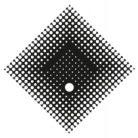
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YOUTH GAMBLING IN CONTEXT: THE STRUCTURE OF YOUNG PEOPLE'S LEISURE AND THEIR GAMBLING BEHAVIOUR

Susan Moore, PhD

Professor
Institute for Social Research (Mail no 53)
Swinburne University of Technology
16 Wakefield Street
Hawthorn, Vic, 3122

Phone: +61 3 9214 5694
Fax: +61 3 9819 5349
E-mail: smoore@swin.edu.au

&

Keis Ohtsuka, PhD

School of Psychology (F089)
Victoria University
PO Box 14428
Melbourne, Vic 8001
AUSTRALIA
Phone: +61 3 9919 5098
Fax: +61 3 9919 4324
E-mail: Keis.Ohtsuka@vu.edu.au
URL: http://www.staff.vu.edu.au/Keis

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Abstract

Free time constitutes up to 50 percent of an adolescent's day and that young people have more leisure time than adults. Leisure may lead to boredom, a risk factor for problem gambling. Three different models of time usage were compared as potential predictors of gambling behaviour and problem gambling among 769 adolescents (15- to 18-years old) from five secondary schools in Melbourne. More leisure time predicted more frequent gambling behaviour for girls and boys, as did a greater amount of unstructured leisure time. Specific activity factors provided the best time usage-based prediction of gambling behaviour (accounting for approximately 20 percent of the variance for boys and 18 percent for girls). More time socialising and being involved in organised sport predicted more gambling for boys, probably because of the access these activities provide to gambling venues. For boys, low levels of the so-called masculine pursuits (activities with other male peers) were associated with problem gambling, as were 'cognitive pursuits' such as board games and collecting hobbies. For girls, more time in studious activity such as reading mitigated against gambling frequency. Low levels of typically 'feminine' adolescent pursuits predicted problem gambling. By far the major predictor of problem gambling however was gambling behaviour per se. The role of leisure in problem gambling was discussed in terms of the simultaneously protective and risk role by peer socialising, which may increase both access to gambling and a sense of connectedness to the peer group.

On the recently established McGill University website for youth gambling research, it is asserted that the popularity of gambling activities among children and youth is on the rise (http://www.education.mcgill.ca/gambling). Further, the site indicates that prevalence studies conducted in the United States, Canada, New Zealand, Europe and Australia all confirm the high (and sometimes increasing) rates of youth involvement in both legal and illegal forms of gambling. Some illustrative studies of this phenomenon include Fisher (1993), Griffiths (1995), Shaffer and Hall (1996), and Stinchfield, Cassuto, Winters and Latimer (1997). The Australian government-initiated Productivity Commission Report on Australia's gambling industry presents data which show that those who play gaming machines, keno, sports betting, casino table games, and private games for money (e.g., cards) are more likely to be aged 18-24 than in the 25-34, 35-49, 50-64, or 65+ age groups (Productivity Commission**,** 1999). Although there is little Australian data available on under-age gambling, that which has been published suggests relatively high rates of participation among adolescents younger than 18, especially for private forms of gambling such as betting on cards or on the results of sports games (Moore & Ohtsuka, 1997).

Australian youth attitudes on gambling mirror those of the adults. According to our research (Moore & Ohtsuka, 1997, 1999), young gamblers are likely to regard gambling in a positive light (fun, exciting), to believe that peers and significant others also condone it, and to hold optimistic views about their chances of winning. The potential danger of gambling is of course that it may take on the characteristics of an addiction or obsession. While rates of problem gambling among young people are even more difficult to assess than for adults (because among the under 18s we are surveying an illegal activity), Australian data suggest that up to 4 percent of adolescents may be

experiencing serious problems with their gambling, or are at risk of experiencing such problems. A further 10-11 percent express mild to moderate problems or potential problems (Moore & Ohtsuka, 1997, 1999). These results mirror those from other developed countries according to reports on the McGill website.

