

## UNDER AGE PARTICIPATION IN THE NATIONAL LOTTERY

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**EXECUTIVE SUMMARY** This study was commissioned by the Office of the National Lottery. It was designed and executed by Dr. Sue Fisher of the Faculty of Human Sciences at the University of Plymouth. Data was collected using the Balding Health Related Questionnaire managed from the Schools Health Education Unit within the University of Exeter. The sample of 7,200 12- 15 year olds was drawn from 48 schools situated in 8 different regions of the country.

**Expenditure** In previous surveys children were asked whether or not they had spent their own money on the National Lottery in the week before the survey. It was subsequently suggested that such transactions may be legal (if the children asked someone over 16 years to make the purchases on their behalf) or illegal (if they made the purchases themselves). The initial problems experienced in developing this question format mean that the results for this section are available only for the subset of the main sample who answered an improved question format. The subset amounted to 3,724 children.

- **15% of the sample (N=3, 724) had spent their own money on the National Lottery during the week prior to the survey: 9% reported legal transactions (made by an adult on behalf of a child) and 6% reported illegal transactions (made by a child).**

The respondents showed little preference for the National Lottery draw or scratchcards:

- **5% had spent their own money on the National Lottery draw during the week prior to the survey.**
- **4% had spent their own money on National Lottery scratch cards during the week prior to the survey.**
- **6% had spent their own money on both products during the week prior to the survey.**

Past week expenditure on the National Lottery was significantly associated with age and being male, making 14-15 year old boys the most likely participants:

- **21% of 14-15 year old boys had spent their own money on the National Lottery during the week prior to the survey: 11% reported illegal transactions**

The children who had spent their own money on the National Lottery during the previous week were significantly more likely than the others to have higher levels of disposable income and to come from households which took popular tabloid newspapers (used as a rough measure of socio-economic group):

- **28% of the children who received more than £5 a week had spent their own money on the National Lottery during the week prior to the survey compared with 14% who received less than £5**
- **19% of the children whose households took popular tabloid newspapers had spent their own money on the National Lottery' during the week prior to the survey, compared with 17% whose households took tabloids and 12% whose households took broadsheets.**

### ***Focus on regular players of National Lottery scratch cards***

The study responded to public concern that some children may be frequent, or even problem, players of National Lottery scratchcards by examining the behaviour of regular players. From the total sample of 7,200 12-15 year old boys and girls:

- ***37% (2,601) had played National Lottery scratchcards during the past year.***
- ***3% (189) were regular players (played twice a week or in ore,)***
- ***34% (2,412) were less regular players (played less than twice a week,)***

All of the results in this section are based upon responses from these children.

### **Expenditure**

- ***30% of the regular players had spent more than £5 in the past week on National Lottery scratch cards compared with 1% of the less regular players***
- ***26% of the regular players had spent more than £10 in one day on National Lottery' scratch cards compared with 2% of the less regular players***
- ***41% of the regular players had spent much more than they planned on National Lottery scratch cards (more than once or twice.) compared with 9% of the less regular players***

### ***Potentially addictive behaviours***

Regular scratchcard players were also significantly more likely than the other children to be involved in a cluster of other potentially addictive behaviours including regular smoking, regular drinking, regular fruit machine gambling and experimentation with illegal drugs. The following results are based upon a comparison between the regular scratchcard players and all of the other children.

- ***33% of the regular scratch card players described themselves as regular smokers compared with 14% of the other children***
- ***44% of the regular scratch card players had taken alcohol on 3 or more days during the previous week compared with 11% of the other children***
- ***35% of the regular scratch card players had experimented with illegal drugs compared with 19% of the other children***
- ***46% of the regular scratch card players played fruit machines at least weekly compared with 6% of the other children***

### ***The importance of fruit machine gambling***

While the associations between frequency of scratchcard play and all of the potentially addictive behaviours described above are important, the association between regular scratchcard play and regular fruit machine gambling is remarkable. A correlation analysis between the frequency of scratchcard play and the frequency of fruit machine gambling resulted in a correlation coefficient of 0.46. This finding is highly significant in statistical terms ( $p < .0001$ ) and could be of considerable practical importance.

### ***Future research directions***

Underage access to National Lottery products is a phenomenon that merits further enquiry. The results of this study suggest that the following topics should have priority:

Many of the underage purchases of National Lottery products were made by parents on behalf of their children. It would be helpful to understand the perceptions parents have about children playing the National Lottery. It would also be helpful to understand the role of families and adolescent peer groups in teaching children about gambling and facilitating their involvement in gambling activities.

This study shows that there is a highly significant relationship between regular playing of National Lottery scratchcards and regular playing of fruit machines. Further research, using more sophisticated analytic techniques is required into the prevalence of all forms of adolescent gambling so that the impact of the National Lottery on adolescent gambling may be more clearly understood.

This study confirms previous findings about the clustering of risk behaviours in adolescents including regular gambling, regular smoking, regular alcohol drinking and experimentation with illegal drugs. There is a need for further research, using multivariate analytic techniques, to explore the relationship between persistent gambling and other risk behaviours in adolescents.

## ***CHAPTER 1: INTRODUCTION***

Adolescent leisure choices reflect the quest for excitement and independence that accompanies the transition from childhood to adulthood (Erikson, 1968; Rapaport & Rapaport, 1975). These choices are often expressed in illegal or marginal activities which carry some risk, such as substance use and gambling. Fisher's study of young fruit machine players found that, like sexual experimentation and the use of drugs, gambling makes young people 'feel older' (Fisher, 1993a). Like adults, the vast majority of adolescents who gamble do so for social reasons and come to no harm. However, a minority of young people gamble to excess and most countries have legislation which places strict age restrictions on commercial gambling.

