LOTTERY TICKET PURCHASES BY ADOLESCENTS: A QUALITATIVE AND QUANTITATIVE EXAMINATION

Report to the Ministry of Health and Long-Term Care, Ontario

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TABLE OF CONTENTS

LIST OF TABLES

Appendix C

Appendix D

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EXECUTIVE SUMMARY

This report presents the results of a comprehensive study examining adolescent lottery playing behaviour in Ontario. The primary purpose of this study was to explore the differential gambling patterns of underage adolescents in order to identify the specific characteristics and determinants that influence their lottery playing behaviour. As such, this research examined gender and developmental differences in lottery playing behaviour. The structural characteristics of lottery products that are particularly appealing to youth (e.g., monetary value, attribute of the ticket, type of game, prize structure, advertisements, colour of ticket, etc.) were also examined. As well, all the available literature on youth gambling patterns suggest that a small but identifiable population of youth have severe gambling problems, with an even larger number of youth at-risk for the development of a gambling problem. Of significant importance was the examination of lottery playing behaviour of adolescents based upon level of gambling severity.

This study was completed in three phases. Phase I consisted of the inclusion of 5 focus groups (47 children, age 12-19) designed to provide qualitative information on adolescent lottery playing behaviour; Phase II included the development and validation of an instrument to assess lottery playing and gambling behaviour; and Phase III included the participation of a large community sample of youth in Ontario, age 13-18 (N=1,072; 521 males, 551 females), who completed the questionnaire assessing their gambling behaviour in general, parental gambling behaviour, factors influencing lottery playing behaviour and severity of gambling problems. The information presented in this report is intended to serve as a foundation for the development and implementation of prevention, education, and public awareness campaigns. Furthermore, the results of this study are intended to provide valuable information concerning the compliance of existing statutes in Ontario prohibiting underage youth from purchasing lottery tickets.

The major findings are divided into two sections; a) those related to the entire sample which explored gender and developmental (age) differences, and b) the lottery playing and purchasing behaviours based upon the severity of gambling problems.

Major Findings: General

- While the vast majority of gambling is illegal for youth under the age of 18 in Ontario, with casino playing being restricted to age 19, 73% of youth in grades 6-12 reported having gambled (defined as wagering money) during the past 12 months, with 21% having reported gambling at least once per week. It is important to note that some forms of gambling are not Provincially endorsed and supported (e.g., card playing, sports betting and wagering on games of skill between youth), the results revealed that 44% played cards, 24% wagered on sports, 53% played the lottery (sports, draws or scratchcard tickets), 31% played bingo, and 28% wagered on games of skill.

- More males reported gambling in general (77%) than females (69%), and reported gambling once a week or more (31% vs.12% respectively). As well, males reported a preference for betting on cards and sports betting, whereas, females reported a preference for bingo and scratch tickets.

- Few developmental and age differences were found for the percentage of youth gambling, with approximately 67-75% of all youth reporting having gambled in the past year. This clearly suggests that prevention programs must be implemented at the elementary school level.

- Overall, 39% of adolescents reported playing the lottery within the past month, and 17% reported doing so within the past week. More males (21%) than females (12%) reported having played the lottery within the past week.

- When examining lottery playing behaviour, more youth reported playing scratchcard tickets (54%) compared to lottery draws (22%) and sports tickets (15%). Males reported participating in all lottery activities more frequently than females. Developmentally, a linear increase was found among adolescents such that sports lottery betting increased with age.

- A distinction was made with respect to lottery *playing* and *purchasing* behaviour. Children may have been playing the lottery well before they purchased any tickets. The mean age of onset for the entire sample for *playing* lottery draws was 10 ½, for scratchcard tickets it was 10, and for sports lottery tickets it was12. The mean age for participants who had indicated purchasing a lottery ticket was approximately 13 for draws, 12 for scratchcard tickets, and 13 for sports tickets. Few if any difficulties in purchasing lottery tickets were reported even by the youngest children in spite of the legal prohibitions. The majority of youth (65%) reported that it was easy to purchase tickets illegally from the local corner/convenience store. Even though it becomes easier to purchase tickets as adolescents become older, more than half (55%) of the participants in grades 6-9 (11-13-year-olds) reported that they were able to purchase lottery tickets with little difficulty. Of even greater concern was the finding that a third of underage adolescents reported going to the store specifically to purchase lottery tickets.

- Youth reported beginning to play the different forms of the lottery primarily to win money (65%), because their parents play (48%), for the enjoyment (38%) and excitement (31%) attributed to playing, and for curiosity (28%). Similar reasons were given for their continued playing of the lottery.

- A considerable number of youth reported not perceiving scratchcard tickets (31%), lottery draws (20%), and bingo (42%) as gambling.

- The vast majority of youth (90%) were aware of the legal age to purchase tickets. Although, the majority of participants indicated being aware of the legal age restrictions to purchase lottery tickets, a third of respondents believed there should be no age

requirement to purchase any form of lottery ticket. For those who indicated there should be an age restriction, the reported age range was between 13-21.

- For adolescents who play the lottery, adolescents reported spending an average of $7.16 on sports tickets, $5.55 on scratch tickets, and $4.05 on lottery draws *per week*. Males reported spending more money on tickets than females, older participants reported spending more money than younger participants to purchase tickets, and 8% of youth reported borrowing money in the past year to purchase lottery tickets.

- There is a concern that adolescents who lose money on the lottery are likely to return to recoup losses. Contrary to previous speculation, 13% reported returning to the store to purchase more tickets when they had *won*, while only 2.2% returned to purchase more tickets if they had *lost*. Males reported returning to purchase additional tickets more frequently than females, with older children more frequently reporting returning to purchase supplemental tickets than younger children.

- Of those adolescents who reported playing the lottery, 84% of youth reported that their parents were aware of their gambling activities and 94% reported not being afraid getting caught by their parents. Eleven-year-old children (grades 6-7) were the most afraid of getting caught purchasing lottery products (10%), with those in grade 12 (17-year-old adolescents) reporting they were the least afraid (3%).

- A large number of youth, 70%, having played the lottery reported receiving a ticket as a gift. Receiving lottery tickets as gifts were found to increase with age. Family members or friends generally purchased these gifts for underage youth for holidays, birthdays, and other occasions. Boys received more sports lottery tickets as gifts whereas girls tended to receive more scratchcard tickets.

- The results clearly show that underage youth are not immune to lottery advertisements. Adolescents reported seeing advertisements on TV, billboards, and print media. Several could actually recite the commercial and lottery tag lines. In general, while 39% of the adolescents reported that they would be more likely to purchase a ticket because they had seen the advertisement, they indicated that they would not necessarily purchase the ticket being advertised. Older adolescents in grades 10-12 (age15-17) reported being more susceptible to advertisements.

- There is a concern that the heavy promotion of lottery sales at corner convenience stores may have a special appeal for youth. While there is no comparative data for adults, the findings confirmed that the majority of adolescents reported that they were more likely to purchase a ticket displayed on the checkout counter of the convenience store. This impulse buying, while strong for both males and females, was reported by a larger percentage of males than females. This finding was also related to age, such that as they got older adolescents reported being more impulsive in their lottery purchases. This may also be a result of the ease of purchase and having more disposable money.

- The structural characteristics deemed most important by adolescents on scratchcard tickets were the prize, cost of the ticket and type of game. Males reported higher mean ratings on characteristics concerning the size of the ticket, prize, number of games, and cost, whereas females reported a greater importance for colour, type of game, and name/title. Regardless of age, the type of game was reported to be one of the most important features in selecting tickets. *Mini Monopoly, Bingo, Cash for Life*, and *Battleship* were the most preferred tickets. Familiarity of the game was an important determinant for youth in general, however, this was found to become less important for older adolescents.

Major Findings: Adolescents with Gambling Problems

- The DSM-IV-MR-J criteria were used to assess degree of gambling severity and to differentiate individuals who gamble but who do not appear to be experiencing negative gambling related consequences. Based upon the most stringent criteria, 2.8% of the total sample of adolescent respondents was classified as probable pathological gamblers (scores of ≥ 4), with 6.8% (scores of 2-3) being classified as at-risk for developing significant gambling problems, and 65.2% (scores of 0-1) were classified social gamblers. It is important to note that in a study by Derevensky and Gupta (2000) the former version of this screening instrument was found to be the most conservative measure of adolescent gambling problems; identifying the fewest individuals with significant gambling problems. A recent study by Adalf and Ialomiteanu (2000) found the prevalence rate of severe problem gambling amongst Ontario youth to be 5.8% with an additional 7.5% meeting the criteria for at-risk gambling using the SOGS-RA.

- Within the current sample, more males were identified as having gambling problems (4.7% probable pathological gamblers; 10.7% at-risk gamblers) than females (1.0% probable pathological gamblers; 3.7% at-risk gamblers). While some developmental differences were noted, the distribution of adolescents based upon degree of gambling problems was found to be relatively consistent across all grade levels (grades 6-12).

- Adolescent problem gamblers were found to engage in all forms of gambling more frequently than social gamblers. Based upon reported regular gambling patterns (once a week or more) probable pathological gamblers were found to have a preference for gambling on the lottery (scratchcards, draws, and sports lottery), games of skill and card playing with similar patterns observed for at-risk gamblers.

- Problem gamblers had the youngest mean age of onset for *playing* the lottery (age 10 for lottery draws, age 8 for scratchcards, and age 10½ for sports tickets). Although social gamblers reported the oldest mean age for beginning to play the lottery, it was still under age 12. With respect to lottery purchases, problem gamblers similarly reported the age at which they first purchased lottery tickets (age 13 for draws, 12 for scratchcards and sports lottery) was well under the legal age requirement. No significant differences as a

function of degree of severity of gambling problems were found for ease of purchasing products.

- Probable pathological gamblers reported that winning money, excitement and enjoyment were the most important reasons for purchasing lottery tickets and gambling in general.

- Probable pathological gamblers reported being most aware of the legal age restrictions to purchase tickets. However, social gamblers, at-risk and probable pathological gamblers indicated that there should be no age restrictions to purchase tickets. More importantly, 65% of social gamblers, 74% of at-risk gamblers and 65% of probable pathologically gamblers reported little difficulty purchasing tickets at a local convenience store.

- The average amount of money spent per week on lottery tickets increased with the degree of frequency and severity of gambling problems. Social gamblers reported spending the least amount of money while probable pathological gamblers reported spending the most money. Similarly, in order to fund their gambling behaviour, problem gamblers reported being more likely to borrow money to gamble.

- Probable pathological gamblers reported returning more often to purchase additional lottery tickets after winning or losing than social or at-risk gamblers.

- Independent of the level of severity of gambling problems, adolescents reported that their parents purchased lottery tickets for them. On an occasional basis, 72% of parents were reported to purchase scratch cards, 38% to purchase draws, and 19% to purchase sports lottery tickets for their children. Adolescent lottery playing mirrored that of their parents' behaviour. As the degree of gambling severity increased, there was a concomitant increase in reported parental lottery playing. Parents of adolescents with gambling problems were reported to frequently purchase lottery tickets for them as gifts for birthdays, holidays or other occasions. As well, 26% of parents reported purchasing draws for those adolescent probable pathological gamblers on a weekly basis. Parental awareness of lottery purchasing was reported to have decreased with the degree of gambling severity, yet adolescents' fear of getting caught increased.

- Probable pathological gamblers reported being the most susceptible to and influenced by lottery advertisements. Not only were they more aware of these advertisements but they also reported that they were more likely to purchase a ticket because of such advertisements. Placement of scratch tickets on the checkout counter was reported to be most enticing to adolescents with gambling problems.

- Adolescents with a gambling problem reported being significantly more willing to purchase more expensive scratchcards, played the same game more regularly, and indicated that while familiarity was important they often purchased unfamiliar tickets.

- While all adolescents perceived that sports tickets required the most skill, those youth at-risk for a gambling problem and probable pathological gamblers reported that a higher level of skill was involved in lottery draws and scratchcard tickets than social gamblers. Problem gamblers perceived their chances of winning the lottery are greater compared to social gamblers.

- At-risk and probable pathological gamblers reported a preference for larger tickets, money as compared to prizes, and a larger jackpot. The importance of money increased with the degree of gambling problems.

- Some differences were found for *the most important* structural characteristics reported by adolescents depending upon the degree of gambling severity. However, all adolescents reported that the type of game, size of prize, color of ticket, and name of the ticket were the most important characteristics and determinants when purchasing scratchcards. Probable pathological preferred tickets that are sports oriented and those stressing the opportunity to win large sums of money.

Future Directions

There is little doubt that adolescents are engaging in a wide number of legalized gambling activities despite the legal restrictions and prohibitions. The results of this research confirm previous research efforts that have reported that lottery participation by underage youth is widespread. The fact that many youth, parents, and vendors perceive the lottery to be a relatively innocuous behaviour with few negative consequences is of significant concern. Adolescents with severe gambling problems and those at-risk for developing these problems reported spending more money on lottery tickets, purchasing lottery tickets more frequently, and indicated that many of their parents purchased tickets for them as gifts. As well, the fact that many adolescents report having little difficulty purchasing lottery tickets is of particular concern. Policy makers and the security division of Lottery corporations are strongly encouraged to enforce the existing statutes prohibiting underage youth from purchasing lottery tickets. Where such statutes don't exist, policy makers would be well advised to pass strong legislation and strict penalties for vendors violating such laws. With the advent of new, high tech (e.g., *Treasure Tower*) and licensed lottery products under development (e.g., *Betty Boop, World Wrestling Foundation* [WWF) lottery tickets], specific safeguards must be put in place to curb and monitor the introduction of products particularly attractive to youth.

This research also strongly points to the need for further funding and the development and implementation of a widespread prevention program that must begin at the elementary school level. Efforts must be made to ensure that school administrators, members of psychological services, and teachers are aware of this growing problem. Youth gambling problems, often referred to as the *hidden addiction*, have not received the same attention in schools as other potentially addictive behaviours (e.g., alcohol abuse, cigarette smoking, and drug use). Any prevention program must be accompanied by a public education-awareness program encouraging parents and adults to be attentive to the types of gambling-related problems experienced by adolescents with gambling problems. As well, specific training programs targeting lottery vendors, law enforcement, and criminal justice need to be developed and implemented.

Concerted collaborative efforts between researchers, mental health providers, and Lottery corporations should be strongly encouraged. The fact that there currently exists a national Responsible Gambling Committee, consisting of representatives from the various Provincial Lottery corporations, is a good beginning. The Ministry of Health and Long-Term Care in Ontario may wish to give attention to the services established for adolescent problem gamblers, monitoring their gambling behaviour over time, and pay particular attention to efforts aimed at reducing this prevalence rate.

The development of The Ontario Gambling Research Centre and the funds designated to study youth gambling and the development of prevention efforts should be commended. Further research efforts and prevention programs need to be initiated in trying to modify the lottery purchasing and playing behaviour of youth. With the advent of new games and formats being developed by Lottery corporations careful monitoring of this situation is imperative.

INTRODUCTION

Research has found that most adolescent problem gamblers follow a similar pattern of gambling before experiencing difficulties. This pattern generally includes playing cards for money, betting on skill activities (e.g., pool, videogames, etc.), purchasing of lottery tickets, sports betting (both legal through provincial and state lottery corporations and illegal sports betting), with many problem gamblers progressing to video lottery terminals and/or casino playing. Lottery products remain one of the most popular games of all (Macmillan, 1985). Part of its popularity comes from the fact that these products offer a low entry cost with the possibility of winning very valuable cash prizes (Wood & Griffiths, 1998; 2001). Despite our understanding of this progression and the popularity of lottery products among youth, most studies have failed to carefully examine the appeal of the lottery, those attributes of lottery products deemed important, and concomitant factors associated with lottery purchases by youth. A careful examination and understanding of these parameters may well help understand the appeal of the lottery for youth. Given that many youth with gambling problems begin by playing and purchasing a variety of lottery products (draws, scratchcards [often referred to as scratch tickets], sports lottery) this research may provide clinicians and researchers with additional information as to why certain individuals are susceptible to develop a gambling problem. The results of this research will provide valuable information that may be subsequently used in the development of more effective gambling prevention programs for youth and public awareness campaigns.

This research consists of three phases. Phase I included focus group testing with adolescents to help develop a questionnaire to achieve the research objectives and provided important qualitative information concerning lottery playing behaviour. Phase II involved the field-testing and validation of the questionnaire. In Phase III, the questionnaire was administered to a large community sample of adolescents.

RESEARCH GOALS

While a number of studies have examined gambling participation among youth, to date there is no empirical research examining the specific lottery purchases, playing patterns, structural characteristics, attributes, and properties of lottery products that make them so appealing to adolescents. This research attempts to examine differences in lottery purchasing and playing behaviour, and lottery playing patterns based upon level of gambling problems.
To determine whether the characteristics and types of tickets purchased differ among youth with serious gambling related problems, potential problem gamblers, social gamblers and non-gamblers.

The objectives of this research include:

- To identify whether there are specific types of lottery products and games which appeal to underage youth.

- To identify the structural characteristics of lottery products that are particularly appealing to youth (e.g., monetary value, attribute of the ticket, type of game, prizes, advertisement, prizes, etc.).

- To differentiate gender, developmental differences, and preferential patterns of lottery purchases and playing behaviour of underage youth.

- To investigate lottery product familiarity, familial influences, and past buying experiences among adolescents.

- To determine whether the characteristics and types of tickets purchased differ between youth as a function of the severity of gambling problems.

LITERATURE

Current Trends in Legalized Gambling

Today's youth are exposed to an increasingly widespread and easily accessible variety of gambling venues and advertising. The trend worldwide appears to be toward the growing legalization of various forms of gambling. While the inclusion of lotteries in Canada is relatively recent, multiple forms of gambling can now be found in all provinces. What began as a way to raise funds for identified projects has rapidly turned into a multi-billion dollar industry (National Council of Welfare, 1996). Prior to 1970, legal gambling in Canada was generally restricted to occasional charity bingo and raffles, and friendly wagers between individuals. By 1993, legal gambling had expanded to include slot machines and video lottery terminals (VLTs), casinos, large-scale bingo operations, sports wagering/tickets, scratchcards, pull-tabs, and off-track betting on horses (Ladouceur, 1996). A recent Canada West Foundation (2000) study found over 70% of Canadians participated in some form of gambling during the past year, with the lottery being the most popular activity (49.6% of adults reported purchasing a draw ticket [e.g., 6/49], with 41.5% purchasing lottery scratchcard tickets).

In Ontario, several new forms of gambling have become available, including hospital lotteries, pull-tab tickets, and charity casinos (Addiction & Mental Health Services, 1998). In addition to these forms of gambling activities, a number of full-scale casinos have opened. Ontario leads the nation in gambling participation rates with 79% of respondents reporting having gambled during the past year, followed by British Columbia (74%), the Western Provinces (72%), Quebec (65%), and the Atlantic Region (63%).

There now appears to be a general social approval for a risky activity that was once prohibited (Stinchfield & Winters, 1998). Not only does there appear to be a general approval for gambling activities, gambling is seen as a public right in Canada (Canada West Foundation, 2000).

Youth Gambling Prevalence Rates

Gambling has become a well-established recreational form of entertainment for youth as well as adults (Gupta & Derevensky, 1998a, 1998b). Like adults, most youth gamble responsibly without ever developing a serious problem. Nevertheless, there is a small but significant proportion of youth who gamble excessively and experience a number of significant problems associated with their gambling (Gupta & Derevensky, 1998a, 1998b; Jacobs, 2000; Stinchfield & Winters, 1998). Research efforts have revealed that over 80% of children and adolescents engage in gambling activities, and that between 4-8% meet the diagnostic criteria for pathological gambling with another 10-14% of adolescents at-risk for developing a serious gambling problem (using instruments such as the DSM-IV-J, MAGS, and SOGS-RA) (Derevensky & Gupta, 1998a, 1998b, 2000; Gupta & Derevensky, 1998a, 1998b; Ladouceur, 1996; National Research Council, 1999; Shaffer & Hall, 1996, 2001). The results of the National Research Council's (NRC) (1999) review of literature concluded that 85% of adolescents gambled during their lifetime. A study by Rupcich, Govoni, and Frisch (1996) in Windsor, Ontario, found even higher rates of gambling behaviour with 96% of youth reported having gambled during their lifetime and 90% having gambled during the past year. Prevalence estimates suggest that 24-40% engage

in some form of weekly gambling behaviour (Huxley & Carrol, 1992; Ladouceur & Mireault, 1988; Lesieur & Klein, 1987). More recent studies in Ontario found that 7.5% of youth met the criteria for at-risk gambling problems and 5.8% of the adolescents met the criteria for probable pathological gambling using the SOGS-RA criteria (Adlaf & Ialomiteanu, 2000). Given the large number of underage adolescents who report gambling fairly regularly, this phenomenon raises serious mental health and public policy concerns (Korn & Shaffer, 1999; NRC, 1999).

Jacobs (2000), in a comprehensive review of a large number of adolescent gambling prevalence studies, found that the median percentage of gambling participation by Canadian youths during the period between 1988-1998 was 66%, with a range between 60% and 91%. Furthermore, after analyzing the results of nine American and six Canadian studies examining serious gambling related problems among juveniles, Jacobs concluded that the median value of serious gambling related problems among juveniles had risen to 14% for American and 15% for Canadian youth. He concluded that along with the accessibility and availability of gambling venues there has been a concomitant rise in juvenile gambling and that minors (12-17 years of age) have managed to penetrate and participate to some degree in every form of legal and illegal gambling activity.

Age of Onset

Jacob's (2000) review of youth prevalence studies also revealed a striking finding that the reported age of onset for initial gambling experiences ranged from 11-13 years of age, with an overall median age of 12 (seventh grade). In addition to retrospective reports by adults with severe gambling problems, a number of adolescent studies of problem and pathological gamblers seem to suggest that these youth began gambling at age 10-11 (Gupta & Derevensky, 1998a; Wynne, Smith & Jacobs, 1996).

Adolescent gambling participation should raise serious concern since studies have indicated that when individuals begin gambling in childhood they are more susceptible to develop gambling problems as adults (Fisher 1993; Griffiths, 1995a; Winters, Stinchfield, & Fulkerson, 1993) and it is believed that early gambling is a warning sign for adult pathological gambling (Jacobs, 1989). Youth who engage in gambling at an early age may win and lose large amounts of money and develop a pattern of recurrent gambling over a period of time such that they may be well on their way to becoming pathological gamblers (Fisher, 1992).

Gambling Preferences and Lottery Playing Among Youth

The range of gambling activities in which youth engage are quite varied. It includes, cards, dice and board games with family and friends, betting with peers on games of personal skill (e.g., bowling, playing arcade or video games for money or prizes), raffles, sports betting, wagering on horse and dog races, bingo, slot machines and table games in casinos, pull tabs and lottery tickets, playing VLTs, and wagering on the Internet (Jacobs, 2000). While youth have varied accessibility to gambling venues, there are identifiable gambling preferences. Jacobs' (2000) review suggests that within the past year, 67% of underage youth have gambled for money with lottery playing and purchases being the predominant activity. Shaffer and Zinberg (1994), examining the prevalence of underage lottery purchases, reported that 47.1% of seventh grade children had purchased a lottery ticket during their lifetime, 22.9% had purchased a lottery ticket

during the past month, and by the time students reached their senior year in high school the prevalence rates had increased to 74.6% for lifetime purchases and 35.3% purchased lottery tickets during the previous month. Still further, 7.5% of Massachusetts youth under the age of 17 were found to have purchased one lottery ticket on average every week, and 2.7% of youth reported purchasing 20 or more lottery tickets during the past month.

In a more recent study in Louisiana, Westphal, Rush, Stevens, and Johnson (1998b) found 65% of youth had played scratchcard lottery tickets, with lottery playing exceeding all other forms of licensed gambling. Volberg and Moore (1999) found a significant increase in youth lottery play between 1993 and 1999 in Washington and Ladouceur and Mireault (1988) found that the three most popular forms of gambling were the lotteries (60%), sports betting (45%) and card games (36%) amongst Quebec francophone youth. More recently, Gupta and Derevensky (1998a) found slightly different results with the most popular gambling activities among youth being card playing (56.2%), lottery tickets (52.4%), bingo (35.2%), sports pools (34%), electronic gambling machines (31.8%), sports lottery tickets (30.3%), and games of skill (28.4%). However, when the traditional lotteries (52.4%) and sports lottery tickets (30.3%) are combined, it is clear that youth prefer these forms of gambling activities to all others (Gupta & Derevensky, 1998a). In a telephone-survey of 702 Minnesota youth 15-18 years of age, Stinchfield et al. (1997) found that 27.6% of minors reported purchasing scratchcards, pull-tabs, or lottery tickets. Furthermore, 8.2% of youth reported that their underage friends purchased lottery products for them when they were unable to (Wager, 1996).

Since enforcement of age restrictions in most jurisdictions are minimal at best, the early accessibility to lottery purchases may be a "gateway" for other forms of gambling activities (Shaffer & Zinberg, 1994). Lottery purchases by underage youth is widespread and its impact upon psychosocial functioning has a broad based influence on public health (Korn & Shaffer 2000; Shaffer & Hall, 2001; Shaffer & Zinberg, 1994). While underage youth are actively involved in purchasing or playing the lottery, its appeal has never been empirically studied.

There is considerable research that has shown that adolescent males tend to engage in gambling activities more than females (e.g., Adlaf & Ialomiteanu; 2000; Fisher, 1990; Govoni, Rupcich, & Frisch, 1996; Griffiths, 1989; Gupta & Derevensky, 1998a; Jacobs, 2000; Ladouceur et al., 1994; Stinchfield, Cassuto, Winters, & Latimer, 1997; Wynne et al., 1996). With respect to the lottery, more males (21%) than females (14%) reported thinking they had a greater chance to win a lot of money in the UK National Lottery, while 25% of males and 19% of females believed they would win a lot of money playing scratchcards (Wood & Griffiths, 1998).

Parental Influences Upon Youth Gambling

Parental modelling of gambling as an acceptable form of recreational activity may encourage adolescent gambling behaviour. Parents are often aware of their children's gambling behaviour and youth report that their parents do not object to their participation. Ladouceur, Jacques, Ferland, and Giroux (1996) found that 50% of parents were aware of their children's gambling behaviour and were not worried about it, independent of the age of the child. More recently, Ladouceur, Vitaro, Côté and Dumont (2001) reported that 62% of parents complied with their children's requests to purchase a lottery ticket for them, many were aware that their children

gambled, most were unfamiliar as to what age their children started gambling, half the parents reported gambling in front of their children, and most had a poor understanding of the potential negative consequences associated with gambling.

Children who gamble regularly report gambling with family members, with 40% having gambled with their parents (Gupta & Derevensky, 1997). Wood and Griffiths (1998), in their study of adolescents in England, found that the vast majority of lottery ticket purchases for youth were made by relatives, with 71% of relatives purchasing lottery draw tickets and 57% purchasing scratchcards for underage youth with similar results being reported in Minnesota (Laudergan, Schaefer, Eckoff, & Pirie, 1990; Wager, 1999). Shaffer (1996) reported that 15% of children actually made their first bet with their parents and another 20% did so with other family members. Children sometimes form partnerships with their parents on lottery tickets and many youth report receiving lottery scratchcards and tickets as Christmas stocking stuffers. By the time children leave elementary school less than 10% of children fear getting caught gambling (Derevensky & Gupta, 1998a; Gupta & Derevensky, 1997). Some forms of gambling (e.g., lottery) are perceived to be both socially acceptable and harmless as they are state, province or federally run and endorsed, advertised widely, and available in a variety of public places (e.g., supermarkets, banks, convenience stores) (Wood & Griffiths, 1998).

Social learning theorists have pointed to the important role of observation and imitation in the acquisition and maintenance of multiple positive and negative behaviours (Bandura, 1977). Social learning takes place within a specific reference group, and as both the family and peer groups remain the primary reference groups for youth (Cornish, 1978). Parents have been reported to include their children in their gambling activities by asking their advice and/or providing an active role in the actual gambling activity (e.g., completing lottery stubs, selecting numbers for draws, carrying money, holding and/or scratching tickets) (Walker, 1992). Social learning theory appears to be one viable explanation and component in helping understand the acquisition and maintenance of gambling amongst youth (Gupta & Derevensky, 1997). Since parental influences occur earlier than peer influence, their influences on gambling participation may have an even stronger influence, especially for males (Griffiths, 1990).

Of particular concern is the finding that 18% of parents believed that gambling with family members is good recreational fun, 56% reported that it is an acceptable leisure activity, and 21% of parents purchased lottery tickets for their child (Ladouceur et al. 1994a). While at the time of their study it was not illegal in Quebec for minors to purchase lottery products, 52% of the respondents believed that it was forbidden to sell lottery tickets to minors, and 20% thought that a minor could claim a prize over $5,000 (both inaccurate assumptions). More importantly, less than 40% of the parents attempted to monitor their children's gambling. Parental perceptions that youth gambling is a relatively harmless, innocuous behaviour with few negative consequences are still widespread (Ladouceur et al., 2001).

Youth with gambling problems are also more likely to have parents who gamble. Seventy-three percent of adolescent pathological gamblers were found to have a parent who gambles compared to 45% of youth at-risk for a gambling problem (Ladouceur, Boudreault, Jacques, & Vitaro, 1999). Gupta and Derevensky (1998a) similarly reported that adolescent pathological gamblers were more likely to have a mother or father with a gambling problem. Govoni et al. (1996)

reported that individuals whose parents gambled excessively had almost twice the rate of problem and at-risk for gambling problems compared with youth who did not report excessive parental gambling (22.1% and 26.5% vs. 9.4% and 15.9% respectively). Furthermore, Govoni et al. reported the levels of problem and at-risk gamblers was lower for those adolescents who reported their parents did not gamble than those who reported their parents gambled (7.8% problem gambling and 12.2% at-risk gambling vs. 11.8% problem gambling and 18.5% at-risk gambling).

The Appeal of Lottery Products

Researchers have suggested that gambling experiences among children tend to occur when a) opportunities to wager even small amounts of money are readily accessible; b) where the social climate of the home and the local environment is conducive and accepting of such behaviour, and c) where the rules of the gambling activities are easy to master (Jacobs, 2000; Walker, 1992). Studies by Browne and Brown (1994) and Coups, Haddock, and Webley (1996) found that friends' and parents' lottery play were significant predictors of students' lottery participation, suggesting a strong social component.

The Role of Advertising on Lottery Ticket Participation

Lotteries and other gambling products have become a familiar part of television, print and radio advertising (Browne & Brown, 1994). The Independent Television Commission (1995), in the United Kingdom, reported that the UK National Lottery weekly, live television program, was the second most popular program for 10-15 year olds, with 38% of youth viewing this program on a regular basis. Youth may not understand the inherent risks, or the low probability of winning; therefore they may be more susceptible to media and governmental promotion of these activities (Stinchfield & Winters, 1998). Within the U.S., due to constitutional statutes, lottery corporations are actually exempt from the federal truth-in-advertising laws. Gambling in general, and lotteries in particular, are heavily advertised and promoted. Since youth often view themselves as invulnerable, the perceived risks associated with gambling are usually perceived as negligible. As a result, excessive play and gambling-related problems may go undetected compared to other forms of addition, such as alcohol or illegal drug use (Arcuri, Lester, & Smith, 1985; Gupta & Derevensky, 1998a; 2000; Lesieur & Klein, 1987).

The advertising of lottery products has become considerably more aggressive (Jacobs, 2000; Kaplan, 1989; Walker, 1992; Wood & Griffiths, 1998). In North America and the UK advertising slogans have been designed to encourage individuals to believe they have a good chance of winning (Felsher, Gupta & Derevensky, 2001; Griffiths & Wood, 1999). Advertising slogans such as *"it could be you,"* and *"everyone's a winner,"* have been designed to promote a belief that the chances of winning are good.

Familiarity of Lottery Products

Lottery corporations are aware of the importance of product familiarity in advertising. For example, research on the psychology of familiarity indicates that the titles of slot machines are important in terms of gambling behaviour (Parke & Griffiths, 2001). This psychological phenomenon may be adapted to apply to instant scratch tickets. Lottery tickets with titles such as *Bingo*, *Crossword*, *Monopoly*, *Betty Boop*, and *Battleship* offer the potential player a source of familiarity (Griffiths & Dunbar, 1997; Parke & Griffiths, 2001). Celebrity endorsements, the use of licensed products, and familiarity with television shows or board games have been successfully used as lottery marketing tools (Parke & Griffiths, 2001). Griffiths (1993) further suggests that the media may induce a "psycho-structural interaction," leading players to find the game more pleasurable because they can interact with identifiable images.

Advertising and the Lottery

Provinces and states promote lotteries as enjoyable and exciting forms of entertainment. The Ontario Lottery and Gaming Commission's (OLGC) advertising budget has significantly increased over the past few years and its total promotional budget is approximately 1-2% of sales (Lottery Insights, 2001a). The OLGC has spent approximately $25 million on advertising during the past year (Television-$12 million; Radio-$5 million; Print-$4.5 million; Outdoor Signage-$2.5 million; Miscellaneous-$1 million). These figures exclude free public service announcements. According to the OLGC, television is the best medium to maintain or establish a brand image and provides the broadest reach to advertise jackpots that ultimately result in increased sales (Lottery Insights, 2001a). The OLGC's 2001 campaign uses the tagline, "e*very day, millions win*" to highlight the fact that earnings are returned to its residents. However it could also be misconstrued and interpreted to mean that there are millions of winners each day.

The OLGC's advertising campaign does not use one major theme when advertising lottery products. Each of the brands has its own specific themes which has helped to establish solid brand images. For example; Lotto 6/49 – is positioned as *"sharing and caring;"* Super 7 – *"cold, hard cash"* with big jackpots that are geared to the confident and youthful; Ontario Instant Millions - is the only instant game that can *"change your life by making you an instant millionaire"* and is geared toward the younger adult male; Cash for Life – is the lottery that will provide individuals with security; Sports lotteries (Pro-Line, Pro-Picks, & Point Spread) – appeal to the sports enthusiast; Instant Bingo – is considered the *"my treat, my time*" lottery with the tagline, *"happiness is yelling bingo;"* and Gifting – are products promoted for the holiday seasons (Lottery Insights, 2001a). Clotfelter and Cook (1989) in an analysis of lottery advertisements concluded that they promote materialistic values and are highly misleading concerning the odds and probabilities of winning. Lottery products have been noted as *selling the dream* (Felsher et al., 2001).

Specific structural characteristics of lottery products significantly contribute to their appeal. Yet, to date, no empirical, non-industry based research has been conducted looking at the specific attributes (e.g., colour, size, prize structure, type of game/prize, and theme tickets) that make lottery products so appealing to youth. It may well be that it is one or more of these structural characteristics that add to its appeal.

Colour

The North American Association of State and Provincial Lotteries (NASPL) reported that colourful and vibrant tickets are vital to the lottery's ongoing success such that strategically designed and printed tickets are more important than ever before (Lottery Insights, 2001b). Today's tickets are being designed and printed with increased graphic images, enhanced quality, and with more vibrant colours. Lotteries will continue to receive superior enhanced image quality with shadows that are darker, denser, and optically brighter highlights. The results of these improvements will make the ticket "even more irresistible than ever to the potential customer" (Lottery Insights, 2001b).

Interactive Tickets

Not only have the quality of tickets changed over the last few years, marketing strategists have developed alternative ticket formats. One new type of ticket that is likely to appeal to youth is the pop-up interactive ticket that can be played by more than one player (Lottery Insights, 2001b). Consumers will be able to play *head-to-head* and the prize structure is designed so that both players can win on a single ticket. It is anticipated that this new, two player format will be more enjoyable, offer more flexibility than conventional tickets, will hold greater appeal to consumers, and would be ideal for social venues (e.g., gambling in restaurants and bars) (Lottery Insights, 2001b). The interactive nature of lottery products such as *Treasure Tower,* developed by Loto-Quebec) has raised many concerns. The erroneous perception that individuals have the ability to control the outcome of these games and their use of video game technology, imagery and animation, may be very appealing to youth.

Psychology of Lottery Gambling

Gambling activities such as weekly lottery draws and sports pools may be conceptualized as *soft* forms of gambling resulting from their slow event frequency in contrast to *more hard* forms of gambling with more potential risks usually resulting from the high stakes or rapidity associated with them. VLTs, roulette, blackjack, horse/greyhound betting and scratchcards are deemed potentially hard forms of gambling since there is a rapid event frequency, a fast payout rate, are deceptively inexpensive, require little or no skill, are highly accessible, and have short payout intervals (Griffiths & Wood, 1998). These properties make them potentially highly additive forms of gambling. According to Wood and Griffiths (1998), since fruit machine gambling (slots machines) results in major problems for many youth in the UK, and scratchcards have similar structural characteristics (e.g., rapid event frequency, near miss) that may be equally problematic as well. Participation of youth in these forms of gambling remains a concern.

