Control over gambling: Solution or problem?[1]

Susan Moore & Keis Ohtsuka

School of Psychology

Victoria University

Abstract

There is more than one sense in which people believe they control their gambling. First there is the adaptive sense of having control over whether and how much to gamble. Other less adaptive strategies include holding superstitious beliefs that winning can be influenced by thoughts or actions such as 'thinking positively'. Another sense in which gamblers try to take control is through the fantasy that they will get their lives back in order through a 'big win'. The aim of this study was to assess the association between beliefs about control and gambling behaviour among young people aged 15 to 25 years (N= 1017). Results indicated that irrational control beliefs were strongly associated with problem gambling. Young problem gamblers were more likely to believe they needed money and that gambling would provide it. In addition, young problem gamblers had more faith in gambling techniques of various kinds, and in their ability to manipulate chance, and 'beat the system'.

Introduction

There is more than one sense in which people believe they have control over their gambling. First there is the adaptive sense of having control over whether to gamble and how much to spend - the ability to, as it were, take it or leave it. This is the sense of inner control that we hope all will be able to develop, even in the face of the temptations of lights, bells and whistles, free meals and child care and all the razzmatazz that goes with organised gambling.

Other beliefs about control emerge from the literature on gambling, especially youth gambling (Griffiths, 1990, 1993, 1995). One is the belief that we can influence the fall of the dice or, more specifically in today's climate, the outcome of the poker machine, by thoughts or actions such as 'thinking positively', staying with a particular machine, or pressing the buttons/pulling the levers in a particular way. Although individuals may admit there is no logic in these beliefs, they may nevertheless invoke such superstitions during the course of a gambling session. Others may hold the beliefs quite firmly. It could be argued that notions about 'systems' of winning fit into this category of superstitious belief, given the persistent unreliability of most affordable systems. However there is also a sense in which beliefs about systems are different from more simplified beliefs about

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personal control of luck or chance, in that systems may be based on logical premises, building on the fact that all types of gambling have some fixed, non-random parameters.

There is less discussion in the literature about the use of gambling as a means of getting one's life or finances back under control. Yet winning a large amount of money (hitting the jackpot) is a perhaps the most common motive put forward for engaging in gambling. Common responses to the hypothetical 'what would you do if you won the lottery?' often centre around ideas of getting back in control through better management of one's current environment (pay off my debts; get a decent house), or abandonment of one's current lifestyle for some more fantastic, problem-free environment (walk away from my job; go on a permanent holiday, etc).

In this study the aim was to assess the association between a range of beliefs about control and gambling behaviour among young people. Those in the 15-25 age range were chosen as the focus for this study because of previous studies suggesting their vulnerability to 'magical thinking' about luck, and their noted tendency for risk-taking of various kinds. Two measures of gambling behaviour were used - gambling frequency and problem gambling. A pool of items concerning beliefs about control within the gambling situation were generated, with an aim of producing items within each of the categories of control described above.

Method

Participants

The sample comprised 1017 young people aged between 14 and 25 years (435 males; 577 females, 5 unreported gender). Participants were volunteers from Years 10, 11 and 12 of six secondary schools and first year undergraduates from four geographically separate campuses of a university in Melbourne, Australia. The university and the schools were all situated in the western suburbs of Melbourne, a predominantly working class area. Useable data was obtained from 757 participants in the school sample (344 boys and 413 girls) and 250 participants in the university sample (86 men and 164 women). The mean age of the school sample was 16.3 years (SD= 1.2 years); the mean age of the university sample was 19.2 years (SD= 1.8 years); the mean age for the total sample was 17.0 years (SD= 1.9 years).

Materials

As part of a larger study, a questionnaire was developed to measure the following variables (among others).

Gambling behaviour. This was assessed through two measures, the first concerning frequencies of 10 different types of gambling, for example, playing cards, using poker machines, buying lottery tickets, and the second requesting information on the largest amount of money the participant had ever gambled in one week (ranging in increments from $0, less than $10, between $10 and $99, between $100 and $499, between $500 and $999, between $1000 and $4999, more than $5000). For the frequency measure, which was used in later regression analyses, the rating scale for each type of gambling ranged through 0= never participated, 1= once a year, 2= more than once/year. less than once/month, 3= more than once/month but less than once/week, to 4= once a week or more. The range of scores was 0 to 40, with high scores representing 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 the Australian idiom and to the age of the population (as in the case of the South Oaks Gambling Screen–Revised Adolescent (SOGS-RA) of Winters, Stinchfield, and Fulkerson (1993)). Idiom alterations included changing the word "intend" to "meant", and the phrase "skipped or been absent" (from school or work) to "took time off" (from school or work). Age-related alterations involved changing the item concerning keeping the amount of gambling secret from "spouse, children, and other important people" to "family and friends" (as per the SOGS-RA). The major change was that a 5-point Likert scale (strongly agree to strongly disagree) was applied to the problem gambling statements, to maintain consistency in response requirements across the questionnaire. This change was considered important because the questionnaire was long and there was a need to make it as simple as possible for respondents. 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). The modified scale can be interpreted as providing a continuous measure of problem gambling readily administered for research purposes, but it is important to note that it does not supply data that are directly comparable with either the SOGS or the SOGS-RA.

Beliefs about control Nineteen statements were developed relating to the various senses of 'control over gambling' as discussed in the introduction. Participants were required to respond to these statements on a rating scale from strongly agree (=5) to strongly disagree (=1). Items were factor analysed, and the outcome is described in the results section.

Demographics. Data on age and sex was collected.