### ***Research into adolescent gambling***

The research into adolescent gambling tends to fall into three principal areas of study. The first demonstrates the popularity of gambling among young people. Studies of adolescents in the USA, Canada, and the UK, suggest that most young people gamble to some degree. (Shaffer, LaBrie, Scanlon & Cummings, 1994, Stinchfield, Winters & Svendsen, 1993; Volberg, 1993; Wallisch, 1993). In the past most adolescent gambling was centred on informal and unregulated games such as games of skill, but as gambling markets have expanded there has been a growing tendency for young people to gamble on commercial forms, such as slot machines and lottery products. This is most easily demonstrated in areas of special opportunity, such as those where there are abundant casinos (Arcuri, Lester and Smith, 1985; Lesieur & Klein, 1987) or amusement arcades (Fisher, 1993a, 1993b, 1995). However, a more general study in Minnesota has also shown that, following the introduction of a state lottery there was a decline in youth gambling on informal games in favour of commercial forms, including the lottery (Winters, Stinchfield & Kim, 1995).

The second area of study has addressed the prevalence of gambling problems among the young. As with other addictive behaviours, children and young people are particularly susceptible to excessive gambling. Studies to determine the prevalence of pathological gambling among adolescents reveal that between five and six percent meet the criteria for pathological gambling. This is twice as high as in the general adult population. (Lesieur & Klein, 1987; Fisher, 1993a; Gabouty & Ladouceur, 1993; Ladouceur, Dube and Bujold, 1994). Retrospective research studies have shown that the majority of male pathological gamblers started in their teens (Livingston, 1974; Custer, 1982).

The third area of study has focused on the determinants and consequences of youth gambling. Frequent and problem gambling among adolescents in the U.S.A. and Canada has been more often found in males, ethnic minorities, young people with a relatively high income and young people with parents who gamble compulsively (Jacobs, 1989; Shaffer et

al., 1994:

Volberg, 1993; Wallisch, 1993). The consequences of problem gambling in youth are high expenditure, truancy, poor academic achievement and stealing (Lesieur & Klein, 1987; Ladouceur & Mireault, 1988; Fisher, 1993b). Problem gambling in youth has also been associated with the use of addictive substances, other indicators of psychosocial maladjustment and problem arcade video machine playing (Jacobs, 1989; Fisher, 1995). Thus adolescents who become problem gamblers tend to be involved in a cluster of problem behaviours.

### ***Previous research findings on underage expenditure on the National Lottery***

This study was preceded by two exploratory studies on underage expenditure on the National Lottery commissioned by the Office of the National Lottery. Preliminary questions, were added to version 17. 1 of the Balding General Health Related Questionnaire (1{RBQ) in May 1995 (Balding, 1995). By the end of July 1,762 12-15 year olds from 12 schools situated in different parts of the UK had completed the questionnaire. The survey found that 22% of the children had spent their own money on the National Lottery in the week prior to the survey. By December 1995 the questionnaire had been completed in 44 schools and the total sample had risen to 6,786. A repeated analysis showed that 18% of the total sample had spent their own money on the National Lottery in the week prior to the survey.

Analysis of the larger sample allowed a more reliable demographic description of the young people involved. Significant differences were found in age group, gender, and socio-economic group.

More males were involved than females (22% compared with 13%), and more older children (21% of 14-15 year olds compared with 14% of 12-13 year olds). The joint effect of age and gender combine to make participation in 14-15 year old males higher than in any other group (26%).

The children who had spent their own money on the National Lottery in the previous week were also more likely than the other children to come from households who took popular tabloid newspapers (used as a rough indicator of socio-economic grouping).

There were no significant differences between caucasian and non-caucasian respondents.

The children who had spent their own money on the National Lottery in the previous week were significantly more likely than the others to have higher levels of disposable income - either from paid work or from pocket money.

The children who had spent their own money on the National Lottery during the previous week were three times as likely as the others, both to have spent their own money on fruit machines during the same period, and to be weekly players of fruit machines. They were also at least twice as likely to have spent money on cigarettes and alcoholic drinks during the same period. These findings confirm the findings of the first preliminary study, and conform to existing knowledge on juvenile gambling in the UK and elsewhere.

We suggested three possible reasons for the fall in the proportion of children spending money on the National Lottery in the week prior to the survey in the larger sample. First, since there was an equivalent fall in expenditure on other marginal purchases such as cigarettes and alcohol, the fall in expenditure could be explained by the observed fall in income over the period. (The first survey was undertaken in the summer months when there is more paid work for young people and included more schools from holiday resorts which may have enhanced this effect). Second, we know that more older children are involved in underage National Lottery purchases. Although both preliminary studies surveyed the same year groups, the first sample gathered data from children in their final term in these years. Thus the children who took part in the first survey were more mature. Finally we suggested that there may be other cultural differences between the regions which are more subtle and less easy to demonstrate. A fourth set of possibilities exists: that young people are losing their taste for National Lottery products or are unable to buy them because of greater vigilance on the part of retailers.

### ***Aims of the study***

#### **A: Expenditure on the National Lottery**

- To determine the percentage of children who spent their own money on the National Lottery during the week prior to the survey.
- To establish whether these purchases of National Lottery products were made by adults or young people under the age of 16 years.
- To examine the frequency of playing National Lottery scratchcards.
- To examine expenditures in the week prior to the survey on scratch cards.
- To undertake a preliminary examination of excessive expenditure on scratchcards- eg. spending much more than planned, spending a large amount of money on one buying occasion.