Gupta and Derevensky (2000) found that the activities that are the most problematic for many youth include sports betting (e.g., sports select), casino playing (for youth gaining access to casinos), and VLTs. They also found that lottery tickets relating to sporting events are highly problematic. Youth reported that betting on the outcome of a sporting event or watching the reels of the VLT makes their adrenaline flow, their heart rate increase, and the excitement intensify (Gupta & Derevensky, 2000). These youth reported the same physiological response regardless

of whether they win or lose. Gupta and Derevensky (2000) suggest that introduction to the exhilaration and excitement of gambling through scratchcards may be a gateway to other forms of gambling activities.

Reinforcement Contingencies

Lottery tickets and scratchcards have been referred to as "paper slot" machines (Griffiths, 1995b). As such, there is a minimal interval between the initial scratching and the observation of success or failure. The losing period may be brief, as individuals can immediately scratch another ticket with little time for financial considerations (Griffiths & Wood, 1998). The amount gambled by the individual is constrained only by the speed at which an individual can scratch off the winning or losing symbols and financial resources.

To produce high rates of gambling, those schedules that present rewards intermittently have been shown to be the most effective (Skinner, 1953). By paying out rewards occasionally, the gambler is more likely to continue to play, since they may believe that the next ticket could be the winning ticket. Subsequently, when they win, they frequently believe it has something to do with their ability to control events or control outcomes (e.g., selecting the “best” ticket) independent of previous experiences (Derevensky, Gupta, & Della Cioppa, 1996). Gambling may result in compulsive behaviour mainly because the systems of gambling employ variable-ratio schedules (Gupta & Derevensky, 1996). It is important to note that rewards may not only be in the form of money, it could be peer recognition, illusion of skill and control, or autonomic arousal (Fisher, 1992; Gupta & Derevensky, 1996). Children, adolescents, and even adults can easily get caught up and become over-involved in the excitement and risks involved in gambling activities such that their realistic cognition's are replaced with false ones governed by intermittent schedules of reinforcement (Derevensky et al., 1996).

Near – Miss Phenomena

Another related aspect of operant conditioning is the "near miss," which has been hypothesized to act as an intermediate reinforcement (Reid, 1986; Griffiths, 1991; 1999; Wood & Griffiths, 1998). Near misses are failures that appear to approximate being successful (e.g., uncovering two similar symbols on a scratchcard with the third symbol being different). A scratch card (or slot machine) reinforces players when certain arrangements of three symbols appear in the window. Apparently, almost hitting the jackpot can increase the probability that the individual will purchase additional lottery tickets (Reid, 1986). Cognitively, the near miss may produce some of the excitement of a win, where the player is not continuously losing, but always close to winning (Parke & Griffiths, 2001). Moreover, the near miss may cause frustration produced by nearly winning, thereby evoking a form of *cognitive regret* (Parke & Griffiths, 2001; Kahneman & Tversky, 1982). This cognitive regret could be eliminated by playing again, strengthens ongoing gambling behaviour, and promotes future play (Parke & Griffiths, 2001). The commercial gambling industry ensures that scratchcards and video lottery terminals are formulated to have a higher than chance frequency of near misses (Griffiths, 1991, 1999; Wood & Griffiths, 1998, 2001).

Cognitive Distortions

A further notable mechanism that maintains gambling behaviour according to Griffiths and Wood (1999) are flexible attributions. Flexible attributions are cognitive distortions in which gamblers attribute their success to their own skill and failures to some external influence (Tversky & Kahneman, 1973). Gilovich's (1983) study demonstrated that sports betters spend less time discussing their wins, recall their losses more than their wins, thus transforming their losses into near wins. This provides evidence for the claim that the biased evaluation of outcome may be the basis for persistence at some forms of gambling despite persistent losses. Wins are taken as evidence of skill whereas with losses, chance factors are emphasized. This biased evaluation of outcomes will allow the losing gambler to continue to believe in his or her ability to beat the system despite repeated monetary losses (Walker, 1992). This may lead to a form of entrapment, a commitment to a not yet reached goal. Resources expended, even without reward, motivate a person to continue gambling until the goal is ultimately reached or no financial resources are left (Walker, 1992). For example, individuals have a tendency to select the same numbers each week on lottery draws (e.g., 6/49), as they perceive they are coming closer to winning. Lottery players remain committed to continue playing, since their perceptions remain that their numbers have a greater probability of being selected in the near future (Griffiths & Wood, 1999). The prospect of stopping and thereby missing the big prize is potentially too demoralizing for many players who persist with playing their numbers week after week. This entrapment becomes greater as the weeks pass (Walker, 1992).

Illusion of Control

It has been well established that avid gamblers experience numerous cognitive distortions (Griffiths & Wood, 1999; Ladouceur & Walker, 1996; Langer, 1975). According to cognitive theory, the cognitions of gamblers involve invalid beliefs such as, gambling involves skill or special knowledge, the individual can influence the outcome of the events, good luck is a personal characteristic, and the results of wins validate these beliefs (Walker, 1992). Irrational thinking consists of those beliefs that result in the overestimation of the chance of winning, independently of any action taken by the gambler, and the associated reasoning that lead the gambler to conclude that he or she has more control over the outcome than is in fact the case (Walker, 1992). Pathological gamblers hold a false belief that in spite of repeated losses, these losses will be recovered. Youth with gambling problems have been shown to underestimate the amount of money they lost, overestimate the amount won, fail to utilize their understanding of the laws of independence of events, and believe that if they persist at gambling they will recoup their losses (chasing behaviour) (Gupta & Derevensky, 2000).

Pathological gamblers maintain their conviction that they can control the outcome of gambling events, which are in fact random (illusion of control) (Langer, 1975). The assumption of pathological gamblers is that on some chance event (for example, purchasing a lottery ticket), conditions that involve familiarity, choice, and involvement, stimulate an illusion of control thereby producing a *perceived* skill orientation. Successful outcomes are attributed to factors internal to the person such as skill and effort, whereas failures are attributed to factors beyond personal control such as bad luck (Gilovich, 1983; Gilovich & Douglas, 1986; Walker, 1992).

A study of children's cognitive heuristics used in selecting 6/49 lottery tickets by Herman, Gupta, and Derevensky (1998) found that children's use of specific strategies reflect a belief that selection of the winning lottery ticket is governed to some degree by predictable rules as opposed to a chance event. Older children (14 year olds) in this study reported that greater levels of skill increased their chance of success. Moreover, knowledge of rules of the game enables older children and adults to believe they can exert control over the predictability of the outcome of totally random events (Herman et al., 1998).

According to Walker (1992), the persistent gambler suffers from the erroneous belief that he or she is better equipped to win, and that the rewards associated with gambling will eventually come with persistence. Gamblers engage in irrational thinking and cognitive distortions that it is their own behaviour, not the result of luck that determines if they win or not (Wagenaar, 1988). It could be this sort of irrational thought processes that explains why, even in the face of odds that are against them, lottery players persist on playing the lottery. As Wagenaar (1988) points out, it is not skill that will change the final drawing of the winning numbers, but rather luck that will help the player pick the right numbers or ticket in the first place.

Structural Characteristics of Lottery Products

Although media advertising surely promotes gambling participation, there are many other factors that may psychologically draw an individual towards gambling activities. Until recently, lotteries were not thought to be a particularly attractive to compulsive gamblers since it is perceived that lotteries lack many of the elements which make gambling appealing (e.g., low odds, an apparent lack of excitement, and perceived lack of skill involved) (Kaplan, 1989). Selecting a lottery number to reveal matching symbols may not be perceived as an intrinsically stimulating experience and the odds against winning a jackpot are astronomical. As a result, most pathological gamblers may focus their energies on activities that offer a higher probability of success (e.g., sports lottery) (Kaplan, 1989) (It is interesting to note that Nevada has no state lottery).

Lottery products have changed from a static format to a more engaging variety (Griffiths, 1990, 1995a; Kaplan, 1989; Wood & Griffiths, 1998). The emergence of daily number games, and instant scratchcard tickets that immediately reveal outcomes may be more appealing in comparison to traditional lottery draws (e.g., 6/49), where players purchase a ticket and must wait to match their ticket with winning numbers drawn at a later date (Kaplan, 1989).

New technologies in the instant ticket industry have impacted the variety and sophistication of current products. It is recognized that many lottery ticket and scratchcard purchases are bought impulsively (Lottery Insights, 2001b). These tickets are openly displayed on store and newsstand check-out counters and many encourage impulse buying.

Recent developments in the nature of lottery games and prize structures are causing concern among clinicians. It is these structural characteristics that may encourage or entice youth to initially participate and to continue involvement in lottery activities. Once youth learn about the exciting properties of gambling by exposure to lottery products, they may progress to more serious gambling venues (e.g., slot machines, casino playing). Lottery corporations spend

thousands of dollars in market research to understand what people like (e.g., colour of a ticket, specific themes, prize structures, cost), in order to make lottery products appealing, therefore, more marketable. This is the first psychological study to empirically and systematically identify those structural properties that make the lottery appealing to underage youth.

PHASE I: FOCUS GROUP TESTING

The primary purpose for conducting the focus groups was to ascertain information concerning lottery playing and lottery purchasing behaviours, the importance of advertisements, the perceived attractiveness of lottery tickets (structural characteristics), and other pertinent information in order to construct a questionnaire for use with the community sample.

Participants

Five focus groups consisting of 47 adolescents (13 grade 6; 20 grade 8; 8 grade 10/11; 6 grade 12) (age 12-19), approximately equal in the number of males and females from two elementary schools and one high school participated.

Procedure

Focus groups were held in small classrooms and discussions lasted approximately one hour. Similar discussions were held in each group focusing upon issues concerning gambling behaviour in general and lottery participation in particular. The participants were informed that all of their responses would remain anonymous and confidential, and that their participation was voluntary.

Group discussions addressed the following issues of age of onset, rate of lottery playing behaviour, accessibility to lottery products, money spent on lottery product, parental knowledge and attitudes, reasons for playing the lottery, youth knowledge of gambling laws and restrictions, the role of advertising/media, near miss, structural characteristics of tickets, the attractiveness of lottery draws, scratchcards and sports betting, and their perception of the role of skill and luck. In addition to information obtained regarding general lottery use, students were presented with a variety of lottery tickets (i.e., draws, scratchcards, Pro-Line) and asked about their preferences and the importance of structural attributes of tickets. Discussion evolved around the price of tickets, the importance of the ticket name (familiarity factor), colour, prizes/money, type of game, probability of winning, and physical size of the ticket.

All discussions were either audio taped and transcribed for later use or extensive notes were taken by one of the research assistants.

Results

Accessibility

The majority of students reported having played some type of lottery product, with initial onset of playing (e.g., scratching the ticket, helping pick numbers) being between 4-8 years of age. Additionally, the majority of adolescents had reported that they had purchased lottery products themselves at convenience stores beginning at age 10. All students indicated that they had received lottery products from parents, relatives and siblings; they reported receiving tickets as gifts for birthdays and holidays, and had received as many as 7 tickets at any given time. Younger students (grade 6) reported receiving scratchcards occasionally. Moreover, adolescents

reported that when they had difficulty purchasing tickets for themselves, parents readily purchased the products for them. They revealed that their parents are "ok" with them purchasing tickets illegally. All of the students were aware of the legal age restrictions for purchasing lottery products. Some younger students recommended that there should be no age restrictions for purchasing a ticket. Interestingly, older students, age 16-17, believed that the minimum age to purchase lottery tickets should be 16. Despite the fact that many youth reported that lottery products are harmless, some indicated that it was more appropriate to wait until they were older before playing and/or purchasing lottery tickets.

A number of students reported attempting to purchase tickets at a convenience store and had been refused. However, other students remarked that their local store "will sell tickets to anyone." Grade 10 students indicated that it is the much more difficult to purchase alcohol and cigarettes in comparison to lottery tickets. These students stated that there should be no consequences to clerks who sell lottery products to minors. However, the same students recommended that store licenses be removed when alcohol is sold to underage youth. Older students (e.g., age 16-17) indicated that they would like to go to the casino but were afraid of getting caught.

Advertising

All students readily recited popular lottery commercials/slogans and revealed that the "catchy tunes" go through their head when they see the ticket. Nonetheless, they report that they are *immune* to advertisements; they "filter advertisements out," and television, radio, and print advertisements do not influence their behaviour. Paradoxically, students reported that advertisements and commercials had a general effect on them to the extent that they were enticed to purchase a lottery ticket, but not necessarily the one that was publicized.

Title/Familiarity

All students mentioned that the title of the lottery ticket and their familiarity influences their ticket selection (e.g., they know how to play *Bingo*, *Monopoly*, and *Battleship*). Some students reported favouring tickets with names of familiar board games (e.g., *Monopoly*) and they would select this ticket over a one that had a better probability of winning. However, others indicated they would chose a ticket that had a better probability of winning if it looked like "fun," independent of their familiarity with the ticket name. Despite, the importance of the name and familiarity with the product, older students mentioned that novelty is important and they would like to try new tickets at least once.

Skill and Pseudo-Skill

Several younger students (ages 11/12) perceived that they had a greater chance at winning a prize playing Lotto 6/49 because they have the opportunity to select their own numbers. All students ages 14/15 (20/20) reported that they would choose their own 6/49 numbers, although they do not believe that choosing their own numbers increases their chances of winning. Students age 16/17 indicated having strategies for selecting lottery tickets (they would pick their own 6/49 numbers and maintain the same numbers weekly). These students indicated that they would not

sell a lottery ticket that they had picked themselves and if they did sell it they would use the money to purchase another ticket. If students lost, most would keep the same numbers, as they perceived it increased their chances of winning in the future.

Type of Game

Most students (e.g., grades 6–12) preferred *Bingo* to the other lottery products, indicating that *Bingo* is a popular scratchcard because "everyone knows how to play the game." They remarked that they enjoyed *Bingo* because it is fun, there are more chances to win, more places to scratch, and that they generally like the game itself. Despite, the possibility of greater chances of winning on other tickets, all students selected *Bingo* as their preferred scratchcard because it had more items to scratch (toy manufacturers refer to this as 'play value') and takes more time to play. Additionally, participants (primarily boys) also selected *Battleship* as an enjoyable scratchcard. Several adolescents stated they would try tickets named after a popular board game (e.g., *Monopoly*). Generally, students indicated that the most essential quality of a lottery ticket is that is it "fun," it provides entertainment, and facilitates their opportunity to "dream" (e.g., escape).

Size of the Ticket

Students indicated that, "the bigger the ticket the better." They seemed to prefer larger tickets as these tickets, in general, have more games and longer 'play value.' Students stated that the smaller tickets (e.g., $1 tickets) are not as much fun as the larger tickets (e.g., $3 tickets) because there is "not enough stuff to do on them." Since they report that their chances of winning are prizes and/or money is minimal, their priority in selecting a ticket is predicated upon one that has multiple games and requires more play time.

Cost of the Ticket

Most students preferred the tickets that have a longer playtime independent of cost. They reported having a preference for one, $3 ticket rather than three $1 tickets since there are more games on the $3 ticket. adolescents stated that they would still purchase a ticket with their favourite game (e.g., *Bingo*) even if the price increased to $4 or $5. Some older youth (age 16) mentioned that they would be willing to spend $5 on a lottery ticket if significantly more activities were included. Younger children, age 11/12, preferred $1 tickets because they are inexpensive. In addition, many 14-year-olds expressed a belief that there is a greater chance winning on an inexpensive ticket as the prizes are smaller.

Size of the Prize and the Probability of Winning

Very few grade 6 students (2/13) preferred lottery draws (e.g., lotto 6/49) over scratchcards, reporting that selecting their own numbers significantly increases their chances of winning. In contrast, the other students believe they have a better chance of winning on scratchcards, even thought the prize may be smaller. More than half the adolescents indicated knowing someone who has won a considerable amount of money playing lottery products (e.g., $500-$700), and 18 students reported having won prizes ranging from $1 to $250. Younger students did not consider the value of the prize before selecting a ticket, rather, purchasing tickets based upon familiarity.

Many 15-16 year-olds place great importance on the size of the possible jackpot, with 18 out of 20 students indicating that they would purchase a ticket that they believe had a greater probability of winning. More adolescents reported preferring money as the prize, but indicated that the amount of money won is unimportant as long as they win something. Students over 18 years of age indicated that the prize of the ticket, along with the type of game is an important reason for choosing a ticket.

Colour

Younger children (11/12) preferred certain lottery tickets (e.g., Lucky O'Instant) because of the pictures and colour. Grade 8 students indicated that seeing colourful and shiny tickets on the counter encourages them to ask their parents to purchase a ticket. They remarked that these characteristics (e.g., shine, colour, and pictures) on lottery tickets (e.g., scratchcards) prompt their choice. Older students (15-18) indicated that they purchase the first ticket that "grabs their attention," the more colours on the ticket the more appealing it is; the graphics depicted are more important than the title of the ticket.

Near Miss

Most students indicated that near misses "stress them out," and does not entice them. Nine of the 13 grade 8 students reported they would not ask for another ticket due to this factor. Several of the older students stated that near misses on scratchcards encouraged them to play more and motivated them to purchase another ticket.

PHASE II: QUESTIONNAIRE DEVELOPMENT AND RELIABILITY

Procedure

Based upon the focus group testing and information gathered from past research a questionnaire was developed to ascertain information regarding adolescent gambling and lottery playing behaviour, as well as lottery ticket preferences. This questionnaire was pilot tested at a local school to ensure its readability, to identify problem areas, and to determine the time necessary to complete all the measures. Students required approximately 40-60 minutes to complete the questionnaire. Difficulties and/or ambiguities with specific items on the questionnaire were addressed and modified.

Reliability estimates using 80 participants (20 students from each grades 6, 8, 10, & 12) were performed using a test-retest method within one-week between testing sessions. Items deemed most important were selected and concordance rates and reliability alpha's were calculated to determine the agreement between sessions 1 and 2.

Results

Overall, a fairly high concordance rate was found for most items, ranging from 38.4% to 97.3%, with a mean concordance rate of 81.2% (Table 1). Items with lower concordance rates related to the structural characteristics of lottery tickets. For example, the concordance rate for *the one most important structural characteristic* in choosing a ticket was relatively low (38.4%). This may be due to the fact that participants may perceive many factors to be equally important and were not committed to any particular factor. The ease of purchasing tickets, 56.2% was found to have a moderate alpha of .5387. It is possible that during the interim between testing sessions some students had different experiences in purchasing tickets.

Participants were presented with scanned lottery ticket pairs and were required to rate each ticket and to select their preferred one ticket from the pair (forced choice) (see Table 2). Moderate concordance rates were found for ticket selection for pairs 3, 5, 9, 11, 12, 13, and 16. The best explanation for variations is that youth changed their mind as to the ticket they prefer depending on the structural characteristic deemed most important at that time or they were not committed to any one particular ticket. For example, *Lucky Dice* is more colourful, less expensive, and has a smaller prize than *Instant Millions.* Perhaps the change in the choice of ticket from Time I to Time II was based on the price of the ticket, whereas participants may not have been initially concerned about the price, but rather the larger prize was more appealing. The relatively low concordance rate for pair 9, (*Mouse Maze* vs. *Bingo*) may be due to the widespread appeal for both tickets by youth. Both tickets cost the same amount to purchase, have the same prize value, however, *Bingo* is more familiar to youth than *Mouse Maze*, whereas, *Mouse Maze* is "cuter." It may well be that identifying the structural characteristics of tickets by matching pairs may be somewhat limiting and further groupings are necessary. To further support the above assertions, pair 2 (*Bingo* and *Golden Ticket*) and pair 15 (*Grand Slam* and *Pro-Line*) both have the highest

concordance rate. The high concordance rate for pair 2 is likely due to the fact that *Bingo* is a very popular ticket and the cost of *Golden Ticket* is $10, therefore, participants consistently chose *Bingo*. A similar line of reasoning follows for *Grand Slam* vs. *Pro-Line*. While both are sports tickets, one represents a scratchcard and the other requires a perceived skill in selecting winning teams. Participants clearly had their preferences with most selecting *Grand Slam* given it's greater simplicity.

Table 1: Concordance Rates and Correlations for Selected Items

	Concordance Rate	**Reliability Alpha**
Q. 1 Plays Lottery Draws	89.0 %	.8653
Q.1 Plays Scratchcards	83.6 %	.9396
Q.1 Plays Sports Tickets	94.5 %	.6563
Q. 4 Last played lottery	84.9 %	.5714
Q. 5 Parents aware of lottery participation	93.2 %	.6522
Q. 6 Afraid of getting caught buying lottery products	97.3 %	1.000
Q. 14 Scratch ticket immediately	83.6 %	.0747
Q. 15 Return to purchase more tickets if won money	82.2 %	.8378
Q. 16 Return to purchase more tickets if lost money	78.1 %	.7348
Q. 17 Computer choose lottery numbers	89.0 %	.6299
Q. 20 Parent purchases lottery draws	82.2 %	.5010
Q. 20 Parent purchases scratch tickets	89.0 %	.9213
Q. 20 Parent purchases sports tickets	87.7 %	-.2376
Q. 22 Bought ticket for a friend	94.5 %	.9275
Q. 28 Would you buy a ticket that you do not know how to play	80.8 %	.7644
Q.29 What would you choose prize or money	80.8 %	.6316
Q. 30 Do larger tickets have more games	71.2 %	.2201
Q. 32 Is there a legal age to purchase tickets	83.6 %	.6854
Q. 36 More likely to buy ticket because had seen advertisement	75.3 %	.6575
Q. 37 Prefer larger or smaller tickets	68.5 %	.6489
Q. 41 Ease of buying tickets illegally	56.2 %	.5387
Q. 42 Single most important structural quality	38.4 %	.5052
Q. 43 Larger jackpot or longer playtime	83.6 %	.6854

Table 2: Concordance Rates and Correlations for Preferred Lottery Ticket

Pairs	Concordance Rate	Reliability Alpha
L*ucky O'Instant* & *Cash of the Day* (pair 1)	68.5 %	.5477
Bingo & *Golden Ticket* (pair 2)	75.3 %	.5896
Lucky Dice & I*nstant* M*illions* (pair 3)	57.5 %	.3588
Battleship & *Bingo* (pair 4)	68.5 %	.6085
R*ed Hot Cash* & *Instant Millions* (pair 5)	54.8 %	.3393
Cash for Life & *Millennium* (pair 6)	68.5 %	.6221
Mouse Maze & *Viva Las Vegas* (pair 7)	67.1 %	.5922
Jokers Wild & *Mini Monopoly* (pair 8)	67.1 %	.5717
Mouse Maze & *Bingo* (pair 9)	65.8 %	.5273
Lucky O'Instant & *Grand Slam* (pair 10)	68.5 %	.6477
Bingo Express & *Football Fever* (pair 11)	65.8 %	.5374
Holiday Greetings & *Doubling Red 7s* (pair 12)	57.5 %	.5000
Crossword & *Viva Las Vegas* (pair 13)	52.1 %	.3459
Lotto 6/49 & *Monopolym*(pair 14)	68.5 %	.7018
Grand Slam & *Pro-Line* (pair 15)	74.0 %	.7335
Red Hot Cash & *Bingo Express* (pair 16)	65.8 %	.5459

PHASE III: COMMUNITY SAMPLE

Participants

Participants included 1,072 adolescents (521males, 551 females) from grade 6 through to grade12 (age range10-19 years-old, mean age of 14). Approval was requested and obtained from seven school boards, with 9 high schools and 20 elementary schools agreeing to participate. These school boards were selected based upon their willingness to participate and represent a variety of regions from Ontario (see Appendix A). When school board approval was granted, individual schools were approached with a detailed proposal of the study. Schools were located in both rural and urban areas, and participants came from a variety of socio-economic and cultural backgrounds. The distribution of the sample with respect to grade and gender is provided in Table 3.

Table 3: Sample Distribution by Gender and Grade Level

Gender	**Sample Distribution**
Male (N = 521)	48.6 %
Female (N = 551)	51.4 %
Grade Levels	
Grade 6/7 (N = 224) (M age = 11.29)	20.9 %
Grade 8/9 (N = 338) (M age = 13.14)	31.5 %
Grade 10/11 (N = 307) (M age = 15.20)	28.6 %
Grade 12 (N = 203) (M age = 17.15)	18.9 %

Instruments

Gambling Activities Questionnaire (GAQ) (Gupta & Derevensky, 1996). The GAQ is designed to assess four general domains related to gambling behaviours: *Descriptive information* including prevalence, types of activities, frequency of gambling, amount wagered, social factors; *cognitive perceptions* of the amount of skill and luck involved in various gambling and non-gambling activities (using a 7 point Likert scale); *familial gambling* such as parental gambling behaviour; and *comorbidity* with other addictive and delinquent behaviours. Questions within each section domain are discrete, analyzed individually, and no cumulative scores are calculated. For this study a modified version of the GAQ was used and only the descriptive information is reported. The questions were incorporated into the primary instrument which can be found in Appendix B.

DSM-IV-MR-J Revised (Fisher, 2000). This 12-item, 9 category instrument is a screen for pathological gambling during adolescence. It was modeled after the DSM-IV (APA, 1994) criteria for diagnosis of adult pathological gambling, and an earlier version, the DSM-IV-J (Fisher, 1992) has been used by several researchers and has been found to be the most conservative adolescent measure of pathological gambling (Derevensky & Gupta, 1996, 2000; Gupta & Derevensky, 1998a, 1998b; Marget et al., 1999; Powell et al., 1999; Volberg, 1998). The revised DSM-IV-J, the DSM-IV-MR-J (MR=multiple response, J=juvenile), was developed for use with adolescents that have gambled during the past year. To compensate for the lack of

opportunity for probing, most of the questions in the revised instrument have been given four response options; “never,” “once or twice,” “sometimes,” or “often.” Each item endorsed is given a score of 1, with a total score of 4/9 or greater being indicative of severe gambling problems. The DSM-MR-IV-J assesses a number of important variables related to pathological gambling; progression and preoccupation, tolerance, withdrawal and loss of control, escape, chasing, lies and deception, illegal activities and family/school disruption.

Principle factor components analyses revealed that the scale is represented primarily by one general factor accounting for 33.3% of the variance. A second principle component factor explains a further 11% of the variance. The first factor shows positive correlations with the psychological states known to be associated with problem gambling and appears to be measuring the negative psychological dimensions including preoccupation, tolerance, loss of control, escape and chasing loses. The second factor is correlated with withdrawal symptoms experienced when trying to cut down on gambling and the antisocial/illegal behaviours associated with juvenile problem gambling including telling lies about the extent of gambling involvement, committing antisocial or illegal acts because of gambling (using school dinner money and stealing), arguing with family or friends because of gambling, and truancy from school to gamble. Factor 2 draws attention to the negative social consequences of juvenile problem gambling. Internal consistency reliability for this scale is acceptable, with Cronbach’s alpha being = 0.75 (although slightly lower than .78 for the original DSM-IV-J screen).

Measuring Adolescent Gambling Behaviour and Structural Characteristics. Focus group testing (Phase 1) was conducted to determine playing behaviour, salient characteristics of lottery products, and differential patterns of playing behaviour based upon age and gender. Using this information, a 140-item instrument was developed specifically for this study identifying important playing behaviour, patterns, amount of money spent on lottery products, with whom products are purchased, advertising, perceived skill and luck in gambling activities, perception of different gambling activities, and desirability of lottery products based upon their structural characteristics. This questionnaire differentiated between machine lottery draws, scratchcards, and sports tickets to determine if developmental and gender differences exist depending on the different types of widely used lottery products. More specifically, the questionnaire ascertained *age and rate of lottery playing behaviour* (10 questions), *money spent on lottery products* (9 questions), *impulse purchases and ease of purchasing lottery products* (6 questions), *parental knowledge and attitudes* (10 questions), *reasons for lottery play* (2 questions), *lottery ticket playing behaviour* (3 questions), *knowledge of gambling laws* (4 questions), *advertising* (5 questions), *perceptions of skill and luck* (7 questions), *youth perceptions regarding gambling activities and structural characteristics* (20 questions), and *structural characteristics based upon lottery pairs* (64 questions presented in 16 different tickets pairs with each ticket pair having 4 separate questions). This booklet contained a variety of lottery tickets obtained across North America were selected on the basis of their structural characteristics (e.g., cost, title, type of game, number of activities, type or amount of prize, colour and pictures). The selected tickets from various states and provinces were scanned in colour and reproduced to appear as realistic as possible. Students were asked to rate each ticket in the pair (7-point Likert scale) on its appeal and were forced to select only one ticket from the pair according to their preference. Students were then asked to indicate the single most important reason they selected one ticket over the

other based on predetermined structural characteristics. The questionnaire and accompanying booklet can be found in Appendix B.

Procedure

Consent forms and a letter describing the purpose of the study were distributed to parents via the participating schools after school board approval. Informed consent was obtained from the parents of all children prior to their participation in the study. Students who did not wish to participate, or those whose parents did not authorise their child's participation, did not complete the questionnaires. The measures were group administered to participants in classrooms and/or school cafeteria by several, trained research assistants. Groups ranged from 10-250 students depending on where the test administration took place (e.g., a classroom vs. school cafeteria). The number of research assistants during administration varied according to the group size (ranging from 1-4). Participants completed the questionnaire individually and were instructed that gambling is defined as an activity that involves an element of risk where money could be won or lost. All students were informed that all responses were anonymous and confidential and that their participation was voluntary. Research assistants were present at all times to answer any questions. Participants required approximately 45 minutes to complete the instrument.

RESULTS: GENDER & DEVELOPMENTAL DIFFERENCES

Gambling Behaviour

Prevalence

Of the total adolescent sample, 73.1% of adolescents reported having gambled during the past 12 months with 21.2% having gambled at least once per week. Of those participants who reported gambling once a week or more, significantly more males (31.0%) reported playing than females (11.7%). Based upon gambling behaviour and the DSM-IV-MR-J criteria, 2.8% of youth met the criteria for probable pathological gambling (scores of $\geq$ 4), 6.8% of the sample was at-risk for pathological gambling (scores of 2-3), and 65.2% were considered to be social gamblers (scores of 0-1). Males were found to gamble more frequently than females and experienced more gambling-related problems. A greater number of males were identified as probable pathological gamblers (4.7%) and at-risk for pathological gambling (10.7%) than females (1.0% and 3.7% respectively) (this information is presented in greater detail in the next section where gambling severity differences are discussed). Frequent gambling behaviour (once a week or more) was found to be relatively consistent across grade levels.

Table 4: Gambling Participation Rates

Gender	Never	Less than once a week	Once a week or more
Male	22.4 %	46.6 %	31.0 %
Female	31.3 %	57.1 %	11.7 %
Grade Level			
Grade 6/7	33.0 %	45.5 %	21.6 %
Grade 8/9	27.6 %	52.2 %	20.2 %
Grade 10/11	22.9 %	55.8 %	21.3 %
Grade 12	25.1 %	52.8 %	22.1 %
Gambling Severity			
Non-Gambler	100 %	0 %	0 %
Social Gambler	0 %	77.4 %	22.6 %
At-Risk Gambler	0 %	35.3 %	64.7 %
Probable Pathological Gambler	0 %	7.1 %	92.9 %
Total	26.9 %	51. 9%	21. 2 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$ 4

Participation in Gambling Activities During the Past 12 Months

Rates of participation in a variety of gambling activities during the past 12 months are found in Table 5. Of those adolescents that reported gambling *for money* (combining regular and occasional playing), 44.4% reported playing cards, 40.3% purchased scratchcards/lotto tickets, 30.7% played bingo, 27.7% wagered on games of skill, 24.3% wagered on sports, 14.8% played videos or video poker, 13.0% purchased sports lottery tickets, and 10.2% reported playing slots. If one adds the purchasing of lottery draws and scratchcards with sports lottery tickets, although not mutually exclusive, adolescent participation in the lottery appears to be the most popular form of gambling activity.

Significant differences in gambling activities and rates of participation were found between males and females for all activities; card playing (51.8% vs. 37.4%) ($?^2$ (466)=16.73, p<.001), wagering on sporting events (36.4% vs. 12.8%) ($?^2$ (256)=8.26, p<.004), purchasing sports lottery tickets (22.4% vs. 4.1%) ($?^2$ (137)=7.03, p<.008), purchasing draws/scratchcards (42.9% vs. 37.7%) ($?^2$ (425)=8.62, p<.003), video games/poker (22.2% vs. 8.0%) ($?^2$ (156)=9.69, p<.002), bingo (28.2% vs. 33.0%) ($?^2$ (322)=9.26, p<.002), slot machine playing (11.9% vs. 8.5%) ($?^2$ (106)=5.61, p<.018) and betting on games of skill (40.4% vs. 15.7%) ($?^2$ (291)=8.24, p<.004). Nonetheless, 37.4% of females reported playing cards for money, 12.8% wagered on sports events and 4.1% purchased sports lottery tickets. The most frequently engaged in gambling activity was card playing for males and lottery draw/scratchcards for females. In addition, with the exception of bingo, males reported greater *occasional* and *regular* participation than females in all activities. In particular, males reported a greater preference for wagering on sporting events and playing sports lotteries than females. (See Table 5)

Table 5: Participation in Various Gambling Activities During the Past Year: Gender Differences

		Gambling Activities								
		Cards	Wager sports	Sports lottery	Draws/ scratch	VG/ Poker	Bingo	Slots	Games of skill	Other
Male	Never	48.2%	63.6%	77.6 %	57.1 %	77.8%	71.8 %	88.1 %	59.6 %	80.9 %
	Occasional	37.9 %	24.5 %	15.2 %	34.9 %	16.1 %	22.5 %	8.3 %	29.3 %	11.8 %
	Regular	13.9%	11.9 %	7.2 %	8.0 %	6.1 %	5.7 %	3.6 %	11.1 %	7.3 %
Female	Never	62.6%	87.2 %	95.9 %	62.2 %	92.0 %	67.0 %	91.4 %	84.4 %	93.0 %
	Occasional	33.1 %	10.9 %	3.9 %	34.4 %	7.6 %	30.2 %	7.6 %	13.8 %	5.2 %
	Regular	4.3 %	1.9 %	0.2 %	3.3 %	0.4 %	2.8 %	0.9 %	1.9 %	1.7 %
Total	Never	55.6 %	75.7 %	86.9 %	59.8 %	85.1 %	69.3 %	89.9 %	72.3 %	87.0 %
	Occasional	35.4 %	17.6 %	9.4 %	34.7 %	11.7 %	26.5 %	8.0 %	21.3 %	8.5 %
	Regular	9.0 %	6.7 %	3.6 %	5.6 %	3.1 %	4.2 %	2.2 %	6.4 %	4.5 %

Occasional Use = Less than once per week
Regular Use = Weekly & daily

Significant differences in gambling activities and rates of participation were found by developmental level for purchasing draws/scratchcards ($?^2$ (425)=8.48, p<.037), and bingo ($?^2$ (322)=9.63, p<.022) (see Table 6). Playing cards for money increased by developmental level, with 15 year-olds (grades 10/11) reporting the highest rate (48.9%). Most gambling rates increased with the age of the participants. This finding is not surprising and likely increased because of easier access to gambling venues, increased risk-taking associated with their developmental level, and access to more money. Generally, younger children (grades 6/7) preferred playing cards (41.7%), bingo (40.2%) and lottery tickets (36.2%). Adolescents in grade 8/9 had a preference for card playing (41.4%), lottery (34.3%) and bingo (29.8%), those in grades 10/11 preferred cards (48.9%), lottery (41.8%), and games of skill (32.7%), with 12th grade students preferring lottery tickets (52.3%), cards (44.4%), and games of skill (30.3%). If sports wagers (non-lottery) and the playing of lottery sports ticket are combined, it can be seen that sports betting is quite prevalent among adolescents.

Table 6: Participation in Various Gambling Activities During the Past Year: Developmental Differences

		Gambling Activities								
		Cards	Wager sports	Sports lottery	Draws/ scratch	VG/ poker	Bingo	Slots	Games of skill	Other
Grade 6/7	Never	58.4%	85.5%	91.7%	63.8%	82.2%	60.0%	91.7%	78.9%	87.9%
	Occasional	31.7%	10.0%	6.4%	28.1%	13.2%	31.8%	6.0%	15.1%	7.5%
	Regular	10.0%	4.5%	1.8%	8.1%	4.6%	8.2%	2.3%	6.0%	4.5%
Grade 8/9	Never	58.5%	76.7%	89.7%	65.7%	80.3%	70.2%	91.5%	74.0%	84.0%
	Occasional	32.3%	18.2%	7.0%	29.8%	16.4%	24.9%	6.4%	21.8%	11.8%
	Regular	9.1%	5.2%	3.0%	4.5%	3.3%	4.9%	2.1%	4.2%	4.2%
Grade 10/11	Never	51.2%	69.4%	82.8%	58.3%	88.4%	72.8%	89.3%	67.3%	87.6%
	Occasional	40.6%	21.1%	12.3%	35.8%	9.3%	24.5%	8.7%	24.1%	7.2%
	Regular	8.3%	9.5%	5.0%	6.0%	2.3%	2.6%	2.0%	8.6%	5.2%
Grade 12	Never	54.5%	72.9%	83.4%	47.8%	91.4%	72.7%	85.8%	69.7%	90.1%
	Occasional	36.9%	19.6%	12.6%	48.3%	6.1%	26.3%	11.7%	23.2%	5.8%
	Regular	8.6%	7.5%	4.0%	4.0%	2.5%	1.0%	2.5%	7.1%	4.1%
Total	Never	55.6 %	75.7 %	86.9 %	59.8 %	85.1 %	69.3 %	89.9 %	72.3 %	87.0 %
	Occasional	35.4 %	17.6 %	9.4 %	34.7 %	11.7 %	26.5 %	8.0 %	21.3 %	8.5 %
	Regular	9.0 %	6.7 %	3.6 %	5.6 %	3.1 %	4.2 %	2.2 %	6.4 %	4.5 %

Occasional Use = Less than once per week
Regular Use = Weekly & daily

Lottery Product Participation

To investigate the frequency and type of lottery products used, participants were asked if they had every played lottery draws, scratchcards, and sports tickets. Lottery products were examined independently to examine the type of products youth prefer and their rate of participation. Categories were regrouped based upon playing behaviour are presented in Table 7. Overall, participants reported playing scratchcards more frequently (54.2%) compared to lottery draws (22.4%) and sports tickets (14.8%). With respect to regular use (once a week or more), scratchcards were again the most popular (2.7%), followed by sports tickets (2.3%) and lottery draws (1.4%). For more detailed information see Table C1, Appendix C.

