

Parental Influences and Social Modelling of Youth Lottery Participation

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ABSTRACT

Objective. The present study sought to investigate the relationship between perceived parental lottery involvement and the bearing this has upon youth lottery participation.

Participants. One thousand seventy-two youth, 10–18 years of age participated from 20 elementary and nine high schools throughout the province of Ontario, Canada.

Measurements. Measuring Youth Lottery Participation and Playing Behaviour Questionnaire and the DSM-IV-MR-J Revised to screen for youth pathological gambling.

Findings. Youth reported playing all forms of lottery tickets with 77% reporting that their parents purchase scratch tickets, lottery draws (50%), and sports tickets (23%) for them. Parental purchases of lottery tickets for their children increased by level of gambling severity. Participants with significant gambling problems perceived higher parental participation in the lottery compared to non-gamblers and social gamblers. The majority of participants reported that their parents were aware of their lottery involvement and were not afraid of getting caught purchasing lottery tickets in spite of legal prohibitions.

Conclusion. The results suggest youths' perception of parental involvement with the lottery plays an important role in the initiation and maintenance of lottery participation for youth. Given that youth report receiving lottery tickets from their parents, it is clear that the lottery is perceived as an innocuous form of gambling. Public awareness programmes and education of this issue is critical. Copyright © 2003 John Wiley & Sons, Ltd.

Key words: youth; gambling; lottery; parent; modelling; prevention

INTRODUCTION

Today's youth are exposed to a multitude of gambling venues, specifically lotteries (Azimer, 2001). The worldwide trend appears to be toward the growing legalization of

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multiple forms of gambling. Moreover, gambling has become a well-established recreational form of entertainment for youth as well as adults (Gupta & Derevensky, 1998; Hardoon & Derevensky, 2002; Jacobs, 2000; Stinchfield, 2000). Research efforts have revealed that over 80% of children and adolescents report gambling for money during the past year, and that between 4–8% meet the diagnostic criteria for pathological gambling, with another 10–14% youth at-risk for developing a serious gambling problem (Derevensky & Gupta, 1998a, 1998b; Gupta & Derevensky, 1998, 2000; Jacobs, 2000; Ladouceur, Jacques, Ferland, & Giroux, 1996; NRC, 1999; Shaffer & Hall, 1996, 2001). Given the large number of underage youth who report gambling fairly regularly, this phenomenon raises serious mental health and public policy concerns (Korn & Shaffer, 1999; NRC, 1999).

Lottery participation among youth

While youth engage in an assortment of gambling activities, there are identifiable gambling preferences, with the lottery being of particular appeal for adults as well as youth (Felsher, Derevensky, & Gupta, in press; Gupta & Derevensky, 1998). The appeal and preference for lottery play is likely due to its easy accessibility and the minimal amount of money required to participate. Jacobs' (2000) review of the literature found 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) reported that 47.1% of seventh grade children (11–12-year-olds) had bought 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% of youth having purchased lottery tickets during the previous month. In a more recent study in Louisiana, Westphal, Rush, Stevens, and Johnson (1998) reported 65% of youth had played scratch tickets, with lottery playing exceeding all other forms of licensed gambling.

Parental influences upon youth gambling

Parental acceptance of gambling as a form of recreational activity may encourage youth 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 et al., 1996). Ladouceur, Dubé, and Bujold (1994) and Ladouceur et al. (1996) reported that 50% of parents were aware of their children's gambling behaviour and were not worried, independent of the age of the child. Furthermore, they found that the majority (58.5%) of children sampled reported that they wager money with their parents. 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. They further reported that half the parents had gambled in close proximity to 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% reporting having gambled with their parents (Gupta & Derevensky, 1997). Wood and Griffiths (1998), found that the vast majority of lottery tickets purchased for youth were made by relatives, with 71% of relatives reporting to have purchased lottery draw tickets, and 57% purchasing scratch tickets for underage youth. Similar results were found in a Minnesota study, where 73% of parents had purchased lottery products for their underage children (Laudergan, Schaefer, Eckoff, & Pirie, 1999; Wager, 1996). Moreover, Shaffer

and Hall (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 scratch tickets and other forms of lottery products as gifts for special occasions. Given that lottery product purchases for youth are often made by parents, it is not surprising that by the time children leave elementary school less than 10% fear getting caught gambling (Derevensky & Gupta, 1998a; Felsher, Derevensky, & Gupta, 2001; Gupta & Derevensky, 1997). Some forms of gambling, in particular the 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, self-standing lottery kiosks in shopping centres) (Wood & Griffiths, 1998).

Social learning theorists have long pointed to the important role of observation and imitation in the acquisition and maintenance of both socially desirable and socially undesirable behaviour (Bandura, 1977). As such, this is one viable explanation for the acquisition and maintenance of gambling amongst youth (Gupta & Derevensky, 1997; Hardoon & Derevensky, 2001). Social learning takes place within a specific reference group and as both the family and peer groups remain the primary reference groups for youth, observation of gambling participation among significant individuals could logically influence youths' participation in gambling activities. Since parental influence occurs earlier than peer influence and is generally stronger, their influences on gambling participation may have an even stronger effect. Parental modelling and their attitudes have been shown to have a significant effect on substance abuse, aggression, and numerous other behaviours (Browne & Brown, 1994; Thompson & Wilsnicki, 1987). Thompson and Wilsnicki (1987) reported that 'perceived' parental consumption of alcohol and attitudes toward alcohol was significantly related to adolescent drinking behaviour 4 years later. Children often learn about the excitement of gambling by watching the reactions of their parents (vicarious reinforcement) and it is not unusual for parents 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).