#### **B: Regular National Lottery Scratchcard Players**

- To describe the demographic characteristics of regular scratchcard players (age, gender, ethnic group, socio-economic grouping, personal income) and compare with those of other respondents.
- To compare the general gambling behaviour of the regular players, and signs of excess, with other respondents
- To compare the incidence of other risk behaviours with other respondents (eg. illegal purchases of alcohol and cigarettes.)

### ***Methodology***

#### **Data Collection**

The data for this study were gathered by means of Balding's Health Related Behaviour Questionnaire (University of Exeter). This questionnaire has been widely used throughout the UK over a period of more than ten years to determine priorities in health needs assessment. The questionnaire is subject to ongoing revision to maintain relevance.

The self-complete questionnaires are administered by teachers well known to the young people under conditions of strict confidentiality. Survey supervisors receive detailed direction. One disadvantage of using this research instrument is that since it seeks to address a range of public health issues, the number of questions acceptable on any one topic are limited. This constrained the scope of the present study.

#### ***Validity***

All high quality survey statistics are best interpreted as a 'best estimate' of the situation studied and may be used for examining trends and making comparisons. In the case of the Health Related Behaviour Questionnaire, teachers who can create an atmosphere of co-operation and responsibility towards the task are the agents of data collection. The supervisors have a genuine awareness of the costs involved and follow their administration procedure carefully. In general, validation processes where data returned is checked through local investigation, for example in General Practitioners' records, confirm the data. In the case of the present study all of the statistically significant findings conform to those expected in the light of existing knowledge on young people and gambling.

#### ***Sample***

The sample was drawn from 48 schools situated in 8 different regions which administered the Balding Health Related Behaviour Questionnaire between February and July 1996. There were a handful of sixteen year olds in the sample who were removed from the data set before analysis began. The composition of the sample by gender, age, ethnic group and region is shown in Table 1.

**Table 1: Demographic composition of the sample (7100=100%)**

Gender		School year	
Male	50%	Year 8 (12-13 years)	39%
Female	50%	Year 9(13-14 years)	19%
		Year 10(14-15 years)	42%
Ethnic group		Region	
Black (Caribbean origin)	1.6%	Bucks	7%
Black (African origin)	0.5%	Oxford	8%
White (UK or European)	91.2%	N. Hants.	2%
Asian origin	3.3%	Berks	2%
Chinese origin	0.6%	N. Essex	28%
Mixed race or other	2.9%	Dorset	25%
		Beds	27%
		Lewisham	1%

***Analysis***

The data were analysed using SPSS computer software. Chi-square tests of significance, using Yates correction where appropriate, were used to compare the significance of different proportions (for example, the proportions of boys and girls who had purchased scratchcards in the previous week). 'T' tests were used for comparing group means (for example the relative scores of regular scratchcard players and less regular scratchcard players on a list of items known to be correlated with problem gambling in young people). Correlation analyses were used to explore associations between variables such as the frequency of playing National Lottery scratchcards and the frequency of alcohol consumption or fruit machine gambling.

***Interpretation of tables***

The total number of respondents shown for each table may differ for two reasons. First, the tables may be comparing different specific groups within the main sample, for example regular players with less regular players, regular players with all of the other children in the survey. Second, as in all surveys there were some missing cases, as answers to some questions were not clear or missing, resulting in fewer cases for analysis. The number of missing cases varies from question to question.

***CHAPTER 2: UNDERAGE EXPENDITURE ON NATIONAL LOTTERY PRODUCTS******Past week expenditures by children on the National Lottery***

In previous surveys children were asked whether or not they had spent their own money on the National Lottery in the week before the survey. It was subsequently suggested that such sales may be legal (if the children asked someone over 16 years to make the purchases on their behalf) or illegal (if they made the purchases themselves). It took two pilot studies to devise a question format which the children clearly understood, and which provided the information required. The final questions to distinguish between legal and illegal expenditure on the National Lottery read as follows:

Question LI0a

**During the past 7 days have you spent any of your own money on the the following items?**

*This was followed by a list of options including:*

**The National Lottery main draw tickets  
National Lottery scratch cards 'instants'**

Question LI0b

**If YES to either of these, who actually bought them in the shop?**

National Lottery' draw tickets	Scratch cards 'instants'
1 No ticket bought	1 No ticket bought
2 Yourself	2 Yourself
3 Parent	3 Parent
4 Other adult	4 Other adult
5 Friend under 16 years	5 Friend under 16 years

The initial problems experienced in developing this question format mean that the results for this section are available only for the subset of the main sample which answered the improved question format. The subset amounted to 3,724 children made up of the following social groups.

Gender		Ethnic Background	
Male	50%	Caucasian	89%
Female	50%	Other	11%
Age			
School Year 8(12-13 years)	40%		
School Year 9 (13-14 years)	20%		
School Year 10(14-15 years)	40%		

**Results**

***Fifteen percent of the sample had spent their own money on the National Lottery during the week prior to the survey:***

- o 9% reported that their purchases were made legally (by an adult) and
- o 6% illegally (by someone under 16 years of age)

Table 2 shows that similar proportions of children 'actually bought scratchcards in the shop' and 'actually bought draw tickets in the shop' (5% compared with 4%); but adults were more likely to purchase draw tickets on behalf of their children than scratchcards (7% compared with 4%). Almost all of the purchases were made by the children themselves or by their parents; less than 1% of the purchases were made by other adults, or by friends under the age of 16 years.