Table 7: Participation in Various Lottery Products: Gender Differences

		Lottery Product Participation		
		Male	**Female**	**Total**
Draws (N = 1065)	Never	72.1 %	82.7 %	77.6 %
	Occasional	25.6%	16.8%	21.0%
	Regular	2.3 %	.5 %	1.4 %
Scratch (N = 1070)	Never	43.3 %	48.2 %	45.8 %
	Occasional	52.9%	50.2%	51.5%
	Regular	3.8 %	1.6 %	2.7 %
Sports (N = 1066)	Never	76.6 %	93.2 %	85.2 %
	Occasional	18.6%	6.8%	12.5%
	Regular	4.8 %	0 %	2.3 %

Occasional Use = Less than once per week
Regular Use = Weekly & daily

Of those participants who indicated playing lottery products, significant gender differences were noted for lottery draws (?² (1,065)=16.91, p<.001) and sports tickets (?² (1,066)=58.17, p<.001). As can be seen in Table 7, males reported regular (weekly and daily) participation with lottery draws (2.3%) (?² (1,065)=6.03 p<.014), scratchcards (3.8%) (?² (1,065)=4.95, p<.026), and sports tickets (4.8%) (?² (1,065)=27.08, p<.001) significantly more than females (.5%, 1.6%, and 0% respectively). For more detailed information see Table C2, Appendix C.

Developmentally, statistically significant differences were found among adolescents for sports lottery participation (?² (1,066)=9.07, p<.028). Detailed developmental information is presented in Table 8. For more detailed information see Table C3, Appendix C.

Table 8: Participation in Lottery Products: Developmental Differences

		Lottery Product Participation				
		Grade 6/7	**Grade 8/9**	**Grade 10/11**	**Grade 12**	**Total**
Draws (N = 1065)	Never	83.3 %	76.1 %	76.1 %	75.1 %	77.6 %
	Occasional	15.8 %	22.1 %	21.9 %	29.4 %	21.0%
	Regular	0.9 %	1.8 %	2.0 %	0.5 %	1.4 %
Scratch (N = 1070)	Never	46.2 %	42.9 %	49.3 %	44.8 %	45.8 %
	Occasional	52.0 %	55.3 %	46.5 %	52.2 %	51.5%
	Regular	1.8 %	1.8 %	4.2 %	3.0 %	2.7 %
Sports (N = 1066)	Never	91.0 %	85.5 %	82.0 %	83.1 %	85.2 %
	Occasional	7.6 %	12.1 %	15.4 %	13.9 %	12.5%
	Regular	1.4 %	2.4 %	2.6 %	3.0 %	2.3 %

Occasional Use = Less than once per week
Regular Use = Weekly & daily

Recency of Lottery Product Participation/Purchases

Recency of lottery ticket purchases is presented in Table 9. Self-reports indicated that 16.8% of adolescents purchased or played a lottery product within the past week, 38.9% within the past month, and 44.3% reported playing/purchasing the lottery more than six months ago.

Of those who gamble on the lottery, males were more likely to have purchased or played a lottery product within the past week than females (21.1% vs. 12.2% respectively). Females were more likely to report their most recent play during the past month or more than 6 months ago.

Older participants (grades 8-12) reported more often playing lottery products during the past week and past month than younger participants (Grades 6-7).

Table 9: Most Recent Experience With the Lottery

N = 560	**Last time participants purchased/played the lottery**		
Gender	**More than 6 months**	**Past Month**	**Past Week**
Male	41.2 %	37.7 %	21.1 %
Female	47.6 %	40.2 %	12.2 %
Grade Level			
Grade 6/7	49.1 %	35.5 %	15.5 %
Grade 8/9	51.9 %	34.6 %	13.5 %
Grade 10/11	39.2 %	41.8 %	19.0 %
Grade 12	33.9 %	45.5 %	20.5 %
Total	44.3 %	38.9 %	16.8 %

Lottery Product Participation and Purchases

Age of Onset

The mean age of onset for the entire sample for *playing* lottery draws is 10.69 (SD = 3.22), mean age for scratchcard tickets is 9.86 (SD = 3.16), and mean age for sports tickets is 11.78 (SD = 2.91). The mean age of onset for participants who had indicated *purchasing* lottery products was 12.73 (SD = 3.05) for lottery draws, 12.12 (SD = 3.37) for scratch tickets, and 12.74 (SD = 3.15) for sports tickets. An important distinction is made between playing and purchasing tickets. As can be seen in Table 10, children are playing the lottery through tickets purchased for them at an earlier age than when they begin purchasing their own tickets.

Although no statistically significant gender differences were noted for age of onset, males (M = 11.90, SD = 3.54) reported purchasing scratchcard tickets at a slightly younger mean age than females (M = 12.50, SD = 3.09) (Table 10).

Table 10: Mean Ages of Onset for Playing and Purchasing Various Lottery Products: Gender Differences

	Mean age at which first played lottery					
	Draws (N = 231)		**Scratchcards** (N = 552)		**Sports** (N = 157)	
N = 940	M	SD	M	SD	M	SD
Male (N = 535)	10.80	3.39	9.76	3.20	11.80	2.97
Female (N = 405)	10.50	2.96	10.10	3.11	11.70	2.76
Total	10.69	3.22	9.86	3.16	11.78	2.91
	Mean age at which first purchased lottery					
	Draws (N = 120)		**Scratchcards** (N = 267)		**Sports** (N = 88)	
N = 475	M	SD	M	SD	M	SD
Male (N = 318)	12.70	3.18	11.90	3.54	12.70	3.24
Female (N = 157)	12.60	2.76	12.50	3.09	12.50	2.70
Total	12.73	3.05	12.12	3.37	12.74	3.15

Significant developmental differences were found for the age at which participants reported first *playing* lottery draws (F (230) = 31.25, p<.001), scratchcards (F (551) = 66.13, p<.001), and sports tickets (F (156) = 34.92, p<.001). In addition, significant developmental differences were

found for the age at which participants reported they first *purchased* lottery draws (F (119) = 51.64, p<.001), scratchcards (F (266) = 109.26, p<.001), and sports tickets (F (87) = 109.26, p<.001). As participants increase in age their reported age of onset for lottery participation and purchases increases, specifically for scratchcard tickets and sports lotteries. The youngest participants in the sample (grades 6-9) yielded the earliest mean ages of participation and purchasing of lottery products. While this may simply be an artifact (since the children who will start at later ages have not yet been factored into the average), it is still clear that age of onset is considerably young (see Table 11).

Table 11: Mean Ages of Onset for Playing and Purchasing Lottery Products: Developmental Differences

	Mean age at which first played					
	Draws**		**Scratchcards****		**Sports****	
N = 940	M	SD	M	SD	M	SD
Grade 6/7 (N = 164)	8.48	1.92	7.95	2.16	9.63	1.92
Grade 8/9 (N = 313)	9.73	2.42	9.24	2.25	10.25	2.05
Grade 10/11 (N = 274)	10.70	2.73	9.85	2.98	12.09	2.40
Grade 12 (N = 189)	13.79	3.55	12.88	3.45	14.91	2.53
Total	10.69	3.22	9.86	3.16	11.78	2.91
	Mean age at which first purchased					
	Draws**		**Scratch****		**Sports****	
N = 475	M	SD	M	SD	M	SD
Grade 6/7 (N = 45)	10.50	1.29	9.03	1.88	9.87	1.89
Grade 8/9 (N = 153)	10.45	2.18	10.28	2.10	9.71	1.88
Grade 10/11 (N= 135)	12.08	2.38	11.84	2.70	13.10	2.20
Grade 12 (N = 142)	15.90	1.45	15.82	2.16	16.00	1.41
Total	12.73	3.05	12.12	3.37	12.74	3.15

**Developmental differences statistically significant (p<.01).

Reasons for Initiation and Maintenance of Lottery Play

The reasons underlying adolescent lottery playing are presented in Table 12. Overall, participants reported beginning to play lottery products for the following reasons: to win money (64.5%), because their parent's play (47.7%), for enjoyment (37.5%), excitement (30.7%), and curiosity (28.3%). Participants reported similar reasons for maintaining their playing behaviour (Table 12); to win money (66.3%), for enjoyment (36.7%), because their parent's play (31.7%), and for excitement (30.0%). Money, parental participation in lottery activities, and excitement are the predominant reasons for which adolescents begin and continue to purchase and play the lottery.

The reported reasons for initiation into lottery play revealed significant gender differences concerning parent's play (?² (600)=17.73, p<.001), boredom (?² (600)=8.24, p<.004), and to win money (?² (600) = 6.60, p<.010). As can be seen in Table 12, females report beginning to play primarily because their parents play (56.6%), for curiosity (31.4%), and as a way of minimizing boredom (24.5%). Males indicated playing as a way to win money more than females (69.4% vs. 59.3%). Gender differences were noted for reasons of maintenance of lottery participation with respect to parents play (?² (597)=12.64, p<. 001) and winning money (?² (597)=6.19, p<.013). A larger percentage of females (20.0%) compared to males (14.3%) indicated engaging

in lottery play because of parental playing behaviour. Conversely, a greater percentage of males (71.0%) reported continuing to play for money compared to females (61.4%). It appears that for females, parental participation in lottery products is an important factor in the initiation and continuation lottery play, while money appears to be the primary motivation for males.

Table 12: Reasons for Initiation and Maintenance of Lottery Playing Behaviour: Gender Differences

		Male	Female	Total
Reasons began playing lottery (N = 600)	Parents play**	39.4 %	56.6 %	47.7 %
	Friends Play	9.7 %	10.0 %	9.8 %
	Impress friends	1.0 %	0.7 %	0.8 %
	Boredom*	15.2 %	24.5 %	19.7 %
	Challenge	17.1 %	13.8 %	15.5 %
	Win $*	69.4 %	59.3 %	64.5 %
	Enjoyment	36.1 %	39.0 %	37.5 %
	Excitement	31.6 %	29.7 %	30.7 %
	Curiosity	25.5 %	31.4 %	28.3 %
Reasons continue playing lottery (N = 597)	Parents play**	14.3%	20.0 %	31.7 %
	Friends Play	17.9 %	16.9 %	6.0 %
	Impress friends	0.7 %	0.0 %	0.3 %
	Boredom	14.3 %	20.0 %	17.1 %
	Challenge	17.9 %	16.9 %	17.4 %
	Win $*	71.0 %	61.4 %	66.3 %
	Enjoyment	33.6 %	40.0 %	36.7 %
	Excitement	33.2 %	26.6 %	30.0 %
	Curiosity	15.3 %	17.3 %	16.3 %

*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.
**Statistically significant ($p<.01$) as tested by Pearson chi-square analysis.

Significant developmental differences (Table 13) were found with respect to the initiation of lottery activities for the following reasons: for the challenge ($?^2$ (600) =16.45, p<.001) and to win money ($?^2$ (600) =14.86, p<.002). Youth in grades 6-7 reported beginning gambling activities as a challenge (27.3%) more than older participants. Older adolescents, those in grade 12, reported beginning to play lottery activities because of boredom (22.9%) and curiosity (31.4%). Reported initiation in lottery activities to win money increased with grade level.

Furthermore, developmental differences were noted for the maintenance of lottery participation for the following reasons: parent's play ($?^2$ (597)=18.03, p<.001), for the challenge ($?^2$ (597)=18.13, p<.001), and to win money ($?^2$ (597)=7.96, p<.047) (see Table 13). Continuation of lottery participation for the challenge it presents and because of parents playing behaviour decreased as grade levels increased, whereas the importance of winning money increased with participants' grade level. Younger participants (grades 6-9) were likely to report that they continue to play because of parental playing behaviour. Parental participation appears to be a more important influence for younger adolescents, whereas winning money is the primary motivation to play amongst the older adolescents.

Table 13: Reasons for Initiation and Maintenance of Lottery Playing Behaviour: Developmental Differences

		Grade 6/7	Grade 8/9	Grade 10/11	Grade 12	Total
Reasons began playing lottery products (N = 600)	Parents play	52.1 %	51.8 %	39.6 %	47.5 %	47.7 %
	Friends Play	9.1 %	6.6 %	11.6 %	13.6 %	9.8 %
	Impress friends	2.5 %	0.5 %	0 %	0.8 %	0.8 %
	Boredom	17.4 %	19.3 %	10.9 %	22.9 %	19.7 %
	Challenge**	27.3 %	12.2 %	14.0 %	11.0 %	15.5 %
	Win $*	50.4 %	65.5 %	72.0 %	66.9 %	64.5 %
	Enjoyment	42.1 %	34.5 %	40.2 %	33.9 %	37.5 %
	Excitement	38.8 %	25.9 %	35.4 %	23.7 %	30.7 %
	Curiosity	28.1 %	25.9 %	29.3 %	31.4 %	28.3 %
Reasons continue playing lottery products (N = 597)	Parents play**	39.8 %	40.4 %	22.7 %	21.2 %	31.7 %
	Friends Play	8.5 %	5.1 %	4.3 %	7.6 %	6.0 %
	Impress friends	0.8 %	0 %	0.6 %	0 %	0.3 %
	Boredom	17.8 %	17.7 %	14.1 %	19.5 %	17.1 %
	Challenge**	30.5 %	14.6 %	15.3 %	11.9 %	17.4 %
	Win $*	56.8 %	65.2 %	71.8 %	70.3 %	66.3 %
	Enjoyment	41.5 %	38.4 %	36.2 %	29.7 %	36.7 %
	Excitement	36.4 %	27.4 %	35.0 %	21.2 %	30.0 %
	Curiosity	18.6 %	16.8 %	17.2 %	11.9 %	16.3 %

*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.
**Statistically significant ($p<.01$) as tested by Pearson chi-square analysis.

Knowledge and Beliefs Regarding Legal Age Restrictions for the Lottery

Overall, a large percentage of youth do not perceive scratchcard tickets (30.9%), lottery draws (20.3%), and bingo (41.9%) to be a form of gambling. For more detailed information on participants' perceptions of what constitutes a gambling activity, see Tables C4 and C5, Appendix C.

In order to ascertain adolescent's knowledge of current laws pertaining to lottery ticket purchases, participants were asked whether or not there was a legal age to purchase lottery tickets, and if so, to indicate the age. Overall, the majority of participants (90.3%) reported the mean age to be 18.08 (SD = 1.04). Knowledge of the legal age to purchase lottery products varied significantly across grade level ($?^2$ (1053)= 27.46, $p<.001$) with older participants being more aware of legal restrictions. The grade 6/7 students were the least informed about the legal age for ticket purchasing (Table 14). Although, the majority of participants are aware that there is a legal age restriction to purchase lottery products, only 66.2% of youth agreed with the need for an age restriction. No significant developmental differences were found for the belief that there should be an age restriction to purchase tickets. However, of those that agreed that there should be an age restriction, the reported mean recommended age of restriction increased as children got older (although the average recommended age is still below the current legal age requirement).

Table 14: Awareness and Beliefs Regarding Legal Age Restrictions to Purchase Lottery Tickets: Developmental Differences

	Grade 6/7		Grade 8/9		Grade 10/11		Grade 12		Total	
Awareness of current legal age	82.2 %		89.5 %		93.4 %		96.0 %		90.3 %	
*Should be an age restriction***	66.8 %		64.2 %		66.4 %		68.3 %		66.2 %	
	M	SD	M	SD	M	SD	M	SD	M	SD
Current legal age	17.70	1.39	18.10	0.79	18.30	1.16	18.10	0.64	18.08	1.04
Recommended age	16.10	3.34	16.60	2.59	17.40	4.94	17.90	3.95	16.99	3.84

**Statistically significant at p<. 01 as tested by one-way ANOVA

With respect to gender, significant differences were found (?² (1058)=11.78, p<.001) with females (71.0%) endorsing the need for a legal age restriction more than males (61.0%) (Table 15).

Table 15: Awareness and Beliefs Regarding Legal Age Restrictions to Purchase Lottery Tickets: Gender Differences

	Male		Female		Total	
Awareness of current legal age	90.0 %		90.6 %		90.3 %	
*Should be an age restriction***	61.0 %		71.0 %		66.2 %	
	M	SD	M	SD	M	SD
Current legal age	18.01	1.22	18.15	0.83	18.08	1.04
Recommended age	16.72	4.15	17.22	3.56	16.99	3.84

**Statistically significant (p<.01) as tested by Pearson chi-square analysis.

Lottery Ticket Purchases

The majority (64.7%) of adolescents reported that in spite of legal age restrictions most found it easy to purchase tickets from the local convenience/corner store. No meaningful gender differences were apparent. However, significant developmental differences were found between adolescents in their reported ease of under-age purchases (?² (536)=29.53, p<.001). As one would expect, a linear trend was noted, with those in grades 10 through 12 reporting that they find it less difficult to purchase tickets than those in grades 6 and 7. Even though it becomes easier to purchase tickets for older adolescents, more than half (55.3%) of those in grades 6 and 7 reported ease in purchasing lottery tickets as well (Table 16).

Table 16: Ease of Purchasing Lottery Products

N = 536	Ease with which underage youth purchase lottery tickets	
Gender	Easy	Difficult
Male	66.0 %	34.0 %
Female	63.3 %	36.7 %
Grade Level		
Grade 6/7	55.3 %	44.7 %
Grade 8/9	55.3 %	44.7 %
Grade 10/11	63.8 %	36.3 %
Grade 12	83.3 %	16.7 %
Total	64.7 %	35.3 %

*Statistically significant (p<.05) as tested by Pearson chi-square analysis.

As can be seen in Table 17, 32.9% of youth reported going to the convenience store specifically to purchase lottery tickets with males (35.7%) reporting so more often than females (30.0%). A linear trend was found such that there was an increase in regular trips to the store to specifically purchase lottery tickets, with age. For additional information on lottery purchases by grade and gender see Tables C6 and C7, Appendix C.

Table 17: Participants Who Go to the Convenience Store Specifically to Purchase Lottery Tickets

N = 601	**Participants who go to the store specifically to purchase tickets**		
Gender	Never	Occasional	Regular
Male	64.3 %	32.5 %	3.2 %
Female	70.0 %	27.9 %	2.1 %
Grade Level			
Grade 6/7	71.1 %	27.2 %	1.7 %
Grade 8/9	72.7 %	24.8 %	2.5 %
Grade 10/11	62.3 %	34.6 %	3.1 %
Grade 12	60.0 %	36.7 %	3.3 %
Total	67.1 %	30.2 %	2.7 %

Occasional: Less than once a week
Regular: Weekly & daily
*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

Expenditures on Lottery Tickets

Adolescents were asked about the average amount of money spent on the various lottery products. Means and standard deviations are presented in Table 18. Independent t-tests revealed no significant gender differences for the average amount of money participants spent per week

No statistically significant developmental differences were found across grade level in the average amount of money spent each week on all three-lottery activities. In general, as adolescents become older they reported spending more money on scratchcards, sports tickets and draws than younger participants (the exception being for draws with the grade 12 students decreasing their purchasing of these tickets). This may be due to the fact that older youth have greater accessibility to more disposable money.

Table 18: Average Amount of Money Spent Per Week on Various Lottery Products

	Average amount of money spent per week					
N = 432	**Draws** (N = 100)		**Scratchcards** (N = 240)		**Sports** (N = 92)	
Gender	M	SD	M	SD	M	SD
Male	$3.95	3.52	$6.17	19.03	$7.57	12.15
Female	$4.23	3.84	$4.75	5.32	$5.03	3.14
Grade Level						
Grade 6/7	$5.13	3.53	$4.03	2.91	$8.43	6.70
Grade 8/9	$8.53	7.22	$9.57	20.60	$10.30	10.80
Grade 10/11	$9.32	12.80	$9.71	12.70	$11.80	12.60
Grade 12	$6.51	8.74	$10.50	17.50	$14.70	14.60
Total	$4.05	3.62	$5.55	14.60	$7.16	11.20

Detailed information on the most money spent per week, the most money spent on one ticket, and the most money won playing the lottery by gender and grade can be found in Tables C8 and C9, Appendix C.

Borrowing Money and Purchasing Tickets for Friends

To acquire tickets, 7.9% of adolescents (7.7% of males, 8.1% of females) reported borrowing money in the past year to purchase tickets. The number of times money was borrowed increases as participants get older, ranging between 7.0% for grade 6/7 students to 10.1% for grade 12 students. With respect to purchasing a ticket for a friend, 21.1% of participants reported doing so, with older adolescents being more prone to purchase tickets for friends than younger participants (see Tables C10 and C11, Appendix C for more detailed information).

Returning to Purchase Lottery Tickets Following Wins and Losses

To investigate superstitious and chasing-type behaviour, adolescents were asked whether they return to purchase additional tickets if they had won or lost on a lottery product. Overall, 13% of youth reported returning to the store to purchase more tickets when they won while only 2.2% indicating returning to purchase more tickets if the lost. Males reported more regularly returning to purchase tickets independent of whether they had won or lost. The older participants were more likely to report buying more tickets after they had won, with those in grades 8-11 (16.7%) and grade 12 students (18.0%) reporting more frequently returning to purchase tickets. Similarly, the tendency to purchase more tickets after experiencing a loss increased with the participants' grade level likely the result of having more money (see Table C12, Appendix C for more detailed information).

Gambling Activity Preferences

Participants' Spending Preferences

Participants were asked to indicate how they would spend $5 (e.g., lottery draws, scratchcards, sports lottery, movies, food, videogames). Overall, students indicated they would spend the most money on food (49.5%) followed by movies (28.6%), videogames (13.6%), and lottery tickets (8.3%). With respect to lottery products, those in grades 6 and 7 (11.5%) prefer to spend their money on scratchcard tickets more than any other age group and any other lottery product. Those in grades 8 through 12 reported they were willing to spend their money on sports tickets more than the younger participants. More detailed information can be found in Table C13, Appendix C.

Gambling Activity Preferences

To investigate participants like and/or dislike of a variety of gambling activities, they were required to rate their impressions on a 7-point Likert scale. A 4 X 4 X 2 multivariate analysis of variance (MANOVA) was performed, including gambling group (severity), gender and grade as fixed variables and how much they like scratchcards, lottery draws, sports betting, video games, slot machines, bingo, and the horse track as dependent variables. A main effect was found for

gender, grade, and gambling severity. No significant interaction between gender by grade was found. Multivariate and univariate results are presented in Tables C14 and C15, Appendix C..

Overall, the highest mean ratings for gambling activity preferences was for wagering on videogames (M = 4.23, SD = 2.11), scratchcards (M = 4.07, SD = 1.91), bingo (M = 3.60, SD = 2.03), and card playing (M = 2.82, SD = 1.95).

A significant gender effect was found for sports betting ($F(972) = 34.52$, $p<.001$), wagering on cards ($F(927) = 11.96$, $p<.001$), video games ($F(972) = 7.90$, $p<.005$), and bingo ($F(972) = 8.76$, $p<.003$). Males reported a stronger preference for most of the activities when compared with females. Specifically, more males reported a preference for cards and sports betting, whereas, females reported a preference for bingo and scratchcards (Table 19).

Table 19: Mean Ratings of Gambling Activities: Gender Differences

N = 1070	**Male**		**Female**		**Total**	
	M	SD	M	SD	M	SD
Scratchcards	3.99	1.98	4.14	4.14	4.07	1.91
Lottery draws	2.77	1.72	2.57	1.42	2.67	1.57
Sports betting	3.10	2.12	1.80	1.27	2.43	1.85
Cards	3.31	2.16	2.34	1.59	2.82	1.95
Video games	4.82	2.15	3.68	1.92	4.23	2.11
Slot machines	2.22	1.68	1.88	1.35	2.05	1.52
Bingo	3.35	2.07	3.84	1.97	3.60	2.03
Horse track	2.45	1.91	2.07	1.61	2.25	1.77

Based on 7-point Likert scale from *"do not like at all" to "like very much."* Range of scores is 1-7.

Developmental increases were found, in general, for many gambling activities (Table 20). It is interesting to note that while linear trends were evident, the oldest adolescents seem to have provided the lowest ratings for many of the gambling activities (the exception being sports wagering).

Table 20: Mean Ratings of Gambling Activities: Developmental Differences

N = 1070	**Grade 6/7**		**Grade 8/9**		**Grade 10/11**		**Grade 12**		**Total**	
	M	SD	M	SD	M	SD	M	SD	M	SD
Scratchcards	3.74	1.95	3.99	1.88	4.35	1.91	4.13	1.87	4.07	1.91
Lottery draws	2.17	1.39	2.59	1.55	2.96	1.58	2.89	1.66	2.67	1.57
Sports betting	1.82	1.44	2.37	1.76	2.83	1.58	2.89	1.92	2.43	1.85
Betting on cards	2.29	1.79	2.70	1.88	3.17	2.04	3.05	1.97	2.82	1.95
Video games	4.50	2.11	4.40	2.11	4.17	2.05	3.78	2.15	4.23	2.11
Slot machines	2.00	1.73	1.78	1.22	2.39	1.60	2.01	1.53	2.05	1.52
Bingo	3.74	1.91	3.53	2.10	3.64	2.02	3.52	2.08	3.60	2.03
Horse track	2.16	1.84	1.87	1.49	2.56	1.83	2.52	1.91	2.25	1.77

Based on 7-point Likert scale from *"do not like at all" to "like very much."* Range of scores is 1-7.

Parental Influences

Parental Knowledge of Adolescent Lottery Use

The previous results suggest that one of the predominant reasons for initiating or continuing lottery play was whether or not a parent was an active participant. To investigate parental knowledge of their children's participation in lottery activities, adolescents were asked to indicate if they believed their parents are aware that they play and purchase lottery tickets and if they were afraid of getting caught participating in this activity. It is important to note that no parental information was used to corroborate these reports. Nevertheless, of those adolescents who had reported playing any form of lottery, the majority (83.9%) of adolescents (82.7% of males, 85.1% of females) reported that their parents were aware of their lottery playing and 93.9% reported not being afraid of getting caught (94.4% of males, 93.4% of females) (Table 21).

Significant developmental differences were found for perceived parental knowledge of lottery use (?² (560)=9.81 p<.020). Percentages varied by developmental level (Table 21) with participants in grades 6/7 and 10/11 reporting that they believed their parents were the least aware that they participated in lottery games. However, it is important to note that a large percentage of youth report that their parents are aware of their lottery playing behaviour. The participants in grades 6/7 were the most afraid of getting caught playing lottery products (9.9%), as compared to the grade 12 group (2.8%). Post-hoc comparisons can be found in Table C16, Appendix C.

Table 21: Parental Awareness of Lottery Activities and Fear of Being Caught: Gender Differences

Gender	Parental awareness of lottery play	Afraid of getting caught
Male	82.7 %	5.6 %
Female	85.1 %	6.6 %
Grade level	*	
Grade 6/7	76.7 %	9.9 %
Grade 8/9	88.0 %	6.3 %
Grade 10/11	78.7 %	6.6 %
Grade 12	89.2 %	2.8 %
Total	83.9 %	6.1 %

*Statistically significant (p<.05) as tested by Pearson chi-square analysis.

Perceived Parental Lottery Product Participation

The direct question of whether or not adolescents were aware of their parents' lottery playing behaviour was asked. Categories of perceived participation (no parental corroboration was ascertained) were regrouped to examine whether parents *ever played* the lottery and how *frequently* they played. Overall, adolescents reported parental participation rates of 82.0%, with 26.7% of adolescents reporting that their parents regularly (weekly and daily participation) purchased lottery products. While there was no significant developmental difference in perceptions of parental participation, the frequency at which they perceived their parents to

gamble with lottery products differed according to the participants' age groups ($?^2$ (1064)=14.78, p<.002). There was linear increase, with older adolescents reporting that their parents participated more regularly in lottery activities than younger adolescents. Additional information is provided in Tables C17 and C18, Appendix C.

Parental Purchases of Lottery Products for their Children

Adolescents were explicitly asked to report the frequency at which their parents purchased lottery products for them (Table 22). Of the adolescents who indicated playing lottery products, 38.2% reported that their parents occasionally purchased lottery draws, scratchcards (72.1%), and sports tickets (19.4%) for them. With respect to the type of ticket, significant gender differences were found only for sports tickets ($?^2$ (583)=12.93, p<.001) with males (24.2%) reporting receiving these tickets from their parents more often than females (14.2%). Although no significant gender differences were found for frequency of parental purchases, males reported receiving all three types of tickets, on a regular basis, more often than females.

Table 22: Parental Purchases of Lottery Products for their Children: Gender Differences

	Parental purchase	Male	Female	Total
Draws (N = 587)	Never	48.8 %	51.1 %	49.9 %
	Occasional	37.3%	39.0%	38.2%
	Regular	13.9%	9.9 %	11.9 %
Scratch (N = 605)	Never	26.1 %	20.3 %	23.3 %
	Occasional	68.4%	96.0%	72.1%
	Regular	5.5%	3.7%	4.6 %
Sports (N = 583)	Never	70.8 %	83.3 %	76.8 %
	Occasional	24.2%	14.2%	19.4%
	Regular**	5.0%	2.5%	3.8 %

Occasional = less than once a week
Regular = weekly & daily

Significant developmental differences were found for parental purchases of scratchcards ($?^2$ (605)=17.86, p<.001) and sports tickets ($?^2$ (5836=11.39, p<.010). As can be seen in Table 23,

Table 23: Parental Purchases of Lottery Products for their Children: Developmental Differences

	Parental Purchase	Grade 6/7	Grade 8/9	Grade 10/11	Grade 12	Total
Draws (N = 587)	Never	55.8 %	46.3 %	50.9 %	48.2 %	49.9 %
	Occasional	33.4%	41.1%	36.8%	40.4%	38.2%
	Regular	10.8 %	12.6 %	12.3 %	11.4 %	11.9 %
Scratch (N = 605)	Never	18.7 %	18.7 %	22.0 %	37.9 %	23.3 %
	Occasional**	74.8%	75.7%	73.8%	60.4%	72.1%
	Regular**	6.5 %	5.6 %	4.2 %	1.7 %	4.6 %
Sports (N = 583)	Never	83.9 %	76.4 %	68.5 %	82.1 %	76.8 %
	Occasional	12.7%	21.0%	24.7%	16.1%	19.4%
	Regular	3.4 %	2.6 %	6.8 %	1.8 %	3.8 %

Occasional = less than once a week
Regular = weekly & daily
**Statistically significant (p<.01) as tested by Pearson chi-square analysis.

participants reported that both occasional and regular scratch ticket purchases by parents decreased with the age of the participants. This is likely due to the fact that older adolescents were perceived to be more capable of purchasing tickets themselves. Additional information concerning parental purchases of lottery tickets are presented in Tables C19, C20 and C21, Appendix C.

Lottery Products Received as Gifts

As another way to tap into the social acceptability of lottery playing for underage youth, participants were asked if they had ever received a lottery ticket as a gift, and the occasion for which they received the ticket. For those who reported having participated in lottery activities, 70.1% reported having received a ticket as a gift. They indicated receiving a ticket primarily as a gift for holidays (44.8%) and birthdays (41.8%) and other special occasions (14.4%). Significant gender differences were found for receiving a ticket as a birthday present ($?^2$ (596)=4.09, p<.043), with females (45.9%) having received more lottery tickets than males (37.7%) (Table 24).

Table 24: Participants Reporting Receiving Lottery Tickets as Gifts: Gender Differences

		Male		Female		Total	
Received ticket as a present (N = 603)		70.9 %		69.4 %		70.1%	
Occasion	Holiday	44.0 %		45.6 %		44.8 %	
	Birthday**	37.7 %		45.9 %		41.8 %	
	Other	15.9 %		12.9 %		14.4 %	
		M	SD	M	SD	M	SD
Mean number of tickets received (N = 430)		4.31	7.43	3.61	2.99	3.97	5.71

**Statistically significant (p<.01) as tested by Pearson chi-square analysis.

Significant developmental differences were also noted for having received a ticket as a present ($?^2$ (603)=13.93, p<.003). The number of times adolescents reported receiving a ticket as a present and the number of tickets received increased linearly with age (Table 25).

Table 25: Participants Reporting Receiving Lottery Tickets as Gifts: Developmental Differences

		Grade 6/7		Grade 8/9		Grade 10/11		Grade 12		Total	
Received ticket as a present* (N = 603)		60.3 %		66.5 %		74.9 %		80.0 %		70.1%	
Occasion	Holiday**	32.5 %		36.2 %		55.7 %		56.6 %		44.8 %	
	Birthday	35.8 %		37.8 %		46.1 %		48.7 %		41.8 %	
	Other	24.2 %		9.7 %		15.6 %		10.6 %		14.4 %	
		M	SD	M	SD	M	SD	M	SD	M	SD
Mean number of tickets received (N= 430)		3.12	3.48	3.36	2.68	4.65	9.05	4.67	4.24	3.97	5.71

*Statistically significant (p<.05) as tested by Pearson chi-square analysis.
Statistically significant (p<.01) as tested by Pearson chi-square analysis.

Lottery Advertisements

Exposure Impact

Lottery corporations spend considerable amounts of money advertising their products (in Ontario, $25 million was directly spent advertising their products during the last calendar year). As such, it was believed to be necessary to determine the impact of advertisements on the purchasing and playing behaviour of underage youth. Adolescents were asked if they had seen any lottery product advertising and whether such advertisements encouraged them to play and/or purchase lottery products.

Overall, the majority of the sample reported having seen lottery advertisements. The medium for which participants reported seeing the most advertisements was TV (90.3%), billboards (68.8%), newspaper (68.2%), and magazines (54.7%). Of those viewing such advertisements 39.0% reported that they would be more likely to purchase a ticket because they had seen the advertisement (Table 26).

With respect to gender, no statistically significant differences were noted between males and females in their susceptibility to such advertisements, however, females (41.5%) tended to report being more influenced than males (36.3%). More detailed information by gender is provided in Table C22, Appendix C.

Developmental differences were found for exposure to TV ($?^2$ (1071)=13.31, $p<.004$), and newspaper ($?^2$ (1070)=11.33, $p<.010$) advertisements. Examination reveals that more than half of the sample, regardless of age and type of medium, had seen an advertisement for a lottery product (Table 26). Fifteen year-olds (92.5%) (grades 10/11) and17-year-olds (92.1%) (grade 12) reported viewing the most TV lottery commercials, whereas 13-14 year-olds (72.6%) (grades 8/9) reported observing the most newspaper adds for lottery products. Although no significant differences were found, older adolescents were more likely to report they would purchase a ticket due to having seen an advertisement for it (42.9%).

Table 26: Participants' Reported Exposure to Lottery Advertisements: Developmental Differences

	Type of media advertising				**More likely to buy a ticket due to advertising**
N = 1072	TV*	Newspaper*	Magazine	Billboards	
Grade 6/7	83.9 %	59.4 %	54.5 %	61.6 %	38.7 %
Grade 8/9	91.4 %	72.6 %	55.2 %	69.4 %	36.0 %
Grade 10/11	92.5 %	69.1 %	55.4 %	71.2 %	40.0 %
Grade 12	92.1 %	69.5 %	53.2 %	72.1 %	42.9 %
Total	90.3%	68.2%	54.7%	68.8%	39.0%

*Developmental differences statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

Impulsivity of Lottery Purchases

The lottery industry is aware that lottery ticket purchases often occur on impulse. To examine this phenomenon, we included only the participants who had reported purchasing lottery tickets and asked them if they are more likely to purchase a ticket because of its visibility and placement on the store counter. Of those who reported purchasing lottery products, the majority (57.4%) reported that they would be more likely to purchase a ticket that is displayed on the store counter. Gender differences were also found ($?^2$ (411)=8.10, p<.004) with males (65.1%) reporting more than females (51.1%) that they would be more likely to purchase a ticket seen on the counter. Furthermore, developmental differences were found ($?^2$ (411)=65.87, p<.001). There was a linear increase across developmental levels, with 15-year-olds (75.0%) and 17-year-olds (83.6%) reporting that they would be more willing to purchase a ticket after seeing it on the store counter (Table 27).

