the Adolescent study.

1.2.2 2007 Nova Scotia Adolescent Gambling Exploratory Research Study

During the Adult Gambling Prevalence Study there were 214 households (12.9%) identified that had a total of 282 adolescent residents aged 13 to 18 years. In accordance with national and international standards for data collection with youth on sensitive, restricted or illegal activities, these households were re-contacted to obtain parental/guardian permission for qualified youth to take part in the Adolescent study.

In discussion with NSHPP participation was limited to youth age 13 years or older to coincide with age differences in Nova Scotia between those youth still in Elementary school (age 12 or younger) versus those in Junior High (age 13 years and older).

Once permission was obtained, a survey was first completed with the eligible parent/guardian (n=74) and then an independent survey was conducted with each eligible adolescent respondent living in the household (n=85). In total 30% of eligible respondents identified during the household screen for the Adult Prevalence Study met all necessary conditions for participation including compliance with Canadian Tri-Council Ethics requirements.

To assess the 'representativeness' of the sample, the household profile was compared for those adolescent households that took part in the study (n=74) versus those that did not (n=140). There were no significant differences detected on any of the key measures including, household demographic characteristics, involvement in gambling by adult members of the household (i.e., gambling participation rates), exposure to problem gambling (e.g., self-reported or CPGI classification), general health ratings, or experience of other life issues in the past year (e.g., financial problems, work related problems, other substance use/abuse, depression/anxiety).

1.2.3 Data Collection

In consultation with NSHPP, the survey was customized for use with adolescents in Nova Scotia from November 2007 to February 2008. The draft questionnaire was then tested qualitatively through in-depth discussion groups with youth to ensure understanding of the questions and information being gathered (February 22-25, 2008). Final pre-testing of the revised survey took place from February 26 to March 3, 2008.

Data collection occurred from March 4 to March 26, 2008 and was conducted from Focal Research's centralized facility in Halifax, Nova Scotia.

Each survey was 100% edited for accuracy and completeness. Random quality control checks (participant re-contacts by supervisory staff) were conducted on a minimum of 10% to 15% of each interviewer's surveys.

Data entry occurred concurrently with data collection to maximize turn-around and allow for preliminary data checks/reviews. A minimum 15% manual quality control check was performed on the entered surveys. In addition, the data was submitted to customized data cleaning programs, which incorporate logic checks as well as out of range value checks.

To ensure that taking part in the study did not have any negative impacts all parents and adolescents participants were asked a series of questions at the end of the survey:

- Did taking part in the study made you want to gamble? (n=1)
- Did taking part in the study made you feel uncomfortable or concerned about any aspect of your gambling? (n=1)
- Do you want any information or to speak to anyone about your own gambling or gambling by someone else that you care about? (n=3)

Anyone answering affirmative to these questions was provided with referral information and the Problem Gambling Help Line toll-free number. Further follow-up with those referred was conducted approximately one month following the survey.

1.2.4 Staff Training Ethic and Standards

All Focal's interview staff is permanent employees with appropriate deductions and benefits. Pre-screening, testing, and full reference checks are conducted for each staff member, all of whom must sign confidentiality contracts, complete extensive training requirements and are subject to on-going police checks and child registry screening to assure the safety of respondents.

All data collection staff successfully complete proprietary sensitivity training for public health, prevalence and social survey research. This includes instruction in dealing with special populations such as youth, seniors, those in distress and rare or specialized

populations such as problem gamblers and intravenous drug users. Other sensitive issues include drug use, alcohol consumption, addictions services outcome monitoring, as well as expenditure and income measures. Focal's training program is unique and was designed in cooperation with public health professionals and debt counselors including a special module for gambling. Data collection staff at Focal has also received supplementary training for interviewing youth through the CHOICES program, Addiction Services, IWK Health Centre, Halifax, Nova Scotia, Canada.

In addition to compliance with Canadian Tri-Council Ethics requirements for research involving humans, all levels of data collection, management, and analysis were subject to the Personal Information Protection and Electronic Documents Act of Canada (PIPEDA, 2004) and were monitored throughout the study by Focal Research's designated Privacy Officer (B. Wiggins).

1.3 Analysis Approach

1.3.1 Review of Adolescent Problem Gambling Measurement

According to Fisher (2000), most measures used over the past ten years screening for gambling problems and associated risk among adolescents are based on the DSM-IV (APA, 1994). The most widely used instruments are the DSM-IV-J, Diagnostic Statistical Manual-IV Adapted for Juveniles (Fisher, 1992), the SOGS-RA, a revised version of the South Oaks Gambling Screen developed by Winter et al. (1993) and the MAGS, Massachusetts Adolescent Gambling Screen (Shaffer et al., 1994).

Diagnostic Statistical Manual-IV Adapted for Juveniles (DSM-IV-J), a revised version of the DSM-IV criteria, (Fisher, 1992), was designed to measure past year pathological gambling among 11-16 year olds. The DSM-IV-J scale consists of 12 items and responses are given in "yes" or "no" format. The DSM-IV-J was modeled very closely on the adult version (DSM-IV criteria for pathological gambling), with several adaptations (e.g., theft would be specific to theft from home, theft from outside the family, and shoplifting, rather than examples of forgery, fraud, and embezzlement used with the adult screen). The DSM-IV-J comprises nine dimensions of pathological gambling. Fisher (1992) found, with slot machine players, that meeting four of the twelve criteria was sufficient to classify them as "probable pathological gamblers," and that this revised version served as an effective discriminator of pathological gambling in youth and adolescents. The DSM-IV-MR-J (MR = Multiple response; J = Juvenile) is a revised version of the DSM-IV-J which addresses the use of yes/no responses within non-clinical situations (Fisher, 2000). It is unclear how sensitive the measure is to jurisdictional differences in exposure to various types of gambling or its effectiveness in identifying risk.

Winters et al. (1993), developed the **SOGS-RA, a revised version of the South Oaks Gambling Screen**, intended to assess adolescent gambling problems more accurately than the adult version. Items from the original SOGS were reworded to make it more age appropriate and the scoring scheme was adjusted to develop this 16-item scale. In contrast to the heavy emphasis on money, the SOGS-RA emphasized the frequency of gambling behaviour and the behavioural indices often accompanied by problem gambling. Winters et al. (1993) reported satisfactory reliability (.80) and validity measures; however, there is criticism that the SOGS-RA has not been adequately tested with adolescent females given the low rate of female problem gamblers in the original sample (Ferris et al., 1999). Based on research with adolescents, we would also argue that frequency of gambling behavior and indices adapted from adult gambling behaviours are likely inappropriate for assessment of underage gambling which can be expected to differ in both type and degree especially given age-restricted access for most high-risk, continuous forms of gambling in Nova Scotia.

The **Massachusetts Adolescent Gambling Screen (MAGS)** (Shaffer et al., 1994) was developed to assess the prevalence of problem and pathological gambling amongst a general population of adolescents. Again, the MAGS incorporates the DSM-IV-J criteria for pathological gambling to create a 26-item scale, including two subscales, designed to identify individuals with gambling difficulties. The scale includes a DSM-IV-MR-J subscale which yielded a Chronbach alpha of .87 while the MAGS subscale yielded an alpha of .83. Validity data and discriminant analyses were effective predictors of pathological gambling. The authors conclude the MAGS to be a valid, efficient and quick screen that should be used to identify individuals who are at risk for pathological gambling. It is unclear how effective the measure is in identifying pre-harm risk for preventative purposes as opposed to identification of probable problem or pathological gamblers.

All of these adolescent screens are based on modifications of adult measures of risk for problem and pathological gambling primarily using reflective constructs.

Typically **reflective constructs** are measures based on the assumption that the underlying latent construct (i.e., problem gambling) causes the observed variation in a particular measure (Cote & Buckley, 1988; Nunnally 1978). For example, constructs such as the MAGS, DSM-IV-MR-J or SOGS-RA assume adolescent problem gambling, a latent variable, exists, and that the direction of causality is from the latent variable to the items comprising the reflective construct; that is, problem gambling produces the outcomes for the items comprising each screen. Given these assumptions there is strong reliance on estimates of internal consistency, reliability (i.e., Cronbach's alpha) and factor analysis, in order to assess the validity of the screen. Essentially each of the items is considered to

be measuring the same thing and, therefore, there should be high correlations between each of the items. However, reliance on these methods of assessment can lead to misspecification of the construct in that they focus on single measures whereas the actual construct (risk and/or problem gambling) may be considerably more complicated. In addition, key components of gambling risk may be missing from the constructs due to an over-reliance on classical testing theory and the retention of only highly correlated items in the resulting screen (Diamantopoulos & Winklhofer, 2001; Jarvis et al., 2003; Mackenzie, 2003).

This more simplified approach may be valid for certain constructs that are used for specific functions within specific, homogeneous populations (i.e., identifying those in a treatment population who may also be having gambling problems). However, it may not be appropriate for measuring gambling problems and associated risk, especially for heterogeneous applications outside of clinical or treatment populations (i.e., in the general population and for survey or self-assessment purposes).

Other issues must also be considered. First, it can be argued that the direction of causality for risk and problem gambling could go both ways; certain gambling behaviours cause risk (i.e., frequency of gambling increases risk for problems) or gambling problems produce certain behaviors (problem gamblers take part in gambling more frequently). Second, factors associated with risk for gambling problems may fundamentally differ from factors associated with problem gambling (i.e., early big wins, impulse control disorder may be highly predictive of risk whereas stealing or lying about one's gambling may be predictive of problem gambling). Thirdly, risk factors may vary strongly between individuals depending on numerous conditions, circumstances, or life stages (e.g., age, mental health consideration, financial resources, life responsibilities, support system). All these factors suggest the need for the use of both formative and reflective constructs to represent different dimensions of the latent variable whether it is risk or problem gambling (Bollen & Lennox, 1991; Gefen, Straub & Boudreau, 2000).

If we assume a formative or hybrid approach, the nature of the measure, and how it can be used, fundamentally changes. As a result, the new measure can look quite different from traditional screens based solely on reflective constructs. However, the primary benefit of approaching risk/problem gambling in this new way will be an improvement in the ability to detect and accurately measure these occurrences in the population over time.

1.3.2 Risk factors

Problem gambling development is tied to access and involvement in gambling activities and adolescents can be expected to have reduced access especially to commercial or organized forms of gambling. Consequently, identification of risk among this group

becomes a more important issue in order to avert development of future problems as gambling accessibility increases.

For example, research has suggested that early age of onset of gambling behaviours is a significant factor for the development of gambling related problems (Dickson, Derevensky & Gupta 2002; Gupta & Derevensky, 1998).

The field of adolescent substance use research provides insight for the development of adolescent gambling risk and harms. Experts agree that a cumulative number of risk factors, rather than any one specific factor, increases the likelihood of substance use or abuse among adolescents.

Individual characteristics associated with a greater risk of use and abuse of substances include age (with use increasing during adolescence and peaking in mid to late 20's); gender (with males more likely to use substances, but with a narrowing gender gap according to recent surveys); attitudes and beliefs about the risks of use; anxiety sensitivity, impulsivity and sensation seeking (Comeau, Stewart & Loba, 2001); and, other childhood psychological disorders (i.e., conduct disorder).

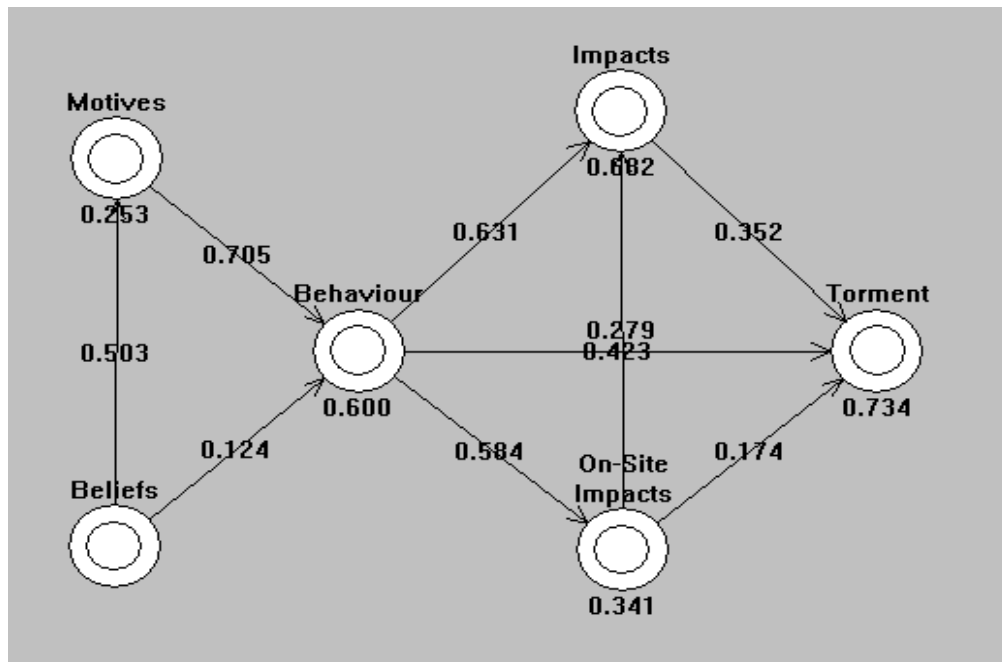
According to the Canadian Centre on Substance Abuse's Youth in Focus report (CCSA, 2007), certain interpersonal factors also serve as risk factors for substance use and abuse. Poor parental practices such as inadequate monitoring and family conflict have also been associated with use by youth, with peer involvement emerging as one of the strongest predictors of substance use by young people.

A significant amount of research in the environmental and cultural spheres shows that increased availability of a substance increases the likelihood of its use, especially among young people. Social norms and the way use is portrayed in the media also play an influential role (CCSA, 2007).

1.3.3 The Focal Youth Gambling Risk Screen© (FYGRS©)

The *FYGRS©* measure is based on work initially completed in 1998 examining in detail the determinants of problem gambling in adults (Focal Research, 1998). A hierarchical approach was used to model antecedents of problem gambling. Structural equation modeling confirmed the hierarchical nature of gambling for adults (Figure 1).

Figure 1: Structural Equation Model for Problem Gambling



This approach was expanded in work completed for the Victoria Gambling Research Panel and the Victoria Department of Justice (Schellinck, 2006). Similar patterns emerged from analysis of both data sets: behaviours were found to be most strongly related to gambling impacts and consequences; beliefs were most strongly linked to motivations; motivations impacted behaviour.

Following this work Focal developed prototype measures specifically designed for use with adults (*FocalS Adult Gambling Screen - FLAGS®*) and for application with adolescents (*FocalS Youth Gambling Risk Screen - FYGRS®*). This incorporated an approach based on past research as well as new understandings about concept development and use of formative versus reflective constructs (Jarvis, Mackenzie & Podsakoff, 2003; Diamantopoulos & Winklhofer, 2001).

The first seven components of the model are multi-item measures that collectively comprise the ‘risk measure’ for adolescent gambling. While most of these component measures are summed constructs (i.e, comprised of combined responses to more than one item/statement) there are some variables that consist of only a single item (e.g., the number of days gambled over the last three months). The consequences component (grey box) consists of six multi-item constructs which measure the various harms that teens can experience due to their gambling. The full 31 items comprising the model are presented in Appendix A.

In strong contrast to previous adult and adolescent problem gambling screens, we have developed separate screens (i.e., constructs) for **identifying risk versus identification of gambling consequences** (i.e., problems or harms). We feel this approach will also be useful for general population screens, but it is especially important when researching gambling risk among adolescents. The reason for this is due to fundamental differences between the opportunities to gamble and the types of gambling available to adults versus those who are underage.

For example, in order to have negative consequences due to gambling there must be gambling behaviour. Mediating between gambling behaviour and consequences are gambling outcomes; that is how much is won/lost gambling. For adults who primarily take part in organized or commercial forms of gambling, on average, the more they gamble the more they will lose. For adolescents, however, the outcome is not so certain as many of the forms of gambling they are involved in are based on skill such as betting on the highest score when playing video games or coin pitching where outcomes are determined by how well the individual can perform during the game. Even in those cases when the outcome is determined largely by luck or random chance, there is usually no “house advantage” involved to ensure that in the long-run the gambler will lose; when tossing a coin the adolescent gambler always has a fifty-fifty chance of winning each time.

Ideally, a good risk measure must be able to identify those youth who, when faced with a decision, will place themselves at risk. It should also be based on factors that are found to influence an adolescent’s likelihood of being in high risk situations.

In contrast to gambling outcomes for adults, opportunities for adolescents to lose large sums of money or other items of value when gambling are less frequent. Even if they gamble regularly, adolescents are less likely to suffer significant negative financial consequences typically associated with adult gambling risk and problems as they are not able to access higher risk forms of gambling. However for those who are able to engage in high risk forms of gambling, it is their behaviour during these events that may provide a critical cue for identifying their risk level rather than their average play behaviours which may involve more innocuous forms of gambling. This would suggest that focusing on recent gambling behaviours, (e.g., in the last three months) may not pick up those situations indicative of problematic gambling behaviour.

As adolescents age the opportunities to gamble in ways that create negative consequences will also likely increase. Therefore, it is reasonable to expect that the percentage of At-Risk adolescent gamblers experiencing negative consequences should also increase with age. Given this hypothesis it was important that an adolescent risk measure be less sensitive to age than the outcome measures of gambling consequences. Specifically, this

means that identification of risk for gambling problems must be able to be determined independent of consequences for gambling harms.

This implies that traditional measures of problem gambling such as the extent of gambling (minutes or days played) may be poor factors to use to identify gambling harm among adolescents although such measures may be reasonable predictors of risk. Monetary harms may also be less effective measures of consequence whereas social status and personal factors may be more important to adolescents and hence have greater relevance for identification of impacts.

For these reasons *FYGRS*[®] was designed to independently identify risk and gambling harm rather than using the extent of gambling involvement for identification.

1.3.4 Analysis

Correlation analysis was used to examine the relationship among factors that might be influencing problematic gambling behaviours and harms experienced on the part of adolescent gamblers. While correlation analysis cannot determine causality it does identify and describe the relationship between two variables. Given the nature of the data the Spearman Rank Ordered Correlation, a non-parametric measure of association, was used. Spearman is a more conservative estimate of association than Pearson's Correlation. Since it is based on rank orders and not absolute data values, it is not as sensitive to outliers in the data. Both the correlation coefficient (R) and the squared correlation (R²) were reported in the tables in the report; R (correlation coefficient) indicates the degree of the relationship between the two variables and the R² (sometimes referred to as the coefficient of determination) is an indicator of the amount of variance explained by the relationship. Both results are important; R in defining the strength of the relationship and R² in assessing the relative importance of the variable in the relationship, that is the importance of one variable versus another.

Differences significant at the 95% Confidence level are bolded in the tables and reported ($p \leq .05$). However, due to the exploratory nature of the research there is a need to balance the reduction of Type II error (i.e., *failing to detect a difference when there is one = reduced power*), as well as, reducing Type I error (i.e., *saying there is a difference when there is not = reduced rigor*).⁶ Therefore, in some cases, those differences

⁶For an excellent discussion on balancing the tension between Type I and Type II Error see *Research Methods Knowledge Base*, 2nd Edition by William M. Trochim, Cornell University (at URL: <<http://trochim.human.cornell.edu/kb/index.htm>> Version current as of January 16, 2005) "Increasing alpha (e.g., from .01 to .05 or .10) increases the chances of making a Type I Error (i.e., saying there is a difference when there is not), decreases the chances of making a Type II Error (i.e., saying there is no difference when there is) and decreases the rigor of the test. However, increasing alpha (e.g., from .01 to .05 or .10) increases power because one will be rejecting the null more often (i.e., accepting the alternative) and, consequently, when the alternative is true, there is a greater chance of accepting it (i.e., power)".

significant at the 80%+ Confidence level ($p \leq .20\%$) are discussed in the text where relevant.

