

Lottery Playing Amongst Youth: Implications for Prevention and Social Policy

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Factors associated with lottery ticket purchases, accessibility of lottery products, and lottery playing behaviour amongst 1,072 youth (ages 10–18 years old, mean age 14 years-old) was examined. Playing the lottery was found to be the most popular gambling activity with youth reporting playing all forms of lottery tickets including draws, scratch tickets, and sports lottery tickets. Youth reported beginning to play the lottery at age 12, with scratch ticket participation being amongst the most highly reported type of lottery activity with the youngest age of onset. The vast majority of youth are aware of the legal age to purchase tickets although many believed that there should be no age requirement to purchase any form of lottery ticket. Youth, regardless of their age, reported few if any difficulties in purchasing lottery tickets. Moreover, a third of underage youth reported going to the store specifically to purchase lottery tickets with this behaviour increasing with the age of the participant. This research confirms previous findings that lottery tickets are highly accessible to underage youth despite legal prohibitions. The results provide valuable information that can be subsequently used in the development of responsible social policy and youth gambling prevention programs.

Today's youth are exposed to an increasingly widespread and easily accessible variety of gambling venues and advertising. The trend

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worldwide appears to be toward the growing legalization of multiple forms of gambling and a general social approval for a risky activity that was once prohibited (Stinchfield & Winters, 1998). A recent Canada West Foundation study (Azimer, 2000) found that over 70% of adult Canadians participated in some form of gambling during the past year, with the lottery being the most popular activity (50% reported purchasing a draw ticket [e.g., 6/49], with 42% purchasing lottery scratchcards). The high rate of lottery participation may be a consequence of the current availability of lotteries in every Canadian province (Ladouceur, 1996).

Gambling has become a well-established recreational form of entertainment for youth as well as adults. Research efforts have revealed that over 80% of children and adolescents gamble for money, and that between 4–8% meet the diagnostic criteria for pathological gambling, with another 10–14% of youth at-risk for developing a serious gambling problem (Derevensky & Gupta, 1998a, 1998b; Gupta & Derevensky, 1998a, 1998b; Ladouceur, 1996; National Research Council, 1999; Shaffer & Hall, 1996, 2001). Jacobs' (2000) review of the youth gambling literature concluded that along with the increase in 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. The concern is that adolescent studies of problem and pathological gamblers suggest that these youth begin gambling between 10–11 years of age (Gupta & Derevensky, 1998a; Wynne, Smith, & Jacobs, 1996).

GAMBLING PREFERENCES AND LOTTERY PLAYING AMONGST YOUTH

The range of gambling activities in which youth engage are quite varied. While youth engage in numerous activities, there are identifiable gambling preferences. These preferences are likely due to accessibility and financial resources, with lottery playing being particularly attractive. 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. In an earlier study, Shaffer and Zinberg (1994) examined the prevalence of underage lottery pur-

chases. They found 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, with 35.3% having purchased lottery tickets during the previous month (Shaffer & Zinberg, 1994). Furthermore, Shaffer and Zinberg (1994) reported that 7.5% of their sample under the age of 17 had purchased, on average, one lottery ticket every week.

A study by Westphal, Rush, Stevens, and Johnson (1998) in Louisiana found 65% of youth had played scratch tickets, with lottery playing exceeding all other forms of licensed gambling. Moreover, Volberg and Moore (1999) noted a significant increase in youth lottery playing between 1993 and 1999. Ladouceur and Mireault (1998), examining gambling participation among youth, reported that the three most popular forms of gambling were lotteries (60%), sports betting (45%) and card games (36%) amongst Quebec Francophone youth. Gupta and Derevensky (1998a) found slightly different results with the most popular gambling activities among youth being card playing (56%), lottery tickets (52%), bingo (35%), sports pools (34%), electronic gambling machines (32%), and sports lottery tickets (30%). However, when traditional lotteries (lottery draws and scratch tickets) (52%) and sports lottery tickets (30%) are combined, it is clear that youth prefer lottery activities to all other gambling venues (Gupta & Derevensky, 1998a). Analysis of these studies seem to suggest that within the past year, two out of three legally underage youth in North America have gambled for money with lottery play dominating the youth's choice of participation in legalized gambling (Jacobs, 2000).

ACCESSIBILITY, ADVERTISING, AND FAMILIARITY WITH THE LOTTERY

While most youth have difficulty gaining access into casinos, there is abundant evidence that many have relatively easy access to purchasing lottery products in spite of legal prohibitions (Canadian Foundation on Compulsive Gambling (Ontario), 1994; Govoni, Rupcich, & Frisch, 1996; Gupta & Derevensky, 1998b; Wood & Griffiths, 1998). A potentially worrisome fact regarding scratch tickets is youths' ability

to purchase them at supermarkets, gas stations, convenience stores and newstands. Studies by Garner (1995), Macdonald (1995), and Moran (1995) indicate that these "local" stores frequently break the law by selling scratch tickets to children as young as 11 and 12 years of age. In yet another study, Winters, Stinchfield, and Kim (1995) conducted a telephone-survey of 702 Minnesota youth and found that 27.6% of minors reported purchasing scratch tickets, pull-tabs, or lottery draw tickets, with another 8.2% of youth reporting that their underage friends purchased lottery products for them when they were unable.