Table 27: Effects of Counter Placement of Lottery Tickets in Stores

	Likelihood of purchasing a ticket seen on store counter* (N = 411)	
Gender	More Likely	Less Likely
Male	65.1 %	34.9 %
Female	51.1 %	48.9 %
Grade Level		
Grade 6/7	32.7 %	67.3 %
Grade 8/9	46.1 %	53.9 %
Grade 10/11	75.0 %	25.0 %
Grade 12	83.6 %	16.4 %
Total	57.4 %	42.6 %

To examine impulsivity of lottery ticket playing we asked participants if they scratch tickets immediately after purchase or wait until they get home (Table 28). Overall, 51.0% of participants who typically purchase scratchcards indicated that they scratch their tickets immediately. No gender differences were found between males and females. Both males (52.1%) and females (49.7%) equally reported they scratch tickets immediately.

Significant developmental differences were found ($?^2$ (599)=7.570, p<.056) with grade 10/11 (60.7%) endorsing scratching tickets immediately more than any grade level.

Importance of Familiarity

To investigate the importance of familiarity in lottery ticket choices, participants were asked how often they play/purchase the same lottery ticket. Categories were regrouped to determine how regularly participants played the same type of game. Of those who reported purchasing lottery products, 26.8% reported regularly playing the same lottery game. Gender differences approached statistical significance ($?^2$ (597)=3.60, p<.058) with males more frequently (30.2%) reporting playing the same lottery game than females (23.3%). Furthermore, significant developmental differences were noted ($?^2$ (597)=11.69, p<.009) with adolescents in grades 10/11

(30.7%) and those in grade 12 (36.5%) more frequently (weekly and daily) playing the same lottery game than younger participants (Table 29).

Table 28: Participants' Scratch Ticket Behaviour: Immediate vs. Delayed

	Scratch ticket playing behaviour	
Gender (N = 394)	Immediately	Wait to get home
Male	52.1 %	47.9 %
Female	49.7 %	50.3 %
Grade Level* (N = 599)		
Grade 6/7	53.8 %	46.2 %
Grade 8/9	46.5 %	53.5 %
Grade 10/11	60.7 %	39.3 %
Grade 12	43.7 %	56.3 %
Total	51.0 %	49.0 %

*Statistically significant (p<.05) as tested by Pearson chi-square analysis.

Table 29: Familiarity as an Important Factor in Lottery Ticket Selection

N= 597	**Play same lottery game**		
Gender*	Never	Occasional	Regular
Male	15.1 %	54.7 %	30.2 %
Female	18.5 %	58.2 %	23.3 %
Grade Level*			
Grade 6/7	20.0 %	58.3 %	21.7 %
Grade 8/9	19.6 %	59.3 %	21.1 %
Grade 10/11	15.3 %	54. 0 %	30.7 %
Grade 12	10.4 %	53.1 %	36.5 %
Total	16.8 %	56.4 %	26.8 %

Occasional Use = Less than once per week
Regular Use = Weekly & Daily
*Statistically significant (p<.05) as tested by Pearson chi-square analysis.

To examine if the type of lottery game was more important than the cost of the ticket, participants were asked to report if they would still purchase their favourite lottery ticket even if the price increased. Of those that reported purchasing lottery tickets, the majority (62.8%) reported they would *not* purchase a ticket with an increased price. No significant gender or developmental differences were found, however adolescents in grades 8 though 12 reported that they were more willing to purchase their favourite lottery ticket even if the price increased (likely because they have access to more disposable money).

Knowledge of the Game

Of those adolescents who reported purchasing lottery products, 34.9% reported that they would purchase a ticket they did not know how to play. No gender differences were noted. However, significant developmental differences were found ($?^2$ (1052)=35.46 p<.001). As participants age increased so did their willingness to purchase a ticket they did not know how to play.

Adolescents in grades 10/11 (15 year olds) (41.3%) and grade 12 (17-year-olds) (46.3%) were more willing to purchase an unknown lottery product than younger participants. It appears that familiarity is more important for participants who are younger, while, excitement and novelty are more important for older adolescents.

Structural Characteristics

Structural Preferences

To examine the importance of structural characteristics, participants were asked if they would select a prize (some form of tangible item) over money, if they have a preference for larger scratchcard tickets, and if a larger jackpot is more important than longer playtime. Overall, 87.3% chose money over a prize, 62.8% selected a larger scratch ticket, and 66.9% reported a preference for a larger jackpot compared to longer playtime. No gender differences were noted (see Table 30).

Table 30: Structural Preferences of Lottery Tickets: Gender Differences

	Male	Female	Total
Ticket Winnings			
Prize	12.0 %	13.4 %	12.7 %
Money	88.0 %	86.6 %	87.3 %
Ticket Size			
Larger	61.4 %	64.1 %	62.8 %
Smaller	38.6 %	35.9 %	37.2 %
Win Ratio			
Larger Jackpot	65.9 %	67.8 %	66.9 %
Play Value	34.1 %	32.2 %	33.1 %

Significant developmental differences were found for the preference of money over a prize ($?^2$ (1052)=63.59, $p<.001$) and for larger tickets ($?^2$ (1000)=30.72, $p<.001$). As can be seen in Table 31, preference for money and for larger scratch tickets linearly increased with grade. Larger tickets cost more money than smaller scratch cards, therefore, it makes sense that older youth in grades 10-12, would prefer larger tickets because they are more financially accessible to them, offer opportunities for more play value and increased size of prizes. Interestingly, participants in grades 6/7 reported that they preferred a larger jackpot, whereas play value of the ticket became more important as participants got older. Perhaps this is due to the fact that children in grades 6/7 (approximately age 11-12) are less knowledgeable about the odds of winning playing lottery products.

Table 31: Structural Preferences of Lottery Tickets: Developmental Differences

	Grade 6/7	Grade 8/9	Grade 10/11	Grade 12	Total
Ticket Winnings					
Prize	27.9 %	12.6 %	7.2 %	5.0 %	12.7 %
Money**	72.1 %	87.4 %	92.8 %	95.0 %	87.3 %
Ticket Size					
Larger**	48.0 %	61.1 %	70.0 %	70.5 %	62.8 %
Smaller	52.0 %	38.9 %	30.0 %	29.5 %	37.2 %
Win Ratio					
Larger Jackpot	72.3 %	65.7 %	66.9 %	63.4 %	66.9 %
Play Value	27.7 %	34.3 %	33.1 %	36.6 %	33.1 %

**Developmental differences statistically significant (p<.01) as tested by Pearson chi-square analysis

The Most Important Characteristic in Selecting a Ticket

As can be seen in Table 32, in general, adolescents reported prize (30.2%) to be the most important characteristic, followed by knowing how to play the game (25.0%), cost of ticket (20.5%), and type of game (17.0%). Females indicated that prize (23.9%) and ticket cost (30.4%) were more important for males (16.8% and 19.4% respectively), however, more males (38.6%) than females (22.3%) reported that the number of activities on the card was an important feature. The importance of prize and type of game increased with age, however the importance of the number of activities on the card and knowing how to play the game decreased.

Table 32: Single Most Important Characteristic When Selecting a Ticket

N = 1054	Size	Colour	Prize	# of games	Type of game	Cost	Know how to play
Gender							
Male	0.8 %	2.9 %	16.8 %	38.6 %	4.5 %	19.4 %	17.0 %
Female	0.4 %	1.8 %	23.9 %	22.3 %	4.2 %	30.4 %	16.9 %
Grade Level							
Grade 6/7	0.9 %	3.2 %	23.9 %	4.6 %	12.4 %	19.7 %	35.3 %
Grade 8/9	0.9 %	2.1 %	26.4 %	6.3 %	17.4 %	21.6 %	25.2 %
Grade 10/11	0 %	1.7 %	37.0 %	3.3 %	15.5 %	21.5 %	21.1 %
Grade 12	0.5 %	3.0 %	33.0 %	2.5 %	23.5 %	18.0 %	19.5 %
Total	0.6 %	2.4 %	30.2 %	4.4 %	17.0 %	20.5 %	25.0 %

Mean Ratings of Structural Characteristics

To investigate the importance of a variety of structural characteristics in choosing a scratchcard, participants were required to rate these characteristics on a 7-point Likert scale. Qualitative examination of this data revealed that the highest mean rating was for prize (M=4.68, SD=2.07), type of game (M=4.67, SD=1.77), price (M= 4.40, SD=1.72), and number of activities on the card (M= 3.76, SD=1.81). A 4 X 4 X 2 multivariate analysis of variance (MANOVA) was performed, including gambling group (severity) and grade as fixed variables and the importance of price, colour, type of game, number of games on the scratchcard, name of scratchcard, prize, and size of ticket as dependent variable. A significant main effect for grade level was found (multivariate and univariate analyses can be found in Tables C23 and C24, Appendix C).

In general, males reported higher mean ratings than females for the importance of size, prize, number of games, and cost, whereas females reported higher mean ratings than males for the importance of colour, and name/title. It appears that males have a preference for structural characteristics that involve tickets they perceive increase their chances of winning. For example, males prefer larger tickets, which cost more money, but also have more games. These more costly tickets also have a greater perceived chance of winning a larger prize. Females, on the other hand, appear to be more concerned with the appearance of the ticket (Table 33). However, it is important to note that the mean differences are quite negligible.

Table 33: Mean Ratings of Structural Characteristics: Gender Differences

N = 1070	**Male**		**Female**		**Total**	
	M	SD	M	SD	M	SD
Size	2.30	1.62	1.99	1.41	2.14	1.52
Colour	1.72	1.30	1.88	1.33	1.80	1.32
Prize	4.92	2.08	4.45	2.04	4.68	2.07
# of games	3.90	1.94	3.63	1.67	3.76	1.81
Type of Game	4.66	1.83	4.68	1.70	4.67	1.77
Cost	4.45	1.86	4.37	1.58	4.40	1.72
Name/Title	2.37	1.77	2.42	1.60	2.40	1.68

Based on 7 point Likert scale from "not at all important" to "extremely important"

A main effect of grade was found for cost ($F(981) = 3.05$, $p<.028$), type of game ($F(981) = 3.63$, $p<.013$), number of activities ($F(981) = 3.06$, $p<.027$), and prize ($F(981) = 3.50$, $p<.015$). Table 34 reveals that regardless of the age of the participant, the type of game is reported to be one of the most important features in choosing a ticket. Furthermore, the youngest participants reported that the cost of the ticket is important. However, for the older participants (children in grades 8-12), the most important structural characteristics aside from the type of game, is the prize. Post hoc Scheffe comparisons revealed many significant differences across developmental levels between the items with those in grades 6/7 reporting the lowest mean ratings for all of the structural characteristics (post-hoc results are presented in Table C25, Appendix C).

Table 34: Mean Ratings of Structural Characteristics: Developmental Differences

N = 1070	**Grade 6/7**		**Grade 8/9**		**Grade 10/11**		**Grade 12**		**Total**	
	M	SD	M	SD	M	SD	M	SD	M	SD
Size	1.77	1.39	2.23	1.63	2.28	1.52	2.19	1.45	2.14	1.52
Colour	1.54	1.22	1.79	1.37	1.90	1.31	1.98	1.31	1.80	1.32
Prize	3.65	2.19	4.79	2.06	5.17	1.88	4.79	1.92	4.68	2.07
# of games	3.09	1.81	3.76	1.86	4.25	1.67	3.77	1.69	3.76	1.81
Type of Game	4.02	1.85	4.64	1.82	5.11	1.54	4.79	1.69	4.67	1.77
Cost	3.94	1.85	4.45	1.76	4.62	1.59	4.51	1.62	4.40	1.72
Name/Title	2.06	1.58	2.50	1.79	2.48	1.58	2.47	1.70	2.40	1.68

Based on 7 point Likert scale from "not at all important" to "extremely important" Range 1-7.

Ticket Pair Ratings

To investigate the degree to which adolescents liked a variety of the different lottery tickets they were asked to rate each ticket on a 7-point Likert scale. A 4 X 4 X 2 multivariate analysis of variance (MANOVA) was performed, including gambling group (severity), gender and grade as fixed variables and each of the 32 ticket pairs as dependent variables. Significant main effects were found for gender, grade, and gambling group. Significant two-way and a three-way interactions were found for gender x grade, gender x gambling group, grade x gambling group, and gender x grade x gambling group (multivariate and univariate analyses are presented in Tables C26 and C27, Appendix C).

Generally, the tickets with the highest mean rating in order of preference are as follows: *Bingo, Cash for life, Battleship, Millennium, Mouse Maze, Cross Word, Holiday Greetings*, and *Mini Monopoly*. It makes sense that these tickets were the most preferred given that *Bingo, Cash for Life, Battleship, Crossword,* and *Mini Monopoly* are highly advertised and well-known games, whereas Holiday Greetings and Mouse Maze are colourful theme cards.

Examination of the ticket pair means (Table C28, Appendix C) revealed that males and females rated several tickets differently from one another. Males gave higher ratings to *Battleship, Instant Millions, Grand Slam, Pro-Line, Football Fever,* and *Doubling Red 7s.* These tickets emphasize the gambling theme and prize structure, which is important to males. However, females reported higher mean ratings for *Bingo, Red Hot Cash, Lucky O'Instant, Bingo Express,* and *Holiday Greetings*, which are more colourful tickets, are "cuter" (i.e., *Mouse Maze*) and where the emphasis was on the type of game more than the prize structure.

A linear increase in ratings across developmental level was found *for Lucky O'Instant, Bingo, Lucky Dice, Jokers Wild, Lotto 6/49, Grad Slam,* and *Bingo Express*. The youngest participants (grades 6/7) in general reported the lowest mean ratings for all tickets compared to the other groups, whereas, participants in grades 10-12 almost always reported the highest mean ratings, independent of the ticket. Games that mention money, like *Red Hot Cash* or *Instant Millions* increase in popularity, as participants get older due to the emphasis on the prize. Furthermore, sports oriented tickets (i.e., *Pro-Line, Grand Slam*) and *Lotto 6/49* increase with the age of participants. This probably due to the fact that the games appear to be more complex, therefore, younger participants do not rate them as high (see Table C29, Appendix C for more detailed information).

Choice of Lottery Tickets and Structural Reasons

Participants were presented with lottery tickets pairs and asked to choose one ticket over the other (forced choice paradigm). Overall, the top choice of tickets was *Mini Monopoly* (82%), *Bingo* (78.7%), and *Cash for Life* (71.5%) (Table 35). Given that it was forced choice, *Mini Monopoly*, was likely chosen frequently because participants did not like the ticket that it was paired against (e.g., *Jokers Wild*). Unfortunately, a true-paired comparison technique in which each ticket is paired with every other ticket was impossible as it would have entailed an innumerable number of paired matchings and time constraints prohibited this type of methodology. *Cash for Life* was reportedly chosen because of the prize, whereas *Bingo* was

selected because of the type of game. Generally, the main reason adolescents reported choosing a ticket was due to the prize or the type of game. Significant gender differences were found for pair 1 (*Lucky O'Instant* and *Cash of the Day*) ($?^2$ (1045)=15.06, p<.001); pair 3 (*Lucky Dice* and *Instant Millions*) ($?^2$ (1031)=4.73, p<.030); Pair 4 (*Battleship* and *Bingo*) ($?^2$ (1040)=62.14, p<.001) with males choosing *Battleship* and females choosing *Bingo*; pair 5 (*Red Hot Cash* and *Instant Millions*) ($?^2$ (1032)=24.17, p<.001) with males choosing *Instant Millions* and females selecting *Red Hot Cash*; pair 7 (*Mouse Maze* and *Viva Las Vegas*) ($?^2$ (1017)=4.68, p<.031); pair 8 (*Jokers Wild* and *Mini Monopoly*) ($?^2$ (1023)=6.46), p<.011; pair 10 (*Lucky O'Instant* and *Grand Slam*) ($?^2$ (1017)=82.57, p<.001); pair 11 (*Bingo Express* and *Football Fever*) ($?^2$ (1016)=127.19, p<.001) with males choosing *Football Fever* and females choosing *Bingo Express*; pair 12 (*Holiday Greetings* and *Doubling Red 7s*) ($?^2$ (1011)=35.99, p<.001); pair 13 (*Crossword* and *Viva Las Vegas*) ($?^2$ (1017)=5.46, p<.019); pair 14 (*6/49* and *Mini Monopoly*) ($?^2$ (1024)=20.57, p<.001) with males choosing Lotto 6/49 and females choosing Mini Monopoly; pair 15 (*Grand Slam* and *Pro-Line*) ($?^2$ (1005)=29.51, p<.001) with males desiring *Pro-Line* and females choosing *Grand Slam*; and pair 16 (*Red Hot Cash* and *Bingo Express*) ($?^2$ (1014)=5.92, p<.015) with males choosing *Red Hot Cash* and females preferring *Bingo Express*.

Data presented in Table 35 reveals that males preferred tickets that were more sports oriented (i.e., *Pro-Line*), that placed more of an emphasis on the prize (tickets with titles such as *Red Hot Cash*), and resembled casino style games (i.e., *Viva Las Vegas*). On the other hand, females chose tickets that resemble popular/well known board games (i.e., *Mini Monopoly, Crossword, Bingo*), and that are colourful and cute (such as *Mouse Maze, Holiday Greetings, Golden Ticket*).

Significant developmental differences (see Table 36) were found for pair 1 (*Lucky O'Instant* and *Cash of the Day*) ($?^2$ (1045)=10.86, p<.013); pair 3 (*Lucky Dice* and *Instant Millions*) ($?^2$ (1031)=8.07, p<.045); pair 12 (*Holiday Greetings* and *Doubling Red 7s*) ($?^2$ (1011)=11.89, p<.008); pair 14 (6/49 and *Mini Monopoly*) ($?^2$ (1024)=13.23, p<.004); and pair 15 (*Grand Slam* and *Pro-Line*) ($?^2$ (1005)=9.36, p<.025). The percent of adolescents who selected *Bingo, Millennium, Jokers Wild, Football Fever, Pro-Line* and *Bingo Express* increased, as they got older (see Table 36). Older adolescents chose *Pro-Line* and *Lotto 6/49* were younger participants chose *Grand Slam* and *Mini Monopoly.* This is probably due to the fact that *Pro-Line* and *Lotto 6/49* are more complex games that require players follow teams and consult newspapers. Post-hoc analyses are presented in Table C30, Appendix C.

Perceived Level of Skill in Lottery Playing

Perceptions of Winning Money on Lottery Products

To help understand why adolescents play certain lottery products, individuals were asked to indicate their perceived chances of winning money playing lottery draws, scratchcards, and sports tickets. Overall, participants reported that they believed that they would often or always win money playing scratch tickets (16.8%), followed by sports tickets (15.6%), and lottery draws (2.7%). Males reported that they perceive that they had a greater chance of winning regularly (often and always) money on sports tickets (21.7%), whereas females reported that they perceived a greater chance of regularly winning money with scratchcards (17.2%). Those in

Table 35: Participants' Choices of Lottery Tickets and the Structural Reasons they Selected One Ticket Over Another: Gender Differences

		Male	Female	Total Sample
Pair 1 N = 1045 **				
Lucky O'Instant		61.5 %	72.8 %	67.3%
Cash Day		38.5 %	27.2 %	32.7%
Imp Reason	**1**	Prize = 42.0 %	Prize = 30.1 %	Prize = 35.8%
	2	Type = 22.0 %	Type = 23.2 %	Type = 22.6%
	3	Cost = 11.2 %	Colour = 20.3 %	Colour = 14.5%
Pair 2 N = 1046				
Bingo		80.4 %	77.1 %	78.7 %
Golden Ticket		19.6 %	22.9 %	21.3 %
Imp Reason	**1**	Type = 33.3 %	Type = 34.6 %	Type = 34.0 %
	2	Prize = 26.4 %	Activities = 13.9 %	Prize = 17.8 %
	3	Activities = 12.2 %	Colour = 11.2 %	Activities = 13.1 %
Pair 3 N = 1031*				
Lucky Dice		31.0 %	37.4 %	34.2 %
Instant Million		69.0 %	62.6 %	65.8 %
Imp Reason	**1**	Prize = 47.1 %	Prize = 30.2 %	Prize = 38.3 %
	2	Type = 16.5 %	Type = 21.1 %	Type = 18.9 %
	3	Cost = 11.8 %	Cost = 15.9 %	Cost = 13.9 %
Pair 4 N = 1040**				
Battleship		62.7 %	38.3 %	50.1 %
Bingo		37.3 %	61.7 %	49.9 %
Imp Reason	**1**	Type = 50.2 %	Type = 55.4 %	Type = 52.9 %
	2	Prize = 15.8 %	Activities = 8.3 %	Prize = 11.3 %
	3	Name = 7.8 %	Other = 8.1 %	Activities = 8.9 %
Pair 5 N = 1032**				
Red Hot Cash		39.7 %	55.0 %	47.6 %
Instant millions		60.3 %	45.0 %	52.4 %
Imp Reason	**1**	Prize = 43.9 %	Prize = 24.6 %	Prize= 33.9 %
	2	Type = 16.0 %	Cost = 19.2 %	Type = 16.7 %
	3	Cost = 11.6 %	Type = 17.3 %	Name = 13.8 %
Pair 6 N = 1027				
Cash for Life		74.0 %	69.1 %	71.5 %
Millennium		26.0 %	30.9 %	28.5 %
Imp Reason	**1**	Prize = 52.7 %	Prize = 31.4 %	Prize = 41.7 %
	2	Type = 12.6 %	Type = 17.4 %	Type = 15.1 %
	3	Name = 7.2 %	Colour = 13.3 %	Colour = 9.9 %
Pair 7 N = 1017*				
Mouse maze		56.8 %	63.4 %	60.2%
Viva Las Vegas		43.2 %	36.6 %	39.8%
Imp Reason	**1**	Type = 41.7 %	Type = 35.8 %	Type = 38.7 %
	2	Prize = 16.6 %	Colour = 17.5 %	Colour = 13.9 %
	3	Name = 12.0 %	Name = 13.8 %	Prize = 11.6 %
Pair 8 N = 1023				
Jokers Wild		21.1 %	15.0 %	18.0 %
Mini Monopoly		78.9 %	85.0 %	82.0 %
Imp Reason	**1**	Type = 53.2 %	Type = 60.7 %	Type = 57.1 %
	2	Name = 14.0 %	Name = 14.4 %	Name = 14.2 %
	3	Prize = 12.4 %	Colour = 6.4 %	Prize = 8.3%

Pair 9 N = 1027				
Mouse maze		33.7 %	33.5 %	33.6 %
Bingo		66.3 %	66.5 %	66.4 %
Imp Reason	**1**	Type = 48.4 %	Type = 52.1 %	Type = 50.3 %
	2	Prize = 18.6 %	Colour = 9.3 %	Prize = 11.9 %
	3	Name = 7.5 %	Activities = 8.4 %	Colour = 8.1 %
Pair 10 N = 1017**				
Lucky O'Instant		51.5 %	78.6 %	65.5 %
Grand Slam		48.5 %	21.4 %	34.5 %
Imp Reason	**1**	Type= 37.6 %	Type = 42.6 %	Type = 40.2 %
	2	Prize = 27.5 %	Colour = 17.1 %	Prize = 21.1 %
	3	Name = 11.7 %	Prize = 15.3 %	Colour = 12.5 %
Pair 11 N = 1016**				
Bingo Express		49.6 %	83.0 %	66.7 %
Football fever		50.4 %	17.0 %	33.3 %
Imp Reason	**1**	Type = 53.5 %	Type = 57.9 %	Type = 55.7 %
	2	Prize = 16.7 %	Name = 9.8 %	Prize = 12.4 %
	3	Name = 11.8 %	Colour = 8.7 %	Name = 10.7 %
Pair 12 N = 1011**				
Holiday Greetings		53.5 %	71.7 %	62.9 %
Doubling Red 7s		46.5 %	28.3 %	37.1 %
Imp Reason	**1**	Prize = 30.2 %	Type = 28.4 %	Type = 27.2 %
	2	Type = 26.0 %	Colour = 26.9 %	Prize = 22.6 %
	3	Colour = 13.3 %	Prize = 15.4 %	Colour = 20.4 %
Pair 13 N = 1017*				
Crossword		55.9 %	63.1 %	59.7 %
Viva Las Vegas		44.1 %	36.9 %	40.3 %
Imp Reason	**1**	Type = 52.7 %	Type = 65.2 %	Type = 59.2 %
	2	Prize = 17.0 %	Activities = 8.8 %	Prize = 10.3 %
	3	Name = 7.9 %	Colour = 7.5 %	Activities = 8.3 %
Pair 14 N = 1024**				
6/49		51.5 %	37.4 %	44.2 %
Mini Monopoly		48.5 %	62.6 %	55.8 %
Imp Reason	**1**	Prize = 36.8 %	Type = 43.2 %	Type = 36.3 %
	2	Type = 28.9 %	Prize = 16.7 %	Prize = 26.3 %
	3	Name/Other = 6.7 %	Choose #'s = 10.7 %	Choose #'s = 8.7 %
Pair 15 N = 1005**				
Grand Slam		43.7 %	60.8 %	52.4 %
Pro-Line		56.3 %	39.2 %	47.6 %
Imp Reason	**1**	Type = 34.9 %	Type = 37.4 %	Type = 36.2 %
	2	Choose Team = 19.0 %	Choose Team =14.5 %	Choose Team = 16.6 %
	3	Prize = 15.4 %	Other = 12.8 %	Other = 10.2 %
Pair 16 N = 1014*				
Red Hot Cash		53.1 %	45.4 %	49.1 %
Bingo Express		46.9 %	54.6 %	50.9 %
Imp Reason	**1**	Type= 36.7 %	Type = 48.3 %	Type = 42.7 %
	2	Prize = 24.4 %	Prize = 14.1 %	Prize = 19.1 %
	3	Colour = 11.0 %	Colour = 12.7 %	Colour = 11.8 %

*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.
**Statistically significant ($p<.01$) as tested by Pearson chi-square analysis.

Table 36: Participants' Choices of Lottery Tickets and the Structural Reasons they Selected One Ticket Over Another: Developmental Differences

		Grade 6/7	Grade 8/9	Grade 10/11	Grade 12
Pair 1 N = 1045*					
Lucky O'instant		63.6 %	64.8 %	66.2 %	77.0 %
Cash Day		36.4 %	35.2 %	33.8 %	23.0 %
Imp Reason	**1**	Prize= 32.6 %	Prize = 35.4 %	Prize = 42.2 %	Prize= 30.2 %
	2	Type = 26.7 %	Type = 22.4 %	Type = 19.6 %	Colour = 24.2 %
	3	Cost = 15.0 %	Colour = 11.6 %	Colour = 15.9 %	Type = 23.1 %
Pair 2 N = 1046*					
Bingo		74.2 %	78.7 %	78.6 %	83.9 %
Golden Ticket		25.8 %	21.3 %	21.4 %	16.1 %
Imp Reason	**1**	Type = 32.1 %	Type = 32.3 %	Type = 34.5 %	Type = 38.1 %
	2	Prize = 20.0 %	Prize = 21.1 %	Prize = 17.2 %	Activities = 17.6 %
	3	Cost = 14.2 %	Activities = 10.9 %	Activities = 13.9 %	Prize = 10.3 %
Pair 3 N = 1031*					
Lucky Dice		27.3 %	33.3 %	36.8 %	39.7 %
Instant Million		72.7 %	66.7 %	63.2 %	60.3 %
Imp Reason	**1**	Prize= 35.8 %	Prize = 37.9 %	Prize = 40.6 %	Prize = 38.1 %
	2	Type = 25.4 %	Type = 19.3 %	Type = 17.7 %	Name = 14.9 %
	3	Cost = 15.8 %	Cost= 14.1 %	Cost = 12.2 %	Cost = 14.4 %
Pair 4 N = 1040					
Battleship		51.2 %	50.2 %	51.0 %	47.4 %
Bingo		48.8 %	49.8 %	49.0 %	52.6 %
Imp Reason	**1**	Type = 44.0 %	Type = 53.3 %	Type = 53.7 %	Type = 60.2 %
	2	Prize = 17.0 %	Prize= 13.2 %	Prize = 10.4 %	Activities = 9.9 %
	3	Activity/Cost = 10.4%	Other = 7.7 %	Activities = 9.6 %	Name = 7.7 %
Pair 5 N = 1032					
Red Hot Cash		51.4 %	46.0 %	47.8 %	45.5 %
Instant millions		48.6 %	54.0 %	52.2 %	54.5 %
Imp Reason	**1**	Prize = 28.7 %	Prize= 33.8 %	Prize= 38.1 %	Prize = 33.1 %
	2	Type = 26.6 %	Cost = 17.4 %	Type = 14.3 %	Name = 16.6 %
	3	Cost = 14.4 %	Type = 14.6 %	Name/Cost = 13.3 %	Cost = 16.6 %
Pair 6 N = 1027					
Cash for Life		74.4 %	72.3 %	69.6 %	69.6 %
Millennium		25.6 %	27.7 %	30.4 %	30.4 %
Imp Reason	**1**	Prize= 37.6 %	Prize = 41.8 %	Prize = 43.6 %	Prize = 43.0 %
	2	Type = 20.4 %	Type = 14.4 %	Avert = 13.2%	Type = 14.5 %
	3	Cost = 11.3 %	Colour = 10.5 %	Type = 12.4 %	Advert = 11.7 %
Pair 7 N = 1017					
Mouse maze		58.6 %	59.8 %	61.3 %	60.8 %
Viva Las Vegas		41.4 %	40.2 %	38.7 %	39.2 %
Imp Reason	**1**	Type = 34.2 %	Type = 36.3 %	Type =44.8 %	Type =38.1 %
	2	Prize = 14.2 %	Prize= 16.8 %	Colour = 13.1 %	Colour = 17.1 %
	3	Activities = 12.1 %	Colour = 15.1 %	Name = 12.7 %	Name = 16.0 %
Pair 8 N = 1023					
Jokers Wild		15.3 %	17.8 %	18.6 %	20.4 %
Mini Monopoly		84.7 %	82.2 %	81.4 %	79.6 %
Imp Reason	**1**	Type = 50.8 %	Type = 55.7 %	Type = 64.7 %	Type = 54.8 %
	2	Prize= 13.0 %	Name = 11.1 %	Name = 14.5 %	Name = 19.9 %
	3	Name = 12.4 %	Prize = 11.1 %	Prize = 5.2 %	Colour = 7.0 %

Pair 9 N = 1027					
Mouse maze		35.5 %	36.5 %	30.8 %	30.7 %
Bingo		64.5 %	63.5 %	69.2 %	69.3 %
Imp Reason	**1**	Type = 45.3 %	Type = 47.2 %	Type = 54.0 %	Type = 55.4 %
	2	Prize = 16.3 %	Prize = 14.3 %	Name = 10.2 %	Name = 9.7 %
	3	Cost = 8.4 %	Colour = 10.8 %	Prize= 9.1 %	Activities = 8.0 %
Pair 10 N = 1017					
Lucky O'Instant		64.1 %	65.2 %	65.7 %	67.2 %
Grand Slam		36.9 %	34.8 %	34.3 %	32.8 %
Imp Reason	**1**	Type = 38.2 %	Type = 41.1 %	Type = 36.8 %	Type = 45.8 %
	2	Prize = 21.5 %	Prize = 22.6 %	Prize = 25.6 %	Colour = 14.0 %
	3	Name = 12.0 %	Colour = 13.7 %	Colour = 13.5 %	Prize = 11.7 %
Pair 11 N = 1016					
Bingo Express		71.8 %	64.9 %	63.5 %	68.9 %
Football Fever		28.2 %	35.1 %	36.5 %	31.1 %
Imp Reason	**1**	Type = 46.1 %	Type = 54.1 %	Type = 58.3 %	Type = 65.0 %
	2	Prize = 16.6 %	Prize= 14.7 %	Name = 13.2 %	Name = 10.6 %
	3	Name = 9.8 %	Name = 9.2 %	Prize = 9.8 %	Prize = 7.8 %
Pair 12 N = 1011*					
Holiday Greetings		52.8 %	66.0 %	64.6 %	66.5 %
Doubling Red 7s		47.2 %	34.0 %	35.4 %	33.5 %
Imp Reason	**1**	Type = 33.2 %	Type = 27.3 %	Type = 25.9 %	Type = 22.6 %
	2	Prize= 25.8 %	Prize = 26.3 %	Prize= 22.9 %	Colour = 24.9 %
	3	Colour =14.2 %	Colour = 20.1 %	Colour = 22.2 %	Name = 16.9 %
Pair 13 N = 1017					
Crossword		62.2 %	58.4 %	60.5 %	57.8 %
Viva Las Vegas		37.8 %	41.6 %	39.5 %	42.2 %
Imp Reason	**1**	Type = 49.7 %	Type = 57.1 %	Type = 64.3 %	Type = 65.3 %
	2	Prize = 13.6 %	Prize = 14.2 %	Activities= 9.1 %	Activities= 9.1%**
	3	Other = 7.9 %	Activities = 8.3 %	Prize/Name = 7.2 %	Colour = 8.5 %
Pair 14 N = 1024*					
6/49		34.3 %	46.5 %	44.5 %	51.3 %
Mini Monopoly		65.7 %	53.5 %	55.5 %	48.7 %
Imp Reason	**1**	Type = 37.8 %	Type = 36.7 %	Type = 36.5 %	Type = 33.9 %
	2	Prize = 20.7 %	Prize = 25.9 %	Prize = 27.0 %	Prize = 32.2 %
	3	Name/Cost = 7.8 %	Chose Team = 10.4%	Chose team = 8.0 %	Chose team = 9.0%
Pair 15 N = 1005*					
Grand Slam		62.1 %	52.2 %	49.7 %	47.3 %
Pro-Line		38.8 %	47.8 %	50.3 %	52.7 %
Imp Reason	**1**	Type = 33.0 %	Type = 35.2 %	Type = 39.7 %	Type = 36.0 %
	2	Name = 12.6 %	Choose Team = 17.9 %	Choose Team = 17.2 %	Choose Team= 20.9 %
	3	Prize = 12.0 %	Prize = 12.2 %	Other = 10.1 %	Other = 11.6 %
Pair 16 N= 1014					
Red Hot Cash		50.5 %	50.6 %	49.5 %	44.4 %
Bingo Express		49.5 %	49.4 %	50.5 %	55.6 %
Imp Reason	**1**	Type = 40.1 %	Type = 42.1 %	Type = 44.1 %	Type = 44.6 %
	2	Prize = 19.3 %	Prize = 20.3 %	Prize = 20.6 %	Prize = 14.3 %
	3	Name = 10.9 %	Colour = 12.4 %	Colour = 12.1 %	Colour= 14.3 %
TOTAL		N = 224	N = 338	N = 307	N = 203

*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

grades 6 and 7 believe that they had a greater chance of regularly winning money playing scratch tickets, whereas older youth (grades 8 - 12) believed that they have a greater chance of winning money playing sports tickets. Interestingly, only a relatively small percentage of adolescents reported that they could regularly win on any of the lottery products (see Tables 37 & 38).

Table 37: Perceived Likelihood of Winning Money: Gender Differences

Chance of winning money				
		Males	**Females**	**Total**
Draws	Never	26.3 %	15.3 %	20.6 %
	Occasional	71.0 %	81.9 %	76.7 %
	Regular	2.7 %	2.8 %	2.7%
Scratch	Never	8.5 %	7.9 %	8.2 %
	Occasional	75.1 %	74.9 %	75.0 %
	Regular	16.4 %	17.2 %	16.8%
Sports**	Never	9.5 %	9.6 %	9.5 %
	Occasional	68.8 %	80.6 %	74.9 %
	Regular	21.7 %	9.8 %	15.6%

Occasional = not often or regularly
Regular = often and always
**Statistically significant ($p<.01$) as tested by Pearson chi-square analysis.

Table 38: Perceived Likelihood of Winning: Developmental Differences

Chance of winning money						
		Grade 6/7	**Grade 8/9**	**Grade 10/11**	**Grade 12**	**Total**
Draws	Never	18.2 %	17.6 %	22.4 %	25.6 %	20.6 %
	Occasional	78.2 %	79.4 %	74.6 %	73.4 %	76.7 %
	Regular	3.6 %	3.0 %	3.0 %	1.0 %	2.7%
Scratch	Never	9.1 %	6.9 %	9.5 %	7.4 %	8.2 %
	Occasional	72.3 %	80.0 %	71.2 %	78.3 %	75.0 %
	Regular	18.6 %	13.1 %	19.3 %	17.3 %	16.8%
Sports**	Never	18.3 %	8.8 %	7.0 %	5.0 %	9.5 %
	Occasional	72.5 %	77.9 %	69.7 %	80.0 %	74.9 %
	Regular	9.2 %	13.3 %	23.3 %	15.0 %	15.6%

Occasional = not often or regularly
Regular = often and always
**Statistically significant ($p<.01$) as tested by Pearson chi-square analysis.