Not all of the variables examined were summed constructs. For example, several of the gambling outcome measures were based on single variables such as “the largest amount ever lost at one time gambling”. The sample size used in the analysis varies by variable (i.e., the number of respondents answering each question). For example, the larger the numbers of items in each construct (i.e., number of questions comprising each construct) the greater the chances that one or more respondents may not answer all items and, therefore, will be coded as missing data. As a result, sample sizes for each construct will vary slightly (i.e., ranging from $n=82$ to $n=85$ for the full sample).

There are four main samples used in the analysis:

- **Total Adolescents** ($n = 85$); 24 Junior High and 61 High School youth.
- **Active gamblers** ($n= 56$) defined as adolescents who gambled at some time during the past year (12 months preceding the survey).
- **Recent gamblers** ($n=44$) defined as those who have gambled in the previous three months (3 months preceding the survey).

Parents ($n=74$); in ten cases, two qualified youth were interviewed in the household. The parent responses were combined with those of each child for purposes of analysing the relationship between parental behaviour and adolescent gambling behaviours and risk.

Since the sample size for any particular correlation analysis varied depending upon the segment under examination (e.g., $n=44$ up to $n=85$) analyses was conducted with pair-wise deletion which allowed for the largest sample size possible to test specific relationships.

Descriptive analysis was undertaken for discussions of the findings within and between segments.

The research is exploratory and, therefore, discussion of results for sub-segments of adolescents such as those in Junior High ($n=24$) versus High School ($n=61$) were largely qualitative and should be confirmed in further quantitative study.

Margins of Error

For descriptive analysis, the figures reported in the current study are point estimates only. Depending upon the size of the sample, the amount of variance in the data (i.e., standard deviations for mean estimates) and/or the proportion of the sample indicating a particular

response, actual results will fall within a specific range around each point estimate referred to as the margin of error.

The following table presents the population estimates and margins of error for the total sample and for each of the primary segments. As sample sizes for various sub-segments decline, the margin of error surrounding the point estimates increases. This is automatically accounted for in all tests of significance conducted among various groups using a 95% level of confidence ($p \leq .05$).

The margins of error presented in the table are conservative, based on the assumption that the true population value falls at the 50% level. The 50% level is often chosen when the true population estimate is unknown as it represents the point at which the margin of error will be the greatest. As the true value moves away from the 50% level, there is greater accuracy in projecting results to the population and the margin of error surrounding the point estimate becomes smaller.

Table 1: Margins of Error

Response Value (n=85):	Margin of Error 95% CI (two-tailed test)	Margin of Error 90% CI (two-tailed test) 95% CI (one-tailed test)
10%/90%	±6.41%	±5.36%
20%/80%	±8.55%	±7.15%
30%/70%	±9.79%	±8.19%
40%/60%	±10.47%	±8.76%
50%/50%	±10.69%	±8.94%

1.5 Adolescent Gambling Activities

In the current study, adolescent gambling was divided into two primary categories of informal versus formal gambling activities that are played by adolescents for money and/or things of value.

Informal gambling activities refers to non-commercial forms of gambling, that are largely self-organized or occur between family, friends, or acquaintances at home, school, or in other venues and areas that youth congregate. These activities included:

- Playing card games, not on the internet, such as poker for REAL money or things of value (e.g., Poker, Hearts, Crib);
- Betting with friends on outcomes for video games or arcade games;
- Playing one-on-one skill games such as ‘Quarters’⁷ or ‘Bloody Knuckles’⁸;

⁷ Quarters is a game of skill using three quarters that must be moved forward on a flat surface by passing (e.g., flicking) one quarter between the other two quarters to score on an opponent’s goal on the opposite side of the surface (typically a table). There are some regional variations in scoring requirements (e.g.

- Coin pitching (i.e., in a circle or against the wall with those closest to the designated standard winning the accumulated money);
- Gambling on dice games;
- Betting on outcomes of sports and sporting events that youth play, participate in, or watch (e.g., outcomes of own games);
- Betting on dares;
- Betting on outcomes of ‘schoolyard’ fights or competitions that may take place at school or in other areas youth congregate.

Formal gambling activities refers to commercial and organized gambling activities that are provided primarily to generate funds for those operating or offering the activity. This included provincially regulated and age-restricted gambling available for adults in the province, as well as, regulated, non-restricted commercial gambling activities such as arcades, charity gambling and on-line options youth may have access to at home or through the internet.

- Age-restricted regulated gambling including:
 - Purchasing lottery draw tickets such as Lotto 649 or Super 7 with own money at a store/retail outlet;
 - Purchasing instant tickets and breakopen tickets with own money;
 - Playing VLTs or gambling machines at pubs, clubs or other licensed location;
 - Gambling at a casino;
 - Betting on the outcomes of professional sports, through Sports Select, ProLine or some other commercial sports betting sites/services;
 - Betting on horses at a racetrack.
- Non-restricted regulated gambling including:
 - Purchasing charity raffles and draws with own money;
 - Purchasing 50/50 tickets with own money;
 - Playing bingo in bingo halls or charity events with own money;
 - Playing video games/arcade games for prizes at arcades or other locations.

hockey-style (i.e., in net made by outside fingers down on table) versus football-style (i.e., fingers held through ‘uprights’)).

⁸ Bloody Knuckles involves two players facing each other about 1-2 feet apart with hands, palm-side down, closed into fist, and knuckles lightly touching the knuckles of opponent’s opposite hands. Players remain still and then attempt to rap the opponent’s knuckles with their own closed fist. It can also be played open-handed as well. Traditionally, those able to strike their opponent were given option of determining additional punishment but in focus groups with youth in Nova Scotia betting and wagering on outcomes were reported as well.

- Other forms of commercial gambling including:
 - Internet gambling including using your cell phone to access the internet : (e.g., purchasing lottery tickets over the internet);
 - Poker gambling on-line for real money or tokens purchased with real money;
 - Internet bingo played for money

Adolescents taking part in the study were also asked about their involvement in Internet gambling for play/fake money or points.

1.4 Limitations

During the 2007 Adult Gambling Prevalence Study only 214 or 12.9% of randomly selected households were found to have adolescent's aged 13-18 years in residence. This base became the sampling frame for conducting the Adolescent survey. Due to requirements for parental permission and linking of parental and adolescent data, 74 households (34.5% of eligible households) took part in this study. Seventy-four parents and 85 adolescents each completed a survey. Comparison of those household that took part (n=74) versus those that did not (n=140) indicated there were no significant differences between the two groups on key variables including general gambling profiles, demographic characteristics or attitudes. The final sample size of adolescents (n=85) for this study was large enough to produce reliable estimates but impacted the ability to conduct statistically robust comparisons between sub-groups of adolescents. In some cases, the percent endorsing particular indicators or items hypothesized to be associated with risk was too low (n<5) for analysis to adequately assess potential relationships.

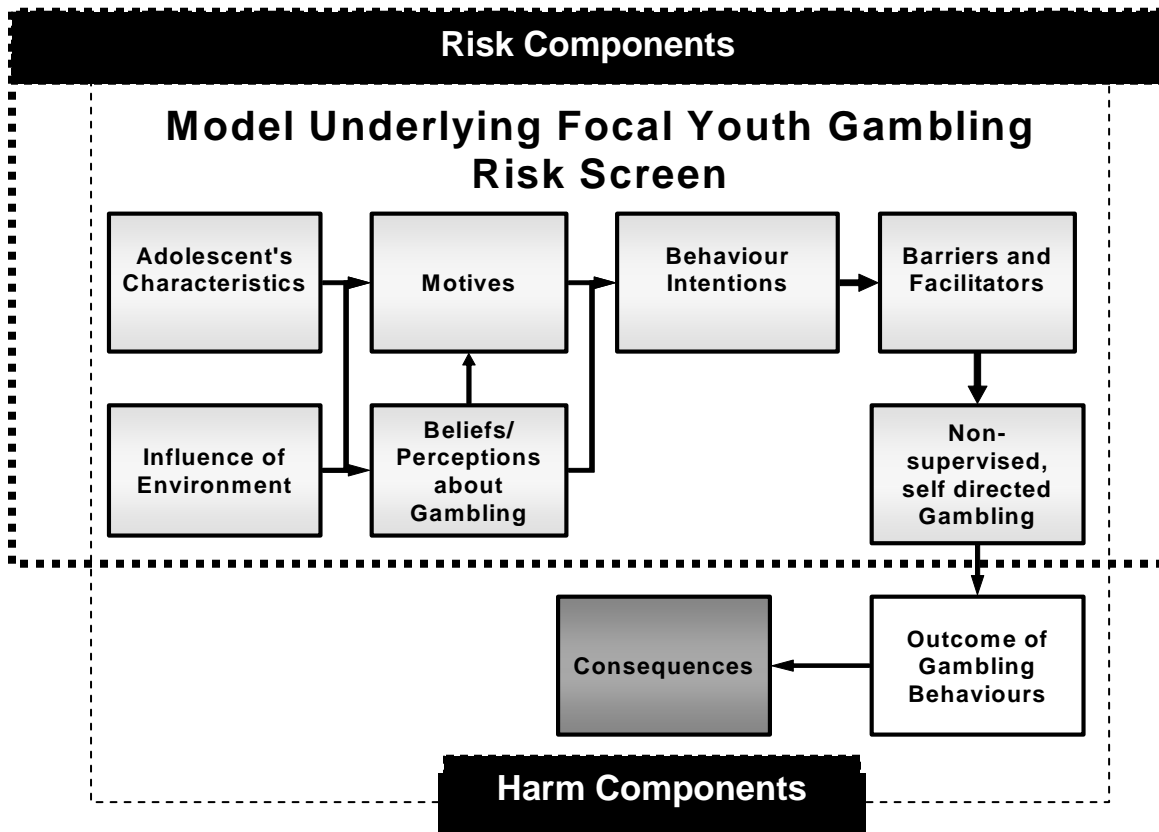
It should be noted that participation was restricted to those youth living in private households throughout the province. Given the methodology, (e.g., parental permission requirements, household sampling technique) high-risk youth living outside of conventional households were excluded from taking part in the study.

Although exploratory in nature, the sample size and methodology for the current study was sufficient to provide insight regarding the nature of adolescent gambling in Nova Scotia, and the key factors associated with risk and gambling harms within this group. The information obtained and analysis undertaken was suitable for exploratory purposes but results should be treated as preliminary until confirmed in further research.

SECTION 2: MEASURE OF ADOLESCENT GAMBLING RISK AND HARM

2.1 Harm and Risk Profile of Adolescents

The goal of the study was not to identify adolescent problem gamblers but rather to identify risk factors that contribute to negative gambling consequences and outcomes for adolescents living in Nova Scotia. As noted under Section 1.2 Analysis Approach, the Focal Youth Gambling Risk Screen© (*FYGRS*©) is designed to independently identify gambling harm (i.e., consequences) and risk (i.e., pre-harm factors) among adolescents. Therefore, there are two primary measures comprising *FYGRS*©, the Harm Measure and the Risk Measure.



2.1.1 Harm Measure

Measurement of gambling harm differs fundamentally from identification of problem gambling.

Within the questionnaire, problem gambling was defined as the following:

“Gambling or betting using money or other things of value in such a way that you feel you have no control over how much you gamble, or you are spending (losing) so much money at gambling that it causes you to suffer in some way such as feeling depressed, or upset, or have trouble paying debts, or have other problems that come from gambling”.

The definition was based on variations used with adults and was subsequently tested and adjusted in focus group discussions with adolescents to ensure understanding prior to going to field with the survey.

After being read the above definition only one adolescent out of 85 taking part in the study self-identified as a current problem gambler (Section 5: Table 27), another youth indicated that they had been a problem gambler at some point in the past and one expressed concern that they may be at risk of becoming a problem gambler. The remaining youth participating in the survey did not feel they were problem gamblers or at-risk for problem gambling, although some of these adolescents were engaging in gambling behaviours associated with problems (i.e., problematic gambling behaviours) and reported negative consequences associated with their gambling.

In order to identify those adolescents experiencing **gambling harm** as opposed to identifying problem gamblers, **FYGRS®** links gambling involvement to consequences in five different life areas:

- **Torment /Anxiety** (i.e., Impacts for affect and guilt)
- **Life Style Consequences** (i.e., Impacts for activities and responsibilities)
- **Social Consequences** (i.e., Impacts for relationships with others)
- **Financial Consequences** (i.e., Impacts for money, debts, borrowing)
- **Personal Consequences** (i.e., Impacts for self)

In some cases, it is possible that an individual could engage in gambling on an occasional basis and yet suffer some form of negative consequence under one the categories above. However, such experience may not be sufficient to warrant designation as a Harmed gambler. Therefore, in order to be designated as a current Harmed gambler using **FYGRS®** an individual must trigger for three or more forms of negative consequences associated with gambling over the last year.

Each consequence component (i.e., Torment/Anxiety, Life Style, Social, Financial, Personal) is comprised of a number of statements that are summed to arrive at score for that particular component (i.e., construct).

FYGRS® Harm Measure - Consequence Components:

Torment/Anxiety (7 statements)

- I spend too much time thinking about gambling.
- I sometimes feel anxious, restless, or irritable because I can't gamble when I want to.
- I sometimes have trouble sleeping thinking about gambling.
- Sometimes I am very sad or depressed that I gamble.
- I sometimes feel guilty about the amount of money I spend or things I have lost when I gamble.
- I would be better off if I had never started gambling.
- I have a fear of being caught gambling.

Life Style Consequences (4 Statements)

- I have neglected family, friends, or school in order to gamble.
- I have missed important events due to gambling.
- I have missed out on opportunities to be with friends and family because of my gambling.
- I sometimes have spent time gambling/betting when I was supposed to be doing homework.

Social Consequences (6 Statements)

- I have friends or family who worry or complain about my gambling.
- I have been shunned by other students because of my gambling.
- My gambling has caused me to have a falling out with the people I used to hang out with.
- I have become somewhat of a loner because of my gambling.
- Others are disappointed in me because of my gambling.
- People talk about me because of my gambling.

Financial Consequences (4 Statements)

- I sometimes have had difficulties paying gambling or betting debts.
- I have lost too much money because of my gambling.

- I have occasionally bet more than I can cover.
- I sometimes borrow money in order to gamble.

Personal Consequences (5 Statements)

- I continue to gamble despite the bad things that happen to me.
- I have been punished at school or home for gambling.
- I have lost interest in doing the things I used to do because of gambling.
- I have become preoccupied with the need for money so that I can gamble or pay off my debts.
- I am no longer the same type of person I was since I started gambling.

Scoring for FYGRS@Harm Measure

Agreement with any of the statements comprising a particular consequence component was scored as 1 and responses were then summed to arrive at an overall score for each of the five forms of consequences; Torment/Anxiety, Life Style, Social, Financial, and Personal.

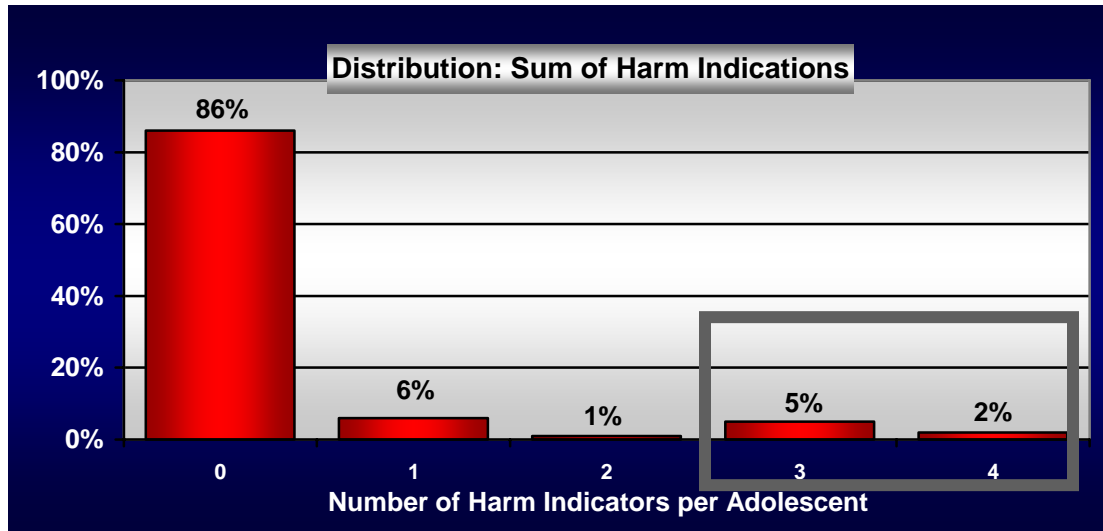
For four of the five factors, Life Style, Social, Financial, and Personal, a score of one or more indicated gambling consequences associated with that particular component or life area.

For the Torment/Anxiety measure only, endorsement of two or more statements was required as an indication of consequences in this category. The higher cut-off point was selected to reflect differences in the distribution of responses for this measures (these items are endorsed more often than items comprising other consequence constructs) and because the Torment /Anxiety scale is comprised of more statements as compared to the other constructs (7 statements versus 4-6 statements).

An adolescent was categorized as having experienced gambling harm and classified as a **Harmed adolescent gambler** if they were found to trigger for consequences on three or more of the five Consequence measures.

Number of Adolescents Classified as Harmed Gamblers

Figure 2: Distribution: Sum of Total Harm Indications



Using this approach six out of the 85 adolescents interviewed (7.1%) were designated as Harmed adolescent gamblers (Figure 2). The number of harms found in each ‘consequence’ segment is outlined in Table 2 below.

Table 2: Harm Indicators by Gambling Risk Segments

Harm Indicators	Not at Risk N = 69	At-Risk N = 10	Harmed N = 6	Total Adolescents N = 85
Torment/Anxiety	1%	0%	67%	6%
Life Style Consequences	0%	30%	67%	8%
Social Consequences	0%	0%	33%	2%
Financial Consequences	0%	0%	100%	7%
Personal Consequences	1%	20%	100%	11%
Summary Figures				
Percent of Total Harm Indicators	7%	17%	76%	100%
Average Number of Harm Indicators per Respondent	0.03	0.50	3.67	0.34

The six Harmed adolescents identified in the study represented 7% of the sample and accounted for 76% of the total indications of gambling consequences measured in the survey.

On average, these adolescents had seven times as many indications of “harm” as those categorized as At-Risk (3.67 versus 0.50). Financial and personal consequences were the most frequently experienced forms of harm with 100% of the Harmed adolescents reporting consequences in these two life areas, followed by two-thirds reporting life style consequences and/or torment/anxiety associated with their gambling. Only two respondents indicated any social consequences and both scored as Harmed adolescents.