Lotteries 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 and as such they may be more susceptible to media and governmental promotion of these activities (Stinchfield & Winters, 1998). Within the U.S., due to constitutional issues of separation between the federal and state governments, lottery corporations are actually exempt from the federal truth-in-advertising laws (Saunders, 1999). Gambling in general, and lotteries in particular, are heavily advertised and promoted. Since youth often view themselves as invulnerable and the perceived risks associated with lottery playing are usually professed as negligible, the rate of lottery participation among youth is high.

The advertising of lottery products has become considerably more aggressive (Jacobs, 2000; Kaplan, 1989; Walker, 1992; Wood & Griffiths, 1998). Provinces and states promote lotteries as enjoyable, thrilling, and challenging forms of entertainment. Clotfelter and Cook (1987) analyzed lottery advertisements and concluded that they promoted materialistic values and were misleading concerning the odds of winning. Given the perception that lottery ticket purchases are a form of entertainment, there is an inherent potential for abuse of lotteries by certain segments of the population and that lotteries may be tapping into the non-wagering segments of the population (Kaplan, 1989).

Lotteries may be the first introduction to gambling for many. Taking the cue from the lottery industry, most individuals do not appear

to consider playing the lottery to be gambling (Kaplan, 1989). 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 significantly better than they really are (Griffiths & Wood, 1999).

A number of studies have examined the general preference of gambling activities amongst youth. This study sought to more closely examine lottery playing in order to understand if there are specific lottery preferences (e.g., scratch ticket, sports lotteries, lottery draws) and to ascertain whether gender and developmental¹ differences exist. Furthermore, this study examined factors associated with lottery participation/purchases, including accessibility of lottery products and the impact of advertising upon youths' lottery participation.

METHOD

Participants

Participants included 1,072 youth (521 males, 551 females) from grades 6 to grade 12 (age range 10–18 years-old, mean age 14). Approval was requested and obtained from 7 School Boards, with 9 High Schools and 20 Elementary Schools (both urban and rural) agreeing to participate. School Boards were selected based upon their willingness to participate and represent a variety of regions within the Province of Ontario.

To facilitate examination of developmental differences,¹ participants were grouped into four relatively equally distributed grade/developmental levels. The grade level groupings included; 21% grade 6/7 (mean age = 11.29); 32% grade 8/9 (mean age = 13.14); 27% grade 10/11 (mean age = 15.20) (28.6%); and 19% grade 12 (mean age = 17.15). The legal age to participate in lottery activities within the Province of Ontario is 18, while all other forms of gambling (e.g., horse track, slot machines, casinos) are restricted to individuals 19 years of age and older.

Instruments

Gambling Activities Questionnaire (GAQ) (Gupta & Derevensky, 1996). The GAQ is a measure that examines familial gambling, comorbidity with other addictive behaviors, and types of gambling activities engaged in, along with the frequency of gambling behavior during the past 12 months. For the current study, only the descriptive information was obtained for types of activities engaged in and frequency of gambling involvement. This measure does not have one underlying construct. The items were presented as a wide list of gambling activities where the participants were required to indicate as many gambling activities (e.g., scratch tickets, sports pools) they have engaged in during the past 12 months and their frequency (*never, less than once a month, once a week or more*). Although reliability and validity data for this instrument has not been empirically validated it has good face validity. Each item is discrete, was analyzed individually, and no cumulative scores were calculated.

Youth Lottery Participation and Playing Behaviour (Felsher, Derevensky, & Gupta 2001). Preliminary focus group testing consisting of 47 youth (13 grade 6; 20 grade 8; 8 grade 10/11; 6 grade 12) (ages 12–18), was conducted to ascertain information concerning lottery playing/purchasing behaviour. Group discussions addressed age of onset of gambling, rate of lottery playing behaviour, accessibility to lottery products, money spent on lottery products, knowledge of gambling laws, types of tickets preferred, and the role of advertising/media. Pertinent information obtained from focus group testing and previous research was used to construct a questionnaire for the community sample.

Based upon focus group testing, a 140-item instrument was developed by the authors for a larger study. Of the 140 items, 41 questions were chosen to examine lottery ticket playing behaviour and purchases. More specifically, the items selected for this study ascertained *rate and age of lottery playing behaviour* (10 questions), *money spent on lottery products* (6 questions), *non-planned lottery purchases and ease of purchasing lottery products* (6 questions), *lottery ticket playing behaviour* (2 questions), *knowledge of gambling laws* (4 questions), *gambling activity preferences* (8 questions) and *knowledge of advertising* (5 questions). Questions within each section domain are discrete, analyzed individually, and no cumulative scores are calculated. After administering the questionnaire we returned one month later and re-administered the

questionnaire to the same 80 participants (20 students from within grades 6, 8, 10, & 12) by matching their identification numbers to evaluate the percentage of agreed upon items (test-retest method). Items deemed most important were selected and concordance rates were calculated to determine whether participants provided the same responses between the two sessions. Overall, a relatively high concordance rate was found for most items, ranging from 56%–95%, with a mean concordance rate of 82%. The lowest concordance rate [(ease of purchasing tickets (56%)] may suggest that during the interim between testing sessions some students had different experiences in purchasing tickets.