Studies of adult attitudes and knowledge regarding gambling behaviour by Ladouceur et al. (1996) found that 40% of parents thought that the age of their child's first wager was less than 11 years old, while earlier reports by Ladouceur et al. (1994) revealed that 81% of youth 9–12 years of age have already gambled. Of particular concern, is the finding that 18% of parents believed that gambling with family members is good recreational fun, 56% report it is an acceptable leisure activity, and 21% of the parents purchased lottery tickets for their child. Furthermore, these results revealed that parents hold inaccurate assumptions regarding the legal prohibitions of gambling (Ladouceur et al., 1994). Clearly, parental knowledge of their children's gambling behaviour is lagging behind children's actual involvement in gambling activities.

Several studies have reported that parental involvement in high-risk behaviours contributes to youths' participation in such activities. To date, most studies have examined parental attitudes and knowledge of their children's gambling behaviour in general. The focus of this research is to examine the relationship between perceived parental 'lottery' playing and the influence this has upon their children's lottery participation. Given that this study sampled only youth, the goal was to evaluate whether their perception of their parent's lottery involvement impacted their level of lottery participation. Independent of actual parental purchasing of lottery tickets, it may well be that the perceived degree to which

they are playing is the most important determinant of their children's behaviour. Youth who believe that their parents frequently gamble on the lottery may interpret this behaviour that gambling is a relatively 'harmless' pastime. As such, they may be more inclined to gamble on the lottery with greater frequency than youth who do not believe their parents participate in the lottery. Furthermore, this research sought to ascertain whether parental influences on youth lottery play differed according to gender, developmental level, and degree of severity of gambling problems.

METHOD

Participants

Participants included 1072 youth (521 males, 551 females) from grade 6 to grade 12 (age range 10–18 years old). To facilitate data analysis participants were grouped into four approximately equally distributed grade levels; 20.9% grades 6/7 (mean age = 11.29); 31.5% grades 8/9 (mean age = 13.14); 28.6% grades 10/11 (mean age = 15.20); and 18.9% grade 12 (mean age = 17.15). Approval was obtained from seven school boards, with nine high schools and 20 elementary schools (both urban and rural) agreeing to participate. These school boards were selected based upon their willingness to participate, and represent a variety of regions within Ontario, Canada.

Instruments

DSM-IV-MR-J (Fisher, 2000). This 12-item, nine-category instrument is a screen for youth pathological gambling. Modelled after the DSM-IV (APA, 1994) criteria for diagnosis of adult pathological gambling, and an earlier version, DSM-IV-J (Fisher, 1992), the revised DSM-IV-MR-J (MR = multiple response, J = juvenile) was developed for use with youth having gambled during the past year. To compensate for the loss of opportunity for probing, most of the questions in this revised instrument have been given four response options (never, once or twice, sometimes, or often). Each item endorsed is receives a score of 1, with a total score of 4/9 domains being indicative of severe gambling problems. Principle components analyses revealed that the scale is represented primarily by two main factors. The first factor, accounting for 33.3% of the variance measures the negative psychological dimensions of gambling involvement including preoccupation, tolerance, loss of control, escape and chasing loses. The second factor accounting for 11% of the variance is associated with withdrawal symptoms experienced when trying to cut down on gambling and the antisocial/illegal behaviours associated with juvenile problem gambling. Internal consistency reliability for this scale is acceptable, within Cronbach's alpha being = 0.75 (although slightly lower than the 0.78 for the original DSM-IV-J screen).

*Youth lottery participation and playing behaviour*³ (Felsher et al., 2001). Preliminary focus group testing consisting of 47 youth (13 grade 6; 20 grade 8; 8 grade 10/11; 6 grade 12) (age 12–19), was conducted to ascertain information concerning lottery playing/purchasing behaviour. Group discussions addressed rate of lottery playing behaviour, accessibility to lottery products, parental knowledge and attitudes, parental purchases of lottery tickets, and reasons for lottery playing. Pertinent information contained from focus

³Copies of the questionnaire can be obtained from the first author.

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 for a larger study. Of the 140-items, 15 questions were chosen to examine parental influences upon youth lottery participation. More specifically, the items chosen for this study ascertained: (a) youth lottery participation (three questions) (for example; do you play scratch tickets?—response format ‘never’, ‘less than once a month’, ‘once a month’, ‘2–3 times a month’, ‘every week’, and ‘every day’); (b) youth perceptions of parental gambling knowledge and attitudes (seven questions) (for example; are your parents aware that you purchase lottery tickets?—response format yes/no); (c) parental rate of lottery ticket playing behaviour (three questions) (for example; how often does either of your parents purchase lottery tickets?—response format ‘never’, ‘less than once a month’, ‘once a month’, ‘2–3 times a month’, ‘every week’, and ‘every day’); (d) perceived reasons for lottery playing (two questions) (for example; why did you first begin playing lottery tickets?—participants were permitted to indicate as multiple reasons). Questions within each section are discrete, analysed 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 would provide the same responses to the items during second administration as they did for the first. Overall, relatively high concordance rates were found for most items, ranging from 82–97%, with a mean concordance rate of 96%.

Procedure

Informed consent was obtained from the parents of all youth prior to their participation in the study. The measures were group administered to participants in classrooms and/or school cafeteria by several trained research assistants. To avoid potential social desirability effects, participants completed the questionnaire individually where others could not view their responses. Students were assured anonymity of their responses and research assistants were present at all times to answer questions. Participants were instructed that gambling is defined as an activity that involves an element of risk where money (or something of value) could be won or lost. Students completed all instruments in 45–60 minutes.

RESULTS

Gambling prevalence

The DSM-IV-MR-J criteria for probable pathological gambling was met by 2.8% (scores of ≥ 4) of the entire sample, with 6.8% of youth categorized as at-risk for severe gambling problems (scores of 2–3) and 65.2% considered social gamblers (scores of 0–1) (experiencing few negative gambling related problems). Within the current sample, more males were identified as having a gambling problem (4.7% probable pathological gamblers; 10.7% at-risk gamblers) than females (1.0% probable pathological gamblers; 3.7% at-risk gamblers). 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.