**Table 2: Legal and illegal sales of draw tickets and scratchcards**

	Draw or both	Scratchcards	Draw or scratchcards
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	m=3551	n=3573	n=3601
No ticket bought	89%	91%	85%
Ticket bought by adult (legal)	7%	4%	9%
Ticket bought by child (illegal)	4%	5%	6%

### ***Characteristics of underage participants in the National Lottery***

#### ***Gender***

Boys were significantly more likely than girls to have spent their own money on the National Lottery in the week prior to the survey, and twice as likely to have made the purchases themselves ( $p < .0001$ ).

- 17% of the boys had spent their money on the National Lottery in the week prior to the survey: 10% reported legal transactions (made by a parent) and 7% reported illegal transactions (made by themselves).
- 12% of the girls had spent their money on the National Lottery in the week prior to the survey: 8% reported legal transactions (made by a parent) and 4% reported illegal transactions (made by themselves). More details are shown in Table 2.

#### ***Age***

The data on age were analysed by school year groups because the experience of the Exeter Schools Health Education Unit is that belonging to a school year peer group has more impact on behaviour than age per se. Thus it is likely that a fourteen year old in Year 10 will be more mature than a fourteen year old in Year 9. The results show that the percentage of children who had spent their own money on the National Lottery during the week prior to the survey increased significantly with age. The increases from Year 8 to Year 10 are almost wholly accounted for by increases in illegal participation:

- 11% of Year 8 pupils (12-13 years) had spent their money on the National Lottery in the week prior to the survey, 2% had made the purchases themselves;
- 18% of Year 10 pupils (14-15 years) had spent their money on the National Lottery in the week prior to the survey, 9% had made the purchases themselves.
- The combined effects of age and gender make 14- 15 year old boys the most likely underage participants.
- 21% of Year 10 boys (14-15 years) spent their money on the National Lottery in the week prior to the survey, 11% had made the purchases themselves.

More details are shown in Table 3.

Table 3: Past week expenditure on the National Lottery by gender and year

Boys      Boys      Boys      Girls      Girls      Girls

	(12-13)	(14-15)		(12-13)	(14-15)	
None	87%	79%	83%	91%	85%	88%
Yes -legal	11%	10%	10%	7%	9%	8%
Yes - illegal	2%	11%	7%	1%	6%	4%
n306	906	924	1830	799	974	1773

**n.b** Transaction is legal when ticket is purchased by adult on behalf of child and illegal when ticket is purchased by child

### ***Ethnicity***

There were no significant differences in past week expenditure on the National Lottery between the different ethnic groups

### ***Socio-economic group***

Identifying the socio-economic group to which children belong by means of a self complete questionnaire is fraught with difficulty. To provide a rough guide, the Balding HRBO asks the children which, if any daily paper is taken in their household. The papers are then grouped into the categories 'broad sheet', eg. the Daily Telegraph, 'tabloid' eg. the Daily Mail, and 'popular tabloid' eg the Sun. A major disadvantage of this method is the exclusion of all the children in the sample whose households do not take a national paper. However, experience has shown that it gives a reasonable picture of the others. On this basis significant differences between the three groups were identified (N269 I).

- o 12% of the children from households who took broadsheets had spent their own money on the National Lottery in the week prior to the survey, compared with
- o 17% of the children whose households took tabloids, and
- o 1900 of the children whose households took popular tabloids (p<.001).

### ***Personal disposable income***

Personal income, whether from paid work and/or from pocket money was a highly significant indicator of underage expenditure on the National Lottery. Six percent of the children received more than £5 in pocket money or paid work (n=237).

- o 28% of the children who received more than £5 a week from paid work or pocket money had spent some of this money on the National Lottery during the week prior to the survey (12% illegally), compared with
- o 14% of the children who received less than £5 a week (5% illegally) (p<.0001)

### ***Comparing characteristics of children who purchased draw tickets, scratch cards or both products***

The results show that 5% of the respondents had spent their own money on the Draw, 4% on scratchcards and 6% on both products. Similar proportions of boys and girls in both year groups had spent their own money on the draw and scratchcards, but boys were twice as likely as the girls to have spent their money on both products. The details are shown in Table 4.

**Table 4: Lottery purchases by gender**

Spent own money on:	Male (n=1798)	Female (n=1749)	Chi -square test
Nothing	83%	88%	n.s
Draw only	5%	6%	u.s
Scratchcards only	4%	3%	n.s
Both Draw and Scratchcards	8%	4%	**

\* significant ( $p < .01$ )

\*\* highly significant ( $p < .001$ )

n.s not significant

Buying both draw tickets and scratchcards during the previous week was also significantly associated with belonging to an ethnic minority group, and having a relatively high weekly income:

- 10% of the children who belonged to ethnic minorities spent money on both products compared with 6% of the other children ( $p < .01$ ).
- 16% of the children receiving over £5 a week from pocket money or paid work spent their own money on both products during the previous week, compared with 5% of the other children ( $p < .0001$ )

### **CHAPTER 3: FOCUS ON NATIONAL LOTTERY SCRATCH CARDS**

Most of the concern about children playing on the National Lottery, and even becoming 'addicted' to playing, are linked in the public consciousness with scratchcards. This chapter looks in more depth at underage expenditure on National Lottery scratchcards and provides data on signs of dependency on scratch cards in a small number of the children. All of the questions in this section applied to the past year and were asked in relation to both National Lottery scratchcards and fruit machines. The children who had not played National Lottery scratchcards or fruit machines in the past year were instructed to skip the entire section.