Perception of Amount of Skill Involved in Lottery Products

A 4 X 4 X 2 multivariate analysis of variance (MANOVA) was performed, including gambling group, gender and grade as fixed variables and the skill draw, skill scratch, and skill sports as dependent variables. The Box's M statistics was significant ($p<.001$), therefore the observed covariance matrices of the dependent variables are not equal across groups. There was significant gender x grade, gender x gambling group, and gender x grade x gambling group interactions for the amount of skill involved in different lottery products (see Tables C31 and C32, Appendix C Appendix for the multivariate and univariate results).

Overall, participants believe that there is the most skill involved in sports lotteries, followed by lottery draws (can pick their own numbers), and scratch tickets. A significant gender effect was

found for the amount of skill involved in lottery draws (F (990)=10.37, p<.001), with females (M = 2.20, SD = 1.47) indicating more skill than males (M = 2.07, SD = 1.68) (Table 39). However, it is important to note that all ratings are quite low (range 1-5) for lottery draws and scratchcard tickets.

Table 39: Perception of Skill: Gender Differences

Mean amount of skill involved in lottery products						
	Males		Females		Total	
	M	SD	M	SD	M	SD
Draws	2.07	1.68	2.20	1.47	2.14	1.57
Scratch	1.81	1.40	1.91	1.41	1.86	1.41
Sports	4.20	2.17	3.52	1.81	3.85	2.02

Range 1-5.

A significant developmental difference for the amount of skill in scratch tickets (F (990) = 4.90, p<.002) and sports ticket (F (990) = 4.57, p<.003) was found. Regardless of the age of participants, they all believed that sports lottery tickets contain the greatest element of skill. A linear trend was noted for the amount of perceived skill involved in sports betting. The older the participant, the more they perceived that skill was involved in sports betting (Table 40).

Table 40: Perception of Skill: Developmental Differences

Mean amount of skill involved in lottery products										
	Grade 6/7		Grade 8/9		Grade 9/10		Grade 12		Total	
	M	SD	M	SD	M	SD	M	SD	M	SD
Draws	2.29	1.76	2.32	1.59	2.10	1.54	1.74	1.29	2.14	1.57
Scratch	2.20	1.62	1.94	1.43	1.75	1.38	1.51	1.02	1.86	1.41
Sports	3.14	2.12	3.83	1.92	4.17	2.05	4.20	1.85	3.85	2.02

Range 1-5.

Selection of Lottery Draw Numbers (Illusion Of Control)

To examine an element of perceived illusion of control adolescents were asked whether they selected their own lottery draw numbers or if they preferred the terminal to randomly generate a ticket (Table 41). Of the participants who reported playing lottery products, 74.5% of adolescents (71.6% of males; 78.1% of females) feel the need to select their own numbers, although no statistically significant gender differences were found. The majority of participants 11-12 year-olds (76.0%) (grades 6/7), 13-14 year-olds (73.5%) (grades 8/9), 15-16 year-olds (76.6%) (grades 10/11) and 17-18 year-olds (71.1%) (grade 12), reported a preference for selecting their own numbers. No significant differences across grade levels were found.

Table 41: Selection of Lottery Draw Numbers

Gender	Select own numbers
Male	71.6 %
Female	78.1 %
Grade Level	
Grade 6/7	76.0 %
Grade 8/9	73.5 %
Grade 10/11	76.6 %
Grade 12	71.1 %
Total	74.5 %

RESULTS: GAMBLING SEVERITY

Gambling Behaviour

Prevalence

The DSM-IV-MR-J criteria for probable pathological gambling was met by 2.8% (scores of ≥ 4) for the entire sample, with 6.8% of adolescents categorized as at-risk for pathological gambling (scores of 2-3) and 65.2% considered social gamblers (scores of 0-1) (experiencing few negative gambling related problems). It is important to note that the original DSM-IV-J (Fisher, 1992) scale was found to be the most conservative measure of identifying probable pathological gamblers (Derevensky & Gupta, 2000) and that another recent province-wide study using the SOGS-RA has reported higher rates of probable pathological gambling (5.8%) amongst adolescents in Ontario (Adalf & Ialomiteanu, 2000).

Within the current sample, more males were identified as having gambling problems (4.7% probable pathological gamblers; 10.7% at-risk gamblers) than females (1.0% probable pathological gamblers; 3.7% at-risk gamblers). Regular gambling behaviour (once a week or more) was fairly constant across developmental level. However, as one would expect, significant increases in the frequency of gambling was found as the level of gambling severity increased, from social gamblers to probable pathological gamblers (Table 42).

Table 42: Gambling Severity by Gender and Grade Level

(N = 1000) **Gender**	**Non Gambler** (N = 252)	**Social Gambler** (N = 652)	**At-Risk Gambler** (N = 68)	**Probable Pathological Gambler** (N = 28)
Male	21.1 %	64.2 %	10.0 %	4.7 %
Female	29.2 %	66.1 %	3.7 %	1.0 %
Grade Level				
Grade 6/7	31.2 %	59.9 %	6.4 %	2.5 %
Grade 8/9	24.4 %	68.8 %	5.5 %	1.3 %
Grade 10/11	22.4 %	65.0 %	7.8 %	4.8 %
Grade 12	24.4 %	65.3 %	7.8 %	2.6 %
Total	25.2 %	65.2 %	6.8 %	2.8 %

Participation in Gambling Activities During the Past 12 Months

Adolescents were asked about their gambling activities and rates of participation during the past 12 months (Table 43). Of those that reported engaging in the various activities, social gamblers preferred playing cards, scratchcards, and bingo; at-risk gamblers showed a preference for card playing, scratch/lottery draws, and games of skill, while probable pathological gamblers prefer playing lottery draws/scratchcards, sports lottery, and wagering on sporting events.

Significant differences in participation rates were found across levels of gambling severity for card playing ($?^2$ (444)=35.35, p<.001), purchasing draws/scratchcard tickets ($?^2$ (411)= 37.771, p<.001), video games/poker ($?^2$ (147)=14.04, p<.001), bingo ($?^2$ (309)=15.62, p<.001), and wagering on games of skill ($?^2$ (280)=15.53, p<.001). As can be seen in Table 43, a linear increase was found across gambling severity for *once a week or more* participation for draw/scratchcard purchases, video game/poker, and wagering on games of skill. Chi-square analyses conducted on regular gambling participation could not be reliably computed due to small cell sizes for slot machine playing for the at-risk (N = 4) and probable pathological (N = 4) groups.

Table 43: Participation in Various Gambling Activities During the Past Year: Gambling Severity

	Social Gambler			At-Risk Gambler			Probable Pathological Gambler		
	Never	Occasional	Regular	Never	Occasional	Regular	Never	Occasional	Regular
Cards	42.8 %	48.7 %	8.6 %	17.6 %	47.1 %	35.1 %	25.9 %	37.1 %	37.0 %
Wager on sports	71.3 %	21.3 %	7.3 %	5.2 %	36.8 %	20.6 %	21.4 %	46.4 %	32.1 %
Sports lottery	86.0 %	10.5 %	3.6 %	68.7 %	20.9 %	10.4 %	22.2 %	51.9 %	25.9 %
Draws/scratch	46.4 %	48.1 %	5.6 %	39.7 %	47.1 %	13.2 %	11.1 %	40.7 %	48.1 %
VG/Poker	84.5 %	13.3 %	2.2 %	54.4 %	32.4 %	13.2 %	37.0 %	29.6 %	33.3 %
Bingo	59.2 %	36.4 %	4.4 %	54.4 %	32.4 %	13.2 %	38.5 %	38.5 %	23.1 %
Slot machine	88.3 %	9.9 %	1.7 %	74.6 %	19.4 %	6.0 %	59.3 %	14.8 %	25.9 %
Games of skill	66.7 %	27.0 %	6.3 %	36.8 %	47.1 %	16.2 %	14.3 %	39.3 %	46.4 %
Another form	85.2 %	11.1 %	3.6 %	62.7 %	20.3 %	16.9 %	40.9 %	13.6 %	45.4 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
Occasional: Less than once a week
Regular: Weekly & daily

Lottery Product Participation

Of those adolescents who indicated playing the lottery, differences in participation rates by gambling severity were found for lottery draws ($?^2$ (994)=79.32, p<.001), scratchcards ($?^2$ (999)=170.03, p<.001), and sports tickets ($?^2$ (995)=103.40, p<.001). As can be seen in Table 44, there is increasing linear trend with the probable pathological group indicating the highest use (combined occasional and regular categories) of lottery draws (59.3%), scratchcards (75.0%), and sports tickets (60.7%) compared with at-risk (34.3%, 62.3%, 18.1% respectively) and social gamblers (26.9%, 66.7%, 18.1% respectively). Frequency of use also differed according to gambling severity, with regular weekly participation occurring more often among those falling within the at-risk and probable pathological groups (chi-square analyses could not be reliably computed due to small cell sizes). For additional information concerning lottery participation and gambling severity see Tables D1, Appendix D.

Table 44:Participation in Lottery Products: Gambling Severity

		Lottery Product Participation				
		Non Gambler	**Social Gambler**	**At-Risk Gambler**	**Probable Pathological Gambler**	**Total**
Draws (N = 994)	Never	95.2 %	73.1 %	64.7 %	40.7 %	77.6 %
	Occasional	4.8 %	25.5 %	33.8 %	44.5 %	21.0%
	Regular	0 %	1.4 %	1.5 %	14.8 %	1.4 %
Scratch (N = 999)	Never	80.6 %	33.3 %	38.2 %	25.0 %	45.8 %
	Occasional	19.4 %	63.8 %	54.9 %	57.1 %	51.5%
	Regular	0 %	2.9 %	7.4 %	17.9 %	2.7 %
Sports (N = 995)	Never	100.0%	81.9 %	70.6 %	39.3 %	85.2 %
	Occasional	0 %	15.3 %	10.7 %	53.6 %	12.5%
	Regular	0 %	2.8 %	7.4 %	7.1 %	2.3 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
Occasional Use = Less than once per week
Regular Use = Weekly & daily
Note: Several of the non-gamblers (as defined by not gambling within the past year) responded to these items according to their participation in the lottery prior to the one-year cut-off.

Recency of Lottery Product Participation/Purchases

Overall, 44.3% of adolescents reported playing/purchasing a lottery ticket more than six months ago, 38.9% reported doing so within the past month, and 16.8% within the past week. While the at-risk group reported the highest percentage (43.5%) of lottery participation/purchases in the past month, the probable pathological group reported the highest percentage (45.5%) of lottery participation/purchases within the past week (see Table 5). In general, 68.2% of the probable pathological group, 78.3% of the at-risk gamblers, and 55.5% of the social gamblers played within the past month.

Table 45: Most Recent Experience with the Lottery: Gambling Severity

	Last time participants either bought or played the lottery		
N = 560	**More than 6 months**	**Past Month**	**Past Week**
Social Gambler	44.5 %	39.2 %	16.3 %
At-Risk Gambler	21.7 %	43.5 %	34.8 %
Probable Pathological Gambler	31.8 %	22.7 %	45.5 %
Total	44.3 %	38.9 %	16.8 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4

Lottery Product Participation and Purchases

Age of Onset

The mean age at which adolescents first participated in scratchcards and sports tickets differed significantly across groups based upon gambling severity (F (520) = 3.09, p<.027 and F (153) = 4.13, p<.008 respectively). Table 46 reveals that probable pathological gamblers had the youngest mean age of onset for participation in lottery draws (M = 9.94, SD = 3.34), scratch tickets (M = 8.10, SD = 3.35), and sports tickets (M = 10.56, SD = 3.12). Social gamblers reported the oldest mean age of onset for *playing* lottery products, however the reported ages for lottery draws (M = 11.02, SD = 3.16), scratch (M = 10.09, SD = 3.13), and sports lotteries (M = 11.67, SD = 2.85) remain considerably young, below 12 years of age. It is important to note that the differences while statistically significant are relatively small (approximately 1 year).

With respect to mean age of *first purchase,* probable pathological gamblers reported purchasing draws at a mean age of 13.00, scratchcards at age 11.94, and sports lotteries at age 12.09. Overall the mean age onset for purchasing lottery tickets was 12.24 (for social gamblers it was 12.48, for at-risk gamblers it was 12.71, and for probable pathological gamblers it was 12.34). No appreciable differences between the groups were found. Of greatest importance is that all groups reported purchasing tickets when they were significantly below the legal age required in Ontario (Table 46).

Table 46: Mean Ages of Onset for Playing and Purchasing Lottery Products: Gambling Severity

		Social Gambler		At-Risk Gambler		Probable Pathological Gambler		Total	
		M	SD	M	SD	M	SD	M	SD
Draws	Mean age of first play*	11.02	3.16	10.29	3.68	9.94	3.34	10.69	3.22
	Mean age of first purchase	12.90	2.89	11.50	4.54	13.00	2.40	12.73	3.05
Scratch	Mean age of first play*	10.09	3.13	9.54	3.64	8.10	3.35	9.86	3.16
	Mean age of first purchase	12.13	3.39	12.36	3.56	11.94	3.14	12.12	3.37
Sports	Mean age of first play*	11.67	2.85	13.48	2.50	10.56	3.12	11.78	2.91
	Mean age of first purchase	12.41	3.06	14.27	3.03	12.09	3.29	12.74	3.15

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$ 4
* Statistically significant at p<.05

Reasons for Initiation and Maintenance of Lottery Play by Gambling Severity

Significant differences according to gambling severity were found for the reasons why adolescents reported initially engaging in the lottery. Differences were noted for the following reasons: parents' playing behaviour ($?^2$ (515)=10.20, p<.017), friends' playing behaviour ($?^2$ (515)=9.39, p<.024), winning money ($?^2$ (515)=12.45, p<.006), and for curiosity ($?^2$ (515)=12.19, p<.007). Overall, the most cited reason for beginning to play and continuation of playing the lottery was to win money (Table 47). Social gamblers reported initially becoming interested in lottery because of parental influences and curiosity, whereas at-risk adolescents reported playing for enjoyment and excitement, and the probable pathological gamblers reported playing with

friends and to win money as the primary reasons why they were initiated into gambling activities.

Significant differences for the continuation of lottery activities for gambling groups were found for parents' play ($?^2$ (513)=12.96, p<.005), friend's play ($?^2$ (513)=12.60, p<.006) and to win money ($?^2$ (513)=14.60, p<.002). Social gamblers reported continuing to play because their parents play, enjoyment and curiosity; at-risk gamblers reported maintaining playing because of the challenge and excitement it brings, and probable pathological gamblers reported continuing to play to win money and relieve boredom (Table 47).

Table 47: Reasons for Initiation and Maintenance of Lottery Playing Behaviour: Gambling Severity

		Social Gambler	At-Risk Gambler	Probable Pathological Gambler	Total
Reasons began playing lottery (N = 515)	Parents play*	49.7 %	36.2 %	21.7 %	47.7 %
	Friends play*	9.9 %	17.0 %	21.7 %	9.8 %
	Impress friends	0.7 %	0 %	4.3 %	0.8 %
	Boredom	20.7 %	19.1 %	21.7 %	19.7 %
	Challenge	15.1 %	19.1 %	17.4 %	15.5 %
	Win $*	64.9 %	78.7 %	87.0 %	64.5 %
	Enjoyment	38.0 %	42.6 %	30.4 %	37.5 %
	Excitement	30.6 %	42.6 %	34.8 %	30.7 %
	Curiosity*	27.9 %	25.5 %	13.0 %	28.3 %
Reasons continue playing lottery (N = 513)	Parents play*	33.0 %	12.8 %	13.0 %	31.7 %
	Friends Play*	5.9 %	17.0 %	8.7 %	6.0 %
	Impress friends	0.2 %	0 %	4.3 %	0.3 %
	Boredom	18.3 %	12.8 %	21.7 %	17.1 %
	Challenge	16.0 %	27.7 %	21.7 %	17.4 %
	Win $*	67.9 %	78.7 %	82.6 %	66.3 %
	Enjoyment	39.1 %	31.9 %	26.1 %	36.7 %
	Excitement	29.8 %	44.7 %	30.4 %	30.0 %
	Curiosity	15.3 %	17.0 %	8.7 %	16.3 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4

*Statistically significant (p<.05) as tested by Pearson chi-square analysis.

Knowledge and Beliefs Regarding Legal Age Restrictions for the Lottery

Overall, a large proportion of youth do not perceive scratchcards (30.9%), lottery draws (20.3%), and bingo (41.9%) to be a form of gambling. In addition, the majority of adolescents (90.3%) were aware of the legal age to purchase tickets. While not a major deterrent, probable pathological gamblers (92.6 %) and social gamblers (92.1%) seem to be the most aware of the legal age to purchase tickets. Significant differences as a function of gambling severity were found for the belief that there should be an age restriction to purchase lottery products ($?^2$ (992)=36.44, p<.001) with the majority of social gamblers (63.3%), at-risk (52.2%) and probable pathological gamblers (50.0%) reporting that there should be no age restriction. When asked to indicate an appropriate age for purchasing lottery tickets, differences were found across the

gambling severity groups (F (648) = 3.22, p<.022) (see Table 48). The proposed age range was found to between 15 ½ - 17 ½ years, with non-gamblers being the most conservative.

Table 48: Awareness and Beliefs Regarding Legal Age Restrictions to Purchase Lottery Tickets: Gambling Severity

	Non Gambler		**Social Gambler**		**At-Risk Gambler**		**Probable Pathological Gambler**		**Total**	
*Awareness of current legal age**	87.5 %		92.1 %		85.3 %		92.6 %		90.3 %	
*Should be an age restriction**	79.8 %		63.3 %		47.8 %		50.0 %		66.2 %	
	M	SD	M	SD	M	SD	M	SD	M	SD
*Current legal age***	18.10	0.95	18.11	0.83	17.62	1.70	18.75	2.85	18.08	1.04
*Recommended age restriction **	17.60	2.49	16.88	4.24	15.65	2.61	16.07	8.56	16.99	3.84

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
*Statistically significant (p<.01) as tested by Pearson chi-square analysis.
**Statistically significant (p<.05) as tested by one-way ANOVA.

Lottery Ticket Purchases

Adolescents were asked about the ease or difficulty they have experienced in purchasing lottery tickets. These results were analyzed according to degree of gambling severity and are presented in Table 49. As can be seen, the majority of adolescents (65.7%) reported that it was not difficult to purchase tickets, in spite of current legal age restrictions. No appreciable differences were found by level of gambling severity.

Table 49: Ease of Purchasing Lottery Products

	Ease with which underage youth purchase lottery tickets (N = 441)	
	Easy	Difficult
Social Gambler	64.7 %	35.3 %
At-Risk Gambler	74.0 %	26.0 %
Probable Pathological Gambler	65.2 %	34.8 %
Total	65.7 %	36.3 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4

Of significance were the differences between groups who reported *specifically* going to the corner convenience store to purchase lottery tickets ($?^2$ (516)=41.19, p<.001) with the at-risk (61.2%) and probable pathological (60.9%) reporting the highest rates for occasional and regular visits (see Table 50). In addition, 13% of probable pathological gamblers reported going to the corner store specifically to purchase tickets. Chi-square analyses could not be reliably computed due to small cell sizes, however percentages of reported visits increase across levels of gambling severity, with probable pathological gamblers reporting engaging in this behaviour the most frequently. Additional detailed information is provided in Table D2, Appendix D.

Table 50: Participants Who Go to the Convenience Store Specifically to Purchase Lottery Tickets: Gambling Severity

N = 516	**Participants who go to the store specifically to purchase ticket**		
	Never	Occasional	Regular
Social Gambler	68.0 %	29.5 %	2.5 %
At-Risk Gambler	38.8 %	57.1 %	4.1 %
Probable Pathological Gambler	39.1 %	47.9 %	13.0 %
Total	67.1 %	30.2 %	2.7 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
Occasional = less than once a week
Regular = weekly & daily

Expenditures on Lottery Tickets

Adolescents were asked the average amount of money *spent per week* on lottery tickets. Significant differences were found for the average amount of money spent per week on lottery draws ($F(97) = 3.17$, $p<.028$) and for scratch tickets ($F(232) = 3.17$, $p<.025$). The data presented in Table 10 reveals that probable pathological gamblers reported spending more money per week on lottery draws (M = $7.44, SD = 5.39), scratchcards (M = $17.50, SD = 26.3), and sports tickets (M = $23.20, SD = 27.7) than at-risk and social gamblers.

Table 51: Average and Greatest Amount of Money Spent on Lottery Products: Gambling Severity

	Average amount of money spent per week					
	Draws * (N = 98)		**Scratch*** (N = 233)		**Sports** (N = 92)	
	M	SD	M	SD	M	SD
Social Gambler	$3.66	3.05	$5.08	14.80	$6.42	6.16
At-Risk Gambler	$4.04	1.80	$4.05	2.46	$6.21	4.16
Probable Pathological Gambler	$7.44	5.39	$17.50	26.30	$23.20	27.70
Total	$4.05	3.62	$5.55	14.60	$7.16	11.20
	Most money spent in one week					
	Draws** (N = 131)		**Scratch**** (N = 332)		**Sports** (N =114)	
	M	SD	M	SD	M	SD
Social Gambler	$7.38	8.46	$8.97	13.70	$12.40	13.60
At-Risk Gambler	$9.07	12.10	$8.17	6.57	$8.79	6.86
Probable Pathological Gambler	$23.20	27.70	$34.20	43.30	$13.40	11.30
Total	$9.02	12.70	$9.68	16.10	$11.93	12.40

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
* Statistically significant at $p<.05$
** Statistically significant at $p<.01$

Participants were also asked about the largest amount ever spent in *one week* on lottery products, and significant differences between gambling severity groups were also found for lottery draws ($F(130) = 6.72$, $p<.001$) and scratchcards ($F(331) = 13.54$, $p<.001$).

A significant difference for the most money ever spent on *one* ticket was found (F (374) = 13.52, p<.001) across gambling severity groups. Probable pathological gamblers reported having spent the most on one single ticket (M = $100.00, SD = 356.50). This finding is likely the result of a misinterpretation of the question, since it is impossible to have a mean of $100 for the purchase of *one* single ticket. Students likely interpreted this question as referring to the "cumulative" amount spent on tickets at any one given time.

The participants also were asked about the most amount of money ever won playing the lottery. It was found that the probable pathological gambling group reported the highest winnings, although this is a highly skewed distribution and may not accurately reflect true differences (see Table 52).

Table 52: Greatest Amount of Money Spent or Won on the Lottery: Gambling Severity

	Most money spent on one ticket**		**Most money won playing the lottery**	
N = 993	M	SD	M	SD
Social Gambler	$5.91	7.15	$80.50	357.70
At-Risk Gambler	$6.60	4.34	$54.30	70.70
Probable Pathological Gambler	$100.00	356.50	$1000.00	2359.00
Total	$11.93	12.40	$71.40	314.90

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score 4+
** Statistically significant at p<.01 for independent samples t-test.

Borrowing Money and Purchasing Tickets for Friends

Adolescents were asked if they had borrowed money in the past year to purchase lottery tickets. Of the total sample, 7.9% reported borrowing money during the past year to purchase lottery tickets. Significant differences were found ($?^2$ (516)=45.26, p<.001) across gambling severity groups. Examination of the data reveals that 42.9% of pathological gamblers reported borrowing money in the past year to purchase lottery tickets, which is significantly higher than the at-risk gamblers (17.0%) and social gamblers (6.4%) (Table 53).

Table 53: Borrowing Money to Purchase Lottery Tickets and Ticket Purchases for a Friend

	Social Gambler	**At-Risk Gambler**	**Probable Pathological Gambler**	**Total**
Borrowed money** (N = 516)	6.4 %	17.0 %	42.9 %	7.9 %
Bought for friend** (N = 512)	21.0 %	29.8 %	56.5 %	21.1 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
**Statistically significant (p<.01) as tested by Pearson chi-square analysis.

Returning to Purchase Lottery Tickets Following Wins and Losses

Of the total sample 13.0% of adolescents reported that they return to purchase more tickets if they had won on a previous ticket, with only 2.2% reporting they would purchase additional

tickets if they lost. Significant differences were found for returning to purchase tickets if they won ($?^2$ (510)= 28.59, p<.001), and lost ($?^2$ (509)= 65.81, p<.001) as a function of gambling severity. A linear increase across gambling severity was noted with probable pathological gamblers reporting they would regularly return to purchase more tickets if they won (39.1%) or lost (26.1%) compared to the other groups (see Table 54).

Table 54: Purchasing of Additional Tickets After Wins or Losses: Gambling Severity

	Return to purchase tickets if won** (N = 510)			**Return to purchase tickets if lost**** (N = 509)		
	Never	Occasional	Regular	Never	Occasional	Regular
Social Gambler	33.5%	55.1%	11.4 %	58.5%	40.8%	0.7 %
At-Risk Gambler	20.8%	52.1%	27.1 %	40.4%	53.2%	6.4 %
Probable Pathological Gambler	13.0%	47.9%	39.1 %	17.4%	56.5%	26.1 %
Total	36.0%	51.0%	13.0%	59.2%	38.6%	2.2 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
Occasional: rarely, sometimes
Regular = often and always
**Statistically significant (p<.01) as tested by Pearson chi-square analysis.

Gambling Activity Preferences

Participants' Spending Preferences

Participants were asked if they had $5 would they prefer to spend their money on movies, food, video games or the lottery. Social and at-risk gamblers preferred spending their money on movies or food rather than lottery products. In contrast, 35% of probable pathological gamblers reported that they would spend their money on some form of lottery ticket. The number of youth willing to purchase lottery tickets (combining draw, scratchcard and sports lottery tickets) exceeded those reporting to spend their money on food (30.0%), movies (25.0%) and video games (10%). Willingness to spend money on scratchcards and sports tickets increased by gambling severity (Table 55).

Table 55: Participants' Spending Preferences by Gambling Severity

	Entertainment			**Lottery products**		
N = 566	**Movies**	**Food**	**Video Games**	**Draw**	**Scratch**	**Sports**
Social Gambler	26.4 %	53.0 %	13.4 %	0.7 %	5.1 %	1.3 %
At-Risk Gambler	17.0 %	53.2 %	12.8 &	2.1 %	8.5 %	6.4 %
Probable Pathological Gambler	25.0 %	30.0 %	10.0 %	0 %	25.0 %	10.0 %
Total	28.6 %	49.5 %	13.6 %	0.7 %	5.8 %	1.8 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥ 4

Gambling Activity Preferences

To investigate how much participants like or dislike a variety of gambling activities they were asked to rate their feelings on a 7-point Likert scale. A 4 X 4 X 2 multivariate analysis of variance (MANOVA) was performed, including gambling group, gender and grade as fixed variables, and measures of how much they like scratchcards, lottery draws, sports betting, video games, slot machines, bingo, and horse track wagering as dependent variables. Main effects were found for gender, grade, and gambling group, and an interaction effect of gender and grade was obtained (Tables C14 and C15, Appendix C).

Overall, the highest subjective ratings for gambling activities were found for scratch tickets (M = 4.07, SD = 1.91), bingo (M = 3.60, SD = 2.03), and card playing (M = 2.82, SD = 1.95). Activity ratings differed according to gambling severity; scratchcards ($F(972) = 58.63$, $p<.001$), lottery draws ($F(972) = 13.45$, $p<.001$), sports betting ($F(972) = 14.77$, $p<.001$), betting on cards ($F(972) = 28.62$, $p<.001$), video games ($F(972) = 5.03$, $p<.002$), slot machines ($F(972) = 16.98$, $p<.001$), bingo ($F(972) = 26.75$, $p<.001$), and horse track wagering ($F(972) = 13.73$, $p<.001$). As can be seen in Table 56, the preference for each of the gambling activities increased linearly by gambling severity with probable pathological gamblers reporting the highest mean ratings for most activities compared to the other groups. All adolescents, regardless of gambling severity, reported that their most preferred gambling activity was scratchcards and bingo, except for probable pathological gamblers who reported a greater preference for card playing than bingo.

Table 56: Mean Ratings of Gambling Activities: Gambling Severity

N = 997	**Non Gambler**		**Social Gambler**		**At-Risk Gambler**		**Probable Pathological Gambler**		**Total**	
	M	SD	M	SD	M	SD	M	SD	M	SD
Scratchcards	2.78	1.67	4.46	1.77	4.82	2.03	5.57	1.60	4.07	1.91
Lottery draws	2.22	1.47	2.69	1.51	3.51	1.77	4.26	1.70	2.67	1.57
Sports betting	1.72	1.20	2.58	1.90	3.63	2.34	3.86	2.10	2.43	1.85
Betting on cards	1.96	1.42	2.93	1.92	4.22	2.15	5.29	1.82	2.82	1.95
Video games	3.72	2.15	4.36	2.05	4.82	2.14	4.96	1.84	4.23	2.11
Slot machines	1.52	1.01	2.11	1.50	2.94	2.15	3.56	2.01	2.05	1.52
Bingo	2.70	1.79	3.85	1.99	4.32	2.24	4.43	2.23	3.60	2.03
Horse track	1.69	1.26	2.34	1.79	3.01	2.14	3.82	2.36	2.25	1.77

Based on 7-point Likert scale from *"do not like at all"* to *"like very much."* Range 1-7.

To examine the difference within each item for gambling groups, Scheffe post-hoc analyses were computed and can be found in Table D3, Appendix D. Non-gamblers gave lower mean ratings and differed significantly from all other groups in how much they reported to like the various gambling activities. Social gamblers reported a lower mean rating on lottery draws, sports betting, betting on cards, slot machines, and horse track than the at-risk and probable pathological gambling groups.

Parental Influences

Parental Knowledge of Adolescent Lottery Use

Of those adolescents who had reported playing the lottery, the vast majority (83.9%) reported that their parents were aware of their playing and 93.9% reported not being afraid of getting caught. It is important to note that these reports represent adolescent perceptions and no parental corroboration was ascertained. Although no significant differences by level of gambling severity was found, it is interesting to note that participants reported being more afraid of getting caught as their level of gambling severity increased with the probable pathological gamblers indicating that their parents are the least aware of their lottery participation and that they are the most afraid (9.1%) of getting caught compared to the other groups. It is likely that they are not afraid of their parents learning about their lottery playing as much as the severity of their gambling problems in general.

Table 57: Parental Awareness of Lottery Activities and Fear of Being Caught: Gambling Severity

	Social Gambler	At-Risk Gambler	Probable Pathological Gambler	Total
Parental awareness of lottery play	84.7 %	85.7 %	72.7 %	83.9 %
Afraid of getting caught	5.4 %	7.1 %	9.1 %	6.1 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$4

Perceived Parental Lottery Product Participation

In order to examine familial influences, adolescents were asked to indicate if their parents played the lottery and their perceived frequency of participation and purchases. Significant gambling severity differences were noted for parental participation in lottery activities ($?^2$ (996)=21.35, $p<.001$) with non-gamblers indicating that their parents participate the least (73.1%) on lottery activities compared with social gamblers (85.6%), at-risk gamblers (88.2%), and probable pathological gamblers (85.7%) ($?^2$ (996)=17.10, $p<.001$). At-risk (33.8%) and probable pathological gamblers (35.7%) perceive their parents to play the lottery more frequently as compared to the other social and non-gamblers. Similar to the previous question, this information represents adolescent perceptions and no parental corroboration was ascertained (Table 58).

Parental Purchases of Lottery Products for their Children

Adolescents were asked to report if their parents purchased lottery tickets for them and the frequency at which they did so. Significant differences between the gambling severity groups were found for parental purchases of lottery draws ($?^2$ (507)=17.72, $p<.001$) and sports tickets ($?^2$ (481)=22.06, $p<.001$). Examination of the data presented in Table 59 reveals that there is a linear increase for parental purchases for all three types of lottery activities across levels gambling

Table 58: Perceptions of Parental Lottery Playing: Gambling Severity

N = 996		Non Gambler	Social Gambler	At-Risk Gambler	Probable Pathological Gambler	Total
Parents who play lottery products**		73.1 %	85.6 %	88.2 %	85.7 %	82.0%
Frequency of play	Never	26.9 %	14.4 %	11.8 %	14.3 %	18.0%
	Occasional	55.4%	55.2%	54.4%	50.0%	55.5%
	Regular	17.7 %	30.4 %	33.8 %	35.7 %	26.7%

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$4
Occasional Use = Less than once per week
Regular Use = Weekly & daily

**Statistically significant ($p<.01$) as tested by Pearson chi-square analysis.

participation, with probable pathological gamblers reporting that their parents most frequently (weekly and daily) purchase lottery draws (26.1%), scratchcard tickets (13.0%), and sports tickets (13.0%) for them, as compared to the other groups. The fact that parents continue to purchase lottery tickets for their children is consistent with the perception that gambling is a relatively harmless activity for youth and that lottery playing in particular has no negative consequences (Table D4, Appendix D, provides more detailed information).

Table 59: Parental Purchases of Lottery Products for their Children: Gambling Severity

	Parental Purchase	Social Gambler	At-Risk Gambler	Probable Pathological Gambler	Total
Draws N = 507	Never	47.7 %	46.7 %	26.1 %	49.9 %
	Occasional	39.5%	42.2%	47.8%	38.2%
	Regular	12.8 %	11.1 %	26.1 %	11.9 %
Scratch N = 518	Never	22.5 %	25.5 %	17.4 %	23.3 %
	Occasional	73.0%	66.0%	69.6%	72.1%
	Regular	4.5 %	8.5 %	13.0 %	4.6 %
Sports N = 481	Never	76.3 %	64.4 %	47.8 %	76.8 %
	Occasional	20.0%	28.9%	39.2%	19.4%
	Regular	3.7 %	6.7 %	13.0 %	96.2 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$4
Occasional = less than once per week
Regular = weekly & daily

Lottery Products Received as Gifts

A significant difference by gambling severity was found for youth receiving a lottery ticket as a present ($?^2$ (567)=10.52, $p<.015$). At-risk gamblers (82.6%) reported receiving a ticket as a gift most frequently, with social gamblers (71.6%), with many probable pathological gamblers (68.2%), and non-gamblers (53.8%) also receiving tickets (Table 60). Although, no significant difference was found by level of gambling severity for having received a ticket as a gift for a holiday, probable pathological gamblers (63.6%) reported this more often than either the social or at-risk gamblers.

Table 60: Participants Who Reported Receiving Lottery Tickets as Gifts: Gambling Severity

N = 567		Non Gambler		Social Gambler		At-Risk Gambler		Probable Pathological Gambler		Total	
Receive d ticket as a present*		53.8 %		71.6 %		82.6 %		68.2 %		70.1%	
Occasion	Holiday	32.7 %		45.3 %		46.8 %		63.6 %		44.8 %	
	Birthday	28.8 %		44.6 %		38.3 %		40.9 %		41.8 %	
	Other*	11.5 %		13.2 %		40.9 %		31.8 %		14.4 %	
N= 552		M	SD	M	SD	M	SD	M	SD	M	SD
Mean number of tickets received		1.35	1.85	2.70	3.08	6.38	14.67	5.38	5.78	3.97	5.71

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
*Statistically significant (p<.05) as tested by Pearson chi-square analysis.

Lottery Advertisements

Exposure Impact

Adolescents were asked if they had seen any lottery advertisements and whether these advertisements encouraged them to play and/or purchase lottery products. Gambling severity differences were found for exposure to TV commercials (χ^2 (1000)=26.34, p<.001) and billboards (χ^2 (977)=12.96, p<.005). Non-gamblers (85.3%) and social gamblers (93.9%) reported viewing TV lottery advertisements more than at-risk (82.4%) and probable pathological gamblers (78.6%). Nevertheless, it is important to note that the penetration of lottery advertisements viewed by adolescents, ranging from 78.6%-93.3%, is quite high. Significant differences were also noted between gambling groups in their likelihood that they would be more likely to purchase a ticket due to advertising (χ^2 (988)=9.23, p<.026) with a greater percentage of probable pathological gamblers (60.7%) reporting willing to do so more than any other group.

Table 61: Reported Exposure to Lottery Advertisements: Gambling Severity

N = 1000	Type of media advertising				More likely to buy a ticket due to advertising*
	TV**	Newspaper	Magazine	Billboards*	
Non Gambler	85.3 %	63.9 %	52.0 %	61.0 %	36.7 %
Social Gambler	93.9 %	70.2 %	55.3 %	72.5 %	37.5 %
At-Risk Gambler	82.4 %	73.5 %	65.7 %	76.5 %	48.5 %
Probable Pathological Gambler	78.6 %	64.3 %	67.9 %	67.9 %	60.7 %
Total	90.3%	68.2%	54.7%	68.8%	39.0%

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
*Statistically significant (p<.05) as tested by Pearson chi-square analysis.
**Statistically significant (p<.01) as tested by Pearson chi-square analysis.

Impulsivity of Lottery Purchases by Gambling Severity

To examine whether adolescents are susceptible to impulsive purchasing of lottery tickets they were asked if they were more likely to purchase a ticket if it was readily observable on the check-out counter of the local corner store. Gambling severity differences were noted (χ^2 (284)=18.59, p<.001) in response to this question. As level of gambling severity increased,

participants were more likely to report purchasing a ticket as a result of seeing it on the store counter, with 85.7% of probable pathological gamblers reporting that they were more likely to purchase a ticket if displayed on the sales counter (Table 62).