Procedure

All measures were group administered to participants having parental consent in classrooms and/or school cafeteria by several trained research assistants. Participants completed the questionnaire individually and were instructed that gambling is defined as an activity that involves an element of risk where money is wagered and could be won or lost. Students were assured anonymity of their responses and research assistants were present at all times to answer questions. Participants required approximately 45–60 minutes to complete all measures.

RESULTS

General Gambling Prevalence

Of the total sample, 74% of youth reported having gambled during the past 12 months, with 21% having gambled at least once per week. Of those participants who reported gambling once a week or more, significantly more males (31%) reported gambling than females (12%). Frequent gambling behaviour (once a week or more) was found to be relatively consistent across grade levels.

Participation in Gambling Activities During the Past 12 Months

To examine the frequency of lottery playing relative to other gambling activities participants were asked to indicate how frequently (*never, occasionally, regularly*) they engage in a variety of gambling activities.

Of the youth who reported gambling for money (combining regular [weekly] and occasional playing [less than once a week]), 44.4% reported playing cards, 40.3% purchased scratch/lottery draw tickets, 30.7% played bingo, and 13% purchased sports lottery tickets.² If one adds the participation of lottery draws and scratch tickets with sports lottery tickets, although not mutually exclusive, youth participation in the lottery appears to be the most popular form of gambling activity (53.3%) compared to other gambling venues.

Significant differences in gambling activities and rates of participation were found between males and females for purchasing sports lottery tickets (22.4% vs. 4.1%) [$\chi^2(1, N = 1049) = 81.21, p < .01$], and purchasing draws/scratch tickets (42.9% vs. 37.7%) [$\chi^2(1, N = 1056) = 11.51, p < .003$]. The most frequently engaged in gambling activity was draw/scratch tickets for females (34.4%) whereas, males reported greater participation with wagering on sporting events (24.5%) and playing sports lotteries (15.2%) than females (10.9% and 3.9%, respectively).

All youth reported the highest participation rates for lottery tickets compared to other gambling venues. Examination of the occasional category of gambling activities revealed that the greatest participation rate was for lottery draws/scratch tickets (40.3%) and card playing (35%), followed by bingo (27%). Significant differences in gambling activities and rates of participation were found by developmental level for playing draw/scratch tickets, $\chi^2(3, N = 1056) = 27.62, p < .001$. Developmental differences were found for reported preference of lottery tickets with 41.8% of youth in grades 10/11 and 52.3% of youth in grade 12 reporting a greater preference for draw/scratch tickets compared to youth in grades 6/7 (36.2%) and grades 8/9 (34.3%). Significant developmental differences were found for sports lottery tickets, $\chi^2(3, N = 1049) = 14.17, p < .03$. The rate of sports ticket involvement increased by grade level with youth in grades 10/11 (17.3%) and grade 12 (16.6%) reporting greater participation compared to youth in grades 6/7 (8.2%) and grades 8/9 (10.3%). 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 youth.

Desirability of Gambling Activities

Participants were required to rate various gambling activities on a 7-point Likert scale (score of 1 being "do not like at all," score of 4

being neutral, and a score of 7 being "like very much") in order to investigate the desirability of these gambling activities compared to lottery playing. A $4 \times 4 \times 2$ multivariate analysis of variance (MANOVA) was performed, including gender and grade as fixed variables, and desirability measures for scratch tickets, lottery draws, sports betting, and other gambling venues. The results revealed main effects for gender and developmental level with no significant interaction of gender by grade.

Overall, the most desirable gambling activity was scratch tickets ($M = 4.07$, $SD = 1.91$), followed by bingo ($M = 3.60$, $SD = 2.03$), card playing ($M = 2.82$, $SD = 1.95$), and lottery draws ($M = 2.67$, $SD = 1.57$). With respect to lottery products, a significant gender effect was found for sports betting $F(1, N = 972) = 34.52$, $p < .001$, although males reported a stronger preference for most of the activities when compared with females. Generally, both females and males indicated that scratch tickets was the most desirable gambling activity. While more males reported a preference for sports betting ($M = 3.10$, $SD = 2.12$), females reported a preference for scratch tickets ($M = 4.14$, $SD = 2.12$).

Developmental increases were found in general for the desirability of many gambling activities. A preference for lottery draws and sports betting increased with developmental level. It is interesting to note that while linear trends were evident, the oldest youth seem to have provided the lowest ratings for many of the gambling activities (the exception being sports wagering). Participants in grade 6/7 rated bingo ($M = 3.74$, $SD = 1.91$) and scratch tickets ($M = 3.74$, $SD = 1.95$) as the most desirable gambling activities, whereas scratch tickets were rated the most desirable compared to other gambling activities for youth in grades 8/9 ($M = 3.99$, $SD = 1.88$), grades 10/11 ($M = 4.35$, $SD = 1.91$), and grade 12 ($M = 4.13$, $SD = 1.87$).