2.1.2 Risk Measure

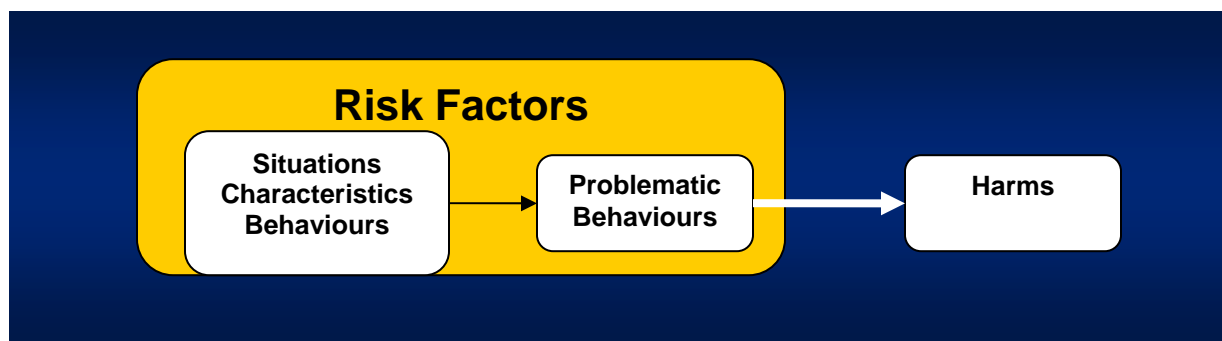
While the Harm measure of *FYGRS*[®] is designed to identify Harmed adolescent gamblers (i.e., those experiencing consequences due to gambling), the Risk measure identifies At-Risk adolescent gamblers (i.e., those with pre-harm risk for experiencing gambling problems).

The Risk component of *FYGRS*[®] is comprised of characteristics, behaviours, practices situations, and circumstances associated with adolescent problematic gambling behaviours.

Problematic Gambling Behaviours

Problematic gambling behaviours are defined as any gambling behaviour that is found to lead to harm (refer to Section 2.2.1 for correlations of items with harm). Collectively, these behaviours are both symptomatic of problem gambling (i.e., behaviours associated with gambling consequences and harms) as well as being precursors for consequences and harm (i.e., associated with risk for developing harm) and, therefore, suitable for identifying pre-harm risk.

Figure 3: Risk Factor Model

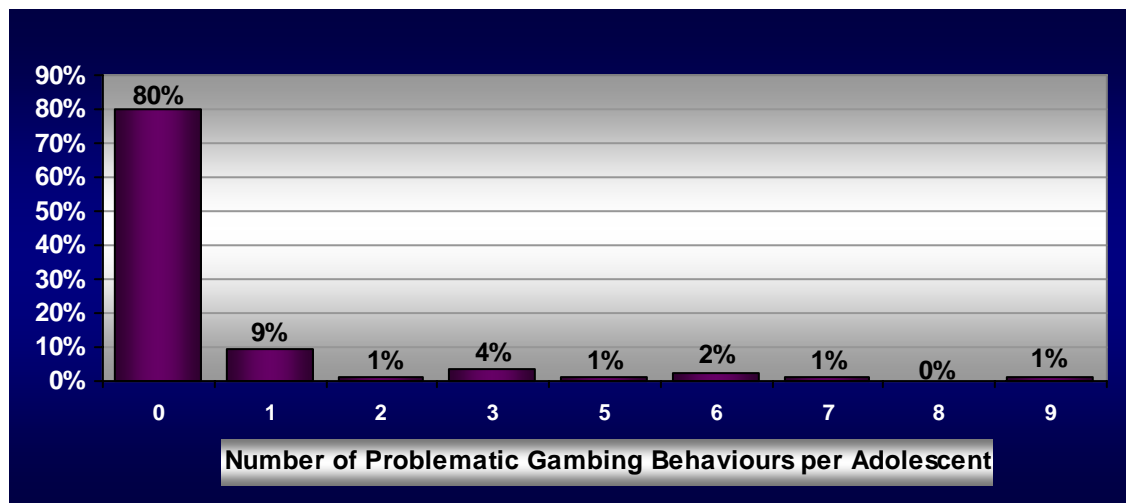


There were nine items found to meet the criteria for inclusion in the Problematic Gambling Behaviour construct for Adolescents in Nova Scotia:

1. *I sometimes gamble in order to win back the money I have lost.*
2. *If I win, I would like to gamble with my winnings rather than quit.*
3. *I often spend more time gambling than I intend to.*
4. *I sometimes exceed the amount of money I intended to spend in order to win back money I have lost.*
5. *I often have trouble stopping/quitting when I am ahead.*
6. *I often gamble for longer periods than I intended.*
7. *I have cheated at gambling in order to win.*
8. *I often spend more money gambling than I intended.*
9. *I have gambled in places where I must lie about my age or use a fake ID.*

Agreement with each item was scored as 1 and then summed to obtain an overall score for the Problematic Gambling Behaviour construct. The distribution of responses is examined below in Figure 4.

Figure 4: Distribution: Sum of Problematic Gambling Behaviour Scores



At-Risk adolescents were defined as those who exhibited sufficient indications of the various risk factors associated with problematic gambling behaviour.

Overall, 80% of youth taking part in the study did not engage in any of the problematic behaviours measured. However, 20% of respondents reported at least one of these behaviours in the last year with 10% triggering on more than one of the indicators.

Other Risk Indicators

There were fourteen other factors found to be associated with the Problematic Gambling Behaviour construct and, therefore, were considered suitable for use in identifying At-Risk adolescents. (Refer to Appendix A for detailed composition of each of the fourteen measures). As a result, 15 key risk indicators were identified:

Behavioural Indicators:

1. *Exhibiting problematic gambling behaviour (see nine behaviours including chasing losses, betting more than they can afford, cheating, using fake id),*
2. *Number of days gambled in the last three months ,*
3. *Number of informal forms of gambling they have participated in over the last year,*
4. *Number of organized or formal forms of gambling they have participated in over the last year.*

Motivational Indicators:

5. *Gambling for the thrill of beating others,*
6. *Gambling to make money,*
7. *Gambling to gain social status,*
8. *Having a strong drive to gamble regularly or whenever possible.*

Exogenous Indicators:

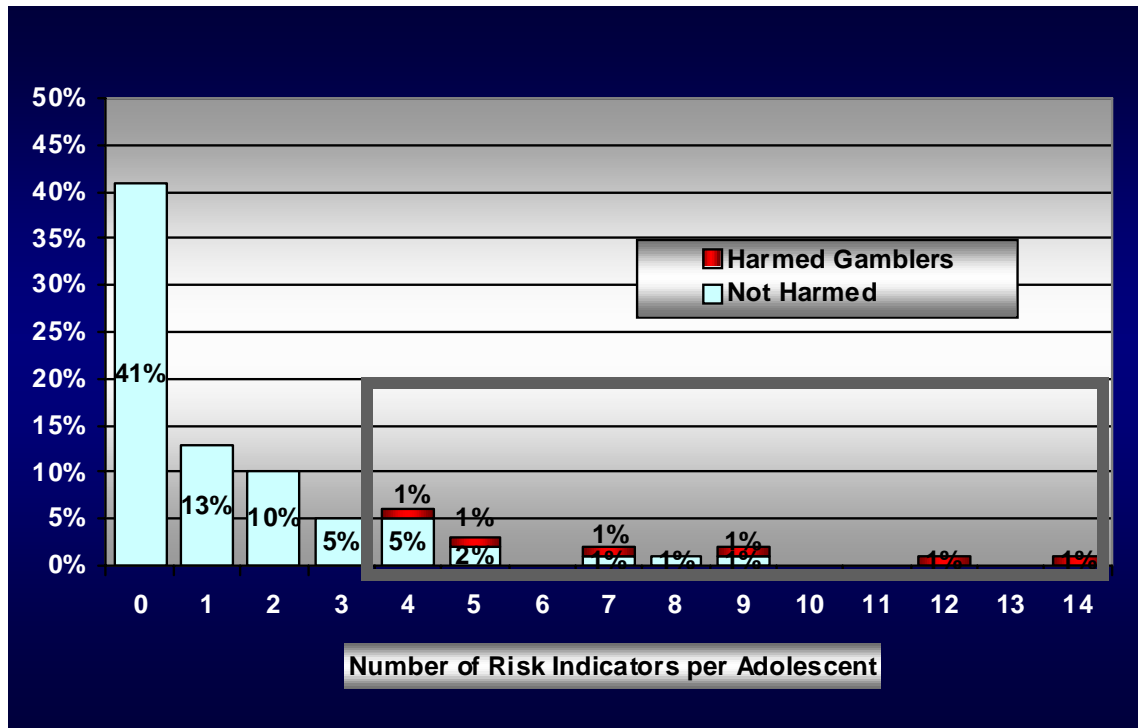
9. *Access to and/or knowledge of gambling know-how,*
10. *Adults who pay for or finance access to organized forms of gambling,*
11. *Adults who facilitate access to gambling,*
12. *Easy access to organized commercial forms of gambling,*
13. *Exposure to opportunities to gamble,*
14. *Others close to the adolescent who are gamblers and encourage gambling.*

Characteristic Indicator:

15. *The number of other risky behaviours in which the adolescent has engaged in the past (e.g., drinking, unprotected/unplanned sex, reckless driving.*

Each risk indicator was assigned a value of one and summed for each adolescent (see the distribution of sum scores in Figure 5). Those scoring four or higher were classified as At-Risk adolescents.

Figure 5: Distribution: Sum of Risk Indications



In addition to the six Harmed adolescent gamblers (n=6; 7%), there were 10 youth taking part in the study (12%) identified as being At-Risk for experiencing harms due to gambling.

It is noteworthy that although the *FYGRS*® Risk measure was not used in classifying Harmed adolescent gamblers; all six of those scoring for Harm also triggered for Risk (scoring four or above on the independent Risk measure). Therefore, those who reported experiencing consequences (i.e., Harmed adolescents) also triggered on the Risk measures. However, those identified as At-Risk were not (yet) triggering for consequences on the *FYGRS*® Harm measure suggesting that the approach was successful in discriminating between identification of harm (i.e., consequences) and risk for harm (i.e., pre-harm risk).

Table 3 below provides a detailed breakdown of the percent exhibiting specific risk indicators among Harmed Adolescents, At-Risk Adolescents, and Not-At-Risk Adolescents.

Table 3: Risk Indicators by Gambling Risk Segments

Risk Indicator	Not-At-Risk N = 69	At-Risk N = 10	Harmed N = 6	Total Adolescents N = 85
Behavioural Indicators				
Gambled in Last Three Months	4%	50%	83%	15%
Involvement with Informal Types of Gambling	3%	50%	17%	9%
Exhibits Problematic Gambling Behaviour	1%	20%	100%	11%
Involved in Organized Types of Gambling	0%	10%	50%	5%
Motive Indicators				
Gambling for the Thrill of Beating Others	7%	60%	83%	19%
Gambling to Make Money	3%	20%	67%	9%
Gambling to Gain Social Status	3%	20%	0%	5%
Drive to Gamble Regularly (<i>gamble whenever possible</i>)	0%	10%	67%	6%
Accessibility/Resources Indicators				
Gambling Know-How Easily Available	7%	80%	50%	19%
Ability to Pay for Organized Gambling	6%	30%	50%	12%
Adults Facilitate Adolescent's Gambling	0%	30%	33%	6%
Perceived Ease of Access to Organized Forms of Gambling	6%	20%	33%	9%
Opportunities to Gamble	0%	10%	67%	6%
Influence of Others				
Others Close to Adolescent Gamble or Encourage Gambling	9%	50%	83%	19%
Individual Characteristics				
Number of High-Risk Behaviours in Past	4%	0%	67%	8%
Summary Figures				
Percent of Total Risk Indicators	28%	34%	38%	100%
Average Number of Risk Indicators per Adolescent	0.5	4.8	8.5	1.6

Of the 14 indicators found to be most strongly associated with the Problematic Gambling Behaviours construct the average number of indicators reported differed strongly among the three Adolescent Risk groups; Not-At-Risk, At-Risk and Harmed.

On average, Not-At-Risk adolescents triggered on only 0.5 of the key indicators compared to 4.8 for At-Risk adolescents and 8.5 for Harmed adolescents.

While Harmed adolescents accounted for 7% of the youth taking part in the study they were responsible for 38% of all endorsements for any of the 14 key risk indicators. At-Risk adolescents comprised 12% of participating youth yet were responsible for 34% of total reports for any risk indicators, whereas the Not-At-Risk adolescents represented 81% of youth and only 28% of agreement on any of the risk indicators.

The most common indicators endorsed by At-Risk adolescents included: access to gambling know-how either through someone else who can teach them or through their own familiarity with and knowledge of on-line gambling (80%); being motivated by the thrill of beating others at gambling (60%); and having peers or significant others encouraging them to gamble (50%).

Having resources and the ability to pay for organized, commercial forms of gambling as well as the role of adults in facilitating gambling involvement by the adolescent were mentioned by almost one-third of those found to be At-Risk for gambling harm.

For about one in five (20%) gambling to make money or to gain social status were strong motivators associated with risk, as was ease of access to organized, commercial forms of gambling.

Only 10% of At-Risk adolescents reported frequent opportunities to gamble or were motivated to gamble regularly or whenever possible. In contrast, two-thirds of those scoring as Harmed adolescents reported easy access to opportunities to gamble and the desire to engage in regular gambling activity.

None of those scoring as At-Risk had exhibited high-risk gambling behaviours previously. However, this indicator was strongly associated with experiencing gambling harms with two out of three Harmed adolescents triggering for past high-risk gambling behaviour (67%).

While endorsement of most indicators was higher among Harmed adolescents, there appeared to be three notable exceptions to this observation; more At-Risk adolescent gamblers reported involvement with informal, non-commercial types of gambling (50% versus 17%), At-Risk adolescents more often gambled to gain social status (20% versus 0%) and At-Risk adolescents were more inclined to report easy access to information or “know-how” about how to gamble (80% versus 50%).

2.2 Modeling Harm and Risk Factors

The following section outlines the results of exploratory analysis, testing the relationships among the various components (i.e., constructs) comprising the adolescent Harm and Risk measures of *FYGRS@*. The sample size of those responding on many of the statements making up each component was fewer than five adolescents which meant it was not possible to analyze response at an item level. However, **with the exception of Social Consequences**, all of the other summated constructs (i.e., overall components) met the necessary criteria for use in the modeling process. This analysis provides a general picture of the nature and antecedents of gambling harms and risk factors associated with adolescent gambling in the province.

2.2.1 Harm Indicators

The Harm measure was based on a summed score over five forms of consequences; torment/anxiety, life style, social, financial and personal. The items (i.e., individual statements) making up each of these consequence components (i.e., groupings) were listed earlier (Section 2.1.1 Harm Measure). In order to gain additional insight about the nature of the harm being measured, each consequence component was correlated with the overall Harm measure to see which of these components was contributing most to the overall Harm score (Table 4). A second set of analyses examined the impact of gambling outcomes for harm (Table 5).

Table 4: The Relationship between Component Harm Measures with Overall Harm Measure

Spearman's rho	Consequences Total N = 53	
	R	R ²
Harms from Gambling		
Torment/Anxiety	0.88	0.78
Life style Consequences	0.60	0.36
Financial Consequences	0.64	0.41
Personal Consequences	0.72	0.52
Benefit from Gambling		
Positive Consequences	0.33	0.11

The types of consequences most strongly associated with the overall measure of harm were torment (0.88), personal impact (0.72), financial consequences (0.64), and life style impact (0.60). However, to a lesser extent, it was also found that those suffering harms due to gambling were at the same time experiencing some benefits from gambling as well

(0.33). This is an important consideration in understanding why youth might continue to gamble despite the negative consequences they experience.

Table 5: The Relationship between Gambling Outcomes with Overall Harm Measure

Spearman's rho	Consequences Total N = 53	
	<i>Gambling Outcomes</i>	
What is the largest amount you have ever lost at one time gambling	0.60	0.36
What is the largest amount you have ever won at one time gambling	0.40	0.16
Feel they have lost in the last three months	0.31	0.10
Say they lost a lot in at least one type of gambling in the last year	0.29	0.08
A desire to stop gambling and an inability to stop	---	---
Feel they have won in last three months	-0.25	0.06

Contrary to expectations, it was not ‘recent’ gambling behaviour (i.e., gambling behaviours in the last three months) that was most strongly associated with adolescent’s experience of gambling harms. Instead, the best predictor of experiencing consequences due to gambling was the largest amount ever lost at one time gambling (0.60) and the largest amount ever won (0.40). This suggests that gambling events that cause problems for adolescents do not necessarily occur on a regular or ongoing basis but can be infrequent or even rare occurrences for which there are extended negative consequences. This has important implications for how adolescent gambling is measured and addressed.

Other factors associated with experiencing harms were whether adolescents reported gambling losses in the last three months (0.31) and whether they had lost a lot of money participating in at least one type of gambling in the last year (0.29).

Reporting they had won or come out ahead in the last three months was inversely related to harm (-0.25, $p=0.106$), suggesting that ‘winners’ were less inclined to be experiencing harm. Adolescent gamblers are more often involved in skill based non-commercial forms of gambling. Therefore, it appears that this experience in gambling for which one can ‘come out ahead’ in the long run may not be associated with negative consequences for youth. For example, regular involvement in some forms of gambling such as pitching coins, playing video games may produce increased skill, increased wins and few negative consequences or harms. This should be explored and confirmed in further research.

There was no significant relationship found between gambling harms (i.e., negative consequences) and an adolescent’s desire to stop or reduce their gambling or to seek out

help for their gambling. There appeared to be no connection for adolescents between suffering negative consequences from gambling and being motivated to take action.

Behaviours that might lead to problem gambling were also examined (Table 6). Of particular interest was whether the nature of the gambling behaviour (i.e., the Problematic Gambling Behaviours identified earlier) or simply the extent of the behaviour (e.g., frequency, the range of gambling activities and amount of time) was a better predictor of experiencing gambling harm.

Table 6: Possible Influences on Suffering Consequences/Harms due to Gambling

Spearman's rho	Consequences Total N = 53	
	R	R ²
Problematic Gambling Behaviours (9 item Construct)	0.65	0.42
Range of gambling activities (number of different activities)	0.42	0.18
Involvement in types of commercial gambling in the last year	0.37	0.14
Minutes spent gambling during those weeks you gambled in last three months	0.34	0.12
Days spent in the last 3 months participating in some form of gambling	0.32	0.11
Involvement in types of informal gambling in the last year	0.31	0.09
Perceived risk of alternative forms of gambling	-0.27	0.07

As expected, the Problematic Gambling Behaviour construct was most strongly associated with negative consequences (0.65). While measures surrounding the degree of an adolescent's involvement in gambling activities were also significant, generally these factors had weaker associations (0.31 to 0.42).

Regardless, all of the following factors were significantly associated with negative consequences for adolescent gamblers: the range of gambling activities engaged in the last year (0.42); the number of organized or commercial types of gambling (0.37); the days gambled in the last three months (0.32); and the number of different types of informal gambling an adolescent was engaged in (0.31).

2.2.2 Risk Indicators

As noted in Section 2.2.1, the Problematic Gambling Behaviour component was found to be the primary indicator (i.e., cause of gambling harm) for adolescents taking part in the current study. This component is made up of many of the items associated with adult problematic gambling behaviour including chasing losses, an inability to stop when ahead, an inability to keep within time or money limits, betting more than can be afforded. It also includes other adolescent specific items such as gambling in places where they had to use forged or borrowed identification (i.e., fake ID) or lie about their age.

Table 7 below illustrates the relative contribution of each item to the overall measure (i.e., how strongly each statement is associated with Risk). The Problematic Gambling Behaviour construct, compared to all other pre-harm factors, was found to be most strongly associated with the overall Harm measure of negative consequences due to gambling. Therefore, it was used as the best indicator for assessing gambling risk.