Boredom is implicated in problem gambling. Blaszczynski, McConaghy, and Frankova (1990) report that pathological gamblers have elevated boredom proneness scores, and suggest that these individuals use gambling as a way of avoiding or reducing noxious physiological states or dysphoric mood. Kuley and Jacobs' (1988) found that problem gamblers scored higher than a comparison group of social gamblers on the experience-seeking, boredom susceptibility, and disinhibition (social extroversion) subscales of Zuckerman's (1979) sensation-seeking measure. A study of problem gamblers calling the G-Line counselling service over a period of one month, indicated that nearly 30 percent nominated boredom reduction as reasons for gambling (Coman, Burrows & Evans, 1997). Loneliness, isolation, and boredom were the main motivations for gambling cited by women who experienced problems in controlling their gambling, according to Brown and Coventry's (1997) study which used data from a phone-in help line.

Boredom and leisure can be associated, especially for young people. Iso-Ahola and Weissinger (1990) demonstrated that a significant proportion of adolescents experience leisure time as unsatisfying, mainly due to boredom. Furthermore, Iso-Ahola and Crowley's (1991) studies of youth implicated leisure-related boredom in higher levels of deviant activity, particularly drug use and delinquency. While non-leisure can be boring too, activities like work and education involve constraints which limit (but do not completely remove) opportunities for deviant or risk-taking behaviours. Of course, some leisure activities are more organised and directed than others, and these may

provide both fewer opportunities for non-managed risk-taking and fewer opportunities for boredom than less structured activities. For example leisure activities such as the pursuit of hobbies or learning new skills involve less unstructured time and potentially more goal directedness than 'hanging around with friends' and time filler activities such as watching television. Carpenter and Huston-Stein (1980) make the distinction between structured and unstructured time, defining structured activities by the extent to which rules or external forces impose guidelines prescribing appropriate performance or goal directed involvement. Structured leisure activities include those characterised by organisation, planning, schedules, deadlines, challenges and goals (Haworth, 1986), while structured non-leisure refers to work, study, domestic and personal chores, etc. Unstructured activities include peer-directed socialising, watching television or videos, non-competitive sports, games and idling activities. Csikszentmihalyi and Larson (1984) demonstrated that young people aged 10 to 18 spend more time in unstructured activities during a week than in structured activities, especially during non-school hours. Increased boredom may not be so much a function of leisure per se, but, more specifically, of unstructured leisure.

The concept of unstructured leisure is a rather general one and does not take account of the possibility that individuals may place their own structure on activities for which the structure is not immediately apparent. For example socialising may be goal directed (planning a party, organising food, ensuring the guests have a good time, cleaning up afterwards), and even watching television or movies can sometimes be for a purpose such as information gathering or analysis (as in film criticism). In addition, just as 'play' is important for children's cognitive, emotional and physical development, there may be developmental tasks for adolescents which require the relatively non-directed exploration of their world (Gordon & Caltabiano, 1996). Adolescents may

need a certain amount of undirected social and physical activity in order to get to know themselves, a task described by Erikson (1963) as identity development. For this reason alone, young people's need for and tolerance of unstructured activity may be greater than that of adults. In other words, they may be less prone to boredom than adults would be if adults had the same level of unstructured activity. Nevertheless, it is possible that certain types of unstructured activity or certain levels of it will lead to greater boredom proneness than others. In this study, young people were assessed on the extent of their involvement with a broad range of structured and unstructured non-school activities, with the aim of establishing which types of activities were associated with participation in a particular type of risk-taking, that is, gambling. The link between leisure and/or unstructured activity and gambling (with boredom as a possible intervening variable) could thus be tested. Gambling is considered as a risk-taking behaviour not just because it involves the likelihood of financial losses, but because of the attendant vulnerability of young gamblers to losing control in the form of development of gambling problems.

Summarising the argument, leisure, especially unstructured leisure, may be associated with boredom, which may in turn be a risk factor for problem gambling (and other problem behaviours). On the other hand, leisure may have an important developmental function for adolescents, allowing for social skill development, and identity formation through non-directed exploration of the social world. Young people who are disconnected from leisure-based social networks may also be at risk of self-destructive risk-taking activities, of which problem gambling could be seen as an example (Blum & Rinehart, 1997).