Lottery Product Participation

Lottery products were examined independently to examine youth's actual participation with lottery draws, scratch tickets, and sports tickets. Categories were regrouped based upon playing behaviour and are presented in Table 1. Overall (combining occasional³ and regular participation⁴), participants reported playing scratch tickets (54.2%), lottery draws (22.4%), and sports tickets (14.8%). With respect to regular participation (*once a week or more*), scratch tickets were again the most

Table 1
Gender Differences in Lottery Product Participation

	<i>Male</i>	<i>Female</i>	<i>Total</i>
<i>Lottery Draws</i>			
Never	72.1%	82.7%	77.6%
Occasional** ¹	25.6%	16.8%	21.0%
Regular** ²	2.3%	0.5%	1.4%
<i>Scratch Tickets</i>			
Never	43.3%	48.2%	45.8%
Occasional ¹	52.9%	50.2%	51.5%
Regular ²	3.8%	1.6%	2.7%
<i>Sports Tickets</i>			
Never	76.6%	93.2%	85.2%
Occasional** ¹	18.6%	6.8%	12.5%
Regular** ²	4.8%	0.0%	2.3%

¹Occasional Use = Less than once per week, less than once a month, 2-3 times a month.

²Regular Use = Weekly and daily.

**Statistically significant ($p < .01$).

popular (2.7%), followed by sports tickets (2.3%) and lottery draws (1.4%).

Of those participants who indicated playing the lottery, significant gender differences were noted for lottery draws [$\chi^2 (1, N = 1,065) = 16.91, p < .001$], and sports tickets [$\chi^2 (1, N = 1,066) = 58.17, p < .001$]. As can be seen in Table 1, males reported regular (weekly and daily) participation with lottery draws (2.3%) [$\chi^2 (1, N = 1,065) = 6.03, p < .014$], scratch tickets (3.8%) [$\chi^2 (1, N = 1,065) = 4.95, p < .026$], and sports tickets (4.8%) [$\chi^2 (1, N = 1,065) = 27.08, p < .001$], significantly more than females (.5%, 1.6%, and 0% respectively). Only for occasional scratch ticket participation were males (52.9%) and females (50.2%) similar in their rate of playing.

Developmentally, statistically significant differences were found among youth for sports lottery participation, $\chi^2 (3, N = 1,066) = 9.07, p < .028$. Detailed developmental information is presented in Table 2. Independent of developmental level, scratch tickets was reported to be the lottery activity with which youth have had the most involvement. Participants in grades 8-12 reported occasional participation in lot-

Table 2
Developmental Differences in Lottery Participation Rates

	<i>Grade 6/7</i>	<i>Grade 8/9</i>	<i>Grade 10/11</i>	<i>Grade 12</i>	<i>Total</i>
<i>Lottery Draws</i>					
Never	83.3%	76.1%	76.1%	75.1%	77.6%
Occasional ¹	15.8%	22.1%	21.9%	29.4%	21.0%
Regular ²	0.9%	1.8%	2.0%	0.5%	1.4%
<i>Scratch Tickets</i>					
Never	46.2%	42.9%	49.3%	44.8%	45.8%
Occasional ¹	52.0%	55.3%	46.5%	52.2%	51.5%
Regular ²	1.8%	1.8%	4.2%	3.0%	2.7%
<i>Sports Tickets</i>					
Never	91.0%	85.5%	82.0%	83.1%	85.2%
Occasional* ¹	7.6%	12.1%	15.4%	13.9%	12.5%
Regular** ²	1.4%	2.4%	2.6%	3.0%	2.3%

¹Occasional Use = Less than once per week, less than once a month, 2-3 times a month.

²Regular Use = Weekly and daily.

*Statistically significant ($p < .05$).

tery draws (22.1%–29.4%) and sports lottery (12.1%–15.4%) more than participants in grades 6/7. Furthermore, youth in grades 10–12 (3.0%–4.2%) reported greater regular use with scratch tickets than participants in grades 6–9 (1.8%).

Recency of Lottery Product Participation/Purchases

Youth were asked to indicate the last time they bought or played the lottery (*more than 6 months ago, past month, past week*) to establish the recency of lottery involvement. Self-reports indicated that 16.8% of youth 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 than females (21.1% vs. 12.2%) to have purchased or played some form of lottery product within the past week. Females were more likely to report their most recent lottery participation/purchases during the past month or more than 6 months ago. Combining past month and past week playing, 60.8% of

youth in grades 10–11 and 66% of youth in grade 12 have played the lottery compared to 55% of youth in grades 6–7 and 48.1% of youth in grades 8–9. Developmentally, rates of playing the lottery were similar for the more than 6-month and past month playing categories. However, participants in grades 10–11 (19%) and grade 12 (20.5%) reported more often playing/purchasing lottery products during the past week than younger participants (13.5%–15.5%).

Knowledge and Beliefs Regarding Legal Age Restrictions for Purchasing the Lottery

Youth were asked to indicate all the items (*yes/no*) they believe to be a form of gambling in order to evaluate their perception of lottery tickets. Overall, a large percentage of youth do not perceive scratch tickets (30.9%) or lottery draws (20.3%) to be a form of gambling. In order to ascertain youth'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 (*yes/no*), and if so, to indicate the age. Overall, the majority of participants (90.3%) were aware of the legal age to purchase lottery tickets and reported the mean age was 18.08 ($SD = 1.04$). Significant gender differences were found [$\chi^2(1, N = 1058) = 11.78, p < .001$], with females (71.0%) endorsing the necessity for a legal age restriction more than males (61.0%).