Lottery participation

Participants' lottery playing was assessed by means of self-report. Specific lottery products (e.g. lottery draws, scratch tickets, sports tickets⁴) were examined independently to examine the type of products youth prefer and their rate of participation. Significant gender differences were found for overall participation with lottery draws $\chi^2(1, N=1065)=16.91, p=0.001$ and sports tickets $\chi^2(1, N=1066)=58.17, p=0.001$. Males reported playing lottery draws (27.9%) and sports tickets (23.4%) significantly more often than females (17.3% and 6.8%, respectfully), while both males (56.7%) and females (51.8%) reported equally participating with scratch tickets. In order to examine the frequency of participation, categories were regrouped in order to examine how regularly participants reported playing each type of lottery product. Significant gender differences were found for regular (weekly and daily) participation with lottery draws $\chi^2(1, N=1065)=6.03, p=0.01$ (2.8% of males versus 0.5% of females), scratch tickets $\chi^2(1, N=1065)=4.95, p=0.03$ (2.8% of males versus 1.6% of females), and sports tickets $\chi^2(1, N=1065)=27.08, p=0.001$ (4.8% of males versus 0% of females).

As can be seen in Table 1, statistically significant differences were found across developmental⁵ level for overall involvement in sport lottery tickets $\chi^2(3, N=1066)=9.07, p=0.03$, with participants in grades 10/11 (16.9%) and grade 12 (16.9%) reporting greater participation than youth in grades 6/7 (9.0%) and in grades 8/9 (14.5%). While not

Table 1. Developmental participation in lottery products

	Grade 6/7 (%)	Grade 8/9 (%)	Grade 10/11 (%)	Grade 12 (%)	Total (%)
<i>Lottery draws</i>					
Never	83.3	76.1	76.1	75.1	77.6
Occasional ^a	15.8	22.1	21.9	29.4	21.0
Regular ^b	0.9	1.8	2.0	0.5	1.4
					1.5
<i>Scratch tickets</i>					
Never	46.2	42.9	49.3	44.8	45.8
Occasional ^a	52.0	55.3	46.5	52.2	51.5
Regular ^b	1.8	1.8	4.2	3.0	2.7
					2.8
<i>Sports tickets^{**}</i>					
Never	91.0	85.5	82.0	83.1	85.2
Occasional ^a	7.6	12.1	15.4	13.9	12.5
Regular ^b	1.4	2.4	2.6	3.0	2.3

^aOccasional use = less than once per week.

^bRegular use = weekly and daily.

** $p < 0.01$ as tested by Pearson chi-square analysis for combined occasional and regular categories.

⁴Sports tickets are government sponsored lottery tickets where lottery participants wager on organized sporting events.

⁵A cross-sectional perspective (grade differences) was taken when examining 'developmental' differences, rather than examining changes over time.

statistically significant, a linear increase was found across developmental level for having played lottery draws. Few developmental differences were found for overall scratch ticket participation. Frequency (weekly and daily) of participation was not statistically significant for any of the lottery products, however the rate of playing scratch tickets was higher for those in grades 10/11 (4.2%) and grade 12 (3.0%) than those in grades 6/7 (1.8%) and grades 8/9 (1.8%) (see Table 1). Furthermore a linear trend was found across developmental level with youth in grades 10/11 (2.6%) and grade 12 (3.0%) reporting greater regular participation with sports tickets compared to youth in grades 6/7 (1.4%) and grades 8/9 (2.4%).

Differences in participation rates by gambling severity were found for lottery draws $\chi^2(3, N=994) = 79.32, p = 0.001$, scratch tickets $\chi^2(3, N=999) = 170.03, p = 0.001$, and sports tickets $\chi^2(3, N=995) = 103.40, p = 0.001$. As depicted in Table 2, there is an increasing linear trend, with the probable pathological group indicating the highest use (combined occasional and regular categories) of scratch tickets (75.0%), lottery draws (59.3%), and sports tickets (60.7%) compared with at-risk (62.3%, 34.3%, 18.1%, respectively) and social gamblers (66.7%, 26.9%, 18.1%, respectively). Although chi-squares could not reliably be computed due to small cell sizes, examination of the data revealed that frequency of use differed according to gambling severity. Probable pathological gamblers reported participating with scratch tickets (17.9%) and lottery draws (14.8%) on a regular basis (weekly and daily) more than social gamblers (2.9% and 1.4%) and at-risk gamblers (7.4% and 1.5%). At-risk (7.4%) and probable pathological gamblers (7.1%) were similar in their rates of regular participation with sports lottery tickets and differed significantly from social gamblers (2.8%) (see Table 2).

Reasons for initiation and maintenance of lottery play

Participants reported initially beginning to play the lottery as a way to win money (65%), because their parents' play (48%), for the enjoyment (38%) and excitement (31%) the

Table 2. Participation in lottery products by gambling severity

	Non-gambler (%)	Social gambler (%)	At-risk gambler (%)	Probable pathological gambler (%)	Total (%)
<i>Lottery draws**</i>					
Never	95.2	73.1	64.7	40.7	77.6
Occasional ^a	4.8	25.5	33.8	44.5	21.0
Regular ^b	0.0	1.4	1.5	14.8	1.4
<i>Scratch tickets**</i>					
Never	80.6	33.3	38.2	25.0	45.8
Occasional ^a	19.4	63.8	54.9	57.1	51.5
Regular ^b	0.0	2.9	7.4	17.9	2.7
<i>Sports tickets**</i>					
Never	100	81.9	70.6	39.3	85.2
Occasional ^a	0.0	15.3	10.7	53.6	12.5
Regular ^b	0.0	2.8	7.4	7.1	2.3

^aOccasional use = less than once per week.

^bRegular use = weekly and 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 1-year cut-off.