#### ***Frequency of play***

The question on frequency of play read as follows:

##### Question 63

How often do you play (National Lottery scratchcards)?

0 = Never

1 = Less than once a month

2 = About once a month

3 = About 2-3 times a month

4 = About once a week

5 = About 2-3 times a week

6 = Nearly every day

7 = Every day

Sixty-two percent of the children had never played National Lottery scratchcards, 27% played less than once a week, 7% played about once a week, and 3% played more than once a week. The details are shown in Table 5.

**Table 5: Frequency of playing National Lottery scratchcards**

Frequency of play in past year	Percentage of respondents N=6906
Never	62%
Less than once a week	26%
About once a week	7%
More than once a week	3%

### ***Expenditure***

Two questions were designed to gain some insight into how much children spend on National Lottery scratchcards. The first asked the children to recall how much they had spent on National Lottery scratchcards in the previous week, the second asked them to recall the most they had ever spent in one day.

### ***Amount spent on National Lottery scratch cards in the past week***

The question read as follows:

#### Question 63

**During the past week about how much money in total have you spent on National Lottery Scratchcards? £.....p**

Past week expenditures ranged from under £1 to £50. Ten percent of the children reported spending under £1 on National Lottery scratchcards in the past week which suggests that some children may buy a ticket between them. Conversations with groups of secondary school children after the survey confirmed that this was so. Five percent of the children spent between £1 and £2 on scratchcards during the previous week, 4% spent between £2 and £5, and 1% spent more than £5. Only a handful of children spent more than £10. Details of expenditure by children on National Lottery scratchcards in the week prior to the survey are shown in Table 6.

**Table 6: Past week expenditure on National Lottery scratchcards**

Expenditure in past week	Percentage of respondents N=6884
Nothing/ Nonplayers	80%
Up to £1	10%
£1.01 -£2	5%
£2.01 -£5	4%
£5.01 -£10	1%
More than £10	-

### ***The most spent in one day on National Lottery scratch cards***

The question read as follows:

#### Question 64

What is the most you have spent in one day playing on ... (National Lottery Scratchcards)

- 0 = Nothing
- 1 = Up to £1.00
- 2 = £1.01 -£5.00
- 3 = £5.01 - £10.00
- 4 = £10.01 - £20.00
- 5 = £20.01 = £30.00
- 6 = More than £30.00 (write how much

Thirty percent of the children reported that £5 or less was the most that they had spent on National Lottery scratchcards in one day. Three percent had spent between £5 and £10 and 2% had spent more than £10. More detail is shown in Table 7.

**Table 7: The most spent in one day on National Lottery scratchcards**

The most spent on scratchcards in one day	Percentage of respondents
	N=6799
Nonplayers	65%
Up to £1	15%
£1.01 -£5	15%
£5.01 -£10	3%
£10.01 - £20	1%

### ***Signs of dependency***

Certain psychological states and behaviours are known to be integral to 'gambling addiction' or 'problem gambling'. They have been formalised by the American Psychiatric Association for their diagnostic manual DSM-IV (Lesieur & Rosenthal, 1993) - see Appendix I. These psychological states and behaviours are also seen in children with gambling problems and have been adapted in various forms to estimate the prevalence of problem gambling in youth populations in the USA, Canada, New Zealand, Spain and the UK. Questions relating to these psychological states and behaviours were included in the questionnaire to explore the hypothesis that some children may show signs of dependency on National Lottery scratchcards. The psychological states and behaviours linked to excessive gambling are shown below, together with the questions used to test for them All of the questions related to the previous year.

### **Preoccupation (Question 65)**

**How often have you found yourself thinking about playing or planning to play (National Lottery scratchcards)?**

0 = Never 1 = Once or twice 2 = Sometimes 3 = Often

### **Escape (Question 66)**

Do you play (National Lottery scratchcards) to help you escape from problems or when you are feeling bad?

0 = Never 1 Once or twice 2 = Sometimes 3 = Often

### **Withdrawal Symptoms (Question 6)**

Have you felt bad or fed up when trying to cut down playing (National Lottery scratchcards)?

0 = Never feel bad 1 = Once or twice 2 = Sometimes  
3 = Often 4 = Never cut down

**Chasing Losses (Question 68)**

When you don't win, do you return another day to try and win back the money you lost?

0 = Never 1 = Less than half the time  
2 = More than half the time 3 = Often

**Tolerance (Question 69)**

Do you have to spend more and more money on playing (National Lottery scratchcards) to get the amount of excitement you want?

0 = Never 1 = Once or twice 2 = Sometimes 3 Often

**Loss of control (Question 70)**

Have you spent much more than you planned to on playing (National Lottery scratchcards)?

0 = Never 1 = Once or twice 2 = Sometimes 3 Often

**Lies (Question 71b)**

Has your playing (National Lottery scratchcards) ever led to telling lies to family or friends?

0 = Never 1 = Once or twice 2 = Sometimes 3 = Often

**Risking relationships or education (Questions 71a. 71 c)**

Has your playing (National Lottery scratchcards) ever led to  
71a) Arguments with family or friends?  
71c) Missing school?

0 = Never 1 Once or twice 2 = Sometimes 3 Often

**Illegal (or unsocial) acts (Questions 72a. 72b. 72d)**

Have you taken money from any of the following without permission to spend on (National Lottery scratchcards)?

72a Dinner money or fare money?

72b Money from family?

72d Money from outside the family?