Children's knowledge of the current legal age restrictions to purchase lottery products varied significantly across grade level [$\chi^2(3, N = 1053) = 27.46, p < .001$], with older participants being more aware of legal restrictions. Not surprisingly, students in grades 6–7 (82.2%) were the least informed about the legal age for ticket purchases (compared to 96% of youth in grade 12). Although, the majority of participants are aware of the 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 recommended mean age of restriction increased as children got older (from mean age of 16.1–17.9) (although the average recommended age is still below the current legal age requirement).

Age of Onset

An important distinction is made between playing and purchasing lottery tickets. Youth were asked to indicate the age of onset for first playing and their age of onset for purchasing of all three types of lottery products. These 6 questions were presented in an opened ended format. The mean age of onset for the entire sample for *playing* scratch tickets was 9.86 ($SD = 3.16$), lottery draws was 10.69 ($SD = 3.22$), and sports tickets was 11.78 ($SD = 2.91$) (see Table 3). The mean age of onset for participants who had indicated *purchasing* lottery products was 12.12 ($SD = 3.37$) for scratch tickets, 12.73 ($SD = 3.05$) for lottery draws, and 12.74 ($SD = 3.15$) for sports tickets. Although no statistically significant gender differences were noted for age of onset, males ($M = 11.90$, $SD = 3.54$) reported purchasing scratch tickets at a slightly younger mean age than females ($M = 12.50$, $SD = 3.09$).

Table 3
Developmental Differences in Mean Age of Onset for Youth
Who Have Played and Purchased Lottery Tickets

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

Note: These results represent a subsample of participants who have played or purchased lottery tickets.

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

Significant developmental differences were found for the age at which participants reported first *playing* lottery draws [$F(3, N = 230) = 31.25, p < .001$], scratch tickets [$F(3, N = 551) = 66.13, p < .001$], and sports tickets [$F(3, N = 156) = 34.92, p < .001$]. In addition, significant developmental differences were found for the age at which participants reported they first *purchased* lottery draws [$F(3, N = 119) = 51.64, p < .001$], scratch tickets [$F(3, N = 266) = 109.26, p < .001$], and sports tickets [$F(3, N = 87) = 109.26, p < .001$]. The reported age of onset for scratch ticket and sports lottery participation and purchases increased with the age of the participant. Despite these differences, scratch tickets had a youngest mean age of onset compared to the other lottery products. The youngest participants (grades 6–9) yielded the earliest mean age 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 3).

Expenditures on Lottery Tickets

Youth were asked in an open-ended question format to indicate the average amount of money they have spent per week on lottery draws, scratch tickets, and sports tickets. Of the youth who reported purchasing their own lottery tickets, they reported spending approximately \$4.05 on lottery draws, \$5.55 on scratch tickets, and \$7.16 on sports tickets per week. The larger mean amount of money spent on sports tickets is probably due to the fact that with sports lotteries participants can wager more money (anywhere from \$1 to \$100) and not a result of greater sports lottery purchases. Independent t-tests revealed no significant gender differences for the average amount of money participants spent per week. Despite this, males reported spending slightly more money than females on scratch tickets and sports tickets.

Although no statistically significant developmental differences were found across grade level in the average amount of money spent each week for all three-lottery activities, a developmental increase in the amount of money spent on scratch tickets and sports lotteries was found (see Table 4). In general, as youth became older (grade 8–12) they reported spending more money on scratch tickets, sports tickets, and lottery draws than younger participants (grades 6–7) (the excep-

Table 4
Average Amount of Money Spent per Week on Lottery Products
by Youth Who Have Purchased Tickets Themselves

	<i>Lottery Draws</i>		<i>Scratch Tickets</i>		<i>Sports Tickets</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>Gender</i>						
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
<i>Grade Level</i>						
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 N = 432	\$4.05	3.62	\$5.55	14.60	\$7.16	11.20

Note: These results represent a subsample of participants who reported to have purchased lottery tickets themselves.

tion being for draws with the grade 12 students decreasing their purchasing of these tickets).

Ease of Purchasing Lottery Tickets

Of the participants who responded to this question ($n = 536$), the majority (64.7%) of underage youth indicated that in spite of legal age restrictions they found it easy to acquire tickets from the local convenience/corner store⁵. No meaningful gender differences were apparent. However, significant developmental differences were found between youth in their reported ease of under-age purchases [$\chi^2(3, N = 536) = 29.53, p < .001$]. As one would expect, a linear trend was noted, with those in grades 10 (63.8%) through 12 (83.3%) reporting that they find it less difficult to purchase lottery tickets than those in grades 6 to 9. Even though it becomes easier to purchase tickets for older youth, more than half (55.3%) of those in grades 6 to 9 who had reported purchasing lottery products indicated that they found it easy to acquire tickets in spite of legal prohibitions (see Table 5).

Youth also reported on the frequency with which they go to the

Table 5
Ease of Purchasing Lottery Tickets for Youth

	<i>Easy</i>	<i>Difficult</i>
<i>Gender</i>		
Male	66.0%	34.0%
Female	63.3%	36.7%
<i>Grade Level**</i>		
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 N = 536	64.7%	35.3%

Note: These results represent a subsample of participants who reported to have purchased lottery tickets themselves.