Table 7: Correlation between Problematic Gambling Behaviours and Individual Risk Factors

Problematic Gambling Behaviour Items	Correlation with Problematic Gambling Behaviour Measure N = 53	
	R	R ²
I sometimes gamble in order to win back the money I have lost.	0.69	0.48
I often spend more time gambling than I intend to.	0.60	0.36
I sometimes exceed the amount of money I intended to spend in order to win back money I have lost.	0.56	0.31
I often spend more money gambling than I intended.	0.49	0.24
I have cheated at gambling in order to win.	0.44	0.19
I often gamble for longer periods than I intended.	0.41	0.17
I often have trouble stopping/quitting when I am ahead.	0.38	0.14
If I win, I would like to gamble with my winnings rather than quit.	0.37	0.14
I have gambled in places where I must lie about my age or use a fake ID.	0.28	0.08

Table 8 provides a list of the influences and concurrent factors hypothesized to be associated with problematic gambling behaviours. Exhibiting these risky behaviours does not necessarily lead to harms due to gambling. However, the Problematic Gambling Behaviours construct was found to be one of the best pre-harm indicators of risk (i.e.,

indicators that occur before negative consequences are experienced). Therefore, this construct was used to evaluate the performance and value of other factors in classifying adolescents as At-Risk.

Table 8: Influences and Concurrent Factors in Problematic Gambling Behaviour

Spearman's rho	Problematic Gambling Behaviours N = 53 - 55	R ²
Number of days in the last 3 months participated in some form of gambling	0.61	0.37
Drive to gamble by others who gamble	0.54	0.29
Motive: "Can Make Money"	0.53	0.28
Number of Types of Gambling in the Last Year	0.47	0.22
Motive: "Competition/Winning"	0.45	0.20
Ability to pay	0.44	0.19
Influence of others	0.44	0.19
Involvement types informal gambling	0.44	0.19
Involvement types commercial gambling	0.42	0.18
Believed access to commercial gambling	0.42	0.18
Others facilitate gambling	0.41	0.17
Motive: "Entertainment"	0.40	0.16
Access to gambling	0.37	0.14
Believe can win informal forms of gambling	0.37	0.14
Gambling Knowledge is accessible	0.34	0.12
Number of risky behaviours ever participated in	0.34	0.12
Believe they can win organized forms of gambling	---	---
Minutes spent gambling during those weeks gambled in last three months	---	---
Motive Social Status	---	---
Age of Adolescent (14-18 years)	---	---
Attending Junior or High School	---	---
Total Monthly Income	---	---

Perceived Risk associated with gambling	---	---
---	-----	-----

Problematic Gambling Behaviour was most strongly associated with the number of days an adolescent said they had gambled in the last three months (0.61), as well as the range of gambling activities they had participated in over the last year (0.47). The number of informal types of gambling in which an adolescent was involved was also strongly related (0.42) although this was not the case for the number of commercial forms of gambling nor the number of minutes spent gambling during weeks they gambled in the last three months.

Problematic Gambling Behaviours were associated with a strong desire to gamble as much and whenever possible (strong drive state; 0.54). The primary motives associated with Problematic Gambling Behaviours were the desire to make/win money (0.53) and the thrill of beating others at gambling games (0.45). The desire for entertainment was also found to be a motivator (0.40) while the hope to attain social status was not significantly related.

Those exhibiting Problematic Gambling Behaviour were more likely to feel they can win at informal forms of gambling in the long run (0.37). There was no relationship found for beliefs about winning when playing commercial forms of gambling or whether or not the adolescent thought that gambling was a ‘risky’ activity.

Both the behaviours and beliefs of adolescents point to informal forms of gambling being most strongly associated with Problematic Gambling Behaviours for youth. This may be of even more concern as adolescents get older and start to apply information they have learned from their experience with informal games of chance to commercial forms of gambling which fundamentally differ.

Several exogenous factors were also found to be associated with Problematic Gambling Behaviours for youth, and, therefore, increased risk for gambling related harm. Simply knowing others who gamble or having friends or relatives who gamble was significantly related. Being able to access cash or having the ability to finance gambling activities had a similar relationship (0.44) as did having access to organized, commercial forms of gambling (0.42), as well as, knowing others who facilitate gambling or make it easier for youth to take part in gambling activities (0.41). In general, accessibility to gambling opportunities (0.37) and information educating youth how to gamble (0.34) was also associated with the experience of Problematic Gambling Behaviours. Therefore, it appears that other people play a significant role in the development of adolescent Problematic Gambling Behavior through funding, educating, and providing opportunities to gamble.

Another characteristic associated with Problematic Gambling Behaviour was general risk-taking behaviour. This was measured by the number of risky activities in which youth have already participated (0.34). Interestingly, this was not associated with the adolescent's age, nor was age associated with the extent of Problematic Gambling Behaviour. In the current study, there was also no association detected for monthly income, or whether the adolescent was attending Junior High or High School.

Several factors felt to occur as a consequence of Problematic Gambling Behaviour were examined (Table 9).

Table 9: Consequences of Problematic Gambling Behaviour (Association with Consequences)

Spearman's rho	Problematic Gambling Behaviours N = 52 - 53	R ²
Gambling Harms (i.e., Negative Consequences)		
Total Negative Consequences (i.e., Combined Consequences Measure)	0.65	0.42
Torment/Anxiety	0.42	0.18
Life style Consequences	0.56	0.31
Financial Consequences	0.62	0.38
Personal Consequences	0.61	0.37
Debt Consequences ⁹	0.55	0.30
Gambling Benefits (i.e., Positive Consequences)		
Positive Consequences	0.53	0.28
Gambling Outcomes		
The largest amount ever lost at one time gambling	0.56	0.31
Behavioural Intentions (Affect) high risk organized forms gambling	0.49	0.24
The largest amount ever won at one time gambling	0.44	0.19
Behavioural Intentions (Affect) organized forms gambling	0.35	0.12
Lost a lot in one type in the last year	---	---

⁹ Given the strong relationship for Financial Consequences with Harm (0.64) and Problematic Gambling Behaviours (0.62), the Financial Consequences construct was broken out for only those statements dealing with debt to determine if this aspect of financial impacts was more problematic. The Debt Consequences measure was still strongly related (0.55) but to a lesser degree than when items related to overspending were included in the construct.

Desire to Stop and Inability to stop	---	---
Lost in last three months	---	---
Won in last three months	---	---

Problematic Gambling Behaviour was found to be most strongly associated with the overall experience of gambling related harm (Total Negative Consequences measure: 0.65) and, more specifically, with financial consequences (0.62), personal consequences (0.61), life style consequences (0.56), and torment/anxiety (0.42). Adolescents triggering for Problematic Gambling Behaviour were also more likely to have suffered a larger gambling loss at some point in time (0.56) yet conversely they were also more likely to have reported positive consequences or benefits related to their gambling (0.53).

Therefore, it would appear that while Problematic Gambling Behaviour has significant negative consequences for adolescents it must also be recognized that these same behaviours are also perceived to offer some type of benefits to youth and this perception of positive consequences may be contributing to risk and gambling harm for youth.

Gambling outcomes associated with Problematic Gambling Behaviour consisted of experiencing large losses at some time in the past (0.56), as well as large wins (0.44). In contrast, wins and losses in the last three months as well as losing a lot of money gambling on at least one type of gambling in the last year were not significantly associated with the construct. This suggests that problematic outcomes are likely episodic in nature, and only happen on an occasional basis, although the impact or memory of such an event may stay with the teen for some time. It could also be that adolescents had few opportunities to exhibit the items comprising Problematic Gambling Behaviours such as chasing losses or spending too much time and money at gambling. However, on those occasions when the opportunity to engage in these behaviours is presented these adolescents gambled in a way that lead to negative consequences.

Youth who exhibited Problematic Gambling Behaviours were those who were more likely to express an intention to gamble on organized, commercial forms of gambling when they reach the legal age to participate (19 years) (0.35). In particular, they were interested in gambling on activities that participating youth tended to rate as high risk (0.49): specifically, VLTs, internet poker, casino gambling, and betting on professional sports. Interestingly, they expressed these intentions despite the negative consequences they seemed to be suffering due to their current gambling behaviours.

SECTION 3: PARENTAL INFLUENCE ON ADOLESCENT GAMBLING

3.1 Profile of Parental Involvement in Adolescent Gambling

Analysis in the previous section used data collected through interviews with adolescents in order to develop a model of adolescent gambling behaviour and risk for Nova Scotia. When obtaining permission to interview adolescents, surveys were also completed with the parent and/or legal guardian concerning habits with regard to exposing and facilitating gambling by the teen(s) living in the household. In total, 74 parents participated in the parental survey representing 84 youth age 13-18 years.¹⁰ Parents' survey data was linked to the data for respective youth in the household in order to examine the impact of parental behaviour on youth's gambling risk profile. This analysis augments the analysis in the previous section by using the model and examining the potential role and influence of parental behaviour on each aspect of adolescent gambling behaviour.

Table 10 provides a profile of the involvement level and potential influence of parents on their youth's gambling attitudes and behaviour.

Table 10: Profile of Parental Involvement in Their Youth's gambling

	Percent of Adolescents N = 84
Adults in the child's life have ever talked to the teenage child about gambling.	50%
An adult has discussed the possible risks and consequences of gambling with the teenage child.	49%
<i>The reasons for the discussion(s) at that time were:</i>	
Conversation just came up about gambling	15%
The adolescent saw others gambling or was curious about gambling	8%
Family members or others the adolescent knows had problems with gambling	8%
A television ad stimulated discussion	7%
A television show or news story stimulated discussion	5%

¹⁰ There was one youth aged 18 years for whom a completed parental survey could not be obtained. This youth was old enough to provide informed consent for his/her participation in the study and so was included in the adolescent survey but excluded from analysis modeling the impact of parental influence.

Table 8 Continued: Profile of Parental Involvement in Their Youth's gambling

	Percent of Adolescents N = 84
Adults in the child's life (i.e., parent, guardian):	
Talked to the adolescent about the adult's experiences gambling, such as wins, losses and sports betting, or 50/50 games.	30%
Buy lottery tickets for the child.	27%
Host card nights where <u>adults</u> play for money.	10%
Gamble online with <u>play money</u> in front of the child.	7%
Host card nights where <u>kids</u> play for money.	4%
Gamble online with <u>real money</u> in front of the child.	1%
Gamble online with <u>play money</u> with the participation of the child.	1%
Gamble online with <u>real money</u> with the participation of the child.	0%
Adult is aware of any services available to help teenage youth with gambling issues.	26%
Aware of Help Line	12%
Aware of Other Resources (e.g., Boys and Girls club, ,Addiction Services, School, Yellow Flag campaign)	7%

Discussions between youth and parents surrounding the possible risks and consequences of gambling occurred for half of the adolescents taking part in the study. About one-third of these discussions took place because gambling simply came up in the conversation and the parent took advantage of the opportunity to express their views on the subject. For about one-sixth, adolescent curiosity (often because they saw others gambling or were considering gambling themselves), exposure to gambling problems through a family member or someone else the adolescent knows, and television advertising were all equally likely to have stimulated discussion between parents and youth about gambling. Seeing television shows on gambling or news stories on gambling were triggers for discussions in about one-tenth of the occasions.

Most interaction between adolescents and their parents in relation to gambling was comprised of the adult discussing their own gambling experiences with the adolescent (30% of adolescents), followed closely by adults purchasing lottery tickets for the adolescent (27%). Other gambling interactions with adolescents included hosting card nights where adults play for money (10%), gambling online with play money in front of

the child (7%) and hosting card nights where kids play for money (4%). In the current sample there were little reported occurrences of adults gambling online with real money in front of the child (1%), gambling online with play money with the participation of the child (1%), or gambling online with real money with the participation of the child (0%).

When asked whether they were aware of any services that are available to help teenage youth with gambling issues, the majority were uncertain (74%). While about one in four (26%) believed that there were services to assist adolescents with gambling only 12% specifically mentioned the Help Line with 7% citing a variety of other potential sources including Addiction Services, service clubs and reference to the NSHPP's Yellow Flag social marketing campaign for gambling.

3.2 Modeling Parental Involvement for Adolescent Gambling Harm and Risk

Responses for parents who reported interactions with their youth were each correlated with thirty-five variables, most of which were constructs generated based on the results of the Adolescent survey (Table 11). The data were collected in separate, independent surveys which increases confidence that the relationships found were significant.

Six variables representing parental behaviour were used in this analysis:

- A. Two overall composite variables were created which summed the number of ways adolescents were exposed to or involved in gambling by the adults in their lives; *the number of different gambling interactions including lottery ticket purchasing and the number of different gambling interactions excluding lottery ticket purchasing.*
 1. **Number of different gambling interactions including lottery ticket purchasing.** The first overall composite variable was comprised of the number of types of gambling interactions between the adolescent and the adults in their lives. Such interactions included adults talking to the adolescent about their gambling experiences, adults buying lottery tickets for the adolescent, adults hosting card nights where the adult plays for money, adults gambling online with play money in front of the child, hosting card nights where the adolescent plays for money, gambling online with real money in front of the adolescent and gambling online with play money with the participation of the child¹¹.
 2. **Number of different gambling interactions excluding lottery ticket purchasing.** During analysis of the adolescent survey, play of lottery tickets

¹¹ One activity, gambling online involving real money with the participation of the child, was included in the measure but no one participating in the current study had ever engaged in this behaviour.

was not found to be strongly associated with gambling Harm or Risk. To explore the possibility that adult purchasing of lottery tickets for youth does not significantly affect adolescent's behaviours, motives, beliefs or consequences a second composite variable was created identical to the first except that the purchase of lottery tickets for youth was excluded from the sum. If adults' behaviour in purchasing lottery tickets for youth play does not pose significant risk then we would expect this measure excluding lottery ticket purchasing to be more strongly associated with the various Risk and Harm factors as compared to the more inclusive measure.

- B. Four interaction/involvement variables in the data had sufficient sample responses (i.e., five or more respondents) to be included as separate factors in the correlation analysis. These variables were used to help understand which specific behaviours may have the strongest association with various elements of Risk and Harms due to gambling. These variables identified adolescents who have adults in their lives who:
1. **Hosted card nights where adults played for real money;**
 2. **Gambled online with play money in front of the adolescent;**
 3. **Purchased lottery tickets for the adolescent;**
 4. **Talked to the adolescent about their gambling experiences,** including such things as wins, losses, sports betting, or 50/50 draws.

Correlations significant at the 95%+ Confidence level ($p \leq 0.05$) were bolded in the table. Given the exploratory nature of the study, correlations significant at the 80%+ Confidence level ($p \leq 0.20$) are also included and discussed in the text in order to provide guidance for ongoing research and policy development.

A limitation associated with all correlation analysis is that it does not indicate the direction of causality. An assumption made in the current analysis is that adult behaviours primarily influence the experience of the adolescent. However, it is possible adolescent characteristics may also play a causal role in the relationship. For example, adolescents that are interested in gambling may be more likely to watch their parents gamble online with play money. Thus, in such cases, discouraging adults from gambling online in front of their child may have no effect on the adolescents gambling risk profile. However, conventional wisdom would suggest that parental influence does impact adolescent behaviours. Therefore, policies and communications designed to reduce adult practices that facilitate or encourage adolescent involvement in gambling should have the desired effect (e.g., reducing adolescent gambling Risk and Harms).

Table 11: Parental Influences on Youth Gambling Involvement and other risky/harmful behaviours

		Youth Exposure to Gambling by parents	Youth Exposure to Gambling by parents (excluding lottery tickets)	Host card nights where adults play for money	gamble online with play money in front of your child	buy lottery tickets for your child	talk about own gambling experiences with your child
Youth Profile Variables							
Number of Risky Behaviours	n=84	0.29	0.27	0.19	0.25	0.20	0.14
Attending Junior or High School	n=84	---	---	-0.24	---	---	---
Total Monthly Income	n=82	---	---	-0.16	---	---	---
Resources and Opportunity Risk Factors							
Have others facilitate youth gambling	n=83	0.47	0.40	0.21	0.40	0.33	---
Be influenced by others	n=84	0.18	0.19	0.24	0.29	---	0.24
Have access to gambling knowledge	n=84	---	---	0.18	0.21	---	0.23
Have opportunities to gamble	n=84	---	---	0.23	0.19	---	---
Have ability to pay for gambling	n=84	---	---	---	0.14	---	0.28
Beliefs							
See gambling as risky	n=84	---	---	-0.26	---	---	-0.17
Can win from <u>organized</u> gambling activities	n=83	---	---	0.23	---	---	0.16
Can win from <u>unorganized</u> gambling activities	n=84	---	---	0.25	---	---	0.26
Can obtain access to organized forms of gambling	n=84	---	---	---	---	---	0.20
Motives to Play & Drive State							
Gamble to make money	n=83	0.29	0.27	0.35	0.29	---	0.18
Gamble to experience winning or compete with others	n=84	0.16	0.19	0.28	0.21	---	---
Drive State (among all participants)	n=84	0.18	0.18	0.22	0.24	---	---
Gamble to achieve higher social status	n=84	---	0.26	---	0.34	---	---
Gamble for Entertainment	n=84	---	---	0.24	---	---	---
Drive State (among active gamblers)	n=55	0.19	0.36	0.26	0.44	---	---

■ - Shading indicates $p < 0.05$; other unshaded numbers are significant at $p < 0.2$.

Table 11 Continued: Parental Influences on Youth Gambling Involvement and other risky/harmful behaviours

		Youth Exposure to Gambling by parents	Youth Exposure to Gambling by parents (excluding lottery tickets)	Host card nights where adults play for money	gamble online with play money in front of your child	buy lottery tickets for your child	talk about own gambling experiences with your child
Behaviours							
Number of different types of gambling involved	n=84	0.33	0.26	0.24	0.28	0.22	0.22
Involvement in <u>unorganized</u> forms of gambling	n=84	0.26	0.35	0.29	0.34	---	---
Involvement in <u>organized</u> forms of gambling	n=84	0.35	0.16	---	---	0.31	0.26
Engaging in problematic gambling behaviours	n=54	---	0.22	0.26	0.23	---	---
Outcomes							
The largest amount ever lost	n=55	---	0.27	0.33	0.28	---	---
Losses in last three months	n=43	---	0.21	---	0.22	---	---
Intentions to participate in organized gambling activities when reaching the age of 19	n=84	0.37	0.17	0.26	0.24	0.29	0.28
Intentions to participate in organized high-risk gambling activities when reaching the age of 19	n=84	0.19	0.25	0.39	0.32	---	0.30
Consequences for Active Gamblers							
Harms to life style	n=53	---	0.30	0.51	0.40	-0.23	---
Harms to financial position	n=55	---	---	0.39	0.23	-0.18	---
Adverse impact on person	n=55	---	0.22	0.30	0.30	---	---
Adverse impact on social relationship	n=54	---	---	0.21	0.21	---	---
Experiencing torment	n=55	---	---	0.26	---	---	---
Total negative consequences	n=52	---	0.25	0.33	0.26	---	---
Total positive consequences	n=55	---	0.25	0.25	0.27	---	---
Desire to stop and inability to stop gambling	n=55	---	---	---	---	---	---
Risk and Harm Segments							
At-Risk Segment Membership	n=78	0.23	0.27	---	0.40	---	---
Harmed Segment Membership	n=84	---	0.18	0.38	0.25	---	---

■ - Shading indicates $p < 0.05$; other unshaded numbers are significant at $p < 0.2$.