The overall aim of the study is to establish for school-based adolescents, the relationships between leisure activities and involvement in gambling, including

problem gambling. Supplementary aims include measurement of the extent of gambling behaviour (frequency) and degree of problem gambling among this sample of young people, and assessment of the perceived frequency of gambling as a leisure activity in comparison with other forms of adolescent leisure.

Method

Participants

The sample comprised 769 young people aged between 15 and 18 years (351 males, 415 females, 3 sex unstated). Participants were volunteers from Years 10 (n=311), Year 11 (n=292) and Year 12 (n=166) of five secondary schools in Melbourne, Australia. The schools were all in the western suburbs of Melbourne, a predominantly working class area. The mean age of the sample was 16.3 years (SD= 0.9 years).

Measures

The survey consisted of subsections designed to measure gambling behaviour, problem gambling, and non-school (leisure and non-leisure) activities. Data on age and sex were also collected. Details of measures are as follows.

Gambling behaviour. Respondents were asked to rate their level of participation in 11 different types of gambling (see Table 1 for item content), using a rating scale which ranged through 0= never participated, 1= once a year, 2= more than once/year, less than once/month, 3= more than once/month, less than once/week, 4= once a week or more. To maintain consistency with a previous study (Moore & Ohtsuka, 1997), the frequencies for two of the items (Scratch-It tickets and Lotteries) were averaged to form a single "Lottery" item. Ratings for the (now) 10 items were summed to form a gambling behaviour (frequency) scale, with a range of scores from 0 to 40. High scores

represent higher frequencies of gambling. The Cronbach alpha reliability coefficient for the scale was 0.71 in a previous study (Moore & Ohtsuka, 1997).

Problem Gambling. A modified version of the South Oaks Gambling Screen (Lesieur & Blume, 1987) was used as the measure of problem gambling, with statements in the screen adapted to Australian idiom (see Moore & Ohtsuka, 1997 for details). Participants were asked to rate 10 statements about their gambling behaviour on a 5-point scale ranging from 1= strongly disagree to 5 = strongly agree. Ratings across the 10 items were added to form a measure with a possible range of scores of 10 to 50, high scores representing higher levels of perceived problem gambling. The Cronbach alpha for this modified scale was measured at 0.87 in a previous study (Moore & Ohtsuka, 1997).

Procedure

Permission to approach schools was obtained from the relevant state body. Ten western suburbs principals were requested to allow the research to proceed in their schools. Three did not agree because of the time commitment required of students and teachers within an already busy school calendar. At the seven schools which approved the research, the research assistant negotiated the most convenient way of collecting the data. In all cases but one, teachers chose to administer the questionnaire themselves, after discussions had occurred about appropriate procedure. In the exceptional case, a suitable time for the survey to be administered could not be negotiated, and the school year came to an end without the data having been collected. In each of the participating six schools, the aim was to survey one class at each of the Year 10, 11, and 12 levels, and this aim was largely achieved. Students under 18 were given parental permission slips to be returned confirming approval to participate in the study. Volunteer students with parental permission were surveyed in class groups, while non-participating

students within the class either engaged in other work or went to the library. The survey took 30 to 40 minutes to complete, and was anonymous. In a 1996 study of youth gambling behaviour in the western suburbs of Melbourne, young people in Years 10, 11 and 12 at six secondary schools in the area had been surveyed (Moore & Ohtsuka, 1997). The current study, conducted in 1998, was in part designed as a follow-up of the 1996 study, to assess stability or change in gambling rates in the area, through re-testing at the same year levels in the same schools. (These data are to be reported separately.) Since one of the six schools targeted in 1996 had closed, only students from the other five could be surveyed. As in the 1996 study, volunteer students were surveyed in class groups, while non-participating students within the class engaged in other work. The survey took about 15 minutes to complete, and was anonymous. Teachers administered the survey after consultation with the project's research assistant.