**Statistically significant ($p < .01$).

store specifically to purchase lottery tickets (*never, less than once a week, weekly and daily*). Of the 601 youth who responded to this question, 33% reported going to a local convenience store specifically to purchase lottery tickets, with males (35.7%) reporting doing so more often than females (30.0%) (combining occasional and regular use). Males (3.2%) reported going to the store specifically to purchase lottery tickets more than females (2.1%) on a regular basis (weekly and daily). A significant linear trend $\chi^2(3, N = 601) = 8.10, p < .044$, was found with age. Youth reported an increase with age in occasional and regular trips to the store to specifically purchase lottery tickets. Although non-significant participants in grades 10-11 (3.1%) and grade 12 (3.3%) reported regularly (weekly and daily) making special trips to the store to purchase lottery tickets more so than youth in grades 6-7 (1.7%) and grades 8-9 (2.5%). These results are likely due to the greater financial resources and the appearance of maturity for older youth.

To acquire tickets, 7.9% of youth (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 increased as participants became 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 participants (20% of grade 10–11 and 44.1% of grade 12) being more prone to purchase tickets for friends than younger participants (12.7% of grade 6–7 and 13.2% of grade 8–9).

Lottery Tickets Purchases Following Wins and Losses

To investigate lottery-playing behaviors, youth were asked whether they return to purchase additional tickets if they had won (*yes/no*) and whether they returned to purchase lottery tickets if had they lost (*yes/no*) playing the lottery. Overall, 13% of youth reported regularly (weekly and daily) returning to the store to purchase more tickets when they had won, while only 2.2% reported returning to purchase more tickets if they lost. Males reported returning to purchase lottery tickets on a regular basis more than females independent of whether they had won or lost. Youth in grades 10/11 (16.7%) and grade 12 (18.0%) reported returning to the store to purchase more tickets more frequently after they had won compared to youth in grade 6–9. Similarly, the tendency to purchase more tickets after experiencing a loss increased with the participant's age and is likely the result of having more money.

Non-Planned Lottery Ticket Purchases

To examine whether impulse purchasing of lottery tickets at the cash register is a common phenomena and a factor in ticket purchases youth indicated whether they were more likely to purchase a ticket because of its visibility and placement on the store counter (*yes/no*). Of those youth who reported purchasing lottery products themselves, the majority (57.4%) reported that they would be more likely to purchase a ticket that was displayed on the store counter. Gender differences were found [$\chi^2(1, N = 411) = 8.10, p < .004$], with males (65.1%) reporting more than females (51.1%) that they would be more likely to purchase a ticket seen on the counter. A significant linear increase across developmental levels was found [$\chi^2(3, N = 411) = 65.87, p < .001$], with youth in grades 10/11 (75.0%) and grade 12 (83.6%) reporting that they would be more willing to purchase a ticket after seeing it on the store counter compared to younger youth.

Lottery Advertisements and Exposure Impact

Lottery corporations spend considerable amounts of money advertising their products (in Ontario, \$25 million was directly spent advertising their products during the past year) (Lottery Insights, 2001). To determine the impact of advertisements on the purchasing and playing behaviour of underage youth, they were asked if they had seen lottery product advertising on television (*yes/no*), in the newspaper (*yes/no*), in magazines (*yes/no*), or on billboards (*yes/no*). Youth were also asked whether they felt such advertisements encouraged them to play and/or purchase these products (*yes/no*).

Overall, the majority of youth reported having seen lottery advertisements; most reported viewing advertisements on television (90.3%), on billboards (68.8%), in the newspaper (68.2%), and in 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. No statistically significant gender differences were found in their susceptibility to such advertisements, however, females (41.5%) tended to report being more influenced than males (36.3%).

While examination of the data revealed that more than half of the sample, regardless of age and type of medium, had seen an advertisement for a lottery product, developmental differences were found for exposure to television [$\chi^2(3, N = 1071) = 13.31, p < .004$], and newspaper [$\chi^2(3, N = 1070) = 11.33, p < .01$] advertisements. Youth in grades 10–11 (92.5%) and grade 12 students (92.1%) reported viewing the most television lottery commercials, whereas youth in grades 8–9 (72.6%) reported observing the most newspaper advertisements for lottery products. Although no significant differences were found, youth in grade 10/11 (40.0%) and grade 12 (42.9%) reported that they were more likely to purchase a lottery ticket as a result of having seeing an advertisement compared to youth in grades 6/7 (38.7%) and youth in grade 8/9 (36.0%).

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 (*never, occasional, regular*). Categories were regrouped

to determine how regularly (*often and always*) 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 [χ^2 (1, $N = 597$) = 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 [χ^2 (3, $N = 597$) = 11.69, $p < .009$] with older youth in grades 10-11(30.7%) and grade 12 (36.5%) reporting more frequently (weekly and daily) playing the same lottery game compared to youth in grades 6/7 (21.7%) and 8/9 (21.1%).