3.2.1 Adolescent Profile

Adolescents who were involved in their parent's gambling were those who were also prone to participating in risky gambling behaviours ($R = 0.27$ to 0.29). Specifically, these teens were more likely to have parents who hosted card nights for money (0.19), bought lottery tickets for them (0.20), gambled with play money online in front of them (0.25), and talked about their gambling experiences with their child(ren) (0.14). These findings pose an interesting dilemma in terms of interpreting the direction of causality. For example, is it a characteristic of the adult (e.g., heavy involvement in gambling) or a reflection of their parenting approach (i.e., how they bring up or interact with their children) that leads them to involve their youth in gambling and encourages adolescent participation in other risky behaviours? If so, such adults could be a target for communications on a variety of risk-taking issues consistent with NSHPP's mandate. Alternatively, it could be that risk-prone youth are more likely to persuade the adults in their lives to involve them in their gambling through direct participation and/or conversations about gambling suggesting an opportunity for educating parents to use these points of engagement for reducing risk and harm.

In the current study hosting adult card nights for money happened more often in front of younger adolescents (i.e., Junior High rather than High School youth) (-0.24). This may reflect the tendency for younger adolescents to be at home more often and, thus, more likely to be exposed to adult gambling behaviour that occurs in the home. There was also an inverse relationship with income found (-0.16) suggesting that as household income went up adolescents had reduced exposure to gambling in the home.

3.2.2 Resources and Opportunity Risk Factors

In the Adolescent survey access to resources to gamble, access to gambling opportunities and the influence of others in facilitating gambling were all found to be factors related to gambling Harms and Risk for youth. Therefore, it is of interest to determine whether adult behaviours have any influence in facilitating adolescent gambling and, thus, contributing to risk for adolescents under their care or supervision.

Facilitation of Adolescent Gambling

As expected, adolescents indicating that others facilitated their gambling were highly correlated (0.47) with having adults in their lives who involved the adolescent in their gambling activities. The correlation dropped to 0.40 if purchasing lottery tickets for adolescents was removed from the construct.

An adolescent's opportunities to gamble increased if the parents/guardians hosted 'card nights' for money (0.23) or, to lesser degree, gambled online with play money in their presence (0.19).

Among the four specific adult behaviours measured, gambling with play money in front of the child was most strongly associated with indications that others had facilitated adolescent gambling (0.40) followed by purchasing lottery tickets for the child (0.33) and then hosting card nights for money (0.21).

Buying tickets for youth logically increased the number of different types of gambling the adolescent engaged in (0.22), and this practice was positively related to facilitating gambling. However, this behaviour on the part of parents was not found to be associated with the other opportunity risk factors suggesting it did not strongly contribute to adolescent gambling risk in this current study.

Simply talking to teenagers about gambling was not found to facilitate adolescent gambling.

However, adolescents with parents or guardians who talked about their gambling experiences were likely to have greater access to resources for financing gambling activities (0.28). It may be that adults who share stories about their gambling with their children are also comfortable in providing funds for them to use for gambling purposes.

Influence of Gambling by Others

A similar profile emerged in terms of the influence of others, with two important exceptions: there was no significant correlation between adolescent's gambling behaviour being influenced by the involvement of others or whether the parent purchased lottery tickets for the child; yet there was a relationship between influence and parental discussions with youth about the adult's gambling experiences (0.24).

As might be expected, those adolescents who indicated that they have access to 'gambling know how' and felt that they were knowledgeable about gambling were more likely to have a parent/adult who talked to them about their gambling experiences (0.23) as well as gambled online with play money in front of the child (0.23) and hosted card nights for money (0.18).

3.2.3 Beliefs

There were four belief constructs found to be associated with gambling risk and/or harms for adolescents: believing they can win playing informal and/or commercial games of chance; believing they are able to access and take part in commercial organized forms of gambling if they wanted to; and an inverse relationship between risk and beliefs that gambling is a risky activity.

Adolescents who were less likely to view various forms of gambling as risky had adults who hosted card nights for money (-0.26) and parents who talked to them about their gambling experiences (-0.17).

An adolescent's belief that in the long run they can win when playing commercial forms of gambling, increased if they lived with adults who hosted card nights for money (0.23) and talked to their youth about their gambling experiences (0.16). These same parental activities were also associated with an adolescent's belief they can win when playing informal forms of gambling (0.25 and 0.26 respectively).

Those adolescents who believed they had access to commercial forms of gambling, and could gamble on them if they wanted to, tended to have adults in their household who shared their gambling experiences with them (0.20).

3.2.4 Motives to Gamble

When the motive and drive state constructs were tested for association with Problematic Gambling Behaviour all were found to be indicators of adolescents being At-Risk for gambling harm with the exception of gambling to achieve social status.

Two of these motives, gambling to make money and gambling for the thrill of beating others, as well as two drive state constructs, one designed for the general population of adolescents, the other for the active gamblers, all increased if the adults in their lives involved the child in gambling activities, hosted card nights for money or gambled online with play money while the child was present.

The motive to gamble to achieve higher social status was increased if the adults involved their youth in gambling, excluding lottery ticket purchases, and if they gambled on the internet with play money in front of the child.

In terms of motivations to gamble, there were four notable relationships with correlations of 0.34 or higher.

First, an adolescent's motive to gamble in order to make money was most strongly associated with adults hosting card nights for money (0.35). This may be due to the fact that the adolescent likely witnesses game winners; re-enforcing the belief that winning is a reasonable outcome and gambling is a way to make money.

The drive to gamble by active gamblers was most strongly associated with living with parents or guardians who gambled online for play money in their presence (0.44). Thus, despite the fact that the adult was gambling with play money, the effect on motivating adolescents to gamble was still very strong. It is possible that some of the causality flows the other way as well; adolescents who have a strong desire to gamble were more likely

to be nearby and curious when their parents were on the internet gambling, even with play money.

The composite measure of involving their children in gambling, excluding the purchase of lottery tickets for the child, was also strongly associated with the drive state of active gamblers (0.36). The desire to gain social status by gambling was increased for those whose parents gambled online with play money in their presence (0.34). It is possible this form of gambling is a 'schoolyard' topic among adolescents and that participating in this form of gambling vicariously gives the child bragging rights in conversations with peers or friends. This would be consistent with exposure to advertising for online poker and the positioning of poker players as celebrities.

It is interesting to note that purchasing lottery tickets for the youth participating in this study had no significant relationship with any of the motive measures suggesting this practice was relatively benign in terms of influencing adolescents to gamble in a problematic manner. As this research is exploratory in nature, it is important to undertake further study to assist in understanding this relationship.

3.2.5 Behaviours

The general gambling involvement variable (0.26) and the gambling involvement variable excluding lottery ticket purchasing (0.35), as well as hosting card nights (0.29) and gambling online with play money in front of youth (0.34) were all correlated with youth's involvement in informal forms of gambling.

Conversely, involvement in commercial forms of gambling was influenced when parents purchased lottery tickets for their youth (0.31) and shared their gambling experiences with their youth (0.26). This would likely occur because the purchasing of lottery tickets comprises a large part of the commercial gambling in which adolescents participate. Adults are most likely to be engaged in commercial gambling, most of which is age-restricted (i.e., age 19+ years). This means that most discussions about adult gambling experiences will reflect outcomes and information associated with commercial forms of gambling.

Problematic Gambling Behaviour was the pre-harm measure found to have the strongest association with total harms due to gambling. Three adult gambling involvement variables were found to be associated with these problematic gambling behaviours, the composite or combined variable of gambling involvement with youth excluding lottery ticket purchases (0.22), hosting card nights for money (0.26) and gambling online with play money in front of youth (0.23).

3.2.6 Gambling Outcomes

The three parental variables correlated with Problematic Gambling Behaviours were also associated with those who had experienced large losses. The composite variable of gambling involvement with youth excluding ticket purchases (0.27), hosting card nights for money (0.33) and gambling online with play money in front of youth (0.28) were all associated with higher one-time losses on the part of adolescent gamblers.

Losses in the last three months were associated with two of these variables, the composite variable of gambling involvement with youth excluding ticket purchases (0.21), and gambling online with play money in front of youth (0.22).

Any involvement of the child in gambling was associated with an increase in the adolescent's intentions to participate in commercial forms of gambling when they turn 19 (0.17 to 0.37). Intention to participate in the commercial forms of gambling that adolescents considered to be high-risk (which excludes the purchase of lottery tickets) was associated with all the involvement variables (0.19 to 0.39) with the exception of purchasing of lottery tickets for youth. Interest in high-risk forms of commercial gambling were especially influenced by adults hosting card nights for money (0.39) and gambling online for play money in front of the youth (0.32).

3.2.7 Consequences of Gambling for Active Gamblers

There were four forms of negative consequences examined that active gamblers could suffer (i.e., torment/anxiety, life style, financial and personal) as well as a Total Negative Consequences measure.¹² We also examined positive consequences of gambling, whether the adolescent ever had wanted to stop gambling and their level of success in doing so.

None of the consequence measures was associated with youth's involvement in their parents' gambling when it included the purchase of lottery tickets for the child. When lottery tickets were excluded from the measure, three forms of negative consequences were associated with the variable; life style (0.30), personal (0.22) and total negative consequences (0.25). Positive consequences were also correlated (0.25).

Hosting card nights for money was strongly associated with all forms of harms (0.30 – 0.51) for adolescents as well as positive consequences (0.25). Gambling online with play money in front of youth had almost as strong an association with harms (0.28 – 0.40).

¹² The Social Consequences construct did not have the requisite sample of 5 for the target value and therefore was excluded from this analysis.

Purchasing lottery tickets for youth was found to be negatively associated with negative impacts for life style (-0.23) and financial harms (-0.18) and was not associated with any of the other forms of harms.

Simply sharing adult's gambling experiences with youth was not associated with any harms.

3.2.8 Gambling Risk Classifications

Two risk classification variables were formed; a Harmed variable and an At-Risk variable.

The Harmed variable included the total parent/adolescent sample (n=84) and was separated into two segments; those who were Harmed (n=6) versus those who were Not Harmed (n=78).

The At-Risk variable was comprised only of those adolescents who were Not Harmed (n=78) separated into two segments; those designated as At-Risk (n=10) and those designated as Not-At-Risk (n=68),

Risk segment membership was found to be associated with youth who had adults who involved or exposed them to gambling (0.23 – 0.27) and in particular those who had parents that gambled for play money in front of them (0.40).

Classification as Harmed was associated with the exposure to parental gambling excluding lottery ticket play (0.18), and was associated with hosting card nights (0.38) and gambling online with play money in front of youth (0.25).

It is noteworthy that hosting card nights for money was only found to be associated with being in the Harmed segment. It is not that exposure to this form of involvement in gambling is not associated with risk; it is just that in this sample, those who were exposed to adults participating in card nights for money were for the most part already in the Harmed segment, and these adolescents were excluded from the Risk membership analysis.

SECTION 4: ADOLESCENT GAMBLING PROFILE

4.1 Adolescent's Gambling Environment

4.1.1 Stresses, Worries and Coping Mechanisms

Adolescents were asked to indicate what major worries or stresses they were facing in their life at the time of the survey (Table 13). Only 13% said their life was stress and worry free. The single largest stress factor was concern over their education, school work and going to college (73% of adolescents). This was followed by concern for personal relationships with friends and family (12%). Work and holding onto a job (6%) as well as a need for money (6%) also contributed to stress for participating adolescents. There was no mention of gambling and one person worried about friends involved in drugs.

Teenagers typically coped with these stresses by talking with others, primarily friends, (12%) or family (6%) or by hanging out with friends (7%). Writing things down or keeping a journal was also a common coping mechanism (6%). Otherwise, teens tended to distract themselves in other activities such as work (6%), sports (5%), music (4%), drawing (2%), watching television (2%), exercise (1%), computer games (1%), reading (1%), and long walks (1%). Eating (2%) and smoking (1%) were two distractions mentioned that could have adverse health impacts. Gambling was not mentioned as a stress reliever (Table 13).

4.1.2 Adolescent Risk-Taking Behaviours

Adolescents were presented with eight different behaviours and asked to rate the level of risk associated with each. Overall, all the activities were considered high-risk except skateboarding or skiing (4%). (Table 14)

Virtually all (99%) adolescents taking part in the study rated taking drugs such as Ecstasy and Crystal Meth as a high-risk behaviour. A substantial proportion rated gambling with all your money (91%), driving a car in a reckless manner (88%) and engaging in unprotected sexual activity (81%) as risky. Drinking alcohol in excess (74%), driving an ATV without a helmet (71%) and engaging in physical fighting (58%) were also rated as high-risk by the majority of youth taking part in the study. In general, High School adolescents more often rated these activities as risky as compared to those in Junior High especially physical fights with another person (38% versus 66%).

Although the majority of youth taking part in the study had tried skateboarding and/or skiing (79%) at some time almost no one considered these activities to pose any significant risk (1%).

Aside from skate boarding and skiing, engaging in physical fighting (38%) and drinking alcohol in excess (36%) were the two high-risk activities in which adolescents most often took part, followed closely by driving an ATV without a helmet (28%). Engaging in unprotected sexual activity (15%) and driving in a reckless manner (13%) were also behaviours reported by a significant proportion of High School youths, while gambling with all their money (5%) and taking street drugs (2%) were relatively uncommon.

Adolescents felt that some forms of gambling were high-risk, but many other forms are not viewed as particularly dangerous (Table 37). The high-risk forms of gambling included VLT machines and casino slots (82% of adolescents), as well as playing poker on the internet (67%). Daily lottery tickets were seen by about one in five (22%) to pose high risk while only about one in 10 felt gambling or betting with friends, playing poker at home or purchasing scratch tickets or lottery tickets or playing bingo was risky (8% - 14%).

Adolescents reported no risk associated with two commercial forms of gambling that seem to be particularly attractive and/or accessible to youth; arcade games played for prizes (40% ever played; 22% played in last year) and, to a lesser extent, wagering on-line using play money or points (24% ever played; 17% played in last year). It could be argued that both these forms of 'kiddy' gambling are training youth for adult versions of higher-risk gambling options. However, due to significant differences between how the youth and adult versions perform (e.g., implied skill, higher odds of winning, capped losses), this experience may be placing youth engaged in these forms of gambling at greater risk.

4.1.3 Interest in Commercial Gambling

There was substantial interest among adolescents in participating in commercial forms of gambling when they turn nineteen (Table 43). Adolescents were interested in playing lottery tickets such as 6/49 (46%) followed closely by playing poker games such as Texas Hold'em for money (40%). Casino gambling (32%) and bingo (28%) were also popular, followed by betting on professional sports games (18%). Further down on the list were VLTs (12%), daily lottery tickets (11%) and poker on the Internet (2%).

4.1.4 Perceived Consequences of Adolescent Gambling

In order to gain a better understanding of the perceived risk associated with gambling, as well as the types of consequences or harms adolescents might suffer due to gambling, they were asked to indicate what they felt could be some of the good or bad things that may happen to them, or others their age, because of taking part in gambling (Table 18). They were specifically asked what they thought would be the worst thing that could happen to them?

The most common concern was that they could lose a lot of money (56%). This suggests that even if they do not have a lot of money, there is recognition that funds are difficult to replace and they do not wish to lose whatever amount that they have might available.

The second most common concern was that gambling could hurt their relationships with their friends (22%). This may be based on the messages they have received through the media, but could also be coming from their own observations of what happens to others who have become heavily involved with gambling.

Other “bad things” that adolescents mentioned could occur included the possibility of becoming addicted to gambling (7%), losing all their possessions (7%), going into debt (4%), or that their family relations could suffer (2%). Therefore, in order of commonality adolescents identified losses, impaired relations and the danger of addiction as the main negative consequences that could happen due to adolescent gambling.

Adolescents taking part in the study also mention “good things” or positive outcomes from gambling primarily that they could win a lot of money (11%), and could have a lot of fun gambling (4%).

4.1.5 Gambling Messages and Sources

Adolescents were asked to think about all the messages and information about gambling they may have received in the last year through television shows and movies, advertising from gambling providers, problem gambling ads, information from the internet, and through school (Table 16). They were then asked “What were the key things that you have learned in the last year that may have influenced your opinions about gambling?”

The most common message recalled was that if they gamble they “could lose everything they own” (29%). They usually mentioned the loss of a home and car, which suggested adult gambling consequences. This was followed by those who had learned that you could “lose all your money” (18%). Many adolescents put this in the context of gambling by youth, but many still thought of these consequences as applying primarily to adults. A significant number felt they could “become addicted if they gambled”, a potential

outcome that could happen to them now or when they grew up. They had learned that “gambling hurts/breaks up families” (7%) and that “people who gamble may spend money meant for other important things like groceries” (4%), again messages that apply primarily to adults. Other messages recalled that were less targeted to adults were that “[they] should not gamble” (4%), “there is a Help Line for gamblers” (2%), and “gambling can hurt your relationship with friends” (2%). As well, 1% each said that “gambling is stupid”, “you should help your friends if they are in trouble [due to gambling]”, “you should ‘know your limits’”, “you have a low chance of winning if you gamble”, what the risks of gambling are and where to get help, and to watch for ‘Yellow Flag’ moments. They also learned about gambling on the internet (5%), that they can “win buying lottery tickets” and “gambling at the casino” (4%), and that “some gambling is OK” (1%).

The largest single source for this information over the last year (Table 15) was television advertising (62% of adolescents), followed by school (21%) where they saw plays, read pamphlets or discussed gambling in class. Television shows (6%), the internet (4%), mail and parents (1% each) were further sources of information. The overriding conclusion here would be that television advertising is still an effective way of reaching adolescents and appears to be shaping adolescent attitudes, beliefs, and gambling motivations which were found to exert strong influence on gambling behaviours.

When asked if they had been exposed to educational or community events in the last year that educated them concerning gambling about 28% of all adolescent taking part in the study answered in the affirmative. (Table 45)

4.1.6 What is “Gambling” in the Eyes of Adolescents?

Respondents were asked to indicate what kind of activities they or their friends might do that they would consider to be gambling (Table 15). Poker is the first activity that comes to the mind of many adolescents when they think of adolescent gambling activities (44%). This is followed by sports betting (16%), the purchase of lottery tickets (9%), and general ‘betting on things’ (8%). A relatively small percent of adolescents mentioned coin tossing or pitching (5%), bingo (4%), gambling with dice (4%), dares for money (2%) and betting on the outcome of internet or video games (2%). Playing poker for food, pools, slots, and 50/50 draws were mentioned by 1% of adolescents each. Again, playing arcade games to win prizes or betting with points or play money on the internet were not associated with gambling.

4.1.7 Adolescent Perceptions of Problem Gambling

In order to help understand if adolescents can recognize when others or they themselves may be having problems with gambling, adolescents were asked to describe what they believe is a problem gambler. That is, “what is it about somebody, the things they do or say, that would lead you to believe they are a problem gambler?” (Table 20)

The cue mentioned most often was that ‘they spend all their money on gambling’ (41%). The most visible of the major cues was that the person ‘is always trying to borrow money from others’ (34%). It appears that the respondents had themselves been asked to lend money, or had seen others asked to lend money by those they considered problem gamblers.

Other signs of losses due to gambling included the loss of all of a person’s possessions or selling their possession on the internet (4%), and if the person is always short of cash or has no money to spend on things (11%).

They recognized that there is a certain lack of control, or an inability to stop, on the part of problem gamblers (24%). They also felt that if a person gambled everyday or all the time that they were likely a problem gambler (12%). Other signs included excessive gambling activities such as going to the casino or playing on VLTs too often (8%), purchasing too many lottery tickets (2%), or gambling too long on the internet (1%).

The way the person behaved or felt was also a cue, that is, if they were nervous, upset, stressed or angry all time, then they may be problem gamblers (11%). Also, talking about gambling all the time was considered another obvious and telltale characteristic of a problem gambler (8%).

Lying about their gambling (2%), no longer spending time with their friends (2%) and being defensive about their gambling (1%) were other behavioural cues that a minority of adolescents recognized as indicative of problem gambling.