Results and Discussion

Gambling behaviour of the sample

The mean score on the gambling frequency scale (potential range 0 - 40), was 5.04 (SD = 4.71), suggesting on average, familiarity with gambling among the sample but not high frequencies for the most part. Only 11.3 percent of the sample (8.3 % boys and 13.7 % girls) had never gambled for money, that is, nearly 90 percent had gambled at least once. Males gambled more frequently than females (Males: $\underline{M}$ = 6.26 Females: $\underline{M}$ = 4.00; $\underline{F}$ (1,764)= 46.15, $\underline{p} < 0.001$).

The percentages of the sample of boys and girls who gambled more than once a month for the 11 different gambling activities surveyed are shown in Table 1.

Insert Table 1 about here

Among boys, gambling on cards and pool were quite popular, and are likely to represent peer-led activities rather than organised, commercial forms of gambling. About 10 percent of both boys and girls participated in lotteries or 'Scratch-It' tickets (a form of lottery) more than once a month, these being the most common commercial form of gambling in this age group. It is worth noting that all commercial forms of gambling are illegal for the under 18-year olds, and except for the lotteries, participation in these activities was rare. In the light of this, it is not surprising that 18 year-olds in the sample were significantly more likely than those under 18 to have bet money on gaming tables at a Casino (F (1,764) = 55.93; $p < 0.001$), poker machines at a Casino (F (1,766) = 61.16; $p < 0.001$) and poker machines in hotels (F (1,765) = 20.56; $p < 0.001$). There were no significant age differences on participation in any of the other types of gambling.

The mean score on the problem gambling scale (potential range 10 - 50), was 13.32 (SD = 6.01), suggesting that while most young people had no problems with their gambling, the range of responses was wide enough to indicate some difficulties. Males scored significantly higher on this scale than females (Males: M = 14.86; Females: M = 12.00; F (1,763) = 45.95; $p < 0.001$). Scores on this problem gambling scale provide a continuous measure appropriate for use in the regression analyses to follow. They do not however provide a clear indication of the cut-off point for definition of a problem gambler. To do this, the continuous scale scores were transformed to a similar format to that represented in the South Oaks Gambling Screen. Problem gambling responses were converted to a Yes/No format by collapsing agree and strongly agree statements into the 'Yes' category. Subjects with 5 or more 'Yes' responses to the 10 problem gambling items were classified as problem gamblers, in accordance with standard practice for the

SOGS (Lesieur & Blume, 1987). It is important to note however, that in a non-clinical sample such as this, high scores on the SOGS may not necessarily represent actual problem gamblers, but may in at least some case reflect high concerns or worries about potential problem gambling. It may be more accurate to label this group 'problem or potential problem gamblers'. Scores of zero or 1 were defined as reflecting few or no gambling problems, and scores of 2 to 4 as potential mild-to-moderate problems in accordance with the work of Gambino et al. (1993). The resulting data shown in Table 2 indicated that only a small percentage of young people could be classified as problem/potential problem gamblers (about 2 %). The majority of young people scored between zero and 1, that is, exhibited few or no gambling-related problems, nevertheless a significant percentage of the boys (nearly 20 %) showed some concerns about their own gambling.

Insert Table 2 about here

Correlations were calculated between problem gambling score and rate of participation in each of the 11 gambling activities to assess in which gambling activities problem gambling youth were most likely to be participating. All activities were statistically significantly correlated with problem gambling, but most correlations were very low, representing only a very small percent of shared variance. Correlations of .25 or more with problem gambling were observed for both sexes with card playing (Boys: .38; Girls: .31), and for boys only with lotteries (.25), poker machines at the casino (.28), poker machines at hotels (.27) and betting on pool (.37). The strongest correlations were with peer-led gambling activities (cards, pool), rather than commercial gaming.

Gambling frequency in relation to other activities

Of the activities listed in the non-school activities measure, the two most frequently engaged in were listening to music and going to parties (mean ratings of >3). Also highly rated (mean ratings > 2.5) were talking on the telephone to friends, watching videos/TV, going to movies, going for walks, and eating out. The least frequently engaged in activities (ratings < 0.5) were spending time on outdoor hobbies such as birdwatching, and skateboarding. Gambling was the third least frequent activity, with a mean rating of 0.57.