DISCUSSION

While participation in provincially regulated gambling venues in Ontario is restricted to individuals 18 years and over for lottery playing and bingo, and 19 for other forms of gambling including casinos, 74% of youth under age 18 reported having gambled for money in the past year, with 21% reportedly having gambled once a week or more. These findings are consistent with other research studies (Huxley & Carrol, 1992; Jacob, 2000; Ladouceur & Mireault, 1998; Lesieur & Klein, 1987; NRC, 1999). Playing the lottery was found to be the most popular gambling activity for youth, with 39% of underage youth reported playing/purchasing the lottery within the past week and 17% indicating doing so within the past month.

In spite of legal restrictions, youth reported playing all forms of lottery tickets including scratch tickets (54%), lottery draws (22%), and sports lottery tickets (15%). Scratch tickets was found to be the most popular form of lottery ticket for both males and females. The appeal of scratch tickets is likely as a result of the multitude and variety of lottery tickets available, their low entry cost (scratch tickets can cost as little as .50), the number of games on each scratch ticket, etc. As one would predict, males participated more often than females in sports lotteries. This is not surprising since sports lottery wagering is predominantly focused on male oriented professional teams (e.g., hockey, basketball, football, etc.). Not only did males participate more in sports lotteries than females, males reported engaging in all activities on an occasional and regular basis more than females.

Desirability of Gambling Activities and Lottery Participation

Consistent with Ladouceur and Mireault's (1988) findings, the most popular form of gambling activity engaged in by youth is lottery products (53%) compared to other gambling venues (combining lottery draws, scratch tickets, and sports tickets). Furthermore, scratch tickets are the most preferred lottery product compared to lottery draws and sports tickets. Females reported primarily participating in scratch ticket and bingo activities, whereas males reported playing cards for money and lottery tickets more than any other gambling activity. Purchasing scratch/draw tickets increased, as children got older, probably since it is easier for older youth to access lottery tickets and they have more money. Lottery activities in general are the most popular gambling activity amongst youth for a number of reasons. They are relatively inexpensive, highly accessible, simple to play, they provide immediate reinforcement (especially scratch tickets) and are widely advertised. The popularity of lottery tickets, particularly scratch tickets, is likely enhanced as they are not perceived to be a form of gambling but rather as an innocuous form of entertainment, with large numbers of parents willing to purchase tickets even for young children (Felsher, Derevensky, & Gupta, 2003).

Age of Onset

Consistent with previous research, the average age of onset for scratch tickets playing was 10 years of age, 11 years of age for lottery draws, and 12-years for sports lottery tickets. Developmentally, the results revealed that younger students reported gambling at even younger ages than older students (for all three types of lottery products). These results are particularly disconcerting as research has shown that early onset of gambling behaviour is predictive of more severe future gambling problems (Custer & Milt, 1985; Dell, Ruzicka, & Palisi, 1981). While most youth have had benign involvement with gambling activities at 10–11 years of age, retrospective studies of problem gamblers report the onset of their pathological behaviours to have initially begun between the ages of 10–11 (Gupta & Derevensky, 1998a; Wynne, Smith, & Jacobs, 1996). The implication is that while most youth do not develop gambling problems, there exists a potential

for gambling involvement to get out of hand, particularly when youth are exposed to gambling at an early age.

Lottery Ticket Purchases and Expenditures

Although most youth indicated being aware of legal age restrictions to purchase lottery tickets, a third of respondents believed that 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. As children became older they suggested more restrictive age requirements to purchase lottery tickets. Youth, in general, do not view lottery products as a bona fide form of gambling nor do they perceive many risks associated with lottery involvement.

Consistent with previous research findings in many jurisdictions (e.g., Canadian Foundation on Compulsive Gambling, 1994; Govoni et al., 1996; Gupta & Derevensky, 1998a; Wood & Griffiths, 1998), and in spite of legal prohibitions, youth reported few if any difficulties in purchasing lottery tickets even by the youngest children. While a number of participants reported attempting to purchase tickets at a convenience store and had been refused, others remarked that their local store “will sell tickets to anyone.” Even though it becomes easier to purchase tickets as youth become older, more than half of the children in grade 6–9 (11 to 15 year olds) who had purchased lottery tickets themselves reported that they were able to purchase lottery tickets with little difficulty. Of concern was the finding that a third of underage youth reported going to the store specifically to purchase lottery tickets, with this behaviour increasing with age. These results are alarming considering it is illegal for minors to purchase lottery tickets and given that research has shown that excessive gambling can be problematic.

Of the participants that have purchased lottery tickets themselves, they reported spending on average \$4.05 on lottery draws, \$5.55 on scratch tickets, and \$7.16 on sports tickets per week. Extrapolating from this data, those who purchase tickets will spend approximately \$370 on sports tickets, \$285 on scratch tickets, and \$210 on lottery draws on a yearly basis. Although, no significant gender differences were found for the average amount of money participants spent per week, males reported spending slightly more money than females on

scratch and sports lottery tickets. No significant developmental differences were noted, however the amount of money spent per week on scratch tickets and sports lotteries increased with age. Given that older youth have greater access to more disposable income, it is not surprising that they reported spending more money on lottery products. Furthermore, 8% of youth reported borrowing money in the past year to purchase lottery tickets and this increased with developmental level.