** $p < 0.01$ as tested by Pearson chi-square analysis for combined occasional and regular categories.

lottery provides, and due to curiosity (28%). These youth reported similar reasons for maintaining their playing behaviour; to win money (66%), enjoyment (37%), because their parents' play (32%), and for excitement (30%). Significant gender differences were found for the reported reasons of youths initiation into lottery play for parental playing $\chi^2(1, N = 600) = 17.76, p = 0.001$ (56.6% of females versus 39.4% of males), as a to minimize boredom $\chi^2(1, N = 600) = 8.24, p = 0.01$ (24.5% of females versus 15.2% of males) and as a way to win money $\chi^2(1, N = 600) = 6.60, p = 0.01$ (69.4% of males versus 59.3% of females). As well, significant gender differences were noted for continuing to play the lottery as a result of parental playing $\chi^2(1, N = 597) = 12.64, p = 0.001$ (38.6% of females versus 25.1% of males) and to win money $\chi^2(1, N = 597) = 6.19, p = 0.01$ (71.0% of males versus 61.4% of females).

Developmental differences were found for reasons youth expressed beginning to play the lottery; to win money $\chi^2(3, N = 600) = 14.86, p = 0.01$, and for the challenge it presents $\chi^2(3, N = 600) = 16.54, p = 0.001$ (a comprehensive list of the reasons youth report beginning to play the lottery can be found in Table 3). Youth in grades 8/9 (65.5%), grades 10/11 (72.0%), and grade 12 (66.9%) reported beginning to play the lottery to win money more than youth in grades 6/7 (50.4%). Although not statistically significant, younger children, 6/7 (52.1%) and grades 8/9 (51.8%) reported initiating in the lottery as a result of parental play more than youth in grades 10/11 (39.6%) and grade 12 (47.5%). Developmental differences were noted for the continuation of lottery participation as a result of parental playing $\chi^2(3, N = 597) = 22.67, p = 0.001$, for the challenge it presents $\chi^2(3, N = 597) = 18.13, p = 0.001$, and to win money $\chi^2(3, N = 597) = 7.96, p = 0.05$ (see

Table 3. Developmental reasons for initiation and maintenance of lottery playing

	Grade 6/7 (%)	Grade 8/9 (%)	Grade 10/11 (%)	Grade 12 (%)	Total (%)
<i>Reasons began playing lottery</i>					
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	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
<i>Reasons continue playing lottery</i>					
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	0.6	0.0	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

Note: These results represent a sub-sample of participants who have played lottery tickets.

* $p < 0.05$ as tested by Pearson chi-square analysis.

** $p < 0.01$ as tested by Pearson chi-square analysis.

Table 3). Youth in grades 6/7 (39.8%) and grades 8/9 (40.4%) reported continuing to play the lottery because their parents play more than youth in grades 10/11 (22.7%) and grade 12 (21.2%). Continuation of lottery participation resulting from the perceived challenge of winning money and the influence of parental playing behaviour decreased with age, whereas the importance of winning money increased with age.

Significant differences were found for the reason youth reported initially engaging in the lottery based upon level of gambling severity. Differences were noted for parental playing behaviour $\chi^2(3, N = 565) = 10.20, p = 0.02$, friends' playing behaviour $\chi^2(3, N = 565) = 9.39, p = 0.02$, to win money $\chi^2(3, N = 565) = 12.45, p = 0.01$, and for curiosity $\chi^2(3, N = 565) = 12.19, p = 0.01$. A linear trend was found, with at-risk gamblers (36.2%) and social gamblers (44.7%) reporting beginning to play the lottery as a result of parental influence significantly more than probable pathological gamblers (21.7%), however peers appear to influence at-risk (17%) and probable pathological gamblers (21.7%) more than social gamblers (9.9%). Significant differences for the continuation of lottery activities by gambling groups were found for parents' participation in the lottery $\chi^2(3, N = 562) = 12.96, p = 0.01$, friends' participation $\chi^2(3, N = 562) = 12.60, p = 0.01$, and to win money $\chi^2(3, N = 562) = 14.60, p = 0.01$. Social gamblers (33%) reported that they were more likely to continue to play the lottery as a result of parental playing compared to at-risk (12.8%) and probable pathological gamblers (13%). The importance of winning money was a prime reason for continuing to play the lottery for at-risk gamblers (78.7%) and probable pathological gamblers (82.6%) compared to social gamblers (67.9%). Interestingly, social gamblers (39.1%) and at-risk gamblers reported that enjoyment of lottery participation was a more important reason for continuing to play the lottery than probable pathological gamblers (26.0%).

Perceived parental knowledge of youth lottery playing

The previous results suggest that one of the predominant reasons for initiating or continuing lottery play for youth in grades 6/7 (age 11–13) was whether or not a parent played the lottery. Of those youth who had reported purchasing any form of lottery ticket, the majority (84%) (83% of males, 85% of females) reported that their parents were aware of their lottery playing and 94% reported not being afraid of getting caught (94% of males, 93% of females).

Developmental differences were found for perceived parental knowledge of lottery purchases $\chi^2(3, N = 483) = 9.81, p = 0.01$. Percentages varied by developmental level with participants in grades 6/7 (77.0%) and 10/11 (79.0%) reporting that they believed their parents were the least aware that they purchased lottery tickets compared to youth in grades 8/9 (88.1%) and grade 12 (89.2%). Youth in grades 6/7 (10%) reported being the most afraid that their parents will catch them purchasing lottery tickets compared to youth in grades 8/9 (6.3%), grades 10/11 (6.6%), whereas youth in grade 12 (2.8%) reported being the least afraid to get caught.

While no significant gambling group differences were found, 72.7% of probable pathological gamblers believe that their parents were unaware of their lottery playing (compared to 85% of social gamblers and 86% of at-risk gamblers). It is interesting to note that youth reported being more afraid of getting caught as their level of gambling severity increased, with 9.1% of probable pathological gamblers reporting that they are afraid of getting caught purchasing lottery tickets compared to 7.1% of at-risk gamblers and 5.4% of social gamblers.