0 = Never 1 = Once or twice 2 = Sometimes 3 = Often

The results of these questions show that a small proportion of secondary school children report one or more signs of dependency on National Lottery scratchcards. Simple frequencies for the dependency questions are shown in Table 8. A more detailed analysis of the data is provided in Chapter 4 which focuses on the behaviour of the regular scratchcard players.

**Table 8: Signs of dependency on National Lottery scratchcards**

Sign of Dependency	Percentage of respondents
Preoccupied (often)	4% (N6799)
Played to escape (sometimes! often)	3.6% (N6921)
Experienced withdrawal symptoms trying to cut down (sometimes/often)	3% (N=6894)
Chased losses (more than half the time)	3.8% (N=6913)
Showed tolerance to playing	3.8% (N6903)

(sometimes/often)	
Lost control by spending much more than planned (sometimes/often)	4.2% (N6894)
Lied about playing (sometimes/often)	1.8% (N=6894)
Fell out with people because of playing (sometimes/often)	1.3% (N6908)
Missed school to play (yes)	1.3% (N6908)
Spent school dinner or fare money to play (yes)	3.5% (N6840)
Stole money from family to play (yes)	2.7% (N6840)
Stole money from outside family to play (yes)	1.1% (N6840)
Sold possessions to play (not a DSM-IV item)	1.8% (N6840)

Note: N = number of children who completed each question

Note: Positive scoring on a number of items is required to identify problem gambling

#### ***CHAPTER 4: REGULAR SCRATCH CARD PLAYERS***

Three percent of the children (n=189) reported playing National Lottery scratchcards at least two or three times a week. In this section, these children are referred to as 'regular players' and their characteristics and certain behaviours are compared with those of the other children in the sample.

##### ***Characteristics of regular players compared with other children***

Table 9 shows that there were three significant differences between the regular players and the other children. The regular players were more likely to be male, more likely to have an income from paid work or pocket money of more than £5 per week and more likely to come from an ethnic minority group. There were no significant differences in socio-economic group as measured by which daily paper was taken in the household. The regular players were evenly distributed throughout the year groups.

**Table 9: Characteristics of regular players**

Characteristic	Regular players	Other children	Chi -Square test of significance
Male	68% (129)	50% (3444)	**
Income more than £5 a week	18%(33)	6%(417)	**
Ethnic minority	15%(29)	9%(597)	*
Household reads popular tabloids	49% (73)	41% (2113)	n.s
Year 10	42% (79)	42% (2877)	n.s

\* significant ( $p < .01$ )  
 \* highly significant ( $p < .001$ )  
 u.s not significant

**Notes** Numbers in brackets refer to the number of positive responses for each question. Variations between in percentages and numbers in brackets are due to variations in the number of missing cases for each question.

***Expenditure: comparing regular players with the less regular players***

In the following two sections the expenditure of the children who gambled on National Lottery scratchcards at least two or three times a week is compared with that of the children who also gambled on scratchcards, but less often. The total subset of all players amounted to 2,601 children.

**Past week expenditure**

As expected, the regular players tended to spend larger amounts of money in the week prior to the survey than the less regular players. Seventy three percent of the regular players had spent more than £2 on National Lottery scratchcards in the previous week, compared with 9% of the other players. Thirty percent of the regular players had spent more than £5 during the previous week compared with 1% of the other players. The details are shown in Table 10.

**Table 10: Past week expenditure on scratchcards: regular players compared with less regular players**

Amount spent	Regular players	Less regular players
	n183	n=2346
Nothing	10%	50%
Up to £1	4%	28%
£1.01 -£2	13%	13%
£2.01 -£5	43%	8%
£5.01 -£10	21%	1%
More than £10	9%	-

Chi-Square test of significance for table \*\*

\* significant ( $p < .01$ )  
 \*\* highly significant ( $p < .001$ )  
 n.s not significant

**Most spent in one day**

The regular players were also significantly more likely to have spent large amounts of money in one day on National Lottery scratchcards than the less regular players. Thirty nine percent had spent more than £5 in one day, compared with 11% of the less regular players. Twenty-one percent of the regular players had spent more than £10 in one day, compared with 3% of the less regular players and 12% had spent more than £20 (none of the less regular players had done so). The details are shown in Table 11.

**Table 11: The most spent on scratchcards in one day: comparing regular with less regular players**

Amount spent	Regular players n=179	Less regular players n=2275
Up to £1	12%	49%
£1.01 -£5	44%	40%
£5.01 -£10	17%	8%
£10.01 -£20	11%	2%
£20.01 -£30	6%	
More than £30	9%	

Chi-Square test of significance for table \*\*

\* significant ( $p < .01$ )

\*\* highly significant ( $p < .001$ )

n.s not significant

***Signs of dependency: comparing regular players with the less regular players***

Where DSM-IV criteria have been used to screen for problem gambling in adult populations outside of a clinical setting, a score of 3 or 4 has been used to denote problem gambling and 5 or more to denote more severe cases (Fisher, 1996). A larger sample than the one used in this study would be required to use the criteria in this way. This is because the small proportion of respondents defined as problem gamblers has to be numerically sufficient for meaningful statistical analysis. To provide preliminary information a simple comparison is made between the regular and less regular National Lottery scratchcard players.

The regular players were significantly more likely than the other players to report signs of dependency (adapted from the DSM-IV criteria) on National Lottery scratchcards. The mean number of items scored was also significantly higher (2.3 compared with 0.6  $p < .001$ ). Details are shown on Table 12.