Adolescents tended to focus on identifying consequences (e.g., harms) suggesting that there may be preventative opportunities in promoting pre-harm Risk rather than waiting until consequences have already developed.

4.1.8 Resources Available, Access to Gambling and the Influence of Others

Half of the adolescents taking part in the study knew adults who gambled regularly and had no problems, but one-third also knew adults who have gotten into trouble because of their gambling (Table 46). Many adolescents (29%) hang out with friends who gamble

or bet and one-fifth have family members who gamble regularly. Interestingly, 16% have siblings who gamble and 9% said they are exposed to others who encourage them to gamble. Only 2% mentioned sometimes being bullied or pressured into gambling.

Adults played a significant role in facilitating the gambling activity of adolescents (Table 40). Many adolescents (27% - 29%) either have had adults purchase lottery tickets for them or had received them as gifts. A proportion of participating youth (13%) had gambled at bingo halls with adults. For a small percentage of adolescents (4%) adults had gambled with them on the internet, bet money on the outcome of sports events for them and/or paid for other forms of gambling.

Adolescents were asked to indicate whether they received lottery tickets from adults and under what circumstances (Table 19). Lottery tickets were primarily received at Christmas (48%), followed by their birthday (36%). Easter was the only other specific day mentioned (8%) and 12% reported receiving tickets as gifts on special days such as graduation. Close to one-third of adolescents who received tickets from adults (32%) indicated that there was no special occasion attached to receipt and that in some cases they had asked the adult to purchase ticket for them.

Most adolescents probably do not have to rely on adults to fund gambling for them as they have a fair amount of spending cash (Table 38). In terms of resources with which to gamble, most (71%) Junior High School youth have a disposable income of between \$50 and \$200 a month with a small percent (8%) reporting income of \$100 or more per week. High School youth reported higher incomes, with close to half having money in excess of \$400 a month and a fifth in excess of \$800 per month. For these people gambling with all their money and losing it could mean substantial losses over a year. It is clear that adolescents have the resources to gamble. Interestingly, the fact that adolescents lose at gambling does not necessarily mean they are being harmed financially.

Adolescents have access to gambling, the know-how of how to gamble, the resources to gamble and believe they have a means of purchasing gambling either themselves or through adults (Table 39). Approximately one-third (28% - 44%) of adolescents had easy access to and opportunities to gamble at home or school with friends or family. A small percentage (5%) believed their parents would not mind if they gambled outside the home with friends. A little over one-third (38%) reported they knew people who can teach them how to gamble and one-third know how to gamble on the internet if they want to. A significant portion of adolescents (31%) had a regular source of money with which to pay for gambling and some (9%) knew people who will give them money so that they can gamble.

When asked what forms of gambling they could participate in now if they wanted (Table 45), half (51%) said they could play poker for money, just under half (45%) say they can play poker on the internet with play money. A portion of adolescents (8% - 14%) reported access to high-risk commercial forms of gambling such as gambling on the internet with real money, at a casino or on VLTs.

4.1.9 Internet Usage

It was apparent that the vast majority of adolescents were comfortable using the internet with three-quarters having played online games for fun and 11% reporting online purchases made without the assistance of an adult (Table 24). A significant proportion appear to be exploring gambling through the internet as they have visited the Atlantic Lottery website (11%) or clicked on gambling related ads (6%). For some teens gambling on the internet with fake money (none of the adolescents had indicated gambling online with real money) happened in the company of family (6%) and friends (5%).

4.2 Adolescent Beliefs, Motives, Gambling Participation

4.2.1 Beliefs about Odds of Winning

When asked if they could win over the long run when playing various forms of gambling a large percentage of adolescents indicated they felt this was true (Table 42). Just over half (52%) believed they could win in the long run playing bingo at bingo halls. This exceeded the proportion (40%) who thought they could come out ahead over time playing poker at home or making bets with family and friends. Interestingly one-third (33%) of adolescents believed they could win in the long run when playing lottery tickets, and one in five (19%) felt they could come out ahead gambling at the casino. Fewer adolescents believed they could win on VLTs (12%) and poker on the internet (8%) but these were still relatively high percentages.

4.2.2 Motivations to gamble

The primary motivations for gambling (Table 41) were that they view gambling as a form of entertainment (40%) and a fun way to pass time (28% - 32%). As noted earlier, these two motivations were not associated with Risk or Harms due to gambling.

The thrill of competition and beating others at games was the next most common motive for adolescent gambling (25% to 27%) followed by seeing gambling a quick way to make a few bucks or get money when they need it (8% - 22%). These less common motives were found to be associated with gambling Risk and Harm.

4.2.3 Forms of Gambling Participation by Adolescents

Most of the gambling activities that adolescents have ever participated in (Table 21) were in the form of informal gambling such as playing card games for money (35%), or playing video games with friends for pooled cash prizes (14%). About one-fifth of adolescents had ever bet on non-professional sports such as school sports events that adolescents play or watch. Many adolescents at some time participated in other forms of gambling such as bloody knuckles (24%), coin pitching games (12%) gambled with dice (6%), and even bet on the outcome of schoolyard fights or competitions (2%)

Many have bet on the outcome of professional sports (11%) either through organized pools or informally with friends or family.

The most common form of organized gambling that adolescents had participated in was charity or 50/50 draws (48%), followed by spending money on arcade games in order to win big prizes (40%) and gambling with fake money on the internet (21%). Forms of traditional adult commercial gambling that adolescents participated in included playing bingo in bingo halls (14%) and a few older teenagers had purchased lottery tickets (7%), breakopens and scratch tickets (12%). There was some indication that a few adolescents (5%) had placed bets at racetracks. For the most part, there is very little participation in adolescent directed commercial gambling.

It would be anticipated that High School youth, being older, would be more likely to have participated in the various forms of gambling, but there were some forms of gambling that youth in Junior High School played more often or as much as High School students.

The sample sizes were small so the findings are considered tentative. However, Junior High School youth were much more likely to have participated in betting with friends on video games (26% versus 8%), were more likely to have participated in a raffle or 50/50 draw (58% versus 44%) and were in the same range for betting with friends on games at an arcade (37% versus 51%), playing quarters or bloody knuckles (25% versus 23%), betting on the outcome of professional sports (17% versus 20%) as well as spending their own money in bingo halls (12% versus 15%).

4.2.4 Extent of Adolescent Gambling

In order to examine expenditure and play patterns in detail we asked the adolescents who had gambled in the last three months to detail their expenditure and time spent gambling over this period (Table 25).

Approximately half of adolescents gambled in the previous three months (48%) with another quarter (25%) gambling on average once a month or less over that time (Table 25). However, about 27% of adolescents reported gambling at least once a month or more with 11% who reporting regular gambling rates of three or more times each month. Playing patterns were similar for both Junior High and High School youth taking part in the study.

About one in six (16%) felt they had come out ahead while gambling over the past three months, although just over twice as many (39%) reported losses. Keeping in mind that there is no 'house edge' for the majority of informal gambling available to adolescents it is reasonable to assume that many of those gambling with their friends and family would result in breaking even, which was the case (46%).

The question then arises, are those who were losing spending large amounts? About one in ten (9%) of those who had gambled in the last three months (representing 5% of all adolescents) had lost between \$100 and \$200 over the three month period. The reported amounts won were modest (up to \$45) with the exception of one person who claimed to have won \$250 over the previous three months.

A further measure of the extent of gambling activity was the number of minutes spent gambling during those weeks they gambled in the previous three months (Table 26). In a typical gambling week 22% of youth taking part in the study were spending an hour or more gambling, and 14% were spending more than two hours. Again, the extent and pattern was relatively consistent between Junior High and High School youth.

4.2.5 'When' Adolescents Gamble

The issue of when adolescents gamble was important for understanding the environment in which the gambling occurs (Table 26). While one-third of teens gambled anytime of the year (33%), the largest proportion reported gambling primarily during the school year (43%) while almost a quarter of teens (23%) reported gambling mostly in the summer.

Relatively few active gamblers were typically reporting gambling at school (13%), with most of the gambling occurring during weekends (47%) and evenings (30%). Ten per cent of adolescents of adolescents said that they would gamble at anytime.

4.2.6 Problematic Gambling Behaviours

About one in six adolescents (16%) said that they had chased losses when gambling (Table 28). Almost all of the remaining problematic gambling behaviours were exhibited only by High School youth. This suggests that problematic types of behaviours likely develop over time and manifest themselves primarily when adolescents reach High

School. Between 10% and 15% of adolescents attending High School say they have exceeded the amount they intended to spend in order to win back losses, have spent more time or money than intended or had trouble quitting when they should have. One in ten noted that they would like to gamble with their winnings rather than quit, and they have gambled in places where they must lie about their age or used a fake ID. Another 8% said they have cheated at gambling in order to win.

4.3 Gambling Outcomes for Adolescents

4.3.1 Sources of Losses

The single largest source of gambling losses over the last year for these teens was charity raffles (33%), although none of the adolescents said they had lost a lot of money at this form of gambling (Table 23). Those in Junior High were much more likely to say they had lost money playing raffles than High School youth (46% versus 28%).

The next highest form of gambling to involve losses was playing card games for money or 'things of value'. In this case, none of the Junior High School youth reported losses but 21% of High School youth had lost some money and 5% said they had lost a lot of money playing card games. Playing card games is easy to do in an unsupervised environment; some youth felt they had an edge in skill, or may be cheating; reputations can be made in a very social and competitive environment where they can emulate big winners they see on the many gambling commercials and shows on television; there are no limits on the size of the pots. Together, these factors contribute to the increased vulnerability to major losses.

After cards, playing arcade games for prizes was the next largest source of losses mentioned exclusively by High School youth (8%) with 5% also noting losses betting on the outcome of video games with friends.

The only other form of gambling that caused any notable losses were bingo in bingo halls (6% lost money and 1% lost a lot) and the purchase of scratch or breakopen tickets (5% lost money and 1% lost a lot).

Games such as coin pitching or bloody knuckles were played with small change and were less likely to cause problems.

Commercial forms of gambling such as internet gambling, VLTs, and gambling at casinos were still out of reach for almost all youth taking part in this survey.

4.3.2 Amounts Lost

As reported in the previous section a proportion of those who had gambled in the previous three months (16%) felt they had come out ahead while gambling whereas 39% felt they had lost. Almost half of recent adolescent gamblers (46%) felt they had more or less broken even. About one in ten (9%) of recent gamblers had lost between \$100 and \$200 in three months. The reported amounts won over the last three months ranged from small change up to \$45 with the exception of one person who claimed to have won \$250.

4.3.3. Gambling Consequences

Adolescents were experiencing little significant harm due to gambling (Table 29). However, 23% felt they would have been better off if they had never started gambling, 12% admitted to sometimes spending time gambling when they should have been doing homework and 14% continued to gamble despite bad things that had happened to them because of their gambling.

Financial impacts and associated guilt and anxiety were reported most often with 12% indicating that they sometimes felt guilty about the amount of money they spent gambling, 7% occasionally bet more than they could cover, 5% had lost too much money with 4% reporting difficulty in repaying gambling debts.

No Junior High School youth reported any gambling debt, but 5% - 7% of High School youth went into debt and had sold or traded personal property to pay off debts due to gambling (Table 32). The amount of these debts ranged from \$20 to \$50 (Table 33).

Of those who gambled in the last year, 80% said the largest amount they had ever lost at one time was less than \$20 with approximately 4% having ever lost \$100 or more (Table 30). They also claimed to have won significant amounts, with 16% of those who gambled last year citing winnings of \$100 or more (Table 31).

One gambling outcome mentioned by 7% of adolescents was the loss of items of value that they had used for betting when gambling (Table 28). A few High School adolescents said that they had borrowed money to continue gambling (4%) and had stolen money or things, or used someone's credit card in order to spend money on gambling (2%).

A minority reported significant gambling consequences including depression (4%), fears about being caught gambling (4%) and loss of interest in the things they used to do because of gambling (4%), restlessness or irritability because they can't gamble (2%) and spending too much time thinking about gambling (2%).

About 2% of those taking part in the study said they had neglected family friends or school in order to gamble, missed important events due to gambling, or missed out on the opportunity to be with friends and family. Some said they have friends or family that worried or complained about their gambling, that they had been shunned by other students, others were disappointed in them and that people talked about them because they gambled.

Likewise, few High School adolescents had been punished at school or home for their gambling, had become preoccupied with the need for money, or felt they were no longer the same type of person since they started gambling.

Many adolescents felt they experienced benefits from gambling (Table 35) including having a lot of fun (36%), feeling more prestigious (“better off”) in the eyes of others (23%), getting a thrill from beating others (16%), sometimes winning big at gambling (14%), having others admire them for being a “good” gambler (9%) and having more money to spend because they gamble (9%).

Of those who gambled, no one in Junior High and only 6% of High School aged adolescents felt there would be any significant negative impacts for them if they lost when gambling (Table 36).

Active gamblers in both Junior High (33%) and High School (24%) indicated that they have wanted to stop participating in some forms of gambling (Table 35). However, only older Active gamblers in High School said that they had been unsuccessful in their attempts to stop (4% - 7%). Only 2% have sought information and help in order to control their gambling and none of the adolescents said that at this time they needed more information or help from others to assist them with their gambling.

The results suggest that among Active gamblers there are 5% to 7% who have the desire to gamble whenever they can and typically act on any opportunities to gamble whenever such situations arise.

It appears that many Active adolescent gamblers are experimenting with gambling and, in some cases, trying and rejecting different forms of wagering activity. However, in other cases, curiosity and a strong desire to pursue and/or explore further opportunities to gamble may be elevating risk for youth in the province. About 5%-7% of these adolescents are finding that this risk may have greater significance as they get older and they end up continuing to gamble despite their desire and attempts to stop.

Undoubtedly, the gambling behaviour of adolescents in Nova Scotia differs significantly from that of adults and these differences pose unique risk factors and contribute to the potential for current and long-term gambling harms.

The results of the current exploratory research provide valuable information and insight for guiding ongoing inquiry and policy development in the area of adolescent gambling in Nova Scotia.

SECTION 5: Tables & Figures

Table 12: Adolescent Profile

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescent N = 85
Male	46%	59%	55%
Female	54%	41%	45%
13 – 14 years of age	75%	1%	22%
15 – 16 years of age	25%	43%	38%
17 – 18 years of age	0%	56%	40%

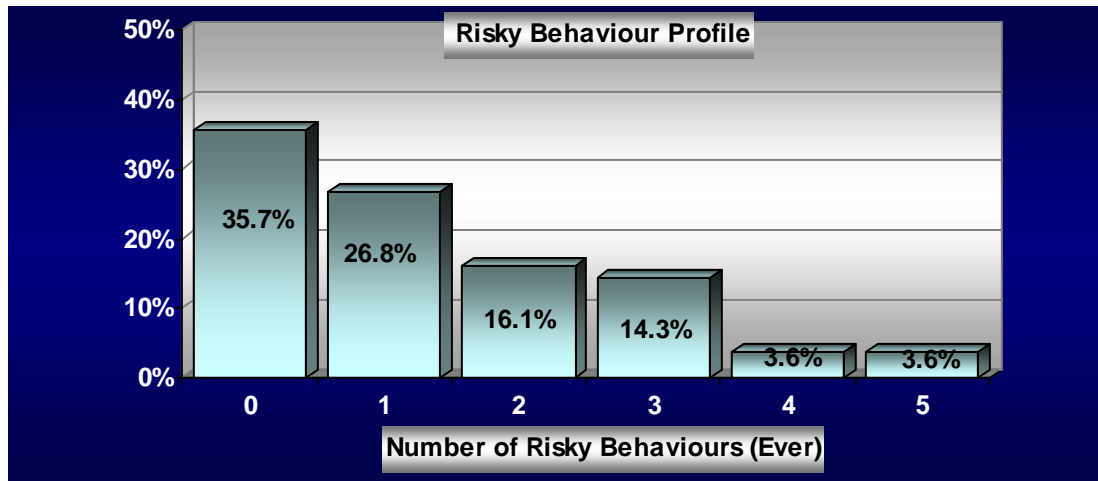
Table 13: Self-Reported Stress and Coping Strategies

	Total Adolescents N = 85
What worries or stresses do you have?	
I am stressed about school/my education/going to college	73%
Personal relationship problems with friends and family	12%
I need money	6%
My work/getting a job/keeping a job	6%
My friends are into drugs	1%
Other	1%
Peer pressure	1%
I have no stresses right now	13%
How are you coping with your worries and stresses?	
I talk to my friends and others close to me	12%
I hang out with my friends	7%
I talk to my family	6%
I write things down/I write in my journal	6%
I go to work	6%
I play sports	5%
I listen to music	4%
Drawing	2%
I watch television	2%
I eat food	2%
Other things: Exercise, I play computer games, I read, I smoke, I research my problem in order to solve it, I take time off, I take long walks, I relax	9%
I do nothing about it	4%

Table 14: Perceptions and Risk Taking (Ranked)

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Perceived as <i>High-Risk</i> Behaviour			
Take street drugs such as Ecstasy/ Crystal Meth	96%	100%	99%
Gamble with all your money	83%	93%	91%
Drive a car in a reckless manner	88%	88%	88%
Engage in unprotected sexual activity	71%	85%	81%
Drink alcohol in excess	62%	79%	74%
Drive an ATV without a helmet	62%	74%	71%
Engage in physical fighting with another person	38%	66%	58%
Participate in sports such as skate boarding or skiing	4%	---	1%
Ever Participated			
Participate in sports such as skate boarding or skiing	83%	77%	79%
Engage in physical fighting with another person	46%	34%	38%
Drink alcohol in excess	17%	44%	36%
Drive an ATV without a helmet	17%	33%	28%
Engage in unprotected sexual activity	8%	18%	15%
Drive a car in a reckless manner	0%	18%	13%
Gamble with all your money	8%	3%	5%
Take street drugs such as Ecstasy or Crystal Meth	0%	3%	2%

Figure 6: Risky Behaviour Profile



Note: Skateboarding and skiing is excluded as a risky activity.