Table 62: Effects of Placement of Lottery Tickets in Stores: Gambling Severity

	Likelihood of purchasing a ticket seen on store counter	
N = 284	More Likely*	Less Likely
Social Gambler	60.8 %	39.2 %
At-Risk Gambler	73.3 %	26.7 %
Probable Pathological Gambler	85.7 %	14.3 %
Total	57.4 %	42.6 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

To examine the impulsivity of playing behaviour, participants were asked if they scratch their lottery tickets immediately once in their possession. Of those who reported having purchased a lottery ticket, significant differences across levels of gambling involvement were found ($?^2(366)=16.81$, $p<.001$) with at-risk (71.1%) and probable pathological gamblers (81.1%) reporting that they would immediately scratch their lottery tickets (compared with 46.7% of. social gamblers) (Table 63).

Table 63: Scratchcard Ticket Behaviour: Immediate vs. Delayed Playing

N = 383	**Scratch ticket playing behaviour**	
Gambling Severity*	Immediately	Wait to get home
Social Gambler	46.7 %	53.3%
At-risk Gambler	71.1%	28.9%
Probable Pathological Gambler	81.1%	18.2%
Total	51.0 %	49.0 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

Importance of Familiarity

Familiarity is likely an important factor influencing gambling acquisition. To examine whether participants would consider type and familiarity of a lottery ticket as more important than the ticket price, adolescents were asked to report if they would still purchase their favorite lottery ticket even if the price increased. A significant difference in participants' willingness to purchase a ticket with an increased price was found across levels of gambling severity ($?^2(492)=40.88$, $p<.001$). A linear trend was noted such that the greater the gambling severity, the more adolescents reported being willing to purchase their favorite ticket even if the price increased. Probable pathological gamblers (78.3%) and at-risk gamblers (65.1%) reported being the most willing to purchase a more expensive ticket, as compared to social gamblers (35.5%) (Table 64).

To investigate the importance of familiarity in lottery ticket choices, adolescents were asked how often they play/purchase the same lottery ticket. Significant group differences were noted across levels of gambling severity with respect to how often they report playing the same lottery game ($?^2$ (510)=19.29, p<.001). In particular, a linear trend across groups was noted for regular lottery play of the same ticket game, with 59.1% of probable pathological gamblers, 36.7% of at-risk gamblers, and 26.7% of social gamblers doing so.

Table 64: Familiarity as an Important Factor in Lottery Ticket Selection: Gambling Severity

N= 510	**Play same lottery game**		
Gambling Severity	Never	Occasional	Regular
Social Gamblers	15.0 %	58.3 %	26.7 %
At-Risk Gamblers	6.1 %	57.5 %	36.7 %
Probable Pathological Gamblers	13.6 %	27.3 %	59.1 %
Total	16.8 %	56.4 %	26.8 %

Occasional Use = Less than once per week
Regular Use = Weekly & Daily
Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4

Knowledge of the Game

A significant ($?^2$ (984)=57.31, p<.001) difference by gambling severity was found for adolescents' willingness to purchase a ticket with which they are unfamiliar. A linear increase was found across levels of gambling severity with probable pathological gamblers (64.3%) reporting being the most willing to purchase an unfamiliar ticket and non-gamblers (16.7%) the least willing to try a novel ticket. While the previous reported data suggests that probable pathological gamblers most regularly play the same lottery game, they seem undeterred if presented with an unknown game that may be particularly attractive (see Table D5, Appendix D, for more detailed information).

Structural Characteristics

Structural Preferences

To examine the importance of structural characteristics of lottery products as a function of gambling severity, adolescents were asked if they would prefer a prize or money, if they have a preference for larger scratchcards, and whether a larger jackpot was more important than longer playtime. A significant difference among gambling severity groups was found for preference of larger tickets ($?^2$ (946)=30.59, p<.001) and larger jackpot ($?^2$ (992)=13.11, p<.004). As can be seen in Table 65, at-risk (75.4%) and probable pathological gamblers (75.0%) reported a preference for a larger ticket (possibly because larger tickets usually have larger jackpots). Given that at-risk (74.6%) and probable pathological gamblers (82.1%) report playing lotteries for monetary reasons, it makes sense that they reported a preference for a larger jackpot more than social gamblers (63.0%) and non-gamblers (72.9%).

Table 65: Structural Preferences of Lottery Tickets: Gambling Severity

Ticket Winnings	Non Gambler	Social Gambler	At-Risk Gambler	Probable Pathological Gambler	Total
Prize	15.9 %	12.5 %	8.8 %	0.0 %	12.7 %
Money	84.1 %	87.5 %	91.2 %	100.0 %	87.3 %
Ticket Size					
Larger**	48.9 %	67.2 %	75.4 %	75.0 %	62.8 %
Smaller	51.1 %	32.8 %	24.6 %	25.0 %	37.2 %
Win Ratio					
Larger Jackpot*	72.9 %	63.0 %	74.6 %	82.1 %	66.9 %
Play Value	27.1 %	37.0 %	25.4 %	17.9 %	33.1 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$4
*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.
**Statistically significant ($p<.01$) as tested by Pearson chi-square analysis

The Most Important Characteristic in Selecting a Ticket

Participants were required to select their preferred tickets among a multiple number of forced choice comparisons. In addition to asking them to select their preferred ticket of each pair, they were also required to identify which ticket characteristic resulted in their choice. Overall, the participants in the different gambling severity groups attributed different levels of importance to ticket colour, prize, and knowledge of the game. The importance of colour, prize, and knowing how to play a particular game all differed with degree of gambling severity. Ticket prize seems to be more important to at-risk and probable pathological gamblers whereas knowledge of the game decreases in importance as gambling severity increases (Table 66).

Table 66: Single Most Important Characteristic When Selecting a Ticket, by Gambling Severity

N = 994 Gambling Severity	Size	Colour	Prize	# of games	Type of game	Cost	Know how to play
Non Gambler	0.4%	0.8 %	31.2 %	2.4 %	12.1 %	16.6 %	36.4 %
Social Gambler	0.6%	2.5 %	28.6 %	4.9 %	20.0 %	22.1 %	21.4 %
At-Risk Gambler	0%	5.9 %	42.6 %	8.8 %	8.8 %	16.2 %	17.6 %
Probable Pathological Gambler	0%	11.1 %	40.7 %	3.7 %	14.8 %	22.2 %	7.4 %
Total	0.6 %	2.4 %	30.2 %	4.4 %	17.0 %	20.5 %	25.0 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$4

Mean Ratings of Structural Characteristics

A 4 X 4 X 2 multivariate analysis of variance (MANOVA) was performed, including gambling group, gender and grade as fixed variables, and the importance of price, colour, type of game, number of games on the scratchcard, name, prize, and size of ticket as dependent variables. Significant main effects for grade and gambling severity were found (see Table C23, Appendix C, for the multivariate analyses).To investigate the importance of a variety of structural

characteristics in choosing scratchcard tickets, participants were required to rate specific structural characteristics on a 7-point Likert scale.

An examination of the structural characteristics revealed group differences across gambling severity groups for ticket colour (F (981) = 2.78, p<.040), type of game (F (981) = 3.75, p<.011), number of activities (F (981) = 8.90, p<.001), name/title (F (981) = 5.21, p<.001), prize (F (981) = 3.21, p<.022), and size of ticket (F (981) = 15.86, p<.001). A grade by gambling group interaction was noted for ticket cost (F (981) = 2.13, p<.024). Mean ratings are presented in Table 67.

A linear increase with gambling severity was found for colour, type of game, title, prize, and size of ticket, with those in the at-risk and probable pathological groups reporting the highest mean ratings. All gambling severity groups reported that prize is the most important structural characteristic followed by type of game. Furthermore, non-gamblers and social gamblers reported that the cost of the ticket is important, however, at-risk and probable pathological gamblers reported that the number of activities on the card was also an important determinant. For non-gamblers and social gamblers, the cost of the ticket is more important, whereas adolescents who are heavily involved in gambling activities prefer scratchcards with more activities as they perceive their chances of winning are improved.

Table 67: Mean Ratings of Structural Characteristics: Gambling Severity

N = 998	**Non Gambler**		**Social Gambler**		**At-Risk Gambler**		**Probable Pathological Gambler**		**Total**	
	M	SD	M	SD	M	SD	M	SD	M	SD
Size	1.69	1.12	2.21	1.55	3.00	1.88	3.21	1.99	2.14	1.52
Colour	1.59	1.10	1.88	1.38	1.93	1.39	2.36	1.77	1.80	1.32
Prize	4.35	2.14	4.75	2.00	5.19	2.15	5.29	1.98	4.68	2.07
# of games	3.31	1.64	3.85	1.81	4.71	1.92	4.29	1.88	3.76	1.81
Type of Game	4.33	1.95	4.75	1.67	5.03	1.76	5.00	1.85	4.67	1.77
Cost	4.31	1.83	4.43	1.62	4.35	1.87	4.32	2.26	4.40	1.72
Name/Title	2.33	1.65	2.38	1.66	2.74	1.91	3.07	1.84	2.40	1.68

Based on 7 point Likert scale from "not at all important" to "extremely important"
Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$4

Ticket Pair Ratings by Gambling Severity

To investigate adolescents' perceptions of a variety of scratchcards, they were asked to rate multiple scratchcards on a 7-point Likert scale. A 4 X 4 X 2 multivariate analysis of variance (MANOVA) was performed, including gambling group, gender and grade as fixed variables and each of the 32 tickets as dependent variables. Significant main effects were found for gender, grade, and gambling severity. Significant two way and a three way interactions were obtained for gender x grade, gender x gambling severity, grade x gambling severity, and gender x grade x gambling severity (see Tables C23 and C24, Appendix C, for multivariate and univariate analyses)

A linear increase in ratings across gambling severity groups were found for almost every ticket. In addition, social gamblers, at-risk, and probable pathological gamblers differed from non-gamblers in their ratings for all ticket pairs. This may be due to the fact that non-gamblers lack the experience and knowledge concerning scratchcards that the other gambling groups possess. The mean ratings are presented in Table D6, Appendix D.

Choice of Lottery Tickets and Structural Reasons

Participants were presented with lottery ticket pairs and were asked to select their preferred ticket (forced choice). Significant gambling group differences were found for pair 1 (*Lucky O'Instant* and *Cash of the Day*) ($?^2$ (978)=11.35, p<.010), pair 2 (*Bingo* and *Golden Ticket*) ($?^2$ (981)=9.49, p<.023), pair 7 (*Mouse Maze* and *Viva Las Vegas*) ($?^2$ (959)=11.55, p<.009), pair 8 (*Jokers Wild* and *Mini Monopoly*) ($?^2$ (963)=8.98, p<.030), pair 9 (*Mouse Maze* and *Bingo*) ($?^2$ (966)=9.78, p<.021) pair 10 (*Lucky O'Instant* and *Grand Slam*) ($?^2$ (959)=11.93, p<.008), pair 12 (*Holiday Greetings* and *Doubling Red 7s*) ($?^2$ (952)=12.18, p<.007), and pair 15 (*Grand Slam* and *Pro-Line*) ($?^2$ (949)=22.39, p<.001) (see Table 68).

For pair 1, pair 4, pair 10, and pair 12, probable pathological gamblers made a different selection from the other three groups preferring *Cash of the Day* (60.7%) to *Lucky O'Instant* (39.3%), *Grand Slam* (54.2%) to *Lucky O'Instant* (45.8%), and *Doubling Red 7s* (61.5%) to *Holiday Greetings* (38.5%). For pair 15, both at-risk (62.1%) and probable pathological gamblers (73.1%) prefer *Pro-Line* to *Grand Slam* and pair 7 at-risk prefer *Viva Las Vegas* (54.7%) to *Mouse Maze* (45.3%). Probable pathological gamblers appear to prefer tickets that are sports oriented (probably because there are more male pathological gamblers than females) and tickets that emphasize the opportunity to win a lot of money (e.g., *Doubling Red 7s*) (see Table 68 for percentages and reasons).

No differences across gambling severity groups were found for the reported reasons adolescents selecting one ticket over another. As can be seen in Table 69, for all gamblers, type of game was the reported top reason for selection of a scratchcard ticket. The second most endorsed reason was prize, for all groups (except for non-gamblers) who chose colour. Non-gamblers selected prize as the third most endorsed reason, whereas social gamblers selected the title of the game, and at-risk and probable pathological selected colour. Title of the ticket was the fourth most endorsed reason a ticket was chosen for non-gamblers, at-risk, and probable pathological gamblers, whereas social gamblers selected colour. Ultimately the main reasons participants reported choosing a scratchcard evolved around the type of game, prize, colour, and title.

Table 68: Participant's Choices of Lottery Tickets and the Structural Reason they Selected One Ticket Over Another: Gambling Severity

***Pair 1** n= 987		**Non Gambler**	**Social Gambler**	**At-Risk Gambler**	**Probable Pathological Gambler**
Lucky O'Instant		67.8 %	68.9 %	73.5 %	39.3 %
Cash of the Day		32.2 %	32.0 %	26.5 %	60.7 %
Imp Reason	**1**	Prize = 35.8 %	Prize = 36.4 %	Prize = 38.5 %	Type = 40.9 %
	2	Type = 19.7 %	Type = 23.2 %	Type = 21.1 %	Prize = 27.3 %
	3	Colour = 14.7 %	Colour = 14.6 %	Colour = 17.5 %	Colour/Cost = 9.1 %
***Pair 2** n= 981					
Bingo		73.4 %	81.1 %	75.0 %	70.4 %
Golden Ticket		26.6 %	18.2 %	25.0 %	29.6 %
Imp Reason	**1**	Type =33.2 %	Type= 35.4 %	Type = 28.1 %	Type = 44.0 %
	2	Prize = 14.0 %	Prize = 18.3 %	Prize = 22.8 %	Prize = 36.0 %
	3	Activities = 14.0 %	Activities = 11.8 %	Activities = 22.8 %	Colour = 12.0 %
Pair 3 n= 969					
Lucky Dice		36.3 %	32.1 %	35.8 %	33.3 %
Instant Million		63.8 %	67.9 %	64.2 %	66.7 %
Imp Reason	**1**	Prize = 33.6 %	Prize = 38.6 %	Prize = 52.6 %	Prize = 50.0 %
	2	Type = 19.5 %	Type = 19.1 %	Type = 15.8 %	Type = 20.8 %
	3	Name = 11.8 %	Cost = 14.2 %	Activities = 10.5 %	Colour = 12.5 %
Pair 4 n = 977					
Battleship		49.4 %	49.0 %	48.5 %	55.6 %
Bingo		50.6 %	51.0 %	51.5 %	44.4 %
Imp Reason	**1**	Type = 50.0 %	Type = 54.5 %	Type = 57.4 %	Type = 50.0 %
	2	Activity = 10.7 %	Prize = 11.5 %	Prize = 13.0 %	Prize = 29.2 %
	3	Name = 8.0 %	Activities = 8.7 %	Colour = 9.3 %	Colour/Name = 8.3 %
Pair 5 n = 972					
Red Hot Cash		51.0 %	47.2 %	39.7 %	37.0 %
Instant Millions		49.0 %	52.8 %	60.3 %	63.0 %
Imp Reason	**1**	Prize = 30.8 %	Prize = 34.1 %	Prize = 47.4 %	Prize = 45.8 %
	2	Cost = 18.6 %	Type = 17.9 %	Type = 15.8 %	Colour=16.7 %
	3	Name = 15.4 %	Name = 14.8%	Colour = 14.0 %	Type = 16.7 %
Pair 6 n = 966					
Cash for Life		70.5 %	70.8 %	70.6 %	65.4 %
Millennium		29.5 %	29.2 %	29.4 %	34.6 %
Imp Reason	**1**	Prize = 37.8 %	Prize = 42.4 %	Prize = 50.0 %	Prize= 48.0 %
	2	Type = 13.5 %	Type= 15.2 %	Type = 14.3 %	Type = 24.0 %
	3	Colour =13.1 %	Advert = 11.6 %	Colour = 10.7 %	Colour = 12.0 %
***Pair 7** n= 959					
Mouse Maze		67.1 %	59.4 %	45.3 %	52.0 %
Viva Las Vegas		32.9 %	40.6 %	54.7 %	48.0 %
Imp Reason	**1**	Type = 36.5 %	Type= 40.1 %	Type= 33.9 %	Type = 39.1 %
	2	Colour = 17.6 %	Colour/Name=12.7 %	Prize = 16.1 %	Prize = 34.8 %
	3	Name = 14.0 %	Prize = 12.4 %	Colour = 16.1 %	Colour/Activity=8.7%
***Pair 8** n= 963					
Jokers Wild		19.8 %	15.6 %	29.2 %	22.2 %
Mini Monopoly		80.2 %	84.4 %	70.8 %	77.8 %
Imp Reason	**1**	Type = 55.1 %	Type = 60.8 %	Type = 45.8 %	Type = 37.5 %
	2	Name = 16.9 %	Name = 12.8 %	Name = 15.3 %	Prize = 29.2 %
	3	Colour = 7.1 %	Prize = 7.7 %	Colour = 10.2 %	Name = 12.5 %

***Pair 9** n= 966					
Mouse Maze		40.7 %	29.7 %	35.8 %	32.0 %
Bingo		59.3 %	70.3 %	64.2 %	68.0 %
Imp Reason	**1**	Type = 52.3 %	Type= 52.2 %	Type = 38.6 %	Type = 41.7 %
	2	Name = 10.5 %	Prize = 12.0 %	Prize = 21.1 %	Prize = 37.5 %
	3	Colour = 8.6 %	Activities = 7.7 %	Colour = 15.8 %	Colour = 12.5 %
***Pair 10** n = 959					
Lucky O'Instant		70.6 %	64.9 %	52.2 %	45.8 %
Grand Slam		29.4 %	35.1 %	47.8 %	54.2 %
Imp Reason	**1**	Type = 37.3 %	Type = 42.8 %	Type/Prize = 28.1 %	Prize = 34.8 %
	2	Prize = 18.0 %	Prize = 21.3 %	Colour = 14.0 %	Type = 26.1 %
	3	Colour =17.1 %	Colour = 10.5 %	Name = 12.3 %	Colour = 21.7 %
Pair 11 n = 957					
Bingo Express		71.1 %	65.7 %	60.6 %	68.0 %
Football Fever		28.3 %	34.3 %	34.3 %	32.0 %
Imp Reason	**1**	Type= 51.8 %	Type = 58.6 %	Type = 52.2 %	Type = 39.1 %
	2	Prize = 11.8 %	Prize = 11.7 %	Prize = 16.9 %	Prize = 26.1 %
	3	Name = 10.5 %	Name = 10.4 %	Name = 13.6 %	Colour = 13.0 %
***Pair 12** n= 952					
Holiday Greetings		67.9 %	62.8 %	52.4 %	38.5 %
Doubling Red 7s		32.1 %	37.2 %	47.6 %	61.5 %
Imp Reason	**1**	Colour = 26.5 %	Type = 28.5 %	Type = 30.5 %	Prize = 32.0 %
	2	Type = 22.8 %	Prize = 22.9 %	Prize = 28.8 %	Type = 28.0 %
	3	Prize = 16.9 %	Colour = 18.6 %	Colour = 18.6 %	Colour/Cost = 12.0 %
Pair 13 n= 958					
Crossword		63.0 %	59.2 %	49.2 %	65.2 %
Viva Las Vegas		37.0 %	40.8 %	50.8 %	34.8 %
Imp Reason	**1**	Type = 56.1 %	Type = 60.2 %	Type = 69.0 %	Type = 47.8 %
	2	Name = 9.0 %	Prize= 10.7 %	Prize = 17.2 %	Prize = 30.4 %
	3	Colour = 9.0 %	Activities = 9.3 %	Activities = 6.9 %	Colour/Name = 8.7 %
Pair 14 n = 964					
6/49		46.7 %	42.6 %	43.9 %	58.3 %
Mini Monopoly		53.3 %	57.4 %	56.1 %	41.7 %
Imp Reason	**1**	Type = 35.4	Type = 38.2	Prize = 41.1	Prize = 50.0 %
	2	Prize = 26.0	Prize = 24.4	Type = 29.3	Type = 18.2 %
	3	Choose numbers = 9.4 %	Choose numbers = 11.7 %	Choose numbers = 8.6 %	Name/Choose #'s/Time = 9.1 %
****Pair 15** n = 949					
Grand Slam		62.3 %	50.3 %	37.9 %	26.9 %
Pro-Line		37.7 %	49.7 %	62.1 %	73.1 %
Imp Reason	**1**	Type = 33.5 %	Type = 38.2 %	Type = 37.3 %	Prize = 37.5 %
	2	Name = 12.4 %	Chose Team=18.2%	Chose Team=25.4%	Type = 29.2 %
	3	Colour/Choose Team=11.9 %	Other = 11.7 %	Prize = 18.6 %	Choose Teams = 16.7 %
Pair 16 n= 957					
Red Hot Cash		54.0 %	45.9 %	53.8 %	50.0 %
Bingo Express		46.0 %	54.1 %	46.2 %	50.0 %
Imp Reason	**1**	Type = 37.1 %	Type = 45.7 %	Type = 36.2 %	Prize = 41.7 %
	2	Prize= 19.0 %	Prize = 16.9 %	Prize = 27.6 %	Type = 37.5 %
	3	Colour = 15.4 %	Name = 11.2 %	Colour = 20.7 %	Colour = 12.5 %

*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.
** Statistically significant ($p<.01$) as tested by Pearson chi-square analysis.

Table 69: Structural Characteristics Influencing Ticket Selection: Gambling Severity

		Non Gambler	Social Gambler	At-risk Gambler	Probable Pathological Gambler
Structural reasons for ticket pair choices	1st Choice	Type of game	Type of game	Type of game	Type of game
	2nd Choice	Colour	Prize	Prize	Prize
	3rd Choice	Prize	Name/Title	Colour	Colour
	4th Choice	Name/Title	Colour	Name/Title	Name/Title

Non-Gambler
Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4

Perceived Level of Skill in Lottery Playing

Participants' Perception of Winning Money on Various Lottery Products

Differences according to gambling severity were found for scratchcards ($?^2$ (994)= 26.47, p<.001) and sports ($?^2$ (983)=15.94 p<.001) tickets with respect to the perceived skill and likelihood of winning money. The results presented in Table 70 reveals a linear increase across the gambling severity groups, with perceived their chances of winning money being the greatest amongst the probable pathological gamblers.

Table 70: Perceptions of Perceived Chances of Winning Money Depending Upon the Type of Lottery Ticket and Severity of Gambling Problem: Gambling Severity

Perceptions of perceived chances of winning money						
		Non Gambler	Social Gambler	At-Risk Gambler	Probable Pathological Gambler	Total
Draws	Never	21.0 %	19.3 %	28.4 %	17.9 %	20.6 %
	Sometimes	77.0 %	78.1 %	67.1 %	71.4 %	76.7 %
	Often/ always	2.0 %	2.6 %	4.5 %	10.7 %	2.7%
Scratch	Never	12.8 %	5.1 %	13.4 %	3.6 %	8.2 %
	Sometimes	78.0 %	76.1 %	64.2 %	53.5 %	75.0 %
	Often/ always	9.2 %	18.8 %	22.4 %	42.9 %	16.8 %
Sports	Never	13.7 %	6.7 %	7.7 %	14.3 %	9.5 %
	Sometimes	77.5 %	74.9 %	72.3 %	57.1 %	74.9 %
	Often/ always	8.8 %	18.4 %	20.0 %	28.6 %	15.6%

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥ 4
**Statistically significant (p<.01) as tested by Pearson chi-square analysis.

Perception of Amount of Skill Involved in Lottery Products

A 4 X 4 X 2 multivariate analysis of variance (MANOVA) was performed, including gambling group, gender and grade as fixed variables and skill pertaining to lottery draws, scratchcards, and sports lottery as dependent variables. The Box's M statistics was significant (p<.001), therefore the observed covariance matrices of the dependent variables are not equal across groups. There

were significant gender x grade, gender x gambling group, and gender x grade x gambling group interactions for the amount of perceived skill involved in the various lottery products. Multivariate and univariate analyses can be found in Tables C31 and C32, Appendix C.

Group differences across gambling severity were found to be significantly different in their perception of skill on all three types of lottery products – draws (F (990) = 6.29, p<.001, scratchcards (F (990) = 3.12, p<.025), and sports tickets (F (990) = 6.84 p<001) (post-hoc analyses are presented in Table D8, Appendix D). As can be seen in Table 71, all gambling severity groups reported that sports tickets required the most skill. This is predicated upon the perceived knowledge of sports teams and players. The perception of skill involved in lottery draws and scratchcards was found to have increased according to gambling severity, with the more serious gamblers having the greatest misperceptions. However, it is important to note that while some of the means are higher than others they are relatively low on the 7-point Likert scale.

Probable pathological gamblers perceived scratchcard tickets to have more skill than lottery draws. This finding is interesting since the perception is that lottery draws generally involves a greater illusion of skill as it permits the individual, if desired, to select their own numbers. However, scratchcards can also foster perceived illusions of skills since the individual has the opportunity to select a ticket from amongst many games as well as any number of tickets of the same game. Some superstitious behaviour has been observed, with individuals preferring a specific order and sequence for scratching tickets.

Table 71: Perception of Skill Involved in Lottery Products: Gambling Severity

Mean amount of skill involved in lottery products										
	Non Gambler		**Social Gambler**		**At-Risk Gambler**		**Probable Pathological Gambler**		**Total**	
	M	SD	M	SD	M	SD	M	SD	M	SD
Draws	1.90	1.46	2.18	1.53	2.59	1.89	2.46	2.19	2.14	1.57
Scratch	1.77	1.36	1.85	1.37	1.84	1.31	2.64	2.21	1.86	1.41
Sports	3.33	1.82	4.02	2.03	4.48	2.11	4.50	2.41	3.85	2.02

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score ≥4
Based on 7-point Likert scale from *" do not like at all"* to *"like very much."* Range 1-7.

Selection of Lottery Draw Numbers

The majority of social gamblers (71.9%), at-risk gamblers (80.0%) and probable pathological gamblers (81.1%) reported that they would select their own numbers when purchasing a 6/49 draw, with no significant differences between groups being found (Table 72). The underlying erroneous assumption is that selecting numbers increases the chances of winning as the same numbers can be played weekly.

Table 72: Selection of Lottery Draw Numbers: Gambling Severity

Gambling Severity (N = 311)	**Selecting own numbers**
Social Gambler	71.9 %
At-Risk Gambler	80.0 %
Probable Pathological Gambler	81.0 %
Total	74.5 %

Social Gambler: DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
Probable Pathological Gambler: DSM-IV-MR-J score $\geq$4

SUMMARY AND CONCLUSIONS

The primary purpose of this study was to explore the differential gambling patterns of underage adolescents in order to identify the specific characteristics and determinants that influence the appeal of the lottery and their lottery playing behaviour. The structural characteristics of lottery products that are particularly appealing to youth (e.g., monetary value, attribute of the ticket, type of game, prize structure, advertisements, colour of ticket, etc.) were examined. Of significant importance was the examination of lottery playing behaviour of adolescents based upon level of gambling severity. The information presented in this report is intended to serve as a foundation for the development and implementation of prevention, education, and public awareness campaigns. The results confirm previous research findings that the vast majority of youth report engaging in both legal and illegal forms of gambling.

While participation in Provincially regulated gambling venues is restricted to individuals over the age of 18 in Ontario for lottery playing and bingo, and 19 for other forms of gambling including casinos, 74% of youth reported having gambled for money within the past year, with 21% reported having gambled once a week or more. Few developmental and age differences were found for the percentage of youth gambling, with approximately 67-75% of all youth reporting having gambled in the past year. Playing the lottery was found to be the most popular activity. Thirty-nine percent of underage youth reported playing the lottery within the past week and 17% indicated doing so within the past month.

Using the DSM-IV-MR-J criteria to assess degree of gambling severity, 2.8% of the adolescents were classified as probable pathological gamblers (scores of ≥ 4), with 6.8% (scores of 2-3) being classified as at-risk for developing significant gambling problems, and 65.2% (scores of 0-1) classified as social gamblers. It is important to note that in a recent study by Derevensky and Gupta (2000) the former version of this screening instrument (DSM-IV-J) was found to be the most conservative measure of adolescent gambling problems; identifying the fewest individuals with significant gambling problems. Within Ontario, a recent study by Adalf and Ialomiteanu (2000), using the SOGS-RA, reported adolescent prevalence rates of severe problem gambling to be 5.8%, with an additional 7.5% meeting the criteria for at-risk gambling. While the current prevalence rates found in this study are lower than that typically found in the literature (see Jacobs, 2000), the present study used the most conservative measure (DSM-IV-MR-J) of adolescent pathological gambling (Fisher, 2000). More males were identified as having gambling problems (4.7% probable pathological gamblers; 10.7% at-risk gamblers) than females (1.0% probable pathological gamblers; 3.7% at-risk gamblers). While some developmental differences were noted, the distribution of adolescents based upon degree of gambling problems was found to be relatively consistent across all grade levels (grades 6-12). These prevalence rates of serious gambling problems, while lower than typically found, nevertheless, remain a significant concern.

Adolescent problem gamblers were found to engage in all forms of gambling more frequently than social gamblers. Based upon reported regular gambling patterns (once a week or more) probable pathological gamblers were found to have a preference for gambling on the lottery (scratchcards, draws, and sports lottery), games of skill and card playing, with similar patterns observed for at-risk gamblers.

Adolescents reported purchasing all forms of lottery tickets including draws, scratchcards and sports lottery. Playing of scratchcards was found to be the most popular form of lottery ticket for adolescents for both males and females, with the age of onset being approximately 12 in spite of the legal restrictions. Research has shown that early onset of gambling behaviour is predictive of more severe future problems (Custer, 1982; Dell, Ruzicka & Palisi, 1981). Retrospective studies of problem gamblers report the onset of their pathological behaviours to have begun between the ages of 10-11 (Gupta & Derevensky, 1998a; Wynne, Smith, & Jacobs, 1996). The early playing of lottery tickets may in fact be a gateway to other gambling activities.

The vast majority of youth were aware of the legal age to purchase tickets. Although, they indicated being aware of legal age restrictions to purchase lottery tickets, a third of respondents believed there should be no age requirement to purchase any form of lottery ticket. For those who indicated there should be an age restriction, the reported age range was between 13-21.

There also remains a concern that adolescents who lose money on the lottery are more likely to return to recoup losses. Contrary to previous speculation, only 13% of adolescents reported returning to the store to purchase more tickets when they had *won*, and only 2% reported returning to purchase more tickets if they had *lost*. Males reported returning to purchase additional tickets more frequently than females, with older children more frequently reporting returning to purchase supplemental tickets than younger children.

Adolescents in the study reported few if any difficulties in purchasing lottery tickets even by the youngest children in spite of the legal prohibitions. The majority of youth reported that it was easy to purchase tickets from the local corner/convenience store. Even though it becomes easier to purchase tickets as adolescents become older, more than half of children in grades 6-9 (11-13-year-olds) reported that they were able to purchase lottery tickets with little difficulty. Problem gamblers had the youngest mean age of onset for both playing and purchasing lottery tickets. Of even greater concern was the finding that a third of underage adolescents reported going to the store specifically to purchase lottery tickets.

Many youth reported *not* perceiving the lottery and bingo to be a form of gambling. This is consistent with Griffiths and Wood's (2001) contention that lottery products are perceived primarily as a form of entertainment. For adolescents who play the lottery, they reported spending an average of $7.16 on sports tickets, $5.55 on scratch tickets, and $4.05 on lottery draws *per week*. Males reported spending more money on tickets than females, older participants reported spending more money than younger participants to purchase tickets, and 8% of youth reported borrowing money in the past year to purchase lottery tickets. Using this figure, those who purchase tickets will spend approximately $370 on sports tickets, $285 on scratch tickets, and $210 on lottery draws on a yearly basis.

The most cited reasons for beginning and continuing to play the lottery was to win money, because parents play, enjoyment, and excitement. These findings are consistent with previous findings (Derevensky, Gupta, & Della Cioppa, 1996; Gupta & Derevensky, 1998a).

Of significant concern are the large numbers of adolescents (84%) who reported that their parents were aware of their gambling activities and 94% reported not being afraid getting caught

by their parents. children in grades 6-7 (11-year-olds) were the most afraid of getting caught purchasing lottery products (10%), with adolescents in grade 12 (17-year-olds) reporting they were the least afraid (3%). Similar to previous findings, by the time children leave elementary school less than 10% fear getting caught gambling (Derevensky & Gupta, 1998a; Gupta & Derevensky, 1997).

Surprisingly, the greater the level of gambling severity, the fewer number of youth who reported that their parents were aware of the playing behaviour and the more they reported being afraid of getting caught by their parents. It is likely that these youth were not afraid that their parents would become aware of their lottery playing but rather that they would become aware of the severity of their gambling problems.

Equally concerning is the large number of youth who play the lottery reporting having receiving a lottery ticket as a gift for holidays, birthdays, and other occasions. These gifts were generally purchased by parents or friends. Boys reported receiving more sports lottery tickets as gifts whereas girls tended to receive more scratchcard tickets. Interestingly, youth with severe gambling problems tended to receive the most lottery tickets as gifts.

The results clearly show that underage youth are not immune to lottery advertisements. Most adolescents reported seeing advertisements on TV, billboards, and print media. Within the focus groups, some adolescents reported the lottery jingle "stays in their head" with others reciting the commercial and lottery tag lines. In general, while 39% of the adolescents reported that they would be more likely to purchase a ticket because they had seen the advertisement, they indicated that they would not necessarily purchase the ticket being advertised. Probable pathological gamblers reported being the most susceptible and influenced by lottery advertisements. Not only were they more aware of these advertisements but they also reported that they were more likely to purchase a ticket because of such advertisements. Placement of scratch tickets on the checkout counter was reported to be most enticing to adolescents with gambling problems.

The structural characteristics deemed most important by adolescents on scratchcard tickets were the prize, cost of the ticket and type of game. Males reported higher mean ratings on characteristics concerning the size of the ticket, prize, number of games, and cost, whereas females reported a greater importance for colour, type of game, and name/title. Regardless of age, the type of game was reported to be one of the most important features in selecting tickets. *Mini Monopoly, Bingo, Cash for Life,* and *Battleship* were the most preferred tickets. Familiarity of the game was an important determinant for youth in general, however, this was found to become less important for older adolescents.

Some developmental differences were found with respect to the importance of the structural characteristics on scratchcards. The price of the ticket, type of game, number of games on the ticket, and prize increased in importance by age, with participants in grades 10-11 (15-year-olds) reporting the highest rating on all items. The importance of the various structural characteristics increased by level of gambling severity for all characteristics except for price and number of games, with the at-risk gamblers reporting the highest ratings. This may be due to the fact that adolescent non-gamblers and social gamblers in grades 6-9 (11-13-year-olds) tended to purchase

tickets more indiscriminately, without giving much consideration as to the reasons they actually selected one ticket over another. More important, is the fact that these youth prefer scratchcards over other forms of the lottery primarily because of the low cost, reinforcement contingencies and properties, immediate knowledge of the outcome, and their relative ease of being purchased.

At-risk and probable pathological gamblers similarly preferred scratchcards and reported a preference for larger tickets, money as compared to prizes, and a larger jackpot. The importance of money increased with the degree of gambling problems. Some differences were found for *the most important* structural characteristics reported by adolescents depending upon their degree of gambling severity. However, all adolescents reported that the type of game, size of prize, colour of ticket, and name of the ticket were the most important characteristics and determinants when purchasing scratchcards. Probable pathological preferred tickets that were sports oriented and those stressing the opportunity to win large sums of money.

Recent changes in the types of games employed by Lottery corporations has transformed what typically began as a passive draw with a large prize to more engaging, challenging and active lottery products. Lotteries today are now promoted as a form of entertainment, as security for life and a way of fulfilling one's dreams, providing an enjoyable, thrilling, and challenging past time. Similar to adults, the lottery has become a way to solve current and future financial problems. The current research supports the premise that lottery products are highly popular with youth and are easily accessible. Gambling, specifically, lottery playing is one of the few potentially additive behaviours that youth are exposed to on a daily basis that is supported, endorsed and promoted by the government with few parents being aware of the potential short-term and long-term negative consequences.

Future Directions

The fact that many adolescents report having little difficulty purchasing lottery tickets is of particular concern. Policy makers and the security division of Lottery corporations are strongly encouraged to enforce the existing statutes prohibiting underage youth from purchasing lottery tickets. Where such statutes don't exist, policy makers would be well advised to pass strong legislation and strict penalties for vendors violating such laws. With the advent of new, high tech (e.g., *Treasure Tower*) and licensed lottery products under development (e.g., *Betty Boop, World Wrestling Foundation* [WWF) lottery tickets], specific safeguards must be put in place to curb and monitor the introduction of products particularly attractive to youth.