Perceived parental lottery playing

Overall, 82% of youth reported that they believe their parents played the lottery, with 27% reporting that they believe their parents regularly participate in lottery activities. Significant gender differences were found for perceived parental lottery participation $\chi^2(1, N = 1065) = 4.35, p = 0.03$, with 84% of females reporting that they perceive their parent to have played the lottery compared to 79% of males. No gender differences were noted for perceived regularity of parental lottery play.

While there was no significant developmental difference in perception of general parental lottery playing, the frequency (weekly and daily) at which youth perceived their parents to gamble on the lottery differed according to the participants' age $\chi^2(3, N = 1064) = 14.78, p = 0.01$. The oldest participants, 32–33% of youth in grades 10–12, reported that their parents participated regularly (weekly and daily) with lottery products. Furthermore, they appear to have greater knowledge regarding parental playing than youth in grades 6–9 (21–23%).

Significant differences were noted for perceived parental lottery playing $\chi^2(3, N = 996) = 21.35, p = 0.001$, with 73% of non-gamblers indicating that their parents participated the least in lottery activities compared to 86% of social gamblers, 88% of at-risk gamblers, and 86% of probable pathological gamblers. Moreover, significant differences by gambling severity was found for perceived frequency of lottery play $\chi^2(3, N = 996) = 17.10, p = 0.001$. A linear trend was noted with at-risk (34%) and probable pathological gamblers (36%) reporting that their parents play the lottery more frequently (weekly and daily) compared to social gamblers (30%) and non-gamblers (18%).

Parental purchases of lottery products for their children

Of the total sample that indicated playing the lottery, 76.7% reported that their parents have purchased scratch tickets, lottery draws (50.1%), and sports tickets (23.2%) for them (see Table 4). With respect to the type of ticket, significant gender differences were found for having received a sport ticket from their parents $\chi^2(1, N = 583) = 12.93, p = 0.001$, with 29.2% of males reporting occasionally receiving these tickets from their parents compared to 16.7% of females. 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.

Developmental differences were found for youth reports of parental purchases of scratch tickets $\chi^2(3, N = 605) = 17.86, p = 0.001$ and sports tickets $\chi^2(3, N = 583) = 11.39, p = 0.01$ (see Table 4). A linear decrease by grade level was found for reported parental scratch ticket purchases with 78% youth in grades 10/11 and 62.1% of youth in grade 12 reporting that their parents had purchased these tickets for them less than youth in grades 6/7 (81.3%) and grades 8/9 (81.3%). No significant developmental differences were found for reported regularity (weekly and daily) of parental purchases for all three types of tickets.

Significant differences between the gambling groups were found for reported parental purchases of lottery draws $\chi^2(3, N = 554) = 17.72, p = 0.001$, and sports tickets $\chi^2(3, N = 549) = 22.06, p = 0.001$. As can be seen in Table 5, an examination of the data reveals a linear increase for reported parental purchases for lottery draws and sports tickets across levels of gambling severity. More specifically, 73.9% of probable pathological gamblers reported that their parents have purchased lottery draws for them compared to 52.3% of social gamblers and 53.3% of at-risk gamblers. Furthermore, 52.2% of probable

Table 4. Parental purchases of lottery tickets for their children by developmental level

	Grade 6/7 (%)	Grade 8/9 (%)	Grade 10/11 (%)	Grade 12 (%)	Total (%)
<i>Lottery draws</i>					
Never	55.8	46.3	50.9	48.2	49.9
Occasional ^a	33.4	41.1	36.8	40.4	38.2
Regular ^b	10.8	12.6	12.3	11.4	11.9
<i>Scratch tickets^{c**}</i>					
Never	18.7	18.7	22.0	37.9	23.3
Occasional ^{a**}	74.8	75.7	73.8	60.4	72.1
Regular ^{b**}	6.5	5.6	4.2	1.7	4.7
<i>Sports tickets^{c**}</i>					
Never	83.9	76.4	68.5	82.1	76.8
Occasional ^a	12.7	21.0	24.7	16.1	19.4
Regular ^b	3.4	2.6	6.8	1.8	3.8

^aOccasional use = less than once a week.

^bRegular use = weekly and daily.

^cSignificant difference for combined occasional and regular categories.

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

** $p < 0.01$ as tested by Pearson chi-square analysis.

pathological gamblers reported that their parents have purchased sports tickets for them significantly more than the other gambling groups. Social gamblers (77.5%), at-risk gamblers (74.5%), and probable pathological gamblers (82.6%) all reported similar rates of parental purchases for scratch tickets. Although chi-square analyses could not be reliably computed due to small cell sizes, Figure 1 graphically highlights the difference between the probable pathological gamblers and other gambling group reports of regular (weekly

Table 5. Parental purchases of lottery tickets for their children by gambling severity

	Social gambler (%)	At-risk gambler (%)	Probable pathological gambler (%)	Total (%)
<i>Lottery draws^{c**}</i>				
Never	47.7	46.7	26.1	49.9
Occasional ^a	39.5	42.2	47.8	38.2
Regular ^b	12.8	11.1	26.1	11.9
<i>Scratch tickets</i>				
Never	22.5	25.5	17.4	23.3
Occasional ^a	73.0	66.0	69.6	72.1
Regular ^b	4.5	8.5	13.0	4.6
<i>Sports tickets^{c**}</i>				
Never	76.3	64.4	47.8	76.8
Occasional ^a	20.0	28.9	39.2	19.4
Regular ^b	3.7	6.7	13.0	96.2

^aOccasional use = less than once per week.

^bRegular use = weekly and daily.

^cSignificant difference for combined occasional and regular categories.