Adolescent time use

Adolescent non-school time was conceptualised in three different ways for the purpose of analysing the associations between gambling participation and participation in other activities. These conceptualisations included time categorised as leisure versus non-leisure, as structured versus unstructured; and empirically, as groups of activities based on factor analysis. These are considered in turn.

Leisure versus non-leisure time. The three non-leisure activities measures were participation in study, part-time work and helping around the house/garden. These three items did not form a reliable scale so were considered separately in analyses of non-leisure pursuits. Leisure time was considered as the sum of all the other items in the scale with the exception of gambling, which was not included as the purpose of the analyses was to assess relationships between gambling participation and other activities. The Cronbach alpha reliability of the leisure scale of 37 items was .86.

Structured versus unstructured time. The structured time measure was based on definitions by Carpenter and Huston-Stein (1980). Structured time refers to non-leisure activities defined above, plus leisure activities which involve one or more of the following characteristics: organisation and planning (e.g., organised sport, hobbies),

skill learning/development (e.g., playing music, reading, writing for pleasure), personal care activities (e.g., shopping, cooking). Twenty-three items of the 40 non-gambling items were assessed as fulfilling this structured time classification, and ratings on these items were summed to produce a structured time measure with a Cronbach alpha reliability of .76. The other 17 items were assessed as reflecting unstructured time. These included activities which involved 'hanging around', general socialising, watching movies or videos, and playing games. These items formed a scale with a Cronbach alpha reliability of .81

An empirical approach - factor analysis of leisure/non-leisure activities. A Principal components factor analysis of the 40 non-school time use items (gambling was not included) produced 9 factors with eigen values greater than 1.0, and accounting for 55.2 percent of the item variance. These factors were rotated to the Varimax criterion. The factors produced are shown in Table 3. The highest loading for each item is shown (decimal points omitted).

Insert Table 3 about here

The factors were labelled as follows: Socialising, Study pursuits, 'Feminine' pursuits (activities typical of adolescent females), Organised sport, 'Masculine pursuits (activities typical of adolescent males), Informal sport, Music-related activities, Computer-related activities, and Cognitive pursuits (a group of hobby-type activities which involve conceptual activity). Scales representing these factors were developed by summing the ratings for the items loading on each factor, thus producing nine scales with alpha reliability coefficients as follows: Socialising .80; Study pursuits .67;

Feminine pursuits, .71; Organised sport, .74; Masculine pursuits, .64; Informal sport, .62; Music, .66; Computers, .62; and Cognitive pursuits, .57.

Prediction of gambling from other leisure activities

How do these different models of time use predict gambling behaviour, that is, is there a particular pattern of time use more likely to be associated with higher levels of gambling among adolescent school-attenders? The three different methods of conceptualising time use were investigated, and relationships of these models to gambling behaviour and problem gambling assessed through regression analyses. Table 4 shows the results of these analyses.

Insert Table 4 about here

Gambling Behaviour was significantly predicted by the three different models of time use. More leisure time (in comparison with non-leisure or work time) was associated with more gambling for girls and boys, as was a greater amount of unstructured time. The model of time use represented by the factor analysis of activities provided the best predictor of gambling behaviour (accounting for 19.8 % and 18.1 % of the variance of gambling behaviour for boys and girls respectively), and showed some specific activity factors significantly associated with youth gambling. For both sexes, more time socialising was associated with more gambling. For boys, organised sport involvement was also a predictor. For girls, more time spent in studious activity such as study and reading mitigated against gambling.