Further funding for the development and implementation of a widespread prevention program that must begin at the elementary school level needs to be allocated. Efforts must be made to ensure that school administrators, members of psychological services, and teachers are aware of this growing problem. Youth gambling problems, often referred to as the *hidden addiction,* have not received the same attention in schools as other potentially addictive behaviours (e.g., alcohol abuse, cigarette smoking, and drug use). Any prevention program must be accompanied by a public education-awareness program encouraging parents and adults to be attentive to the types of gambling-related problems experienced by adolescents with gambling problems. As well, specific training programs targeting lottery vendors, law enforcement agencies, and criminal justice systems need to be developed and implemented.

Concerted collaborative efforts between researchers, mental health providers, and Lottery corporations should be strongly encouraged. The fact that there currently exists a national Responsible Gambling Committee, consisting of representatives from the various Provincial Lottery corporations, is a good beginning. The Ministry of Health and Long-Term Care in Ontario may wish to give attention to the services established for adolescent problem gamblers, monitoring their gambling behaviour over time, and pay particular attention to efforts aimed at reducing this prevalence rate.

The development of The Ontario Gambling Research Centre and the funds designated to youth gambling and the development of prevention efforts should be commended. Further research efforts and prevention programs need to be initiated in trying to modify the lottery purchasing and playing behaviour of youth. With the advent of new games and formats being developed by Lottery corporations, careful monitoring of this situation is imperative.

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APPENDIX A

Geographic Distribution

Geographic Distribution

	School Board
York Region District	59.2 %
Niagara Catholic District	12.2 %
Durham-Catholic District	2.3 %
Grand-Erie District	9.5 %
Thunder Bay-Catholic District	12.9 %
Keewatin Public District	3.8 %
TOTAL SAMPLE	N = 1072

APPENDIX B

Questionnaire and Scratchcard Lottery Pairs

Sex: M_____ F_____ Grade: _____ Age: _____ Research ID _____

Please answer the following questions as honestly as possible. All information is confidential. Your answers will not be shown to any teachers, your principle, or parents. You do not need to write your name.

Thank you for participating.

1) Do you ever play the following? (Please put an *X* next to your answer for *each* type of lottery ticket)

A) Lottery Draws (6/49 - not instant scratch tickets):

never _____ less than once a month _____ once a month_____ 2-3 times a month_____ every week_____ every day_____

B) Instant scratch tickets:

never _____ less than once a month _____ once a month_____ 2-3 times a month_____ every week_____ every day_____

C) Sports tickets (sports select – pro-line):

never _____ less than once a month _____ once a month_____ 2-3 times a month_____ every week_____ every day_____

If you answered *Never* to all three types of lottery tickets please go straight to question # 26

2) How old were you when you first played: (Fill in your age for *each* activity)

lottery draws (6/49) _____ instant scratch tickets _____ sports tickets (sports select-pro-line) _____

3) How old were you when you first bought: (Fill in your age for *each* activity)

lottery draws (6/49) _____ instant scratch tickets _____ sports tickets (sports select-pro-line) _____

4) When was the **last time** you bought or played the lottery? (Choose 1 answer)

more than 6 months ago _____ past month _____ past week _____

5) Are your parents aware that you buy lottery tickets or instant scratch tickets? Yes ____ No _____

6) Are you afraid of getting caught buying lottery tickets? Yes ____ No _____

7) How much money (on average) do you usually spend each week on: (Fill in the amount of money for *each* activity)

lottery draws (6/49) _____ instant scratch tickets _____ sports tickets (sports select – pro-line) _____

8) What is the **most** money you have ever spent in **one week** on: (Fill in the amount of money for *each* activity)

lottery draws (6/49) _____ instant scratch tickets _____ sports tickets (sports select – pro-line) _____

9) If you had 5$ in your pocket at this moment what would you prefer to spend it on? (Choose 1 answer)

lottery draws (6/49) _____ movie _____ food _____ video games _____ instant scratch tickets _____ sports ticket (pro-line) _____

10) In the past year have you borrowed money to buy lottery tickets? Yes ___ No ___ If yes, approximately how many times? ____

11) How often do you go to the store **only** to buy lottery tickets or instant scratch tickets? (Choose 1 answer)

never _____ less than once a month _____ once a month _____ 2-3 times a month_____ every week_____ every day_____

12) Why did you **first begin** playing lottery draws or instant scratch tickets? (Check as many answers that apply)

parent's play_____ friend's play_____ impress friends _____ boredom _____ for a challenge _____

to win money _____ to meet friends _____ enjoyment _____ excitement _____ curiosity _____

13) Why do you play lottery draws or instant scratch tickets **now**? (Check as many answers that apply)

parents play _____ friends play _____ impress friends _____ boredom _____ for a challenge _____

to win money _____ to meet friends _____ enjoyment _____ excitement _____ curiosity _____

14) When you buy instant scratch tickets do you: (Choose 1 answer)

scratch tickets right away _____ wait until I get home _____ I don't buy tickets _____

15) If you win money do you immediately buy more lottery tickets? (Choose 1 answer)

never _____ rarely _____ sometimes _____ often_____ always _____

16) If you lose, do you immediately buy more lottery tickets? (Choose 1 answer)

never _____ rarely _____ sometimes _____ often_____ always _____

17) When you buy lottery draws (6/49) do you choose the numbers or do you let the computer choose them for you?

Computer chooses the numbers _____ I choose the numbers _____

18) What is the **most** amount of money you have **spent on one** ticket? _____

19) If the cost of your favourite instant scratch ticket increased in price would you still buy it? Yes _____ No _____

20) How often do your parent/s buy the following lottery tickets for you: (Choose 1 answer for *each* question)

A) lottery draws (6/49 - not instant scratch tickets):

never _____ less than once a month _____ once a month_____ 2-3 times a month_____ every week_____ every day_____

B) instant scratch tickets:

never _____ less than once a month _____ once a month_____ 2-3 times a month_____ every week_____ every day_____

C) Sports tickets (sports select – pro-line):

never _____ less than once a month _____ once a month_____ 2-3 times a month_____ every week_____ every day_____

21) What is the **most** amount of money you have ever **won** playing lottery draws or instant scratch tickets?_____

22) Have you ever bought a lottery draw (6/49) or an instant scratch ticket for a friend? Yes _____ No _____

23) Have you ever received a lottery ticket or instant scratch card as a present? Yes _____ No _____

If so, for which occasion: birthday _____ holiday _____ other _____

24) What is the largest number of tickets you have received as a present at one time? _____

25) How often do you play the same lottery game? (Choose 1 answer)

never _____ rarely _____ sometimes _____ often _____ always _____

26) Please circle how you feel about *each* of the activities listed below : (Activities A – H)

A) instant scratch tickets

1 2 3 4 5 6 7
don't like at all like like very much

B) lottery draws (6/49)

1 2 3 4 5 6 7
don't like at all like like very much

C) sports betting (pro-line)

1 2 3 4 5 6 7
don't like at all like like very much

D) betting on cards

1 2 3 4 5 6 7
don't like at all like like very much

E) video games

1 2 3 4 5 6 7
don't like at all like like very much

F) video lottery terminals (VLT'S)

1 2 3 4 5 6 7
don't like at all like like very much

G) bingo

1 2 3 4 5 6 7
don't like at all like like very much

H) horse track

1 2 3 4 5 6 7
don't like at all like like very much

27) Please make a tick next to all the activities that you believe are a form of gambling?

lottery draws (i.e.: 6/49) _____ bingo _____ video games _____ video lottery terminals (vlt's) _____ betting on cards _____

Instant scratch tickets _____ horse track_____ sports betting (i.e.: pro-line) _____ casino computer games _____

28) Would you buy a ticket that you do not yet know how to play? Yes _____ No _____

29) If you could win a prize or money from playing lottery tickets which would you choose? Prize _____ Money _____

30) Do you think that larger instant scratch tickets necessarily have more games on them? Yes _____ No _____

31) In choosing a ticket how important is:

A) Price of ticket: _____

1 2 3 4 5 6 7
Not at all important important extremely important

B) Colour: _____

1 2 3 4 5 6 7
Not at all important important extremely important

C) Type of game: _____

1 2 3 4 5 6 7
Not at all important important extremely important

D) Number of games on the card: _____

1 2 3 4 5 6 7
Not at all important important extremely important

E) Name of the game: _____

1 2 3 4 5 6 7
Not at all important important extremely important

F) Type or size of prize: _____

1 2 3 4 5 6 7
Not at all important important extremely important

G) Size of ticket: _____

1 2 3 4 5 6 7
Not at all important important extremely important

32) Is there a legal age to purchase lottery draw tickets or instant scratch tickets? Yes____ No ____ If yes, what age _____

33) Do you think there should be an age restriction for buying lottery draw and instant scratch tickets?

Yes ____ No _____ If yes, what _____age

34) Would you be you more likely or less likely to buy a lottery ticket if you see it on the store counter? (Choose 1 answer)

more likely to buy a ticket _____ less likely to buy a ticket _____ doesn't matter _____

35) Have you ever seen: (Fill in the blank for *each* question)

Television commercials advertising lottery draws or instant scratch tickets? Yes _____ No _____

Newspapers advertising lottery draws or instant scratch tickets? Yes _____ No _____

Magazines advertising lottery draws or instant scratch tickets? Yes _____ No _____

Billboards advertising lottery draws or instant scratch tickets? Yes _____ No _____

36) Are you more likely to buy a lottery ticket or instant scratch ticket if you have seen an advertisement for it? Yes ____ No____

37) Which do you prefer, larger instant scratch tickets or smaller ones? Smaller tickets _____ Larger tickets _____

38) How often does either of your parents buy lottery draws or instant scratch cards? (Choose 1 answer)

never _____ less than once a month _____ every month _____ every week _____ every day _____

39) How much skill is involved in: (Please circle a number for *each* activity)

A) lottery draws (6/49) :

1	2	3	4	5	6	7
no skill			some skill			all skill

B) instant scratch tickets:

1	2	3	4	5	6	7
no skill			some skill			all skill

C) sports tickets (pro-line):

1	2	3	4	5	6	7
no skill			some skill			all skill

40) What are the chances of winning a lot of money for *each* of the following activities?

A) lottery draws (6/49): never _____ rarely _____ sometimes _____ often _____ always _____

B) instant scratch tickets: never _____ rarely _____ sometimes _____ often _____ always _____

C) sports tickets (pro-line): never _____ rarely _____ sometimes _____ often_____ always _____

41) How easy is it to buy a lottery ticket from the corner store? (Choose 1 answer)

very difficult ___ difficult ___ somewhat difficult ___ somewhat easy ___ easy ____ very easy ____ I don't buy tickets ____

42) In choosing a ticket the **single most important** quality to me would be: (Choose 1 answer)

size ____ colour ____ price of ticket ___ prize ____ number of games____ type of game ____ know how to play the game _____

43) If you could choose a ticket that takes longer to play or one with a larger jackpot which one would you choose?

A ticket that takes longer to play _____ A larger jackpot _____

44) In the past year how often have you found yourself thinking about gambling or planning to gamble?

never_____ once or twice_____ sometimes_____ often_____

45) During the course of the past year have you needed to gamble with more and more money to get the amount of excitement you want?

Yes_____ No_____

46) In the past year have you ever spent <u>much</u> more than you planned to on gambling?

never_____ once or twice_____ sometimes_____ often_____

47) In the past year have you felt bad or fed up when trying to cut down or stop gambling?

never_____ once or twice_____ sometimes _____ often_____ never tried to cut down_____

48) Please check the following types of gambling **(for money)** you have done in the past 12 months. Please mark only one answer for each item.

	Never	**less than once a week**	**once a week or more**	
a)	_____	_____	_____	play cards
b)	_____	_____	_____	wager on sports (i.e. sports pools) with friends
c)	_____	_____	_____	purchase sports lottery tickets (pro-line)
d)	_____	_____	_____	purchase lottery tickets or scratch tickets
e)	_____	_____	_____	wager on video games or video poker for money
f)	_____	_____	_____	play bingo
g)	_____	_____	_____	play slot machines
h)	_____	_____	_____	wager on sports, pool, bowling, other games of skill
i)	_____	_____	_____	another form of gambling not listed above

Please list_____

49) In the past year how often have you gambled to help you escape from problems or when you are feeling bad?

never_____ once or twice_____ sometimes_____ often_____

50) In the past year, after losing money gambling, have you returned another day to try and win back money you lost?

never_____ less than half the time_____ more than half the time_____ every time_____

51) In the past year have you ever taken money from the following without permission to spend on gambling:

A) School dinner money or fare money? *B) Money from your family?* *C) Money from outside the family?*

never_____ once or twice_____ sometimes_____ often_____

52) In the past year has your gambling ever led to*:*

A) Arguments with family/friends or others? *B) Missing school?* *C) Lies to your family*

never_____ once or twice_____ sometimes_____ often_____

For this next section please use the accompanying booklet of tickets to answer the following questions. Mark your answers directly on this questionnaire. Please do not mark the booklet:

Ticket Pair #1: Please rate each instant scratch ticket: (page 1 booklet)

A) Lucky O'Instant:

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Cash of the Day:

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make a mark next to the one you would choose:

A) Lucky O'Instant _____ **B) Cash of the Day** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 2: Please rate each instant scratch ticket: (page 1 booklet)

A) Bingo:

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Golden Ticket:

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:

A) Bingo _____ **B) Golden Ticket** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 3: Please rate each instant scratch ticket: (page 2 booklet)

A) Lucky Dice: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Instant Millions: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Lucky Dice _____ **B) Instant Millions** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 4: Please rate each instant scratch ticket: (page 2 booklet)

A) Battleship: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Bingo: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Battleship _____ **B) Bingo**_____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 5: Please rate each instant scratch ticket: (page 3 booklet)

A) Red Hot Cash: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Instant Millions : _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Red Hot Cash _____ **B) Instant Millions** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 6: Please rate each instant scratch ticket: (page 3 booklet)

A) Cash for Life: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Millennium: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Cash for Life _____ **B) Millennium** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 7: Please rate each instant scratch ticket: (page 4 booklet)

A) Mouse Maze: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Viva Las Vegas: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Mouse Maze _____ **B) Viva Las Vegas** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 8: Please rate each instant scratch ticket: (page 4 booklet)

A) Joker's Wild: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Mini Monopoly: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Joker's Wild _____ **B) Mini Monopoly**_____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 9: Please rate each instant scratch ticket: (page 5 booklet)

A) Mouse Maze: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Bingo: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Mouse Maze_____ **B) Bingo**_____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 10: Please rate each instant scratch ticket: (page 5 booklet)

A) Lucky O'Instant: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Grand Slam: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Lucky O'Instant _____ **B) Grand Slam** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 11: Please rate each instant scratch ticket: (page 6 booklet)

A) Bingo Express: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Football Fever: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Bingo Express _____ **B) Football Fever**_____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 12: Please rate each instant scratch ticket: (page 6 booklet)

A) Holiday Greetings: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Doubling Red 7's: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Holiday Greetings _____ **B) Doubling Red 7's** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 13: Please rate each instant scratch ticket: (page 7 booklet)

A) Crossword: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Viva Las Vegas: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket to play please make an X next to the one you would choose:
A) Crossword _____ **B) Viva Las Vegas** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Ticket Pair # 14: Please rate each instant scratch ticket or lottery ticket: (page 7 booklet)

A) Lotto 6/49: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Monopoly: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket or lottery ticket to play please make an X next to the one you would choose:
A) Lotto 6/49_____ **B) Monopoly** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Can choose your own numbers ____ Colour of the ticket ____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket ___ Time before knowing winnings ____ Other _____

Ticket Pair # 15: Please rate each instant scratch ticket or lottery ticket: (page 8 booklet)

A) Grand Slam: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Pro-Line: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket or lottery ticket to play please make an X next to the one you would choose:
A) Grand Slam_____ **B) Pro-Line**_____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Can choose your own teams ____ Colour of the ticket ____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket ___ Time before knowing winnings ____ Other _____

Ticket Pair # 16: Please rate each instant scratch ticket or lottery ticket: (page 8 booklet)

A) Red Hot Cash: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

B) Bingo Express: _____

1 2 3 4 5 6 7
Not interesting somewhat interesting very interesting

If you could choose **only one** instant scratch ticket or lottery ticket to play please make an X next to the one you would choose:
A) Red Hot Cash _____ **B) Bingo Express** _____

Please put an X next to the **one most important** reason you chose this ticket over the other?

Size of the prize _____ Colour _____ Type of game _____ Have seen the commercial _____

Name of the game _____ Number of activities on the card _____ Cost of the ticket _____ Other (please specify) _____

Thank you for helping us.

LOTTERY TICKET PAIR BOOKLET

Ticket Pair #1

A)

B)

Ticket Pair #2

A)

B)

Ticket Pair #3

A)

B)

Ticket Pair #4

A)

B)

Ticket Pair #5

A)

B)

Ticket Pair #6

A)

B)

Ticket Pair #7

A)

B)

Ticket Pair #8

A)

B)

Ticket Pair #9

A)

B)

Ticket Pair #10

A)

B)

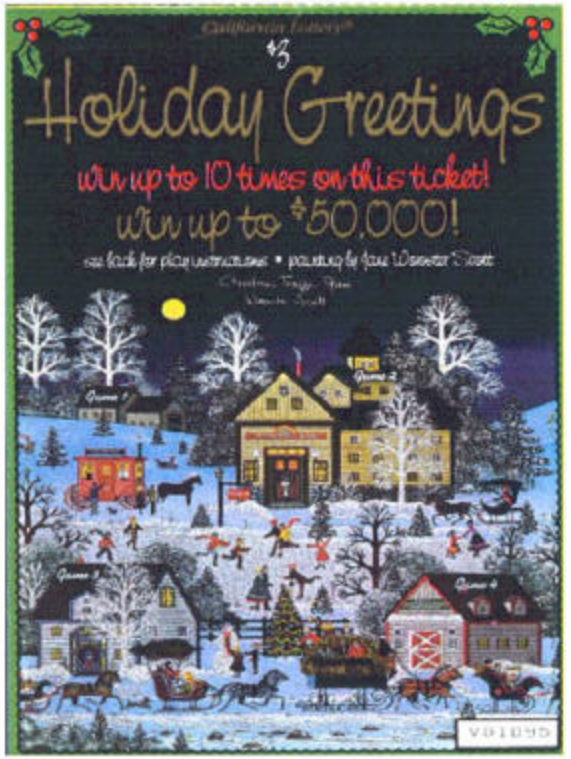
Ticket Pair #11

A)

B)

Ticket Pair #12

A)



B)

Ticket Pair #13

A)

B)

Ticket Pair #14

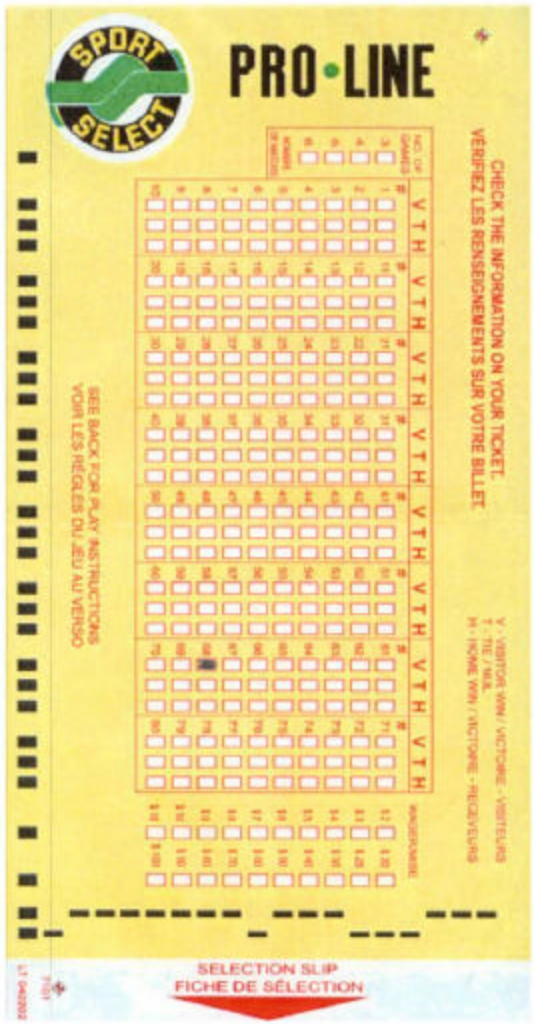
A)

B)

Ticket Pair #15

A)

B)



Ticket Pair #16

A)

B)

APPENDIX C

Gender and Developmental Differences: Additional Tables

Table C1: Percentage of Youth Who Play Lottery Products: Total Sample

N = 1065	**Lottery Product Participation**		
Total Sample	**Draws**	**Scratchcards**	**Sports**
Never	77.6 %	45.8 %	85.2 %
< 1 a month	15.5 %	33.3 %	7.5 %
1 a month	4.3 %	10.2 %	2.6 %
2-3 times a month	1.2 %	8.0 %	2.3 %
Every week	1.3 %	2.4 %	2.2 %
Every day	0.1 %	0.3 %	0.2 %

Table C2: Percentage of Youth Who Play Lottery Products: Gender Differences

	Lottery Product Participation					
N = 1065	**Draws**		**Scratchcards**		**Sports**	
GENDER	Male	Female	Male	Female	Male	Female
Never	71.1 %	82.7 %	43.3 %	48.2 %	76.6 %	93.2 %
< 1 a month	18.2 %	13.0 %	32.3 %	34.2 %	10.0 %	5.1 %
1 a month	5.6 %	3.1 %	11.3 %	9.1 %	4.1 %	1.3 %
2-3 times a month	1.7 %	0.7 %	9.2 %	6.9 %	4.4 %	0.4 %
Every week	2.1 %	0.5 %	3.5 %	1.5 %	4.4 %	0.0 %
Every day	0.2 %	0 %	0.4 %	0.2 %	.04 %	0 %

Table C3: Percentage of Youth Who Play Lottery Products: Developmental Differences

	Lottery Product Participation											
N = 1065	**Draws**				**Scratchcards**				**Sports**			
GRADE	6/7	8/9	10/11	12	6/7	8/9	10/11	12	6/7	8/9	10/11	12
Never	83.3%	76.6%	76.1%	75.1%	46.2%	42.9%	49.3%	44.8%	91.0%	85.5%	82.0%	83.1%
< 1 a month	11.8%	16.9%	14.7%	18.4%	33.6%	37.3%	28.8%	33.0%	4.5%	8.0%	7.8%	9.5%
1 a month	3.2%	3.9%	5.2%	5.0%	8.5%	13.0%	9.2%	8.9%	2.3%	2.7%	2.9%	2.5%
2-3 times a month	0.9%	0.9%	2.0%	1.0%	9.9%	5.0%	8.5%	10.3%	0.9%	1.5%	4.6%	2.0%
Every week	0.9%	1.8%	1.6%	0.5%	1.8%	1.8%	3.3%	3.0%	1.4%	2.1%	2.3%	3.0%
Every day	0%	0%	0.3%	0%	0%	0%	1.0%	0%	0%	0.3%	0.3%	0%

Table C4: Knowledge of What Constitutes a Gambling Activity: Gender Differences

	Activities believed to be a form of gambling		
N = 1068	**Male**	**Female**	**Total**
Lottery Draws	81.1 %	78.4 %	79.7%
Bingo *	61.8 %	54.7 %	58.1%
Video Games	16.0 %	14.5 %	15.3%
Slot machines *	74.3 %	67.6 %	70.9%
Betting on Cards**	89.6 %	91.8 %	90.7%
Scratch tickets	73.9 %	64.5 %	69.1%
Horse track	90.2 %	88.4 %	89.2%
Sports betting	85.69 %	86.7 %	86.3%
Casino computer games	74.6 %	75.8 %	75.2%

Statistically significant (p<.05) as tested by Pearson chi-square analysis.
****Statistically significant (p<.01) as tested by Pearson chi-square analysis.***

Table C5: Knowledge of What Constitutes a Gambling Activity: Developmental Differences

	Activities believed to be a form of gambling				
N = 1068	**Grade 6/7**	**Grade 8/9**	**Grade 10/11**	**Grade 12**	**Total**
Lottery Draws *	73.1 %	83.1 %	79.8 %	81.1 %	79.7%
Bingo	55.2 %	60.2 %	54.1 %	64.2 %	58.1%
Video Games	13.9 %	14.2 %	16.6 %	16.4 %	15.3%
Slot machines	66.8 %	74.2 %	69.7 %	71.6 %	70.9%
Betting on Cards**	82.1 %	93.5 %	90.9 %	95.5 %	90.7%
Scratch tickets	61.0 %	71.5 %	69.9 %	72.6 %	69.1%
Horse track**	79.8 %	92.3 %	89.9 %	93.5 %	89.2%
Sports betting**	77.6 %	87.8 %	88.6 %	90.0 %	86.3%
Casino computer games	70.0 %	78.3 %	74.4 %	77.1 %	75.2%

Statistically significant (p<.05) as tested by Pearson chi-square analysis.
****Statistically significant (p<.01) as tested by Pearson chi-square analysis.***

Table C6: Participants Who Go to the Store Specifically to Purchase Lottery Tickets by Gender

	Participants who go to the store specifically to purchase tickets		
N = 601	Male	Female	Total
Never	64.3 %	70.0 %	67.1%
< 1 a month	20.9 %	21.4 %	21.1%
1 a month	6.1 %	4.1 %	5.2%
2-3 times a month	5.5 %	2.4 %	4.0%
Every week	2.6 %	2.1 %	2.3%
Every day	0.6 %	0 %	0.3%

Table C7: Participants Who Go to the Store Specifically to Purchase Lottery Tickets by Grade

	Participants who go to the store specifically to purchase tickets			
N = 601	Grade 6/7	Grade 8/9	Grade 10/11	Grade 12
Never	71.1 %	72.7 %	62.3 %	60.0 %
< 1 a month	21.5 %	18.2 %	23.5 %	22.5 %
1 a month	4.1 %	3.5 %	4.3 %	10.0 %
2-3 times a month	1.7 %	3.0 %	6.8 %	4.2 %
Every week	1.7 %	2.5 %	2.5 %	2.5 %
Every day	-	-	0.6%	0.8 %

Table C8: Most Money Spent on Lottery Products

	Most money spent in one week					
N = 594	**Draws**		**Scratchcards**		**Sports**	
Gender	M	SD	M	SD	M	SD
Male	$8.89	10.57	$10.60	19.66	$12.9	13.29
Female	$9.31	16.74	$8.61	10.45	$7.35	4.38
Grade level						
Grade 6/7	$19.80	30.40	$8.50	6.96	$8.82	6.62
Grade 8/9	$8.53	7.22	$9.57	20.60	$10.30	10.80
Grade 10/11	$9.32	12.80	$9.71	12.70	$11.80	12.60
Grade 12	$6.51	8.74	$10.50	17.50	$14.70	14.60
Total	$9.02	12.70	$9.68	16.10	$11.93	12.40

*Statistically significant at p<.05

Table C9: Most Money Spent and Won on Lottery Products

N = 993	**Most money spent on one ticket**		**Most money won playing the lottery**	
Gender*	M	SD	M	SD
Male	$7.42	10.70	$101.40	281.00
Female	$5.13	7.88	$38.80	168.20
Grade Level				
Grade 6/7	$7.00	13.70	$74.20	317.00
Grade 8/9	$5.45	7.51	$43.00	108.00
Grade 10/11	$6.00	6.32	$123.70	511.00
Grade 12	$7.71	11.80	$39.70	55.30
Total	$11.93	12.40	$71.40	314.90

*Statistically significant at p<.05 for independent samples t-test

Table C10: Percentage of Participants Borrowing Money in the Past Year to Buy Lottery Tickets and Indicated Purchasing a Lottery Ticket for a Friend: Gender Differences

	Male	**Female**	**Total**
Borrowed money (N = 585)	7.7 %	8.1 %	7.9 %
Bought for friend (N = 598)	18.9 %	23.4 %	21.1 %

Table C11: Percentage of Participants Borrowing Money in the Past Year to Buy Lottery Tickets and Indicated Purchasing a Lottery Ticket for a Friend: Developmental Differences

	Grade 6/7	Grade 8/9	Grade 10/11	Grade 12	Total
Borrowed money (N = 585)	7.0 %	7.3 %	7.5 %	10.1 %	7.9 %
Bought for friend* (N = 598)	12.7 %	13.2 %	20.0 %	44.1 %	21.1 %

**Statistically significant ($p<.01$) as tested by Pearson chi-square analysis.

Table C12: Returning to Purchase Tickets Following Wins and Losses

	Return to purchase tickets if they had won (N = 592)			Return to purchase tickets if they had lost (N = 591)		
Gender*	Never	Occasional	Regular	Never	Occasional	Regular
Male	37.8%	15.6%	15.6%	62.4%	35.3%	2.3%
Female	34.0%	10.2%	10.2%	55.8%	42.1%	2.1%
Grade Level						
Grade 6/7	70.9%	22.2%	6.9 %	70.9%	28.2%	0.9%
Grade 8/9	38.9%	50.5%	10.6%	63.3%	36.7%	0%
Grade 10/11	32.7%	50.6%	16.7%	57.1%	38.6%	4.3%
Grade 12	20.7%	61.2%	18. %	43.5%	52.2%	4.3%
Total	36.0%	51.0%	13.0%	59.2%	38.6%	2.2%

Occasional: rarely, sometimes
Regular: often and always
*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

Table C13: Spending Preferences

N = 602	Entertainment			Lottery products		
Gender	**Movies**	**Food**	**Video Games**	**Draws**	**Scratch**	**Sports**
Male	47.7 %	17.6 %	25.1 %	1.0 %	5.9 %	2.9 %
Female	39.7 %	51.9 %	1.7 %	0.3 %	5.8 %	0.7 %
Grade Level						
Grade 6/7	34.1 %	31.7 %	22.0 %	0.8 %	11.4 %	0.0 %
Grade 8/9	39.7 %	34.2 %	18.6 %	0.5 %	5.5 %	1.5 %
Grade 10/11	21.8 %	61.2 %	8.5 %	0.6 %	4.8 %	3.0 %
Grade 12	13.0 %	78.3 %	3.5 %	0.9 %	1.7 %	2.6 %
Total	28.6 %	49.5 %	13.6 %	0.7 %	5.8 %	1.8 %

Table C14: Gambling Activity Preferences (MANOVA)

Effect	Value	F	df	*p*	Observed Power
Gender Wilks Lambda	9.27	.9150	8, 934	<.001	1.000
Grade Wilks Lambda	.927	2.997	24, 2709	<.001	1.000
Gambling Severity Wilks Lambda	.783	9.961	24, 2709	<.001	1.000
Gender x Grade Wilks Lambda	.954	1.835	24, 2709	. 008	.989
Gender x Gambling Severity Wilks Lambda	.966	1.351	24, 2709	.118	.936
Grade x Gambling Severity Wilks Lambda	.910	1.230	72, 5688	.092	.994
Gender x Grade x Gambling Severity Wilks Lambda	.933	1.011	64, 5393	.451	.943

Table C15: Univariate Analyses for Gambling Activity Preferences

Effect **Gender**	F	df	*p*	Observed Power
Sports betting	34.520	1, 972	<.001	1.000
Betting on cards	11.962	1, 972	<.001	.933
Video games	7.900	1, 972	<.005	.802
Bingo*	8.764	1, 972	<.003	.841
Grade				
Sports betting	4.359	3, 972	<.005	.871
Slot machines	6.716	3, 972	<.001	.975
Gambling Severity				
Scratchcard ticket	58.626	3, 972	<.001	1.000
Lottery draws	13.446	3, 972	<.001	1.000
Sports betting	14.772	3, 972	<.001	1.000
Betting on cards	28.618	3, 972	<.001	1.000
Video game	5.025	3, 972	<.002	.917
Slot machines	16.980	3, 972	<.001	1.000
Bingo	26.745	3, 972	<.001	1.000
Horse track	13.732	3, 972	<.001	1.000
Gender x Grade				
Horse track	2.742	3, 972	.042	.666
Gender x Gambling Severity				
Sports betting	6.930	3, 972	<.001	.979

Note: For brevity purposes only statistically significant differences are reported.

Table C16: Lottery Activity Preferences by Developmental Levels: Post-Hoc Comparisons

	Scheffe Post-Hoc Tests		
	Grade Comparison	**Mean Difference**	***p***
Scratch Tickets			
	Grade 6/7 versus grade 10/11	-.53	<.005
	Grade 6/7 versus grade 12	-.66	<.001
Lottery Draws			
	Grade 6/7 versus grade 8/9	-.50	<.005
	Grade 6/7 versus grade 10/11	-.89	<.001
	Grade 8/9 versus grade 10/11	-.84	<.001
Sports Betting			
	Grade 6/7 versus 8/9	-.62	<.001
	Grade 6/7 versus 10/11	-1.10	<.001
	Grade 6/7 versus 12	-.88	<.001
	Grade 8/9 versus 10/11	-.47	<.006
Betting on Cards			
	Grade 6/7 versus 10/11	-.88	<.001
	Grade 6/7 versus 12	-.80	<.001
	Grade 8/9 versus 10/11	-.45	<.023
Video Games			
	Grade 6/7 versus 12	.69	<.010
	Grade 8/9 versus 12	.58	<.020
Slot Machines			
	Grade 6/7 versus 10/11	-.45	<.011
	Grade 8/9 versus 10/11	-.62	<.001
Bingo			
	No significant grade differences		
Horse Track			
	Grade 8/9 versus 10/11	-.69	<.001
	Grade 8/9 versus 12	-.67	<.001

Table C17: Percentage of Parents Who Play the Lottery: Gender Differences

N = 1064		**Male**	**Female**	**Total**
Parents who play lottery products*		79.4%	84.3%	82.0%
Frequency of play	Never	20.6%	15.7%	18.0%
	Occasional	51.4%	58.8%	55.5%
	Regular	28.0%	25.5%	26.7%

Occasional Use = Less than once per week
Regular Use = Weekly & daily
*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

Table C18: Percentage of Parents Who Play the Lottery: Developmental Differences

N = 1064		Grade 6/7	Grade 8/9	Grade 10/11	Grade 12	Total
Parents who play lottery products		83.2%	82.1%	82.0%	80.3%	82.0%
Frequency of play*	Never	16.8%	17.9%	18.0%	19.7%	18.0%
	Occasional	60.5%	61.0%	50.5%	47.3%	55.5%
	Regular	22.7 %	21.1 %	31.5 %	33.0 %	26.7%

Occasional Use = Less than once per week
Regular Use = Weekly & daily
*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

Table C19: Parental Purchases of Lottery Products for their Children

Parental Purchase	Draws	Scratchcards	Sports
Never	49.9 %	23.3 %	76.8 %
< 1 a month	22.1 %	45.5 %	12.2 %
1 a month	8.3 %	15.2 %	4.8 %
2-3 times a month	7.7 %	11.4 %	2.4 %
Every week	10.9 %	4.5 %	3.3 %
Every day	1.0 %	.2 %	.5 %

Table C20: Parental Purchases of Lottery Products for their Children: Gender Differences

	Draws		Scratchcards		Sports	
Parental Purchase	Male	Female	Male	Female	Male	Female
Never	48.8%	51.1 %	26.1 %	20.3 %	70.8 %	83.3 %
< 1 a month	19.5%	25.0 %	41.9 %	49.2 %	14.0 %	10.3 %
1 a month	8.6%	8.1 %	14.5 %	15.9 %	6.3 %	3.2 %
2-3 times a month	9.2%	6.0 %	11.9 %	10.8 %	4.0 %	0.7 %
Every week	12.9%	8.8 %	5.5 %	3.4 %	4.3 %	2.1 %
Every day	1.0%	1.1 %	0 %	0.3 %	.7 %	0.4 %

Table C21: Parental Purchases of Lottery Products for their Children: Developmental Differences

	Parental Purchase											
	Draws				Scratchcards				Sports			
Grade	6/7	8/9	10/11	12	6/7	8/9	10/11	12	6/7	8/9	10/11	12
Never	55.8%	46.3%	50.9%	48.2%	18.7%	18.7%	22.0%	37.9%	83.9%	76.4%	68.5%	82.1%
< 1 a month	18.3%	23.2%	23.3%	22.8%	43.9%	48.5%	44.6%	43.1%	9.3%	12.0%	15.4%	10.7%
1 a month	9.2%	7.9%	7.4%	9.6%	14.6%	17.2%	18.5%	7.8%	1.7%	5.8%	6.2%	4.5%
2-3 times a month	5.8%	10.0%	6.1%	7.9%	16.3%	10.1%	10.7%	9.5%	1.7%	3.1%	3.1%	0.9%
Every week	10.0%	12.1%	10.4%	10.5%	5.7%	5.6%	4.2%	1.7%	3.4%	2.1%	5.6%	1.8%
Every day	0.8%	0.5%	1.8%	0.9%	0.8%	0%	0%	0%	0%	0.5%	1.2%	0%

Table C22: Reported Exposure to Lottery Advertisements: Gender Differences

	Type of media advertising				More likely to buy a ticket due to advertising*
N = 1072	TV	Newspaper	Magazine*	Billboards*	
Male	91.5 %	68.4 %	59.0 %	71.8 %	36.3 %
Female	89.1 %	68.1 %	50.6 %	66.0 %	41.5 %
Total	90.3%	68.2%	54.7%	68.8%	39.0%

*Statistically significant ($p<.05$) as tested by Pearson chi-square analysis.