**Table 12: Signs of dependency on scratchcards: Comparing regular and less regular players**

Sign of dependency on scratchcards (Adapted from DSM-I V criteria)	Regular players	Less regular players	Chi-Square
Preoccupied (often)	33% (61)	8% (197)	**
Played to escape (sometimes/often)	28% (51)	8% (198)	**
Experienced withdrawal symptoms trying to cut down (sometimes/often)	19% (35)	6% (142)	**
Chased losses (more than half the time)	28% (51)	9% (203)	**
Showed tolerance to playing (sometimes/often)	29% (53)	9% (201)	**
Lost control by spending much more than planned	41% (76)	9% (208)	**

(sometimes/often)

Lied about playing (sometimes/often)	18% (34)	3% (81)	**
Fell out with people because of playing (sometimes/often)	16% (30)	2% (59)	**
Missed school to play (yes)	17% (32)	2% (55)	**
Spent school dinner or fare money to play (yes)	24% (43)	8% (189)	**
Stole money from family to play (yes)	24% (44)	6% (138)	**
Stole money from outside family to play (yes)	14% (25)	2% (50)	**
Selling possessions to play (not a DSM-IV item)	18% (33)	4% (93)	**
Mean number of DSM-IV items scored T-1525 d -58 <.001	2.3	0.6	

\* **significant** ( $p < 0.01$ ) / \*\* highly significant ( $p < .001$ ) / n.s not significant

Note: Positive scoring on a number of items is required to identify problem gambling (see previous page)

Note. Numbers in brackets refer to the number of positive responses for each question. Variations between in percentages and numbers in brackets are due to variations in the number of missing cases for each question.

### ***Potentially addictive behaviours: regular scratch card players compared with the other children***

#### ***Cigarettes, alcohol and drugs***

The literature on adolescent gambling shows that frequent and problem gambling is commonly associated with other potentially addictive behaviours. This survey found that regular playing of National Lottery scratchcards was significantly associated with regular smoking, regular consumption of alcohol and experimenting with illegal drugs.

#### **Cigarettes**

Regular National Lottery scratch card players were more than twice as likely as the other children to be regular smokers (33% compared with 14%)

#### **Alcohol**

Regular National Lottery scratch card players were more likely to have taken alcohol during the previous week than the other children (75% compared with 52%). They were four times as likely to have taken alcohol on three or more days during the previous week (44% compared with 11%). They were also more likely to be 'worried a lot' about drinking alcohol (15% compared with 6%).

#### **Drugs**

Regular National Lottery scratch card players were twice as likely to have taken at least one illegal drug than the other children (35% compared with 18%).

All of these results are summarised in Table 13.

**Table 13: Potentially addictive behaviours: regular scratchcard players compared with the other children**

	Regular N.L. scratchcard players	Other children	Chi -Square test of significance
Described themselves as regular smokers	33% (65)	14% (946)	**
Had taken alcohol in past week	75% (134)	52% (3473)	**
Had taken alcohol on 3 or more days in previous week	44% (79)	11% (797)	**
'Worried a lot' about drinking alcohol	15% (29)	6% (391)	**
Had taken at least one illegal drug	35% (66)	19% (1297)	**

\* significant ( $p < .01$ )

\*\* highly significant ( $p < .001$ )

n.s not significant

**Note:** Numbers in brackets refer to the number of positive responses for each question. Variations between in percentages and numbers in brackets are due to variations in the number of missing cases for each question.

### ***Fruit machine gambling***

As in the two preceding studies, the survey found highly significant relationships between the playing of National Lottery scratchcards and fruit machine gambling. Thirty-five percent of the regular scratchcard players had spent their own money on fruit machine gambling in an arcade in the previous week, compared with 6% of the other children. Forty-six percent of the regular scratchcard players played fruit machines at least once a week, compared with 6% of the other children. Twenty-five percent of the regular scratch card players had spent more than £5 on fruit machines in the week prior to the survey, compared with 2% of the other children. Thirty-eight percent of the regular scratchcard players had spent more than £10 in one day, compared with 5% of the other children. The results are shown in Table 14.

**Table 14: Fruit machine gambling: regular scratchcard players compared with the other children**

Fruit machine gambling behaviour	Regular N.L. scratchcard players	Other children	Chi-Square test of significance
Had spent their own money on fruit machines in arcades in the previous week	35%(63)	6%(394)	**
Played fruit machines at least weekly	46%(86)	6%(412)	**
Had spent more than £5 on fruit machines in the previous week	25% (44)	2% (140)	**

Had spent more than £10  
on fruit machines in one day 38% (58) 5% (325) \*\*

\* significant ( $p < .01$ )

\*\* highly significant ( $p < .001$ )

u.s not significant

**Note:** Numbers in brackets refer to the number of positive responses for each question. Variations between in percentages and numbers in brackets are due to variations in the number of missing cases for each question.

### ***The importance of fruit machine gambling in regular scratch card players***

While the associations between frequency of scratchcard play and all of the potentially addictive behaviours described above are important. The association between regular scratchcard play and regular fruit machine gambling is remarkable. Such large variations in fruit machine gambling behaviour between regular and less regular scratchcard users prompted further examination. A correlation analysis between the frequency of scratchcard play and the frequency of fruit machine gambling resulted in a correlation coefficient of 0.46. This finding is highly significant in statistical terms ( $p < .0001$ ) and could be of considerable practical importance.