All three models predicted problem gambling, with the factor-based model providing the best predictive power, accounting for about 24 percent of the variance of problem gambling for boys, and 15 percent for girls. By far the major predictor was

gambling behaviour, with the various leisure and non-leisure activities adding only a small amount to the predictive power. In other words, young people who gamble more are more likely to develop problems with their gambling, (almost) regardless of what else they do with their time. For boys, it was interesting that structured time actually predicted higher problem gambling rates, but non-leisure time did not, suggesting that some elements of structured leisure (such as being part of a sporting club) may contribute to gambling access. For girls, non-leisure activities were protective against problem gambling. An intriguing finding was the negative relationship between problem gambling and sex-typed activity (masculine activity for both sexes and feminine activity for girls). It suggests that problems are less likely to arise if young people are well connected to a friendship group that participates in a broad range of activities. For both sexes involvement in cognitively-based games and hobbies was weakly predictive of problem gambling, although interestingly this was not the case for the separate factor of computer-based activities. This is a difficult result to interpret, given the only moderate reliability of the cognitive pursuits factor scale, and the few (and somewhat disparate) items it contains. One aspect which these items may have in common is that they involve participation in some sort of mental exercise, in the sense of planning, analysing and categorising (hence the factor name). This may also be a feature of young problem gamblers who seek ways to 'beat the system' and outsmart the odds in gambling situations. These young people may enjoy the challenge of games but not be able to clearly distinguish between games of skill and games of chance. Rosecrance (1988) for example notes that the belief that one can beat the odds is a risk factor for problem gambling. Similarly, Moore and Ohtsuka (1999) showed that young problem gamblers were more likely to believe they could influence whether they won or lost through their own behaviour, for example through engaging in superstitious

rituals or by 'thinking positively'. Another rather different explanation of the association between the cognitive pursuit factor and problem gambling may be that this factor represents a set of pastimes that are relatively solitary, or at least not mainstream in terms of teenagers' preferred activities. Young people who score high on this factor may be less well connected with a friendship group than their cohorts, and as a result may be more bored, lonely, and susceptible to the time filling activity that gambling provides.

Conclusions

Problem gambling rates (or at least indications of potential problem gambling) were somewhat lower in this 1998 sample than among similarly aged young people from the same schools, tested two years previously (Moore & Ohtsuka, 1997). Reasons for this can only be speculative, but may be related to increased publicity/education about the pitfalls of gambling, reduction in its 'novelty' value (since poker machine gambling in the area had been legalised for about five years at the time of testing), or tightening of screening for under-age gamblers at the various venues. Furthermore, although gambling as a leisure activity was familiar to most of the sample, it was not a particularly popular activity when compared with the wider range of adolescent leisure pastimes. Having said that, it is worthy of note that a significant proportion of young people gambled on lotteries and sports betting, and, despite the young age of the sample, there were indications of potential problems among a significant minority.

Being at risk for problem gambling was related to young people's leisure activities in ways suggestive of several developmental pathways to gambling addiction. Theoretically, more leisure time gives the opportunity for more unstructured socialising which is potentially associated with high levels of boredom. Boredom may create dysphoric mood, which is a risk factor for addictive gambling, so that once young

people begin to gamble, they may over-use this behaviour to reduce boredom. In this study, there was evidence that more leisure, more unstructured time, and more unstructured socialising were associated with increased gambling behaviour, which was in turn the strongest predictor of potential problem gambling. Another way that leisure can relate to increased gambling frequency (with the potential for problem gambling) is through the greater access to gambling venues which some leisure activities facilitate. For example, participating in sporting clubs with gaming facilities, or socialising in pubs and clubs, increases the access to gambling opportunities. In this study, evidence for this pathway to gambling was suggested through the relationships between socialising and gambling, and for boys, between being involved in organised sport and gambling. Finally, on the other hand, leisure/socialising may also be a protective factor against problem gambling in the sense that it draws young people into a network of other youth and other activities. Evidence for this link came from the relationship between involvement in sex-typed activities and lower rates of problem gambling, while more solitary leisure pursuits were associated with greater problems. Paradoxically, high socialising with peers could predispose youth to problem gambling through access and boredom, but it could also act as a protective factor against getting into trouble with gambling, through the sense of connectedness that the peer group can bestow on young people. The implications of this study are not about reducing leisure, socialising, or even gaming access among young people, but about helping them learn good strategies for control of dysphoric mood in general, and obsessional/addictive type behaviours in particular. Education in peer monitoring may be a useful strategy here, so that young people learn to help each other through recognition of the signs of potential problems, and knowledge of sources of available assistance.

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Table 1

Percentage of boys and girls who gambled for money more than once/month.