Table C23: Results of MANOVA for Structural Characteristic Preferences

Effect	Value	F	df	*p*	Observed Power
Gender Wilks Lambda	.988	1.574	7, 945	.139	.661
Grade Wilks Lambda	.959	1.916	21, 2714	<. 007	.984
Gambling Group Wilks Lambda	.920	3.807	21, 2714	<.001	1.000
Gender x Grade Wilks Lambda	.968	1.467	21, 2714	.078	.933
Gender x Gambling Group Wilks Lambda	.968	1.467	21, 2714	.078	.933
Grade x Gambling Group Wilks Lambda	.920	1.262	63, 5328	.080	.994
Gender x Grade x Gambling Group Wilks Lambda	.935	1.150	56, 5094	. 207	.970

Table C24: Univariate Analyses for Structural Characteristic Preferences

Effect	F	df	*p*	Observed Power
Grade				
Cost of ticket	3.052	3 , 981	<.028	0.718
Type of game	3.630	3 , 981	<.013	0.798
Number of activities	3.059	3 , 981	<.027	0.719
Prize	3.501	3 , 981	<.015	0.782
Gambling Group				
Colour	2.779	3 , 981	<.040	0.672
Type of game	3.754	3 , 981	<.011	0.812
Number of activities	8.902	3 , 981	<.001	0.996
Title of game	5.208	3 , 981	<.001	0.927
Prize	3.212	3 , 981	<.022	0.742
Size of ticket	15.863	3 , 981	<.001	1.000
Grade x Gambling Group				
Cost	2.137	(9 , 981)	<.024	0.886

Note: For brevity only statistically significant differences are reported.

Table C25: Developmental Differences for Structural Characteristic Preferences: Post-Hoc Results

	Scheffe Post-Hoc Tests		
	Grade Comparison	**Mean Difference**	***p***
Cost	Grade 6/7 versus 8/9	-0.55	<.005
	Grade 6/7 versus 10/11	-0.69	<.001
	Grade 6/7 versus 12	-0.66	<.002
Color			
	Grade 6/7 versus 12	-0.42	<.020
Type of Game			
	Grade 6/7 versus 8/9	-0.71	<.001
	Grade 6/7 versus 10/11	-1.12	<.001
	Grade 6/7 versus 12	-0.86	<.001
	Grade 8/9 versus 10/11	-0.41	<.036
Number of activities			
	Grade 6/7 versus 8/9	-0.71	<.001
	Grade 6/7 versus 10/11	-1.20	<.001
	Grade 6/7 versus 12	-0.79	<.001
	Grade 8/9 versus 10/11	-0.48	<.009
Title of game			
	Grade 6/7 versus 8/9	-0.50	<.012
	Grade 6/7 versus 10/11	-0.43	<.049
Prize			
	Grade 6/7 versus 8/9	-1.11	<.001
	Grade 6/7 versus 10/11	-1.47	<.001
	Grade 6/7 versus 12	-1.10	<.001
Size of ticket			
	Grade 6/7 versus 8/9	-0.45	<.012
	Grade 6/7 versus 10/11	-0.49	<.005
	Grade 6/7 versus 12	-0.44	<.036

Table C26: Results of MANOVA for Ticket Pairs

Effect	Value	F	df	*p*	Observed Power
Gender Wilks Lambda	.889	3.296	32 , 849	<.001	1.000
Grade Wilks Lambda	.835	1.649	96 , 2542	<.001	1.000
Gambling Severity Wilks Lambda	.733	2.890	96 , 2542	<.001	1.000
Gender x Grade Wilks Lambda	.829	1.712	96 , 2542	<.001	1.000
Gender x Gambling Severity Wilks Lambda	.825	1.760	96 , 2542	<.001	1.000
Grade x Gambling Severity Wilks Lambda	.627	1.420	288 , 7394	<.001	1.000
Gender x Grade x Gambling Severity Wilks Lambda	.676	1.334	256 , 6621	<.001	1.000

Table C27: Univariate Analyses for Ticket Pair Ratings

Effect	F	df	*p*	Observed Power
Gender				
Bingo (pair 2)	7.321	1,911	<.007	.771
Bingo (pair 4)	6.191	1,911	<.013	.700
Mouse Maze (pair 7)	4.427	1,911	<.036	.556
Bingo (pair 9)	5.021	1,911	<.025	.610
Bingo Express (pair 11)	11.415	1,911	<.001	.921
Football Fever (pair 11)	9.985	1,911	<.002	.884
Holiday Greetings (pair 12)	4.038	1,911	<.045	.519
Doubling Red 7s (pair 12)	6.446	1,911	<.011	.718
Pro-Line (pair 15)	9.655	1,911	<.002	.874
Bingo Express (pair 16)	5.628	1,911	<.018	.659
Grade				
Lucky O'Instant (pair 1)	3.941	3,911	<.008	.832
Mini Monopoly (pair 14)	3.031	3,911	<.029	.714
Gambling Group				
Lucky Instant (pair 1)	12.899	3,911	<.001	1.000
Cash of the Day (pair 1)	12.951	3,911	<.001	1.000
Bingo (pair 2)	41.002	3,911	<.001	1.000
Golden Ticket (pair 2)	11.060	3,911	<.001	.999
Lucky Dice (pair 3)	23.877	3,911	<.001	1.000
Instant Millions (pair 3)	22.318	3,911	<.001	1.000
Battleship (pair 4)	26.042	3,911	<.001	1.000
Bingo (pair 4)	35.741	3,911	<.001	1.000

Red Hot Cash (pair 5)	22.77	3,911	<.001	1.000
Instant Millions (pair 5)	25.114	3,911	<.001	1.000
Cash for Lie (pair 6)	23.102	3,911	<.001	1.000
Millennium (pair 6)	30.467	3,911	<.001	1.000
Mouse Maze (pair 7)	9.905	3,911	<.001	.998
Viva Las Vegas (pair 7)	26.814	3,911	<.001	1.000
Jokers Wild (pair 8)	11.995	3,911	<.001	1.000
Mini Monopoly (pair 8)	29.125	3,911	<.001	1.000
Mouse Maze (pair 9)	13.313	3,911	<.001	1.000
Bingo (pair 9)	34.043	3,911	<.001	1.000
Lucky Instant (pair 10)	27.623	3,911	<.001	1.000
Grand Slam (pair 10)	19.407	3,911	<.001	1.000
Bingo Express (pair 11)	31.436	3,911	<.001	1.000
Football Fever (pair 11)	20.065	3,911	<.001	1.000
Holiday Greeting (pair 12)	13.859	3,911	<.001	1.000
Doubling Red 7s (pair 12)	17.593	3,911	<.001	1.000
Crossword (pair 13)	23.418	3,911	<.001	1.000
Viva Las Vegas (pair 13)	26.656	3,911	<.001	1.000
Lotto 6/49 (pair 14)	13.388	3,911	<.001	1.000
Mini Monopoly (pair 14)	24.389	3,911	<.001	1.000
Grand Slam (pair 15)	16.448	3,911	<.001	1.000
Pro-Line (pair 15)	22.635	3,911	<.001	1.000
Red Hot Cash (pair 16)	24.278	3,911	<.001	1.000
Bingo Express (pair 16)	30.835	3,911	<.001	1.000
Gender x Grade				
Cash of the Day (pair 1)	2.972	3,911	<.031	.705
Grand Slam (pair 10)	2.990	3,911	<.030	.707
Doubling Red 7s (pair 12)	3.405	3,911	<.017	.769
Crossword (pair 13)	3.879	3,911	<.009	.826
Gender x Gambling Severity				
Cash of the Day (pair 1)	3.715	3,911	<.011	.808
Battleship (pair 4)	3.880	3,911	<.009	.826
Mini Monopoly (pair 8)	2.708	3,911	<.044	.660
Grand Slam (pair 10)	4.680	3,911	<.003	.896
Football Fever (pair 11)	3.557	3,911	<.014	.590
Grand Slam (pair 15)	3.533	3,911	<.014	.798
Pro-Line (pair 15)	5.969	3,911	<.001	.957
Bingo Express (pair 16)	2.846	3,911	<.037	.684
Grade x Gambling Severity				
Lucky O'Instant (pair 1)	3.285	9,911	<.001	.984
Lucky O'Instant (pair 10)	1.933	9,911	<.044	.844
Gender x Grade x Gambling Severity				
Doubling Red 7s (pair 12)	2.899	8,911	<.003	.952
Crossword (pair 13)	2.915	8,911	<.003	.954

Note: For brevity only significant differences are reported.

Table C28: Mean Rating of Each Lottery Ticket Pair by Gender

	Male		Female		Total	
Pair 1	M	SD	M	SD	M	SD
Lucy O'Instant	3.17	1.76	3.40	1.60	3.29	1.68
Cash of the Day	2.85	1.69	2.82	1.56	2.84	1.63
Pair 2						
Bingo	4.59	2.06	4.86	1.78	4.73	1.93
Golden Ticket	3.36	2.00	4.06	1.88	3.72	1.97
Pair 3						
Lucky Dice	3.20	1.72	3.15	1.48	3.17	1.60
Instant Millions	4.19	2.01	3.69	1.70	3.93	1.87
Pair 4						
Battleship	4.71	2.02	4.16	1.89	4.43	1.97
Bingo	4.59	2.03	4.74	1.74	4.66	1.89
Pair 5						
Red Hot Cash	3.68	1.82	3.73	1.69	3.70	1.76
Instant Millions	4.26	1.98	3.66	1.69	3.95	1.86
Pair 6						
Cash for Life	4.86	2.09	4.45	1.93	4.65	2.02
Millennium	4.42	1.99	4.22	1.72	4.32	1.86
Pair 7						
Mouse Maze	3.94	2.02	4.40	1.81	4.17	1.93
Viva Las Vegas	3.83	1.91	3.85	1.71	3.84	1.81
Pair 8						
Jokers Wild	2.85	1.69	2.90	1.41	2.87	1.55
Mini Monopoly	4.01	1.90	4.05	1.67	4.03	1.79
Pair 9						
Mouse Maze	3.92	2.00	4.28	1.80	4.11	1.91
Bingo	4.60	2.06	4.72	1.79	4.67	1.92
Pair 10						
Lucky O'Instant	3.61	1.83	3.76	1.62	3.69	1.73
Grand Slam	3.56	1.92	2.70	1.64	3.12	1.83
Pair 11						
Bingo Express	3.62	1.87	3.84	1.71	3.74	1.79
Football Fever	3.62	2.00	2.49	1.55	3.04	1.87
Pair 12						
Holiday Greetings	3.80	1.99	4.33	1.86	4.07	1.94
Doubling Red 7s	3.73	1.89	3.44	1.62	3.58	1.76
Pair 13						
Crossword	3.95	2.00	4.21	1.82	4.09	1.91
Viva Las Vegas	3.90	1.95	3.85	1.71	3.88	1.83
Pair 14						
Lotto 6/49	3.70	2.18	3.07	1.88	3.37	2.05
Mini Monopoly	4.01	1.86	4.00	1.66	4.00	1.76
Pair 15						
Grand Slam	3.24	1.87	2.64	1.58	3.02	1.77
Pro-Line	3.82	2.26	2.58	1.74	3.18	2.11
Pair 16						
Red Hot Cash	3.78	1.87	3.66	1.67	3.72	1.77
Bingo Express	3.79	1.89	3.85	1.71	3.82	1.80

Table C29: Mean Rating of Each Lottery Ticket Pair by Grade Level

	Grade 6/7		Grade 8/9		Grade 10/11		Grade 12		Total	
Pair 1	M	SD	M	SD	M	SD	M	SD	M	SD
Lucy O'Instant	2.90	1.84	3.18	1.62	3.54	1.59	3.53	1.63	3.29	1.68
Cash of the Day	2.59	1.68	2.83	1.65	3.04	1.60	2.81	1.53	2.84	1.63
Pair 2										
Bingo	4.29	2.01	4.62	1.91	4.96	1.88	5.06	1.84	4.73	1.93
Golden Ticket	3.26	2.02	3.72	1.97	4.04	1.91	3.71	1.92	3.72	1.97
Pair 3										
Lucky Dice	2.61	1.60	3.16	1.53	3.42	1.59	3.47	1.57	3.17	1.60
Instant Millions	3.75	1.98	3.93	1.94	4.06	1.80	3.94	1.72	3.93	1.87
Pair 4										
Battleship	4.17	2.11	4.29	1.93	4.67	1.92	4.59	1.91	4.43	1.97
Bingo	4.23	2.00	4.61	1.84	4.84	1.89	4.97	1.77	4.66	1.89
Pair 5										
Red Hot Cash	3.41	1.96	3.70	1.78	3.87	1.63	3.78	1.66	3.70	1.76
Instant Millions	3.64	2.03	3.86	1.90	4.20	1.77	4.07	1.68	3.95	1.86
Pair 6										
Cash for Life	4.52	2.23	4.64	2.05	4.74	1.94	4.68	1.83	4.65	2.02
Millennium	4.06	2.13	4.25	1.90	4.53	1.72	4.41	1.63	4.32	1.86
Pair 7										
Mouse Maze	3.82	2.02	4.07	1.98	4.46	1.86	4.31	1.80	4.17	1.93
Viva Las Vegas	3.58	2.01	3.80	1.78	4.00	1.74	3.96	1.70	3.84	1.81
Pair 8										
Jokers Wild	2.67	1.69	2.79	1.51	3.01	1.54	3.03	1.46	2.87	1.55
Mini Monopoly	3.97	1.93	3.92	1.77	4.21	1.73	4.03	1.70	4.03	1.79
Pair 9										
Mouse Maze	3.74	2.03	4.06	1.94	4.35	1.85	4.23	1.75	4.11	1.91
Bingo	4.39	2.07	4.57	1.93	4.83	1.84	4.90	1.81	4.67	1.92
Pair 10										
Lucky O'Instant	3.63	2.08	3.58	1.72	3.77	1.57	3.84	1.52	3.69	1.73
Grand Slam	2.98	1.96	3.06	1.84	3.24	1.78	3.19	1.72	3.12	1.83
Pair 11										
Bingo Express	3.72	1.98	3.69	1.82	3.76	1.69	3.81	1.69	3.74	1.79
Football Fever	2.92	2.04	3.04	1.84	3.14	1.90	3.02	1.65	3.04	1.87
Pair 12										
Holiday Greetings	3.76	2.09	4.15	1.93	4.18	1.85	4.12	1.89	4.07	1.94
Doubling Red 7s	3.55	2.02	3.54	1.84	3.86	1.60	3.52	1.52	3.58	1.76
Pair 13										
Crossword	3.76	1.99	4.10	1.93	4.28	1.86	4.15	1.82	4.09	1.91
Viva Las Vegas	3.85	2.05	3.84	1.87	4.07	1.69	3.98	1.64	3.88	1.83
Pair 14										
Lotto 6/49	3.08	2.08	3.41	2.14	3.45	1.98	3.52	1.97	3.37	2.05
Mini Monopoly	3.97	1.90	3.90	1.77	4.15	1.71	4.00	1.67	4.00	1.76
Pair 15										
Grand Slam	2.95	1.93	3.02	1.79	3.01	1.67	3.08	1.70	3.02	1.77
Pro-Line	2.81	1.96	3.20	2.06	3.41	2.23	3.20	2.09	3.18	2.11
Pair 16										
Red Hot Cash	3.63	2.05	3.80	1.82	3.80	1.60	3.56	1.61	3.72	1.77
Bingo Express	3.68	1.90	3.81	1.84	3.85	1.69	3.95	1.79	3.82	1.80

Table C30: Developmental Differences for Ticket Pair Ratings: Post-Hoc Differences

	Developmental Comparisons	**Mean Difference**	***p***
Lucky O'Instant (pair 1)	Grade 6/7 versus 10/11	-.69	<.001
	Grade 6/7 versus 12	-.59	<.006
	Grade 8/9 versus 10/11	-.46	<.008
Cash of the Day (pair 1)			
	Grade 6/7 versus 10/11	-.51	<.008
Bingo (pair 2)			
	Grade 6/7 versus 10/11	-.77	<.001
	Grade 6/7 versus 12	-.91	<.001
	Grade 8/9 versus 12	-.49	<.043
Golden Ticket (pair 2)			
	Grade 6/7 versus 10/11	-.84	<.001
Lucky Dice (pair 3)			
	Grade 6/7 versus 8/9	-.51	<.005
	Grade 6/7 versus 10/11	-.79	<.001
	Grade 6/7 versus 12	-.87	<.001
Battleship (pair 4)			
	Grade 6/7 versus 10/11	-.55	<.020
Bingo (pair 4)			
	Grade 6/7 versus 10/11	-.71	<.001
	Grade 6/7 versus 12	-.86	<.001
Red Hot Cash (pair 5)			
	Grade 6/7 versus 10/11	-.46	<.039
Instant Millions (pair 5)			
	Grade 6/7 versus 10/11	-.70	<.001
	Grade 6/7 versus 12	-.56	<.027
Millennium (pair 6)			
	Grade 6/7 versus 10/11	-.61	<.004
Mouse Maze (pair 7)			
	Grade 6/7 versus 10/11	-.77	<.001
	Grade 6/7 versus 12	-.65	<.014
	Grade 8/9 versus 10/11	-.46	<.038
Viva Las Vegas (pair 7)			
	Grade 6/7 versus 10/11	-.52	<.017
Mouse Maze (pair 9)			
	Grade 6/7 versus 10/11	-.63	<.005
Bingo (pair 9)			
	Grade 6/7 versus 10/11	-.58	<.012
	Grade 6/7 versus 12	-.60	<.023
Holiday Greetings (pair 12)			
	Grade 6/7 versus 10/11	-.56	<.019
Crossword (pair 13)			
	Grade 6/7 versus 10/11	-.65	<.003
Viva Las Vegas (pair 13)			
	Grade 6/7 versus 10/11	-.57	<.008
Pro-Line (pair 15)			
	Grade 6/7 versus 10/11	-.63	<.007

Table C31: Results of Perception of Skill (MANOVA)

Effect	Value	F	df	*p*	Observed Power
Gender Wilks Lambda	.981	6.084	3, 957	<.001	.961
Grade Wilks Lambda	.962	4.199	9, 2329	<.001	.988
Gambling Group Wilks Lambda	.962	4.188	9, 2329	<.001	.988
Gender x Grade Wilks Lambda	.976	2.651	9, 2329	<. 005	.890
Gender x Gambling Group Wilks Lambda	.981	2.043	9, 2329	.031	.774
Grade x Gambling Group Wilks Lambda	.975	.889	27, 2795	.630	.792
Gender x Grade x Gambling Group Wilks Lambda	.962	1.575	24, 2776	.037	.971

Table C32: Univariate Analyses for Perception of Skill

Effect		F	df	*p*	Observed Power
Gender	Draws**	10.373	1, 990	<.001	.896
	Scratch	1.534	1, 990	.216	.236
	Sport	3.330	1, 990	.068	.446
Grade	Draws	1.614	3, 990	.184	.426
	Scratch*	4.896	3, 990	<.002	.910
	Sports*	4.568	3, 990	<.003	.888
Gambling Group	Draws**	6.293	3, 990	<.001	.966
	Scratch*	3.122	3, 990	<.025	.728
	Sports**	6.836	3, 990	<.000	.978
Gender x Grade	Draws	1.230	3, 990	.298	.331
	Scratch*	5.059	3, 990	<.002	.919
	Sports	2.382	3, 990	.068	.597
Gender x Gambling Group	Draws*	3.519	3, 990	<.015	.784
	Scratch	0.143	3, 990	.934	.076
	Sports	1.474	3, 990	.220	.392
Grade x Gambling Group	Draws	0.560	9, 990	.831	.281
	Scratch	1.374	9, 990	.195	.673
	Sports	0.761	9, 990	.652	.385
Gender x Grade x Gambling Group	Draws	1.441	8, 990	.175	.659
	Scratch*	2.731	8, 990	<.006	.938
	Sports	1.074	8, 990	.379	.507

Table C33: Post-Hoc Analyses for the Perception of Skill by Developmental Level

	Scheffe Post-Hoc Tests		
	Grade Comparison	**Mean Difference**	***p***
Amount of skill in lottery draws	Grade 6/7 versus 12	.54	<.007
	Grade 8/9 versus 12	.59	<.001
Amount of skill in scratch tickets	Grade 6/7 versus 10/11	.45	<.005
	Grade 6/7 versus 12	.67	<.001
	Grade 8/9 versus 12	.42	<.010
Amount of skill in sports betting	Grade 6/7 versus 8/9	-.82	<.001
	Grade 6/7 versus 10/11	-1.10	<.001
	Grade 6/7 versus 12	-1.10	<.001

APPENDIX D

Additional Tables: Gambling Severity

Table D1: Lottery Product Use by Gambling Severity

	Percentage of youth who have ever played lottery products											
	Draws				Scratchcards				Sports			
Gambling Severity	NG	SG	At-Risk	PPG	NG	SG	At-Risk	PPG	NG	SG	At-Risk	PPG
Never	95.2%	73.1%	64.7%	40.7%	80.6%	33.3%	38.2%	25.0%	0%	81.9%	70.6%	39.3%
< 1 a month	4.4%	19.0%	22.1%	25.9%	17.5%	40.9%	25.0%	17.9%	0%	9.1%	13.2%	28.6%
1 a month	0.4%	5.1%	8.8%	11.1%	0.8%	13.1%	14.7%	21.4%	0%	3.6%	1.5%	14.3%
2-3 times a month	0%	1.4%	2.9%	7.4%	1.2%	9.8%	14.7%	17.9%	0%	2.6%	7.4%	10.7%
Every week	0%	1.4%	1.5%	11.1%	0%	2.8%	7.4%	10.7%	0%	2.6%	7.4%	3.6%
Every day	0%	0%	0%	3.7%	0%	0.2%	0%	7.1%	0%	0.2%	0%	3.6%

NG=Non-Gambler; SG=Social Gambler; At-Risk=At-Risk Gambler; PPG=Probable Pathological Gambler

Table D2: Participants Who Go to the Store Specifically to Purchase Lottery Tickets: Gambling Severity

	Participants who go to the store specifically to purchase tickets		
N = 516	Social Gamblers	At-Risk Gamblers	Probable Pathological Gamblers
Never	68.0 %	38.8 %	39.1 %
< 1 a month	21.6 %	34.7 %	21.7 %
1 a month	5.0 %	8.2 %	13.0 %
2-3 times a month	2.9 %	14.3 %	13.0 %
Every week	2.5 %	2.0 %	8.7 %
Every day	0.0 %	2.05 %	4.3 %

Table D3: Differences for Gambling Activity Preferences by Gambling Severity: Post-Hoc Analyses

	Scheffe Post-Hoc Tests		
	Gambling Group Comparison	**Mean Difference**	***p***
Scratch Tickets			
	NG versus SG	-1.66	<.001
	NG versus at-risk	-2.04	<.001
	NG versus PPG	-2.76	<.001
	SG versus PPG	-1.10	<.020
Lottery Draws			
	NG versus SG	-.48	<.001
	NG versus at-risk	-1.32	<.001
	NG versus PPG	-2.03	<.001
	SG versus at-risk	-.84	<.001
	SG versus PPG	-1.56	<.001
Sports Betting			
	NG versus SG	-.85	<.001
	NG versus at-risk	-.1.91	<.001
	NG versus PPG	-2.05	<.000
	SG versus at-risk	-1.06	<.001
	SG versus PPG	-1.20	<.004
Betting on Cards			
	NG versus SG	-.97	<.001
	NG versus at-risk	-2.26	<.001
	NG versus PPG	-3.27	<.001
	SG versus at-risk	-1.29	<.001
	SG versus PPG	-.230	<.001
Video Games			
	NG versus SG	-.64	<.001
	NG versus at-risk	-1.12	<.001
	NG versus PPG	-1.25	<.027
Slot Machines			
	NG versus SG	-.59	<.001
	NG versus at-risk	-1.42	<.001
	NG versus PPG	-2.06	<.001
	SG versus at-risk	-.83	<.001
	SG versus PPG	-1.47	<.001
Bingo			
	NG versus SG	-1.12	<.001
	NG versus at-risk	-1.61	<.001
	NG versus PPG	-1.67	<.001
Horse Track			
	NG versus SG	-.64	<.001
	NG versus at-risk	-1.31	<.001
	NG versus PPG	-2.14	<.001
	SG versus at-risk	-.66	<.026
	SG versus PPG	-.150	<.001

Table D4: Parental Purchases of Lottery Products for their Children: Gambling Severity

Gambling Severity	Parental Purchase								
	Draws			Scratchcards			Sports		
	SG	At-Risk	PPG	SG	At-Risk	PPG	SG	At-Risk	PPG
Never	47.7 %	46.7 %	26.1 %	22.5 %	25.5 %	17.4 %	76.3 %	64.4 %	47.8
< 1 a month	23.2 %	26.7 %	17.4 %	45.5 %	31.9 %	30.4 %	12.8 %	20.0 %	17.4
1 a month	8.5 %	2.2 %	17.4 %	15.8 %	17.0 %	21.7 %	4.9 %	2.2 %	17.4
2-3 times a month	7.8 %	13.3 %	13.0 %	11.6 %	17.0 %	17.4 %	2.3 %	6.7 %	4.3
Every week	12.2 %	8.9 %	17.4 %	4.2 %	8.5 %	13.0 %	3.5 %	6.7 %	4.3
Every day	0.7 %	2.2 %	8.7 %	0.2 %	0 %	0 %	0.2 %	0 %	8.7

NG=Non-Gambler; SG=Social Gambler; At-Risk=At-Risk Gambler; PPG=Probable Pathological Gambler

Table D5: Percent of Youth Who Indicated They Would Purchase a Ticket They Do Not Know How to Play by Gambling Severity

N = 984	Purchase unfamiliar ticket
Gambling Severity**	
Non Gambler	16.7 %
Social Gambler	41.1 %
At-Risk Gambler	41.2 %
Probable Pathological Gambler	64.3 %
Total	34.9 %

**Statistically significant (p<.01) as tested by Pearson chi-square analysis

Table D6: Mean Rating of Each Lottery Ticket Pair by Gambling Severity

	Non Gambler		Social Gambler		At-Risk Gambler		Probable Pathological Gambler		Total	
Pair 1**	M	SD	M	SD	M	SD	M	SD	M	SD
Lucy O'Instant	2.75	1.50	3.46	1.63	3.87	1.90	3.57	2.03	3.29	1.68
Cash of the Day	2.37	1.45	2.96	1.60	3.10	1.60	3.71	2.09	2.84	1.63
Pair 2**										
Bingo	3.65	1.89	5.14	1.77	5.29	1.67	4.93	2.40	4.73	1.93
Golden Ticket	3.14	1.90	3.87	1.92	4.35	1.99	4.36	2.11	3.72	1.97
Pair 3**										
Lucky Dice	2.56	1.42	3.36	1.56	3.93	1.74	3.92	1.60	3.17	1.60
Instant Millions	3.17	1.74	4.14	1.79	4.73	1.86	5.22	1.91	3.93	1.87
Pair 4**										
Battleship	3.58	2.01	4.75	1.83	4.61	2.15	4.96	1.93	4.43	1.97
Bingo	3.67	1.87	5.01	1.74	5.29	1.78	5.19	2.33	4.66	1.89
Pair 5**										
Red Hot Cash	2.98	1.70	3.91	1.67	4.43	1.82	3.96	1.91	3.70	1.76
Instant Millions	3.08	1.73	4.18	1.79	4.91	1.75	5.40	1.55	3.95	1.86
Pair 6**										
Cash for Life	3.72	2.14	4.92	1.86	5.13	1.86	5.50	1.96	4.65	2.02
Millennium	3.39	1.89	4.65	1.69	5.12	1.74	4.42	1.81	4.32	1.86
Pair 7**										
Mouse Maze	3.64	1.98	4.39	1.86	4.45	2.07	4.19	1.90	4.17	1.93
Viva Las Vegas	3.11	1.70	4.00	1.75	4.97	1.77	5.04	1.48	3.84	1.81
Pair 8**										
Jokers Wild	2.42	1.41	3.01	1.50	3.25	1.84	3.78	1.91	2.87	1.55
Mini Monopoly	3.26	1.71	4.30	1.67	4.33	1.93	5.69	1.69	4.03	1.79
Pair 9**										
Mouse Maze	3.50	1.98	4.27	1.82	4.77	1.91	4.80	1.71	4.11	1.91
Bingo	3.71	1.91	5.04	1.76	5.27	1.78	5.12	2.30	4.67	1.92
Pair 10**										
Lucky O'Instant	2.95	1.58	3.92	1.66	4.30	1.74	4.72	1.79	3.69	1.73
Grand Slam	2.47	1.57	3.29	1.80	4.06	2.00	4.25	1.98	3.12	1.83
Pair 11**										
Bingo Express	2.94	1.64	4.04	1.71	4.04	1.78	4.57	2.13	3.74	1.79
Football Fever	2.29	1.50	3.26	1.87	3.79	1.96	4.16	1.86	3.04	1.87
Pair 12**										
Holiday Greetings	3.49	1.90	4.27	1.88	4.26	2.03	4.60	1.85	4.07	1.94
Doubling Red 7s	2.88	1.64	3.78	1.69	4.18	1.86	4.42	1.88	3.58	1.76
Pair 13**										
Crossword	3.24	1.82	4.43	1.81	4.30	2.05	4.79	1.96	4.09	1.91
Viva Las Vegas	3.07	1.78	4.09	1.74	4.88	1.69	4.63	1.84	3.88	1.83
Pair 14**										
Lotto 6/49	2.72	1.80	3.54	2.06	4.06	2.14	5.08	1.98	3.37	2.05
Mini Monopoly	3.27	1.68	4.26	1.67	4.44	1.91	5.00	1.79	4.00	1.76
Pair 15**										
Grand Slam	2.45	1.58	3.14	1.74	3.81	1.99	4.27	1.89	3.02	1.77
Pro-Line	2.24	1.58	3.41	2.13	4.34	2.25	5.08	1.93	3.18	2.11
Pair 16**										
Red Hot Cash	2.96	1.66	3.94	1.70	4.37	1.77	4.62	1.60	3.72	1.77
Bingo Express	2.95	1.59	4.13	1.73	4.34	1.75	4.50	2.30	3.82	1.80

** Statistically significant at p<.01

Table D7: Gambling Severity Differences for Ticket Pair Ratings: Post-Hoc Analyses

	Scheffe Post-Hoc Tests		
	Group Comparisons	**Mean Difference**	***p***
Lucky O'Instant (pair 1)	NG versus SG	-.68	<.001
	NG versus at-risk	-1.17	<.001
Cash of the Day (pair 1)	NG versus SG	-.63	<.001
	NG versus at-risk	-.80	<.005
	NG versus PPG	-1.46	<.001
Bingo (pair 2)	NG versus SG	-1.47	<.001
	NG versus at-risk	-1.68	<.001
	NG versus PPG	-1.50	<.004
Golden Ticket (pair 2)	NG versus SG	-.74	<.001
	NG versus at-risk	-1.31	<.001
Lucky Dice (pair 3)	NG versus SG	-.78	<.001
	NG versus at-risk	-.141	<.001
	NG versus PPG	-1.45	<.001
	SG versus at-risk	-.63	<.020
Instant Millions (pair 3)	NG versus SG	-1.00	<.001
	NG versus at-risk	-1.65	<.001
	NG versus PPG	-2.39	<.001
Battleship (pair 4)	NG versus SG	-1.23	<.001
	NG versus at-risk	-1.14	<.001
	NG versus PPG	-1.57	<.004
Bingo (pair 4)	NG versus SG	-1.33	<.001
	NG versus at-risk	-1.56	<.001
	NG versus PPG	-1.55	<.003
Red Hot Cash (pair 5)	NG versus SG	-.93	<.001
	NG versus at-risk	-.160	<.001
	NG versus PPG	-1.17	<.029
	SG versus at-risk	-.66	<.034
Instant Millions (pair 5)	NG versus SG	-1.11	<.001
	NG versus at-risk	-1.84	<.001
	NG versus PPG	-2.28	<.001
	SG versus at-risk	-.73	<.018
	SG versus PPG	-1.17	<.031
Cash for Life (pair 6)	NG versus SG	-1.17	<.001
	NG versus at-risk	-1.60	<.001
	NG versus PPG	-1.86	<.001
Millennium (pair 6)	NG versus SG	-1.24	<.001
	NG versus at-risk	-1.82	<.001
	NG versus PPG	-1.19	<.035
Mouse Maze (pair 7)	NG versus SG	-.72	<.001
	NG versus at-risk	-.96	<.005
Viva Las Vegas (pair 7)	NG versus SG	-.89	<.001
	NG versus at-risk	-1.96	<001
	NG versus PPG	-1.94	<001
	SG versus at-risk	-1.07	<001
Jokers Wild (pair 8)	NG versus SG	-.60	<.001
	NG versus at-risk	-.90	<.001
	NG versus PPG	-1.45	<.001
Mini Monopoly (pair 8)	NG versus SG	-1.02	<.001

	NG versus at-risk	-1.08	<.001
	NG versus PPG	-2.48	<.001
	SG versus PPG	-1.47	<.002
	At-risk versus PPG	-1.41	<.015
Bingo (pair 9)	NG versus SG	-.79	<.001
	NG versus at-risk	-.138	<.001
	NG versus PPG	-1.41	<.012
Lucky O'Instant (pair 10)	NG versus SG	-.96	<.001
	NG versus at-risk	-1.43	<.001
	NG versus PPG	-2.00	<.001
	SG versus PPG	-1.04	<.049
Grand Slam (pair 10)	NG versus SG	-.83	<.001
	NG versus at-risk	-1.60	<.001
	NG versus PPG	-2.04	<.001
	SG versus at-risk	-.77	<.009
	SG versus PPG	-1.21	<.020
Bingo Express (pair 11)	NG versus SG	-1.14	<.001
	NG versus at-risk	-1.05	<.001
	NG versus PPG	-1.80	<.001
Football Fever (pair 11)	NG versus SG	-1.04	<.001
	NG versus at-risk	-1.55	<.001
	NG versus PPG	-2.21	<.001
	SG versus PPG	-1.17	<.027
Holiday Greeting (pair 12)	NG versus SG	-.78	<.001
	NG versus at-risk	-.83	<.022
Doubling Red 7s (pair 12)	NG versus SG	-.91	<.001
	NG versus at-risk	-1.38	<.001
	NG versus PPG	-1.72	<.001
Crossword (pair 13)	NG versus SG	-1.19	<.001
	NG versus at-risk	-1.12	<.001
	NG versus PPG	-1.71	<.001
Viva Las Vegas (pair 13)	NG versus SG	-1.04	<.001
	NG versus at-risk	-1.83	<.001
	NG versus PPG	-1.53	<.002
	SG versus at-risk	-.79	<.009
Lotto 6/49 (pair 14)	NG versus SG	-1.01	<.001
	NG versus at-risk	-1.18	<.001
	NG versus PPG	-1.70	<.001
	SG versus PPG	-1.19	<.005
Mini Monopoly (pair 14)	NG versus SG	-1.01	<.001
	NG versus at-risk	-1.18	<.001
	NG versus PPG	-1.70	<.001
Grand Slam (pair 15)	NG versus SG	-.70	<.001
	NG versus at-risk	-1.27	<.001
	NG versus PPG	-2.02	<.001
	SG versus PPG	-1.32	<.008
Pro-Line (pair 15)	NG versus SG	-1.13	<.001
	NG versus at-risk	-2.13	<.001
	NG versus PPG	-2.60	<.001
	SG versus at-risk	-.99	<.002
	SG versus PPG	-1.47	<.009
Red Hot Cash (pair 16)	NG versus SG	-.99	<.001

	NG versus at-risk	-1.47	<.001
	NG versus PPG	-1.86	<.001
Bingo Express (pair 16)	NG versus SG	-1.16	<.001
	NG versus at-risk	-1.34	<.001
	NG versus PPG	-1.63	<.001

Table D8 Post-Hoc Analyses for Perception of Skill by Gambling Severity

	Scheffe Post-Hoc Tests		
	Gambling Group Comparison	**Mean Difference**	***p***
Amount of skill in lottery draws	NG versus At-Risk	-.67	.020
Amount of skill in scratch tickets	NG versus PPG	-87	.017
	SG versus PPG	-.80	.028
Amount of skill in sports betting	NG versus SG	-.70	<.001
	NG versus At-Risk	-1.15	<.001
	NG versus PPG	-1.17	.026

NG: Non-Gambler
SG: Social Gambler DSM-IV-MR-J score 0-1
At-Risk Gambler: DSM-IV-MR-J score 2-3
PPG: Probable Pathological Gambler: DSM-IV-MR-J score 4+