Advertising

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, 2001), which represents 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, 2001). The OLGC's 2001 campaign uses the tagline, "*every day, millions win*" to highlight 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. Moreover, the OLGC's advertising campaign does not use one major theme when advertising lottery products and each brand has its own specific campaign that has helped to establish solid brand images (Lottery Insights, 2001).

The results clearly suggest that underage youth are not immune to lottery advertisements. Most youth reported viewing advertisements on TV, billboards, and in the print media. All students could readily recite popular lottery commercials/slogans and revealed that the "catchy tunes" go through their head when they see the ticket. In general, while 39% of youth reported that they would be more likely to purchase a ticket because they had seen an advertisement, they indicated not necessarily purchasing *the* specific ticket being advertised.

Familiarity of gambling products is important in terms of gambling acquisition (Griffiths & Dunbar, 1997; Parke & Griffiths, 2001).

The gambling industry creates familiarity for products by associating tickets with celebrity images, using brand or licensed names and building upon player's previous experiences (Parke & Griffiths, 2001). Children reported that if they had to select between a lottery ticket that had a greater probability of winning a prize and a ticket in which they were familiar (e.g., *Monopoly*), they would select the ticket most familiar to them. More importantly, the majority of youth reported that they would not purchase a ticket they do not know how to play. Familiarity with the lottery product appears to be less important as the individual matures.

A key limitation to this study is the sole reliance on youth self-report. Questionnaires based on self-report are the norm in the youth gambling field. Some key problems with this method are that youth may be unwilling to admit their true frequency of gambling for fear of adult scrutiny. Yet the opposite problem may also occur, where youth may exaggerate their frequency of gambling involvement in order to impress friends. In order to resolve both these issues, youth were assured of their anonymity, teachers were not present in the classroom during administration of the questionnaire, and youth were instructed that the questionnaire should be completed independently. A third problem with self-report may be the readability of the questionnaire. It is possible that participants misunderstand or misread questions. In order to address this issue, research assistants were present at all times to clarify such potential misunderstandings. Furthermore, a pilot test was conducted to evaluate whether the questionnaire was understood by the youngest participants (grade 6 youth). Any questions that arose regarding specific items were modified. Parental information to confirm their children's reports of lottery play would add greatly to the existing literature and is recommended for future studies.

Social Policy Implications

A recent change in the types of games employed by lottery corporations have 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, of fulfilling one's dreams, providing an enjoyable, and challenging past time. Similar to adults, the lottery may be perceived as a way for youth

to solve current and future financial problems. The fact that many youth reported having little difficulty purchasing lottery tickets in spite of legal prohibitions is of particular concern. The present research supports the premise that lottery products are highly popular and easily accessible to underage youth. Gambling, specifically lottery playing (e.g., scratch tickets), is one of the few potentially addictive behaviours that youth are exposed to on a daily basis that is supported, endorsed, and promoted by governments with few parents being aware of the potential short-term and long-term negative consequences.

Generally, the perception is that legal sanctions (e.g., age restriction to purchase tickets) will discourage any "really serious" gambling among those underage. Greater societal awareness regarding the number of youth who have access to lottery products and other gambling venues, and the potential harm associated with such activities should lead to stricter enforcement of existing laws. Governmental acknowledgement of youth gambling problems may generate more vigorous and effective methods for discouraging lottery play by underage youth. 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). Youth reports of widespread lottery ticket purchases may be indicative of a larger social problem that has a broad based influence on public health (Korn & Shaffer 1999; Shaffer & Hall, 2001; Shaffer & Zinberg, 1994).

Given the findings that lottery products are quite appealing to youth, are easily accessible, and have been suggested to be a "gateway" to other gambling venues, policy makers and law enforcement personnel are strongly encouraged to enforce the existing statutes prohibiting underage youth from purchasing lottery tickets. Where such statutes do not exist, policy makers would be well advised to pass legislation and strict penalties for vendors violating such laws. As well, specific training programs targeting lottery vendors, law enforcement agencies, and criminal justice systems need to be developed and implemented. Other options to reduce accessibility of lottery products for youth is to move lottery tickets under the counter where they are not as visible and accessible and to restrict the amount of stores that are legally permitted to sell lottery products to sites where schools are not located. One of the simplest means for discouraging lottery product participation would be to restrict the *up-selling* of lottery tickets. Up-

selling is a means of promotion whereby the retailer asks the consumer when they are at the cash register if they would like to purchase a lottery ticket. The lottery ticket industry should be in line with the tobacco and alcohol industries who are not permitted to have their vendors encourage the sale of their products. With the advent of new high tech and licensed lottery products under development (e.g., interactive CD lotteries such *Treasure Tower*), 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 must begin at the elementary school level. 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). Efforts must be made to ensure that school administrators, members of psychological services, and teachers are aware of this growing problem. 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 the advent of new games and formats being developed by Lottery corporations, careful monitoring of this situation is imperative.

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NOTES

1. It is important to note that by 'developmental,' grade differences rather than changes over time will be examined.
2. It should be noted that sports lottery tickets are province wide tickets in which individuals wager on the outcome of professional sporting events (e.g., baseball, hockey, basketball).

3. Occasional refers to less than once per week, less than once a month, and 2-3 times a month participation.
4. Regular refers to weekly and daily participation.
5. These results are based on youth self-report.

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