Table 15: Activities Perceived as Gambling

	Total Adolescents N = 85
What kind of activities you or your friends might do that you would consider to be gambling?	
Poker and cards for money	44%
Sports betting	16%
Lotto Tickets	9%
Betting on things	8%
Coin tosses or pitching	5%
Bingo	4%
Gambling with dice	4%
Dares for money	2%
Internet games	2%
Poker for food	1%
Pools	1%
Slots	1%
50/50 draws	1%

Table 16: Key information Influencing Youth's Attitudes to Gambling

	Total Adolescents N = 85
<i>What would you say are the key things that you have learned about gambling that may have influenced your opinions about your gambling?</i>	
If you gamble you can lose everything, like your car and house	29%
If you gamble you can lose all your money	18%
I could become addicted if I gamble	13%
Gambling hurts families	7%
I learned about internet gambling/how to gamble on the internet	5%
I shouldn't gamble/don't gamble	4%
People will spend their grocery money/money meant for other things on gambling	4%
You can win at lotto and the casino	4%
Help Line	2%
gambling hurts relationships with friends	2%
I can become a problem gambler	1%
Gambling is stupid	1%
You should help your friends who are in trouble due to gambling	1%
Know your limits	1%
You have a low chance at winning if you gamble	1%
What the risks of gambling are and where to get help	1%
Some gambling is OK	1%
Yellow Flag Campaign	1%

Table 17: Sources of Information Related to Gambling or Risks for Gambling Problems

	Total Adolescents N = 85
Television ads	62%
School	21%
Television shows	6%
Internet	4%
Mail	1%
Parents	1%

Table 18: Assumed Consequences of Gambling

	Total Adolescents N = 85
<i>What do you feel could be some of the good or bad things that may happen to you because you gamble?</i>	
I could lose a lot of money	56%
It could hurt my relationships with my friends	22%
I could win a lot of money	11%
I could become addicted to gambling	7%
I could lose all my possessions	7%
I could go into debt	4%
I could have a lot of fun gambling	4%
It could hurt my family relations	2%

Table 19: Occasions where Parents Purchase Lottery Tickets for Youth

	Total Adolescents N = 25
When in the last year did adults purchase tickets for you?	
Christmas	48%
Birthday	36%
No special occasion (whenever I asked or wanted them)	32%
Other events such as graduation	12%
Easter	8%

Table 20: Youth's Perception of Problem Gamblers

	Total Adolescents N = 85
What do you believe a problem gambler is? (What is it about somebody, that is, the things they do or say, that would lead you to believe they are a problem gambler?)	
The person spends all their money, losses all their money to gambling	41%
The person is always trying to borrow money from others	34%
The person can't stop or control their gambling	24%
The person gambles a lot (gambles all the time/gamblers every day)	12%
The person is always nervous, upset, stressed, angry	11%
The person is always short of cash (does not have money to spend on things)	11%
The person talks about gambling all the time	8%
The person gambles frequently at the casino, on VLTs	8%
The person losses all their possessions or sells them	4%
The person purchases too many lottery tickets	2%
The person lies about their gambling	2%
The person has no time to spend with friends	2%
The person is defensive about their gambling	1%
The person gambles too much on the internet	1%

Table 21: Gambling Behaviour (Ranked): Ever Participated in Gambling

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Informal Gambling			
Playing <i>off-line</i> card games for money or things of value	12%	44%	35%
Playing quarters or bloody knuckles	25%	23%	24%
Betting on the outcome of non-professional sports games that you play in or watch	17%	20%	19%
Bet with your friends on Video Games or Arcade games†	26%	8%	14%
Betting money or things of value on a dare	17%	13%	14%
Coin Pitching, closest to the wall, in a circle, winner takes all	4%	15%	12%
Gambling with dice for money or things of value	0%	8%	6%
Betting on the outcomes of school yard fights or competitions	0%	3%	2%
Commercial/Organized Gambling			
Purchasing charity raffles or 50/50 draws with own money	58%	44%	48%
Playing Video Games for prizes at an Arcade	33%	43%	40%
Internet Gambling with fake money or points (n=29)	20%	25%	24%
Playing Bingo in bingo halls or charity events with own money	12%	15%	14%
Betting on the outcomes of professional sports	4%	13%	11%
Purchasing instant tickets with own money	4%	12%	9%
Betting on the horses at a race track	4%	5%	5%
Purchasing lottery tickets (e.g., 6/49 or Super 7) at a store	0%	7%	5%

Table 21 Continued: Gambling Behaviour (Ranked): Ever Participated in Gambling

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Internet Gambling including using a cell phone to access the internet (e.g., purchasing lottery tickets online)	0%	2%	1%
Playing VLTs (Gambling machines) in bars or pubs	0%	2%	1%
Gambling at a casino	0%	0%	0%
Internet Poker Gambling with real money, or tokens purchased with real money	0%	0%	0%
Playing online Bingo for money	0%	0%	0%
† This question was administered to only 56 of the 85 adolescents; 19 Junior High School youth and 37 High School youth.			

Table 22: Current Gambling Behaviour (Ranked): Past Year Participation

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Informal Gambling			
Playing <i>off-line</i> card games for money or things of value	8%	41%	32%
Betting on the outcome of non-professional sports games that you play in or watch	12%	16%	15%
Bet with your friends on Video Games or Arcade games†	21%	8%	12%
Playing quarters or bloody knuckles	8%	8%	8%
Coin Pitching, closest to the wall, in a circle, winner takes all	0%	10%	7%
Betting money or things of value on a dare	12%	5%	7%
Betting on the outcomes of school yard fights or competitions	0%	2%	1%
Gambling with dice for money or things of value	0%	2%	1%
Commercial/Organized Gambling			
Purchasing charity raffles or 50/50 draws with own money	46%	38%	40%
Playing Video Games for prizes at an Arcades	17%	26%	22%
Internet Gambling with fake money or points (n=29)	0%	21%	17%
Playing Bingo in bingo halls or charity events with own money	12%	12%	12%
Betting on the outcomes of professional sports	4%	12%	9%
Purchasing instant tickets with own money	4%	12%	9%
Purchasing lottery tickets (e.g., 6/49 or Super 7) at a store	0%	7%	5%
Betting on the horses at a race track	0%	3%	2%

Table 22 Continued : Current Gambling Behaviour (Ranked): Past Year Participation

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Playing VLTs (Gambling machines) in bars or pubs	0%	2%	1%
Gambling at a casino	0%	0%	0%
Internet Gambling including using a cell phone to access the internet (e.g., purchasing lottery tickets online)	0%	0%	0%
Internet Poker Gambling with real money, or tokens purchased with real money	0%	0%	0%
Playing online Bingo for money	0%	0%	0%
† This question was administered to only 56 of the 85 adolescents; 19 Junior High youth and 37 High School youth.			

Table 23: Losses due to Current Gambling Behaviour (Ranked)

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Last Year Lost Some or a Lot of Money Participating in These Forms of Gambling			
Informal Gambling			
Playing <i>off-line</i> card games for money or things of value	0%	21%	15%
Bet with your friends on Video Games or Arcade games†	5%	5%	5%
Playing quarters or bloody knuckles	0%	5%	4%
Betting on the outcome of non-professional sports games that you play in or watch	0%	5%	4%
Coin Pitching, closest to the wall, in a circle, winner takes all	0%	3%	2%
Gambling with dice for money or things of value	0%	3%	2%
Betting money or things of value on a dare	4%	2%	2%
Betting on the outcomes of school yard fights or competitions	0%	0%	0%
Commercial/Organized Gambling			
Purchasing charity raffles or 50/50 draws with own money	46%	28%	33%
Playing Video Games for prizes at an Arcades	0%	8%	6%
Playing Bingo in bingo halls or charity events with own money	4%	6%	6%
Purchasing instant tickets with own money	4%	5%	5%
Betting on the outcomes of professional sports	0%	3%	2%
Betting on the horses at a race track	0%	2%	1%
Purchasing lottery tickets (e.g., 6/49 or Super 7) at a store	0%	2%	1%
Playing VLTs (Gambling machines) in bars or pubs	0%	2%	1%
Gambling at a casino	0%	0%	0%

Internet Gambling including using a cell phone to access the internet (e.g., purchasing lottery tickets online)	0%	0%	0%
Internet Poker Gambling with real money, or tokens purchased with real money	0%	0%	0%
Playing online Bingo for money	0%	0%	0%
† This question was administered to only 56 of the 85 adolescents; 19 Junior High School youth and 37 High School youth.			

Table 24: Internet Usage Profile

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Played On-line games for fun	88%	70%	75%
Ever purchased anything online without assistance of an adult	4%	13%	11%
Visited Atlantic Lottery Site	12%	10%	11%
Clicked on gambling related ads	0%	8%	6%
Gambled on-line with fake or real money in company of family	8%	5%	6%
Gambled on-line with fake or real money in company of friends	0%	7%	5%

Table 25: Recent Gambler (Past Three Months) Profile

	Attending Junior High	Attending High School	Total Regular Gamblers
	N = 12	N = 32	N = 44
Gambling Winnings/Losses			
In last three months have Lost	42%	38%	39%
In last three months have Broken Even	42%	47%	46%
In last three months have Won	17%	16%	16%
How much have you lost or won in total over the last three months?			
Lost \$100 or More	8%	9%	9%
Lost \$50 up to \$100	0%	0%	0%
Lost \$20 up to \$50	8%	19%	16%
Lost Less Than \$20	25%	9%	14%
Broke Even	42%	47%	46%
Won up to \$20	17%	6%	9%
Won \$20 up to \$50	0%	6%	4%
Won \$50 up to \$100	0%	0%	0%
Won \$100 or more	0%	3%	2%

Table 26: Gambling Profile in Past Three Months

	Attending Junior High	Attending High School	Total
	N = 24	N = 61	N = 85
Number of days played in last three months			
0	50%	48%	48%
1 - 3	29%	23%	25%
4 - 9	13%	18%	16%
10 - 18	4%	5%	5%
19 +	4%	7%	6%
How many minutes per week in a week they gamble in the last three months			
0	50%	48%	48%
1 - 20	17%	11%	13%
21 – 40	8%	7%	7%
41 - 60	13%	8%	9%
61 - 120	8%	8%	8%
121 +	4%	18%	14%
	N = 8	N = 22	N = 30
Time of Year Mostly Gamble (Among those played in last year; n=30)			
In the Summer	38%	18%	23%
During the School year	50%	41%	43%
Both	12%	41%	33%
Time of Week Mostly Gamble (Among those played in last year; n=30)			
Weekends	38%	50%	47%
During school times	25%	9%	13%
Evenings	25%	32%	30%
Anytime	12%	9%	10%

Table 27: Self-Assessment of Gambling Problems

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Would you say you are a problem gambler right now?	0%	2%	1%
Do you feel you may be at risk of becoming a problem gambler? (asked of non-problem gamblers only)	4%	0%	1%
Would you say you were ever at risk of becoming a problem gambler? (non At-Risk and problem gamblers)	0%	0%	0%

Table 28: Gambling Behaviours (Ranked)

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Problematic Gambling Behaviours			
I sometimes gamble in order to win back the money I have lost	13%	17%	16%
I often spend more time gambling than I intend to.	7%	15%	12%
If I win, I would like to gamble with my winnings rather than quit.	0%	15%	11%
I often gamble for longer periods than I intended.	0%	15%	11%
I sometimes exceed the amount of money I intended to spend in order to win back money I have lost.	0%	15%	11%
I often have trouble stopping/quitting when I am ahead.	7%	10%	9%
I often spend more money gambling than I intended.	0%	12%	9%
I have gambled in places where I must lie about my age or use a fake ID.	0%	10%	7%
I have cheated at gambling in order to win.	0%	8%	6%
Consequences - Borrowed and lost			
I have lost items of value to me because I bet them gambling.	7%	7%	7%
I sometimes borrow from others to get more money to continue gambling.	0%	5%	4%
I have stolen money or things, or used someone's credit card in order to spend money on gambling.	0%	2%	2%
Motivations to Gamble			
I sometimes gamble just so that I can hang out with some friends.	20%	37%	32%
I usually have a strategy to help me win when I gamble.	20%	30%	27%

Table 29: Gambling consequences

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Torment/Anxiety			
I would be better off if I had never started gambling	20%	24%	23%
I sometimes feel guilty about the amount of money I spend or things I have lost when I gamble.	7%	15%	12%
Sometimes I am very sad or depressed that I gamble.	0%	5%	4%
I have a fear of being caught gambling.	7%	2%	4%
I spend too much time thinking about gambling	0%	2%	2%
I sometimes feel anxious, restless or irritable because I can't gamble when I want to	0%	2%	2%
I sometimes have trouble sleeping thinking about gambling.	0%	0%	0%
Life Style Consequences			
I sometimes have spent time gambling/betting when I was supposed to be doing homework.	20%	10%	12%
I have neglected family, friends or school in order to gamble.	0%	2%	2%
I have missed important events due to gambling.	0%	2%	2%
I have missed out on opportunities to be with friends and family because of my gambling.	0%	3%	2%

Table 29 Continued: Gambling consequences

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Social Consequences			
I have friends or family who worry or complain about me gambling.	0%	2%	2%
I have been shunned by other students because of my gambling.	0%	2%	2%
Others are disappointed in me because of my gambling.	0%	2%	2%
People talk about me because of my gambling.	0%	2%	2%
My gambling has caused me to have a falling out with the people I used to hang out with.	0%	0%	0%
I have become somewhat of a loner because of my gambling	0%	0%	0%
Financial Consequences			
I have occasionally bet more than I can cover.	7%	7%	7%
I have lost too much money because of my gambling.	0%	7%	5%
I sometimes have had difficulties paying gambling or betting debts.	0%	5%	4%
I sometimes borrow money in order to gamble.	0%	2%	2%
Personal Consequences			
I continue to gamble despite the bad things that happen to me.	20%	12%	14%
I have been punished at school or home for gambling.	0%	5%	4%
I have lost interest in doing the things I used to do because of gambling.	7%	2%	4%
I have become preoccupied with the need for money so that I can gamble or pay off my debts.	0%	2%	2%
I am no longer the same type of person I was since I started gambling.	0%	2%	2%

Table 30: Largest Losses due to Gambling at One Time

Largest Amount Ever Lost at One Time	Attending Junior High N = 15	Attending High School N = 41	Total Active Gamblers N = 56
\$<20	87%	78%	80%
\$20 to <\$50	7%	10%	9%
\$50 to <\$100	7%	7%	7%
\$100 to <\$200	0%	2%	2%
\$200 +	0%	2%	2%
Total	100%	100%	100%

Table 31: Largest Amount Ever Won at One Time

Largest Amount Ever Won at One Time	Attending Junior High N = 15	Attending High School N = 41	Total Active Gamblers N = 56
\$<20	73%	44%	52%
\$20 to <\$50	7%	22%	18%
\$50 to <\$100	7%	15%	13%
\$100 to <\$200	13%	7%	9%
\$200 +	0%	12%	9%
Total	100%	100%	100%

Table 32: Debt Consequences of Gambling

	Attending Junior High N = 15	Attending High School N = 41	Total Active Gamblers N = 56
Went into debt because of gambling	0%	7%	5%
Took money intended for other purposes (e.g., lunch, clothing, movies) to gamble, bet or pay off gambling debts	0%	7%	5%
Sold, traded or gave personal property (e.g., CDs or a Game boy) to have money to gamble, bet or pay off gambling debts	0%	5%	4%
Had gambling/betting caused money problems	7%	2%	4%
Experienced difficulties paying gambling/betting debts	0%	2%	2%
Borrowed money from family, friends, or others to gamble or bet	0%	2%	2%

Table 33: Largest Amount Ever Gone into Debt

Largest Amount Ever gone into debt	Attending Junior High N = 15	Attending High School N = 41	Total Active Gamblers N = 56
\$0	100%	93%	95%
>\$0 to <\$20	0%	0%	0%
\$20 to <\$50	0%	7%	5%
\$50 +	0%	0%	0%
Total	100%	100%	100%

Table 34: Positive Consequences

	Attending Junior High N = 15	Attending High School N = 41	Total Active Gamblers N = 56
Positive outcomes based on gambling behaviour in the last 12 months			
I have a lot of fun gambling.	27%	39%	36%
I feel better off in the eyes of others because I gamble	20%	24%	23%
It is great to better others at gambling.	20%	15%	16%
I have won big at gambling.	13%	15%	14%
I have more money to spend because I gamble.	20%	5%	9%
Others admire me for being a risk taker, for being a good or successful gambler.	20%	5%	9%

Table 35: Efforts to Stop Gambling (In the last 12 months)

	Attending Junior High N = 15	Attending High School N = 41	Total Active Gamblers N = 56
Lack of Control			
I have tried unsuccessfully to stop or reduce my gambling.	0%	10%	7%
There have been times I have started gambling again despite my desire not to.	0%	5%	4%
I have looked for information that might help me control my gambling.	0%	2%	2%
I have sought help from others to help me control my gambling.	0%	2%	2%
Desire to Reduce or Control Gambling			
I have wanted to stop some forms of gambling	33%	24%	27%

Table 35 Continued: Efforts to Stop Gambling (In the last 12 months)

	Attending Junior High N = 15	Attending High School N = 41	Total Active Gamblers N = 56
Drive to Gamble			
When I have an opportunity to gamble I almost always take it.	13%	5%	7%
I have the desire to gamble whenever I can.	0%	7%	5%
Need for Information			
I need more information or help from others because I gamble.	0%	0%	0%

Table 36: Perceived Impact of Gambling Losses

	Adolescents Who Did <u>Not</u> Gamble in Last 12 months (Inactive)		Adolescents Who Gambled at Least Once in Last 12 Months (Active)		Total Adolescents	
	Attending Junior High N = 9	Attending High School N=20	Attending Junior High N = 15	Attending High School N=41	Attending Junior High N = 24	Attending High School N=61
How much of a negative impact would losing at gambling be for you right now? (4 & 5 on 5 pt scale)	44%	15%	0%	6%	17%	10%

Table 37: Perceived High Risk Forms of Gambling (Ranked)

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Gambling on the VLT machines in pubs and bars.	75%	85%	82%
Playing the slots at the casino	75%	85%	82%
Playing Poker on the internet for money	54%	72%	67%
Blackjack and other table games at casinos	50%	71%	65%
Sports betting on sports select, Pro-line, horse racing or betting on the outcome of professional sports	42%	44%	44%
Daily Lottery Tickets such as Keno and Bucko	21%	23%	22%
Scratch and win tickets	12%	12%	12%
Gambling or betting with your friends	17%	13%	14%
Playing poker at home for money	8%	10%	9%
Bingo at Bingo halls	12%	7%	8%
Weekly Lottery Tickets	12%	7%	8%

Table 38: Availability of Resources to Gamble

Monthly Income	Attending Junior High N = 24	Attending High School N = 59	Total Adolescents N = 83
<\$50	8%	5%	6%
\$50 to <\$100	46%	14%	23%
\$100 to <\$200	25%	17%	19%
\$200 to <\$400	13%	17%	16%
\$400 to <\$800	4%	27%	20%
\$800 +	4%	20%	16%
Total	100%	100%	100%

Table 39: Access to gambling

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Access/Lack of Barriers			
I can gamble at home if I want to	33%	48%	44%
I can gamble at school if I want to	33%	38%	36%
I have friends or family who allow me to sit in on poker games	21%	41%	35%
I have places I can go to gamble	17%	43%	35%
I am able to play the VLT's or gambling machines in pubs, bars, or restaurants if I want to.	29%	28%	28%
I am able to purchase lottery tickets if I want to.	12%	20%	18%
I can gamble when out with my friends	4%	5%	5%
Knowledge			
I know people who can teach me how/where to gamble	33%	39%	38%
I know how to gamble on the internet if I wanted to do it	42%	30%	33%
Ability to Pay			
I have a regular source of money with which I can gamble	17%	36%	31%
I have others who will place bets or purchase tickets for me if I want to gamble.	12%	23%	20%
I have access to some means of paying (e.g., credit card, debit card, PayPal) that I can use for gambling on the internet if I wanted to.	4%	15%	12%
I have people who will give me money so that I can gamble	8%	10%	9%

Table 40: Role of Others/Adults in Facilitating Gambling

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Had adults buy lottery tickets for youth in the last year	25%	31%	29%
Received lottery tickets as a gift	17%	31%	27%
Gambled with adults who are gambling at bingo halls	21%	10%	13%
Engaged in online gambling with adults	12%	0%	4%
Had adults bet money on the outcome of sports events for youth	0%	5%	4%
Had adults pay for any other forms of gambling for youth	4%	3%	4%
	N = 5	N = 24	N = 29
Gambled with adults who are gambling on VLTs (or gambling machines) at pubs?	0%	4%	3%
Went with adults who are gambling at the casino	0%	0%	0%