Gambled for money on ...	Boys	Girls
Cards	17.7	5.3
Horses/Dogs	6.2	2.1
Sports	6.3	2.0
Lotteries	10.0	12.3
Scratch-It tickets	7.7	8.0
Gaming Tables at Casino	1.5	1.7
Poker machines at casino	1.4	3.4
Poker machines at hotels	2.3	1.2
Poker machines at sports clubs	2.0	0.2
Bingo	2.5	1.6
Pool	20.3	4.3

Table 2

Problem gambling in the sample- shown by SOGS categories

	Boys		Girls	
SOGS Score	n	%	n	%
0-1: None or few problems	283	80.9	389	93.7
2-4: Mild to moderate problems/ potential problems	57	16.3	20	4.8
5 and over: Problem/potential problem gambler	10	2.9	6	1.4

Table 3

Factor analysis of leisure/non-leisure activities

Item	Factor loading	Item	Factor loading	Item	Factor loading
Factor 1: Socialising		**Factor 4: Organised Sport**		**Factor 7: Music**	
dances/raves	76	play sport	82	play music in group	75
pubs/discos	74	run	76	play music alone	73
meet people	71	train for sport	74	go to concerts	61
hang round shopping malls	58	belong to sporting club	51		
parties	57				
Factor 2: Study Pursuits		**Factor 5: Masculine Pursuits**		**Factor 8: Computers**	
read	70	muck round with cars/bikes	71	computer games	78
artistic hobbies	61	building hobby	62	play on Internet	64
write for fun	59	hiking	53	go to Timezone (a video game arcade)	45
keep a diary	55	help in house or garden	48		
study	53	go bike riding	47		
go for walks	40				
Factor 3: Feminine Pursuits		**Factor 6: Informal Sport**		**Factor 9: Cognitive Pursuits**	
shop	58	roller skating	71	outdoor hobbies eg bird watching	74
talk on phone	56	skateboarding	64	collecting hobby	66
eat out	56	ice skating or bowling	56	play board games eg chess	40
watch videos	55				
cook	49				
part-time job	48				
listen to music	45				
go to movies	43				

Table 4

Beta weights (Standardised regression coefficients) associated with multiple regression models predicting gambling frequency and problem gambling from leisure scales.

	Gambling behaviour		Problem gambling	
	Boys	Girls	Boys	Girls
Leisure vs. non-leisure				
Part-time work	-.02	.03	-.04	-.12**
Study	-.16**	-.21***	.00	-.05
House/garden help	-.03	.04	-.07	-.04
Leisure (total)	.38***	.33***	.10	-.05
Gamb. Behaviour			.40***	.34***
Age	.14**	.12**	.08	-.07
F	12.42***	13.67***	13.75***	9.84***
df	5, 335	5, 398	6, 334	6, 397
Adjusted R^2	.156	.145	.198	.129
Structured vs. unstructured time				
Structured time	.07	-.06	.13*	-.09
Unstructured time	.29***	.41***	-.08	-.02
Gamb. Behaviour			.43***	.35***
Age	.11*	.10*	.07	-.05
F	15.83***	23.70***	22.49***	13.36***
df	3,343	3,410	4,342	4,409
Adjusted R^2	.122	.148	.208	.112
Factor scales				
Socialising	.33***	.26***	.05	.02
Study Pursuits	-.05	-.13*	.06	-.07
Feminine Pursuits	-.07	.07	.01	-.13*
Organised Sport	.18***	.01	.01	-.02
Masculine Pursuits	.05	.09	-.16**	-.15*
Informal Sport	- .06	.01	.10	.03
Music	.06	.09	-.03	.03
Computers	.05	.08	-.10	.04
Cognitive Pursuits	.07	-.04	.13*	.11*
Gamb. Behaviour			.43***	.36***
Age	.13*	.08	.07	-.05
F	8.26***	8.89***	9.43***	6.39***
df	10, 334	10, 402	11, 333	11, 401
Adjusted R^2	.198	.181	.237	.149

Note: *p < .05; **p < .01; ***p < .001.