## ***CHAPTERS: DISCUSSION AND FUTURE RESEARCH***

### ***Discussion***

Fifteen percent of the subset of young people who answered the revised expenditure questions had spent their own money on the National Lottery during the week prior to the survey. This represents the third successive fall in youth expenditure on the National Lottery since data were first collected by the authors in May 1995. While these changes may reflect sample differences, it may be that some young people are losing their taste for National Lottery products, or that that fewer are able to buy them due to increased vigilance by retailers.

Nine percent reported that their purchases were made legally (by an adult) and six percent illegally (by someone under 16 years of age). These results show that the level of illegal sales of National Lottery products to children is lower than previously thought because in many cases their parents are purchasing tickets on their behalf. One hypothesis is that, for a minority of families, participation in the National Lottery is a family event. Given the vulnerability of children to problem gambling this state of affairs may prove to be only the lesser of two evils.

Children under the age of sixteen participate in both the National Lottery draw and National Lottery scratchcards. Five percent of the children surveyed had spent their own money on the National Lottery draw during the week prior to the survey, 5% had spent their own money on National Lottery scratchcards and 5% had spent their own money on both products. Past week spending on the National Lottery was significantly associated with being male, coming from a household which took a popular tabloid newspaper, and having a higher than average disposable income (more than £5 a week). Participation also increased significantly through the age groups.

Significantly more males, ethnic minorities and those receiving an income of more than £5 a week had spent their own money on both products than the other children.

The study responded to public concern that some children may be frequent players of National Lottery scratchcards, or even have a problem with National Lottery scratchcards, by examining the behaviour of the regular players. three percent of the sample gambled on National Lottery scratchcards at least two or three times a week and were defined as 'regular

players'. Regular players were significantly more likely than the less regular players to be male to come from an ethnic minority background and to have a relatively high income from paid work or pocket money (over £5 a week). Regular scratchcard players were also significantly more likely to be involved in a cluster of other potentially addictive behaviours including regular fruit machine gambling, regular smoking, regular drinking; and experimentation with illegal drugs. The association with frequency of fruit machine gambling was remarkably significant.

The regular scratchcard players were significantly more likely than the less regular players to score positively on each of the DSM-IV criteria, adapted to identify problem gambling in adolescents, and to have a higher mean score. This suggests that some of the regular players may be developing a problem with National Lottery scratchcards. The picture is somewhat obscured by the regular involvement in fruit machine gambling by many of the regular players of National Lottery scratchcards. It is known that a small proportion of young people in the UK have developed into problem fruit machine players. One hypothesis is that young people who are existing frequent or problem fruit machine gamblers have added National Lottery scratchcards to their gambling activities. A further hypothesis must be that National Lottery scratchcards are, independently of other gambling forms, generating a new group of young problem gamblers.

### ***Future Research Directions***

Underage access to state sponsored gambling products is a phenomenon that merits further enquiry. The results of this study suggest that the following topics should have priority: Many of the underage purchases of National Lottery products were made by parents on behalf of their children. It would be helpful to understand the perceptions parents have about children playing the National Lottery. It would also be helpful to understand the role of families and adolescent peer groups in teaching children about gambling and facilitating their involvement in gambling activities.

This study shows that there is a highly significant relationship between regular playing of National Lottery scratchcards and regular playing of fruit machines. Further research, using more sophisticated analytic techniques is required into the prevalence of all forms of adolescent gambling so that the impact of the National Lottery on adolescent gambling may be more clearly understood. The inclusion of a screen, such as DSM-IV adapted for adolescents, would provide an estimate of the prevalence of problem gambling among young people and reveal which gambling games are preferred by young problem gamblers.

This study confirms previous findings about the clustering of risk behaviours in adolescents including regular gambling, regular smoking, regular alcohol drinking and experimentation with illegal drugs. There is a need for further research, using multivariate analytic techniques, to explore the relationship between persistent gambling and other risk behaviours in adolescents; together with a review of the availability of education, prevention and treatment programmes for gambling problems in young people.

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## ***Appendix 1***

### **DSM-IV Criteria To Identify Problem Gambling In Adults**

DSM-IV is a short (ten item) scale comprising the diagnostic criteria for pathological gambling laid down by the American Psychiatric Association (Lesieur & Rosenthal, 1993). These are:

- Preoccupied with gambling (eg., preoccupied with reliving past gambling experiences, handicapping, planning the next venture, or thinking of ways to get money with which to gamble).

- Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
- Restlessness or irritability when attempting to cut down or stop gambling.
- Gambles as a way of escaping from problems or relieving dysphoric mood (eg. feelings of helplessness, guilt, anxiety, depression).
- After losing money gambling, often returns another day in order to get even ("chasing" one's losses).
- Lies to family members, therapists or others to conceal the extent of involvement with gambling.
- Made repeated unsuccessful efforts to control, cut back, or stop gambling.
- Committed illegal acts, such as forgery, fraud, theft or embezzlement, in order to finance gambling.
- Has jeopardised or lost a significant relationship, job, educational or career opportunity because of gambling.
- Reliance on others to provide money to relieve a desperate financial situation caused by gambling.

In a clinical setting, a diagnosis of pathological gambling is made when there is a case of persistent or recurrent maladaptive gambling behaviour as indicated by at least five of the above, which is not better accounted for by a manic episode. *In addition, Lesieur & Rosenthal (1993) make the case for establishing a further category of problem gambling for individuals who score 3 or 4 of the criteria and show some adverse consequences due to gambling.* They provide evidence to show that these individuals may represent a sub-threshold of pathological gambling. Such individuals are problem gamblers who are not yet at the most severe end of the problem gambling continuum, but are at risk of progressing there. Some adjustments are made to adapt the criteria for use in a non-clinical population