Table 41: Motivations for Gambling

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Social Status			
It is important to learn how to be a good gambler as you grow up.	12%	10%	11%
I feel the kids who gamble become more popular	4%	3%	4%
I sometimes get more respect from others if they know I gamble	4%	0%	1%
Belief Can Win			
Sometimes I can make a few quick bucks by gambling.	21%	23%	22%
Gambling is one way to get some money when I need it.	4%	10%	8%
I believe it is possible for me to come out ahead in the long run if I gamble.	8%	3%	5%
If I gamble on gambling machines or at table games, after a string of losses I am more likely to win.	4%	2%	2%
Entertainment or a Way to Pass Time			
Gambling is a form of entertainment.	33%	43%	40%
Gambling is sometimes a great way to pass time.	25%	34%	32%
Gambling is a fun way to pass time.	25%	30%	28%
I might really enjoy spending time gambling at the Casino etc	17%	18%	18%
I think that gambling on the internet would be a fun way to spend time.	8%	12%	11%

Table 41 Continued: Motivations for Gambling

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
The Competition			
Gambling is a game; it feels good to beat others at the game.	21%	30%	27%
Gambling is a game, and I'm the kind of person who likes to win.	29%	23%	25%
Obsession with Gambling			
I wish I could gamble more often.	0%	3%	2%
Gambling is sometimes an important part of my life.	0%	2%	1%
Gambling/betting is an important part of me and my friends' activities.	0%	2%	1%
Compared to many things I can do, I would rather gamble.	0%	2%	1%

Table 42: Believe Can Win in Long Run

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Bingo in Bingo Halls	71%	45%	52%
Poker at home	62%	34%	42%
Making bets with friends or family	46%	39%	41%
Lottery Tickets	33%	33%	33%
Gambling at the casino	17%	20%	19%
Video Lottery Terminals in Bars and Pubs	21%	8%	12%
Poker on the internet	12%	7%	8%

Table 43: Somewhat or Very Interested in Participating in These Forms of Gambling When Turn 19 years old (Ranked)

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Playing lottery tickets such as Lotto 6/49 or Super 7	58%	41%	46%
Playing poker games such as Texas Hold'em for money	42%	39%	40%
Gambling at the Casino	38%	28%	32%
Playing Bingo in Bingo Halls	29%	28%	28%
Betting on professional sports games	17%	18%	18%
Gambling on Video Lottery Terminals in bars and pubs	17%	10%	12%
Playing daily lottery ticket games such as Bucko or Keno	17%	8%	11%
Playing online poker or other forms of online gambling for money	4%	2%	2%

Table 44: Opportunities to Gamble (Ranked)

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
If I want I can do the following ...			
Play poker for money	42%	54%	51%
Gamble on the internet with play money	42%	46%	45%
Gamble on the internet with real money or tokens purchased with real money	8%	16%	14%
Go to a casino to gamble	8%	13%	12%
Gamble on video lottery terminals	4%	10%	8%

Table 45: Exposure to Educational or Community Events

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Did you take part in any school or community sponsored events last year that educated you concerning gambling?	29%	28%	28%

Table 46: Influence of Others

	Attending Junior High N = 24	Attending High School N = 61	Total Adolescents N = 85
Have family members who gamble regularly	25%	16%	19%
Have brothers or sisters (cousins) who gamble	17%	16%	16%
Have others who encourage you to gamble	4%	12%	9%
Have others who sometimes bully you into gambling	0%	3%	2%
Know adults who gamble and have no problems	50%	54%	53%
Know adults who have gambled and got into trouble.	29%	34%	33%
Hang out with friends who gamble/bet	17%	34%	29%
My parents wouldn't mind if I gambled with my money on the internet.	4%	5%	5%

Appendix A

Focal Youth Gambling Risk Screen *FYGRS*®

The items listed below consist of those tested in the exploratory research undertaken in Nova Scotia in March 2008. The statements and constructs are not exhaustive and further research is required to continue to test and refine the various component measures. One advantage of the design is the ability to adjust the *FYGRS*® risk and harm measures to include any changes or new developments. This will ensure that *FYGRS*® remains relevant for adolescents over time and means that it can be adjusted to reflect specific market characteristics or jurisdictional differences.

Adolescent's Environment and Characteristics

1. Number of Risky Behaviours in the Past

1. Drink alcohol in excess
2. Drive a car in a reckless manner
3. Take street drugs such as Ecstasy or Crystal Meth (ice)
4. Engage in unprotected sexual activity
5. Drive an ATV/snowmobile without a helmet
6. Engage in physical fighting with another person

2. Access/Lack of Barriers

1. I am able to purchase lottery tickets if I want to.
2. I have friends or family who allow me to sit in on poker games.
3. I have places I can go to gamble.
4. I can gamble at school if I want to.
5. I can gamble at home if I want to.
6. I can gamble when out with my friends.
7. I am able to play the VLT's or gambling machines in pubs, bars, or restaurants if I want to.

3. Access to Knowledge about Gambling

1. I know people who can teach me how/where to gamble.
2. I know how to gamble on the internet if I wanted to do it.

4. Ability to Pay

1. I have people who will give me money so that I can gamble.

2. I have a regular source of money with which I can gamble.
3. I have others who will place bets or purchase tickets for me if I want to gamble.
4. I have access to some means of paying (such as credit card, debit card, PayPal) that I can use for gambling on the internet if I wanted to.

5. Others Facilitate Gambling

1. Did adults in the last year buy lottery tickets for you?
2. In the last year, did you receive lottery tickets as a gift?
3. Did you gamble with adults who are gambling at bingo halls?
4. Did you gamble with adults who are gambling on VLTs (or gambling machines) at pubs?
5. Did you go with adults who are gambling at the casino?
6. Did adults get you to gamble on the internet?
7. Did adults bet money on the outcome of sports events for you?
8. Did adults pay for any other forms of gambling for you that we have not mentioned?

6. Influence of Others

1. Family members who gamble regularly.
2. Brothers or sisters (cousins) who gamble.
3. Others who sometimes bully you into gambling.
4. Others who encourage you to gamble.
5. Know adults who gamble and have no problems.
6. Do you hang out with friends who gamble/bet?

Beliefs

7. Belief: They can Win Commercial Forms of Gambling

1. Lottery Tickets
2. Video Lottery Terminals in Bars and Pubs
3. Bingo in Bingo Halls
4. Poker on the internet
5. Gambling at the casino

8. Belief: They can Win Informal Forms of Gambling

1. Poker at home
2. Making bets with friends or family

Note additional statements are advised for this construct

9. Perceived Risk of Various Forms of Gambling

1. Weekly Lottery Tickets
2. Daily Lottery Tickets such as Keno and Bucko
3. Scratch and win tickets
4. Gambling on the VLT machines in pubs and bars.
5. Gambling or betting with your friends
6. Playing poker at home for money
7. Playing Poker on the internet for money
8. Playing the slots at the casino
9. Sports betting on sports select, ProLine, horse racing or betting on the outcome of professional sports
10. Bingo at Bingo halls
11. Blackjack and other table games at casinos

10. Believed access to organized forms of gambling

1. Go to a casino to gamble
2. Gamble on Video Lottery Terminals
3. Gamble on the internet with real money or tokens purchased with real money

Motives/Drive State

11. Motive: Social Status

1. I feel the kids who gamble become more popular.
2. I sometimes get more respect from others if they know I gamble.

Note additional statements are advised for this construct

12. Motive: Belief Can Win/Can Earn Money

1. Sometimes I can make a few quick bucks by gambling.
2. Gambling is one way to get some money when I need it.
3. I believe it is possible for me to come out ahead in the long run if I gamble.

4. If I gamble on gambling machines or at table games, after a string of losses I am more likely to win.

13. Motive: Entertainment or a Way to Pass Time

1. Gambling is a form of entertainment.
2. Gambling is a fun way to pass time.
3. Gambling is sometimes a great way to pass time.
4. I might really enjoy spending time gambling at the Casino etc.
5. I think that gambling on the internet would be a fun way to spend time.

14. Motive: The Competition/Winning

1. Gambling is a game, and I'm the kind of person who likes to win.
2. Gambling is a game; it feels good to beat others at the game.

Note additional statements are advised for this construct

15. Motive: Obsession with Gambling/Drive State

1. Gambling is sometimes an important part of my life.
2. I wish I could gamble more often.
3. Gambling/betting is an important part of me and my friends' activities.
4. Compared to many things I can do, I would rather gamble.

16. Drive to Gamble

1. When I have an opportunity to gamble I almost always take it.
2. I have the desire to gamble whenever I can.

Gambling Behaviours (Last Year)

17. Involvement in Informal Forms of Gambling (last year)

1. Betting with your friends on games at an Arcade?
2. Playing card games, not on the internet, such as poker for REAL money or things of value?
3. Betting on the outcomes of school yard fights or competitions?
4. Do you play quarters or bloody knuckles?
5. Betting with your friends on Video Games?
6. Coin Pitching, closest to the wall, in a circle, winner takes all?
7. Betting on the outcome of non professional sports games that you play in or watch?

8. Gambling with dice for money or things of value?
9. Betting money or things of value on a dare?

18. Involvement in Organized Forms of Gambling

1. Played Video Games for prizes at arcades?
2. Betting on the outcomes of professional sports, perhaps through Sports Select, ProLine or some other way?
3. Bingo in bingo halls or charity events where you purchase the cards with your own money?
4. Bingo in bingo halls or charity events where you mainly observed other playing?
5. Bet on the horses at a race track?
6. Purchased lottery tickets such as 6/49 or Super 7 at a store?
7. Purchased lottery scratch or Break open tickets at a store with your own money?
8. VLT's (Gambling machines) in bars or pubs?
9. Gambled at a casino?
10. Internet Gambling including using your cell phone to access the internet: (e.g., Lottery tickets purchased over the internet)?

19. Number of Types of Gambling = Sum of involvement in informal and organized forms of gambling

20. Problematic Gambling Behaviours

1. I sometimes gamble in order to win back the money I have lost.
2. If I win, I would like to gamble with my winnings rather than quit.
3. I often spend more time gambling than I intend to.
4. I sometimes exceed the amount of money I intended to spend in order to win back money I have lost.
5. I often have trouble stopping/quitting when I am ahead.
6. I often gamble for longer periods than I intended.
7. I have cheated at gambling in order to win.
8. I often spend more money gambling than I intended.
9. I have gambled in places where I must lie about my age or use a fake ID.

Outcomes

21. Behavioural Intention Organized Forms of Gambling (when legal e.g., age 19 years +)

1. Playing lottery tickets such as Lotto 6/49 or Super 7?
2. Playing daily lottery ticket games such as Bucko or Keno Atlantic?
3. Playing Bingo in Bingo Halls?
4. Gambling on Video Lottery Terminals in bars and pubs?
5. Gambling at the Casino?
6. Playing poker or other forms of gambling for money on the internet?
7. Betting on professional sports games?

22. Behavioural Intention High Risk Gambling

1. Gambling on Video Lottery Terminals in bars and pubs?
2. Playing poker or other forms of gambling for money on the internet?
3. Gambling at the Casino?
4. Betting on professional sports games?

23. Outcome: Lost a Lot in at Least One Type of Gambling in the Last Year

Responded "Lost a lot of Money" to at least one of the forms of gambling (for money) listed in the survey.

24. Positive outcomes based on gambling behaviour in the last 12 months

1. I feel better off in the eyes of others because I gamble.
2. I have more money to spend because I gamble.
3. Others admire me for being a risk taker, for being a good/successful gambler.
4. I have a lot of fun gambling.
5. It is great to better others at gambling.
6. I have won big at gambling.

Consequences/Harms

25. Desire to Stop and Inability to Stop

(In the last 12 months)

1. I have tried unsuccessfully to stop or reduce my gambling.
2. There have been times I have started gambling again despite my desire not to.

3. I have looked for information that might help me control my gambling.
4. I have sought help from others to help me control my gambling.

26. Torment – Anxiety

1. I spend too much time thinking about gambling.
2. I sometimes feel anxious, restless or irritable because I can't gamble when I want to.
3. I sometimes have trouble sleeping thinking about gambling.
4. Sometimes I am very sad or depressed that I gamble.
5. I sometimes feel guilty about the amount of money I spend or things I have lost when I gamble.
6. I would be better off if I had never started gambling.
7. I have a fear of being caught gambling.

27. Life Style

1. I have neglected family, friends or school in order to gamble.
2. I have missed important events due to gambling.
3. I have missed out on opportunities to be with friends and family because of my gambling.
4. I sometimes have spent time gambling/betting when I was supposed to be doing homework.

28. Social Consequences

1. I have friends or family who worry or complain about me gambling.
2. I have been shunned by other students because of my gambling.
3. My gambling has caused me to have a falling out with the people I used to hang out with.
4. I have become somewhat of a loner because of my gambling.
5. Others are disappointed in me because of my gambling.
6. People talk about me because of my gambling.

29. Financial Consequences

1. I sometimes have had difficulties paying gambling or betting debts.
2. I have lost too much money because of my gambling.
3. I have occasionally bet more than I can cover.

-
4. I sometimes borrow money in order to gamble.

30. Impact on Person

1. I continue to gamble despite the bad things that happen to me.
2. I have been punished at school or home for gambling.
3. I have lost interest in doing the things I used to do because of gambling.
4. I have become preoccupied with the need for money so that I can gamble or pay off my debts.
5. I am no longer the same type of person I was since I started gambling.

31. Total Consequences

***Sum of consequences* = Consequences Torment + Consequences Life Style +
Consequences Social + Consequences Financial +
Consequences Personal**

Appendix B - Bibliography

- American Psychiatric Association (1994). DSM-IV: Diagnostic and statistical manual (Fourth Edition). Washington, DC: American Psychiatric Association.
- Azmier, J.J. (2000). Canadian gambling behaviour and attitudes: Summary report. Calgary, Alberta: Canada West Foundations
- Bagozzi, R. P. (2007). On the meaning of formative measurement and how it differs from reflective measurement: Comment on Howell, Breivik, and Wilcox (2007). *Psychological Methods*, 12, 229-237.
- Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological Bulletin*, 110, 305-315.
- Canadian Centre on Substance Abuse. (2007). Substance Abuse in Canada: Youth in Focus. Ottawa, ON: Canadian Centre on Substance Abuse.
- Cote, J. A., & Buckley, M. R. (1988). Measurement error and theory testing in consumer research: An illustration of the importance of construct validation. *Journal of Consumer Research*, 14, 579-582.
- Diamantopoulos, A., & Sigauw, J. A. (2006). Formative versus reflective indicators in organization measure development: A comparison and empirical illustration. *British Journal of Management*, 17, 263-282.
- Diamantopoulos, A., & Winklhofer, H. M. (2001). Index construction with formative indicators: An alternative to scale development. *Journal of Marketing Research*, 38, 269-277.
- Dickson, L.M., Derevensky, J.L., & Gupta, R. (2002). The prevention of gambling problems in youth: A conceptual framework. *Journal of Gambling Studies*. Vol 18(2), 97-159

-
- Derevensky, J. L., & Gupta, R. (2000). Prevalence estimates of adolescent gambling: A comparison of the SOGS-RA, DSM-IV-J, and the GA 20 Questions. *Journal of Gambling Studies, 16*, 227–252.
- Dickerson, M. & Baron, E. (2000). Contemporary issues and future directions for research into pathological gambling. *Addiction, 95*, 1145-1159.
- Ferris, J., Wynne, H., & Single, E. (1999). Measuring problem gambling in Canada. Final Report-Phase I. The Inter-Provincial Task Force on Problem Gambling.
- Ferris, J. & Wynne, H. (2001). The Canadian Problem Gambling Index: Final Report. Ottawa: Canadian Centre on Substance Abuse.
- Financial Post Data Group, National Post Company. (2007). FP Markets: Canadian Demographics 2007 Population Estimates. Toronto: Financial Post. DataGroup, National Post Company.
- Fisher, S. E. (1999). A prevalence study of gambling and problem gambling in British adolescents. *Addiction Research, 7*, 509–538.
- Fisher, S. (2000). Developing the DSM-IV-DSM-IV criteria to identify adolescent problem gambling in non-clinical populations. *Journal of Gambling Studies, 16*, 253-273.
- Gupta, R., & Derevensky, J. (1998). Adolescent gambling behavior: A prevalence study and examination of the correlates associated with excessive gambling. *Journal of Gambling Studies, 14*, 319–345.
- Health Canada. (2006). Summary of Results of the 2004-05 Youth Smoking Survey. Ottawa: Health Canada. Retrieved September, 2006, from http://www.hc-sc.gc.ca/hl-vs/tobac-tabac/research-recherche/stat/survey-sondage/2004-2005/result_e.html
- Jacobs, D. (2000). Juvenile gambling in North America: An analysis of long term trends and future prospects, *Journal of Gambling Studies, 16*, 119–152.

-
- Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, 30, 199-218.
- Korn, D., Hurson, T., & Reynolds, J. (2005). Commercial Gambling Advertising: Possible Impact on Youth Knowledge, Attitudes, Beliefs and Behavioural Intentions. University of Toronto.
- Langhinrichsen-Rohling J, Rohde P, Seeley JR, Rohling ML. (2004). Individual, family, and peer correlates of adolescent gambling. *Journal of Gambling Studies*, 20, 23-46.
- MacKenzie, S. B. (2003). The dangers of poor construct conceptualization. *Journal of the Academy of Marketing Science*, 31, 323-326.
- Mackenzie, S. B., Podsakoff, P. M., & Jarvis, C. B. (2005). The problem of measurement model misspecification in behavioural and organizational research and some recommended solutions. *Journal of Applied Psychology*, 90, 710-730.
- Nova Scotia Department of Health and Focal Research Consultants Ltd. (1998). The 1997/98 Nova Scotia Regular VL Players' Survey. Halifax, Nova Scotia: Nova Scotia Department of Health.
- Nova Scotia Department of Health and Focal Research Consultants Ltd. (2000). The 2000 Nova Scotia Regular VL Players Follow-Up Study. Halifax, Nova Scotia: Nova Scotia Department of Health.
- Nova Scotia Department of Health and Omnifacts (1993). An examination of the prevalence of gambling in Nova Scotia. Halifax, Nova Scotia: Nova Scotia Department of Health.
- Personal Information Protection and Electronic Documents Act (PIPEDA) (2000, c. 5). Department of Justice. Canada. <http://laws.justice.gc.ca/en/P-8.6/text.html>

-
- Schrans, T. & T. Schellinck (Focal Research Consultants). March, 2001. 2001 Survey of Gambling and Problem Gambling in New Brunswick. Fredericton: New Brunswick Department of Health and Wellness.
- Schrans, T. & Schellinck, T. Focal Research Consultants (2003). 2003 Nova Scotia Gambling Prevalence Study, Report to the Nova Scotia Office of Health Promotion.
- Schellinck, T., Schrans, T., Walsh, G., Grace, J., & Focal Research Consultants. 2002. 2002 Seniors Survey - Prevalence of Substance Use & Gambling Among New Brunswick Adults Aged 55+. Report to the New Brunswick Department of Health and Wellness.
- Schellinck, T. Phase II: Quantitative Analysis for the Victoria Self Administered Problem Gambling Screen, Victoria Department of Justice, August 2006
- Schellinck, T. Phase 1 Development Self-Administered Problem Gambling Screen, Victoria Gambling Research Panel, October 2004.
- Shaffer, H. J., LaBrie, R., Scanlan, K. M., & Cummings, T. N. (1994). Pathological gambling among adolescents: Massachusetts Gambling Screen (MAGS). *Journal of Gambling Studies*, 10, 339–362.
- Trochim, W. M. The Research Methods Knowledge Base, 2nd Edition. Internet WWW page, at URL: <<http://trochim.human.cornell.edu/kb/index.htm>> Version current as of January 16, 2005.
- Wickwire, E. M., Whelan, J.P., Meyers, A.W., & Murray, D.M. (2007). Environmental correlates of gambling behavior in urban adolescents. *Journal of Abnormal Child Psychology*, 35,179-190.