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

** $p < 0.01$ as tested by Pearson chi-square analysis.

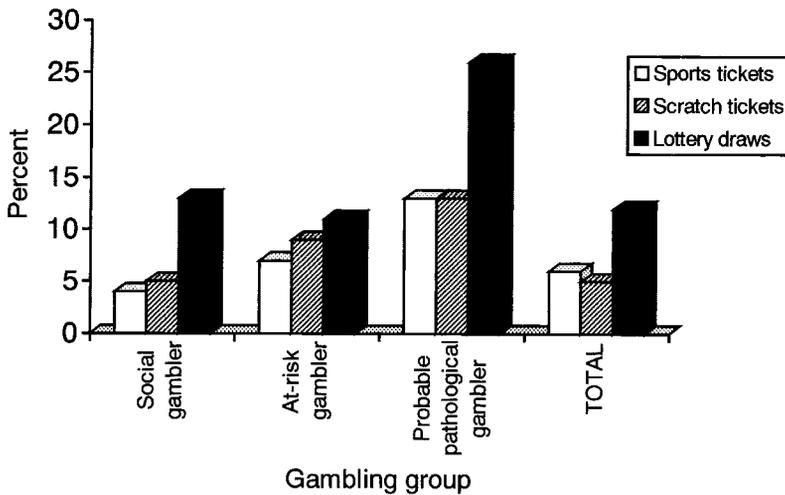


Figure 1. Reported weekly and daily parental purchases of lottery tickets.

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

and daily) perceived parental lottery product purchases. More specifically, probable pathological gamblers reported that their parents most frequently (weekly and daily) purchased lottery draws (26%), scratch ticket tickets (13%), and sports tickets (13%) (see Figure 1).

Lottery products received as gifts

Of the youth who reported having participated in lottery activities, 70% had received a lottery ticket as a gift. No significant gender differences were found for having received a lottery ticket as a gift. Significant developmental differences were noted for having received a ticket as a present $\chi^2(3, N = 603) = 13.93, p = 0.01$. The frequency of youth reporting having received a lottery ticket increased with age. Youth in grades 10/11 (74.9%) and in grade 12 (80.0%) reported having received a ticket as a gift more often than those in grades 6 and 7 (60.3%) and grades 8 and 9 (66.5%).

The frequency of receiving a lottery ticket as a present varied according to the severity of gambling problems experienced by youth, $\chi^2(3, N = 567) = 10.52, p = 0.02$. Those youth categorized as at-risk (83%) reported receiving a ticket as a gift most frequently, with social gamblers (72%), probable pathological gamblers (68%), and non-gamblers (54%) also receiving tickets.

DISCUSSION

While participation in provincially regulated gambling venues in Ontario, Canada is restricted to individuals over the age of 18 for lottery playing and bingo, and 19 for other forms of gambling including casinos, 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 all youth regardless of developmental level or gambling severity. This is not surprising given the variety of tickets available, their low cost (tickets can be as low as 0.50), the number of games on each ticket, etc. As one would predict, males participated more often than females in sports lotteries (*Sports Select*) given wagering is generally a male oriented event wagering on professional teams (e.g. hockey, basketball, football, etc.). Furthermore, the frequency of participation in lottery activities increased by level of gambling severity, with probable pathological gamblers reporting greater purchasing and playing of all types of lottery activities on both an occasional and regular basis compared to the social and at-risk gamblers.

The most often cited reason for initiation and continuation of lottery play was to win money, because their parents play, for enjoyment, and excitement. The reasons cited are consistent with previous research (Derevensky, Gupta, & Della Cioppa, 1996; Gupta & Derevensky, 1996, 1998). A larger percentage of females compared to males indicated playing the lottery because their parents play. It appears that parental participation is an important factor in the initiation and continuation of lottery play for females while similarly an important reason for males, money appears to be their primary motivation. Moreover, younger individuals (11–12-year-olds) and social gamblers reported initiation and continuation of lottery playing because of parental playing behaviours, whereas older youth (15–17-year-olds) and probable pathological gamblers were more interested in winning money. Given that social gamblers and younger individuals report playing the lottery primarily as a result of parental participation strengthens the argument that social modelling is indeed a factor in youth lottery involvement. Youth reports of money being the primary reason for beginning and continuing to play the lottery highlights their misperceptions regarding the laws of probability. While youth may report that they play the lottery for monetary reasons, other factors such as social modelling and the ticket characteristics themselves may be more important reasons for involvement. In view of the fact that the majority of people do not win playing the lottery, other enticing properties of the lottery persuade people to continue to invest their money week after week.

Of significant concern are the large numbers of youth (84%) who reported that they believe their parents were aware of their gambling activities. It is important to note that parental knowledge of youth gambling was not verified by parents but is based on youth perceptions. Youth reported that when they had difficulty purchasing lottery tickets themselves, parents readily purchased the products for them. They revealed that their parents allow them to purchase tickets independent of the legal prohibitions and restrictions. Overall, 94% of youth indicated that they are not afraid of getting caught purchasing lottery tickets. Similar to previous findings by Derevensky and Gupta (1998a) only 10% of youth in grades 6 and 7 (11–13-year-olds) were afraid of getting caught purchasing lottery products. Surprisingly, the more severe the individual's gambling problem, the less they reported their parents were aware of their playing behaviour and the more they reported being afraid of getting caught purchasing lottery tickets. It is likely that these youth are not necessarily afraid that their parents would become aware of their lottery playing *per se*, but rather that they would become aware of the severity of their gambling problems and the associated problems (i.e. lying, stealing, etc.).

Equally concerning is the large number (70%) of youth that reported having received a lottery ticket as a gift from parents and friends. It is striking that more than half of 11-year-olds (60%) and 13-year-olds (67%) reported receiving a lottery ticket as a gift. Interestingly, youth with severe gambling problems tended to receive the most lottery

tickets as gifts. Once again, it is likely that parents are unaware of their children's gambling problems and fail to view lottery playing as gambling or as potentially addictive. Not only are youth receiving lottery tickets as gifts, but the majority reported that they purchased scratch tickets on their behalf, with half of the sample reporting that their parents purchased lottery draws and sports tickets for them. The frequency with which scratch tickets are purchased by parents for their children decreased as they got older (e.g. 11–13-year-old participants reported that their parents purchase tickets for them more often than 15–18-year olds). A plausible explanation is that 15–18-year-olds report less difficulty in purchasing their own tickets given more financial resources and being close to or at the age of majority. Surprisingly, lottery ticket purchases by parents for their children were found to have increased with the level of gambling severity. Children with the most severe gambling and gambling-related problems reported that their parents most frequently (weekly and daily) purchased all three types of lottery tickets for them.

The vast majority of youth reported that they perceive their parents play multiple forms of lottery games, with 27% of youth reporting their parents' play weekly or daily. Developmentally, the reported amount of parental lottery participation increased with age. It is likely that older youth are more aware of their parents' actions (e.g. drinking, gambling) than younger children. Previous research has found that youth with gambling problems were more likely to have parents with gambling problems (Ladouceur, Boudreault, Jacques, & Vitaro, 1999). We found that the reported parental level of lottery playing increased with the participant's level of gambling problems. Parental participation in the lottery may have adverse consequences on their children since it may encourage youth involvement.

A key limitation to this study is the sole reliance on youth self-report. Given we were unable to obtain adult participation for this research we relied on youth perspectives of their parents' gambling behaviour. Part of the difficulty is that many parents deliberately obfuscate their level of gambling from their children. Future studies should consider obtaining parental and youth reports in order to obtain a better estimate of parental gambling rather than perceived parental lottery participation. A second limitation to this study is the lack of demographic information on the participants (e.g. race, family variables). Parental and youth involvement in the lottery, as well as parental purchases of lottery tickets for their children may greatly depend on a number of factors. It would have been useful to be able to examine if parental modelling and rates of lottery participation vary as a function of demographic differences. Finally, although outside the scope of this research, future studies should examine other parental factors that may influence youths' participation in the lottery. For example, parenting style or parental supervision may greatly affect youths' participation in high-risk behaviours.

CONCLUSION AND RECOMMENDATIONS

A recent change in the types of games employed by the lottery corporations has transformed what typically began as a passive draw with a large prize (e.g. 6/49 tickets), to more engaging, challenging and active lottery products. Lotteries today are now promoted as a form of entertainment, of fulfilling one's dreams, and providing an enjoyable and challenging past time. Similar to adults, youth may perceive the lottery as a method to solve current and future financial problems. The current research supports the premise that

lottery products are highly popular with youth, are relatively inexpensive (even for youth) and are easily accessible. Gambling, specifically lottery tickets, remain one of the few potentially addictive behaviours that youth are exposed to on a daily basis in spite of legal prohibitions. It is supported, endorsed, and promoted by the government with few parents being aware of the potential short-term and long-term negative consequences.

Modelling of parental behaviour has a significant impact upon the behaviours and actions of children. The current results suggest that youth involvement in the lottery is influenced by their parent's behaviour. Those adults who play different forms of the lottery are more likely to have children reporting a similar behaviour. The concern remains that lottery playing (e.g. draws [6/49], scratch tickets, and sports betting) is perceived as an innocuous form of gambling with few negative consequences and parents are subtly encouraging their children to participate. The fact that social gamblers and youth in grades 6 and 7 report beginning and continuing to play the lottery as a result of parental participation suggests that youth who may not be high risk takers or who have never gambled, are being introduced to the lottery via their parents. Consequently, parents may be unknowingly endorsing an activity that is potentially addictive. When one thinks of a pathological gambler, images are of individuals who wager excessively on horse races and at the casino, not of youth lottery players. Research has found that most youth problem gamblers follow a similar pattern of gambling before experiencing difficulties (Felsher et al., 2002; Gupta & Derevensky, 2000). 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. The fact that children who have the greatest gambling problems reported that their parents most frequently purchase lottery products for them suggests that parents are unknowingly fostering or maintaining the development of a potential gambling problem.

While prevention programmes in schools are necessary to educate youth on the potential negative consequences of gambling, general public awareness needs to be increased as well. The majority of youth have accessed and participated in lottery products resulting from parental purchases of tickets on behalf of their children and their own lottery involvement. Furthermore, the fact that parents are purchasing tickets for their children and perceive gambling to be an innocuous behaviour with few negative consequences and good recreational fun suggests that parents are sending the message to their children that the lottery (and maybe even gambling in general) is not a 'risky' or potentially addictive activity. It is crucial that general public awareness of this issue is raised. Communities would be outraged if 77% of parents were found to be purchasing alcohol for their underage children. Prevention efforts need to highlight that gambling addictions are a public health concern. If prevention efforts are directed only at youth, then we are addressing only one aspect of the problem since it is often the parents who purchase these products for their children. Prevention programmes must be accompanied by a public education-awareness programme encouraging parents and adults to be attentive to the types of gambling-related problems experienced by adolescents. Further research efforts and prevention programmes need to be initiated in trying to modify the lottery purchasing and playing behaviour of youth. This initiative should begin with our legislators and law enforcement officials who must ensure enforcement of existing statutes prohibiting youth from purchasing lottery tickets.

REFERENCES

- American Psychiatric Association (APA). (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: APA.
- Azimer, J. (2001). *Canadian gambling behaviour and attitudes*. Gambling in Canada Research Report (No. 8). Calgary, Alberta: Canada West Foundation.
- Bandura, A. (1977). *Social learning theories*. Englewood Cliffs, NJ: Prentice Hall.
- Browne, B. A., & Brown, D. J. (1994). Predictors of lottery gambling among American college students. *The Journal of Social Psychology*, *134*, 339–347.
- Derevensky, J. L., & Gupta, R. (1998a). *Youth gambling: Prevalence, risk factors, clinical issues, and social policy*. Paper presented at the annual meeting of the Canadian Psychological Association, Edmonton, Alberta.
- Derevensky, J. L., & Gupta, R. (1998b). Work in progress: Child and adolescent gambling problems: A program of research. *Canadian Journal of School Psychology*, *14*, 55–58.
- Derevensky, J. L., Gupta, R., & Della-Cioppa, G. (1996). A developmental perspective of gambling behaviour in children and adolescents. *Journal of Gambling Studies*, *12*, 49–66.
- Felsher, J. R., Derevensky, J. L., & Gupta, R. (2001). *An examination of lottery ticket purchases by minors*. Paper presented at the annual meeting of the National Council on Problem Gambling, Seattle, WA.
- Felsher, J. R., Derevensky, J. L., & Gupta, R. (in press). Lottery playing amongst youth. Implications for social policy and prevention. *Journal of Gambling Studies*.
- Fisher, S. (1992). Measuring pathological gambling in children: The case of fruit machines in the U.K. *Journal of Gambling Studies*, *8*, 167–179.
- Fisher, S. (2000). Developing the DSM-IV-MR-J criteria to identify adolescent problem gambling in non-clinical populations. *Journal of Gambling Studies*, *16*, 253–273.
- Gupta, R., & Derevensky, J. L. (1996). The relationship between gambling and video game playing behaviour in children and adolescents. *Journal of Gambling Studies*, *12*, 375–394.
- Gupta, R., & Derevensky, J. L. (1997). Familial and social influences on juvenile gambling behaviour. *Journal of Gambling Studies*, *13*, 179–192.
- Gupta, R., & Derevensky, J. L. (1998). Adolescent gambling behaviour: A prevalence study and examination of the correlates associated with problem gambling. *Journal of Gambling Studies*, *14*, 319–343.
- Gupta, R., & Derevensky, J. L. (2000). Adolescents with gambling problems: From research to treatment. *Journal of Gambling Studies*, *16*, 315–342.
- Hardoon, K., & Derevensky, J. (2001). Social influences involved in children's gambling behavior. *Journal of Gambling Studies*, *17*(3), 191–215.
- Hardoon, K., & Derevensky, J. (2002). Child and adolescent gambling behavior: Our current knowledge. *Clinical Child Psychology and Psychiatry*, *7*(2), 263–281.
- Jacobs, D. F. (2000). Juvenile gambling in North America: An analysis of long-term trends and future prospects. *Journal of Gambling Studies*, *16*, 119–151.
- Korn, D., & Shaffer, H. J. (1999). Gambling and the health of the public: Adopting a public health perspective. *Journal of Gambling Studies*, *15*, 289–365.
- Ladouceur, R., Dubé, D., & Bujold, A. (1994). Gambling among primary school students. *Journal of Gambling Studies*, *10*, 363–370.
- Ladouceur, R., Boudreault, N., Jacques, C., & Vitaro, F. (1999). Pathological gambling and related problems among adolescents. *Journal of Child and Adolescent Substance Abuse*, *8*, 55–68.
- Ladouceur, R., Jacques, C., Ferland, F., & Giroux, I. (1996). *Parents' perceptions, knowledge, and attitudes toward the gambling of children aged 5 to 17*. Poster presented at the Tenth National Conference on Gambling Behaviour, Chicago, IL.
- Ladouceur, R., Vitaro, F., Coté, M. A., & Dumont, M. (2001). *Parents' attitudes, knowledge, and behaviour toward gambling: A five-year follow-up*. Paper presented at the annual meeting of the National Council on Problem Gambling, Seattle, WA.
- Laundergan, J., Schaefer, J., Eckoff, K., & Pirie, P. (1999). *Adult survey of Minnesota gambling behaviour: A benchmark*. Report to the Minnesota Department of Human Resources, Mental Health Division, Minneapolis, MN.

- National Research Council (NRC). (1999). *Pathological gambling: A critical review*. Washington, DC: National Academy Press.
- Shaffer, H. J., & Hall, M. N. (1996). Estimating the prevalence of adolescent gambling disorders: A quantitative synthesis and guide toward standard gambling nomenclature. *Journal of Gambling Studies*, 12, 193–214.
- Shaffer, H. J., & Hall, M. N. (2001). Updating and refining prevalence estimates of disordered gambling behaviour in the United States and Canada. *Canadian Journal of Public Health*, 92, 168–172.
- Shaffer, H. J., & Zinberg, N. E. (1994). *The emergence of youthful addiction: The prevalence of underage lottery use and the impact of gambling*. Technical Report for the Massachusetts Council in Compulsive Gambling (011394-100). Boston, Massachusetts.
- Stinchfield, R. (2000). Gambling and correlates of gambling among Minnesota public school students. *Journal of Gambling Studies*, 16(2/3), 153–173.
- Thompson, K. M., & Wilsnicki, R. W. (1987). Parental influences on adolescent drinking: Modeling, attitudes, or conflict? *Youth Society*, 19, 22–43.
- Wager. (1996). Sources of access for underage gamblers [Electronic version]. *The Wager*, 1, 20.
- Walker, M. B. (1992). *The psychology of gambling*. Oxford: Butterworth-Heinemann.
- Westphal, J. R., Rush, J. A., Stevens, L., & Johnson, L. J. (1998). *Pathological gambling among Louisiana students: Grades six through twelve*. Paper presented at the American Psychiatric Association Annual Meeting, Toronto, Ontario.
- Wood, R. T., & Griffiths, M. D. (1998). The acquisition, development, and maintenance of lottery and scratchcard gambling in adolescence. *Journal of Adolescence*, 21, 265–273.