Procedure

The research was scrutinised and approved by the Human Ethics Committee of the authors' employing institution.

For the school sample 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 calender. 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 from 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 (for the under 18s) 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.

The university sample were recruited by the research assistant who called for volunteers in large first year lecture groups across four geographically distinct campuses of the university. Students who volunteered either took the questionnaires and returned them the following week, or completed them on the spot at the end of the lecture.

Results

Descriptive analysis

Frequency of Gambling. Extent of gambling is shown in Table 1. Although no type of gambling was very common among young people, except possibly betting on skill-related games, many types of gambling had been engaged in occasionally, particularly playing cards for money, betting on horses or dogs, and buying lottery tickets. The mean score on the gambling frequency scale, which ranged from 0 to 40, was 6.34 (SD = 5.24). With respect to the largest amount of money spent on gambling in a week, the largest group stated this was between $1 and $10 (45.1%), while 25.4% had spent between $10 and $99. Only a very small number (5%) had spent more than $99 in any one week, and approximately one-quarter of young people (24.5%) did not gamble at all. The correlation between gambling frequency and largest amount gambled in a week was r = 0.62 ($p < .001$).

Table 1: Percentage of young people engaging in a range of gambling behaviours

N=1017	never	occas	>1/ month
(a) Played cards for money	42.5	49.7	7.8
(b) Bet on horses/dogs	45.5	48.4	5.1
(c) Bet on sports	63.4	27.8	8.8
(d) Bought lottery tickets, eg Tattslotto,	38.2	47.8	14.1
(e) Bet on gaming tables at the Casino	86.5	11.8	1.7
(f) Played poker machines at the Casino	77.7	20.1	2.2
(g) Played pokies at pubs/ hotels	67.8	28.0	4.2
(h) Played pokies at sporting clubs	82.0	15.1	2.9
(i) Played Bingo	64.9	32.8	2.3
(j) Played pool or other game and bet on results	54.5	31.9	13.6

Table 2: Percentage of respondents who agree/strongly agree with problem gambling statements

Problem Gambling Statements	SA&A N=1017
34. To some extent, I have a gambling problem	3.1
35. I have at times gambled more than I meant to	13.6
36. People sometimes comment on the extent of my gambling	4.6
37. People sometimes criticise the amount I gamble	4.2
38. At times I feel guilty about my level of gambling	5.8
39. I would like to cut down my level of gambling but it's difficult	5.0
40. I often try to win back the money I lose in gambling	29.2
41. Sometimes I try to keep the amount I gamble secret from family or friends	8.1
42. On occasions I have borrowed money to gamble or pay gambling debts	5.0
43. On occasions I have taken time off school or work in order to gamble	4.5

Problem gambling. Table 2 shows the percentage of respondents who agreed or strongly agreed with the problem gambling statements. Very few young people classified themselves as problem gamblers (only about 3%), but a greater frequency had gambled more than they meant to, or chased losses. The mean score on the problem gambling scale,

which could range from 10 to 50, was 15.46 (SD = 7.33). The correlation between gambling frequency and problem gambling was statistically significant but low ($r = 0.27$, $p < .05$). Control beliefs: The frequencies/percentages of young people who agreed with each of the control statements are shown in Table 1. A small but significant core of young people (around 10-15%) believed in 'luck' and that it can be manipulated. A similarly sized group believed you can 'beat the system' if you know how. Once again, a small but significant group were motivated to gamble through the need for money. Alongside these mainly irrational beliefs held by a significant few, was the belief held by most that they can control when and if they gamble, and that gambling is not a great way to make money.

Beliefs about Control. Table 3 shows the frequency of young people who agreed with each of the 'control' statements. A major points to note is the high agreement rates for statements about rational control of gambling - being able to start and stop at will, and stick to a budget. Alongside these data however we can see small but significant groups agree with superstitious ideas about luck, hold high (and likely unrealistic) beliefs about winning, present the need for money as a reason for gambling, and believe they can 'beat the system'.

Table 3: Percent agreement with control statements and factor loadings

Beliefs	%agree/ strongly agree	Factor loading
Factor 1: Personal luck		
8. The chances of winning a substantial amount of money at the Casino are quite high	15.5	.44
9. I think I will win a good prize in Tattslotto (Over $10,000) one day	16.6	.76
11. One day I'm going to strike it lucky at gambling	13.7	.75
12. Sometimes I think I might have the power to 'will' my numbers to come up in gambling games	8.4	.65
13. To win at gambling you need to think positively	19.0	.63
14. If I concentrated hard enough I might be able to influence whether I win when I play the pokies	6.9	.60
15. I am more likely to win at lotto or gambling games if I use my 'lucky numbers'	10.0	.60
Factor 2: Need Money		
16. I need to win some money to balance my budget	10.5	.76
17. The only way I will ever get ahead is if I win a decent prize at gambling	7.6	.77
18. Winning at gambling is important to me	8.9	.74
19. I wouldn't mind losing $100 at the pokies, because I could win it back another day	6.5	.61
Factor 3: Control over gambling		
1. I believe I can completely control the amount I gamble	69.0	.88
2. I can/could stick to a budget when/if I gamble	68.5	.87
4. I could stop gambling any time I want to	72.5	.81
Factor 4: System efficacy		
5. You can win at the pokies if you adopt the right system	10.1	.82
6. You can 'beat the system' at the Casino in you know how	11.1	.83
Factor 5: Low chance of winning		
7. The likelihood of winning a large amount of money is so small its not worth bothering	45.4	.74
10. The only way I will ever make money is to work for it	78.5	.68
20. I can't afford to gamble	49.4	.69

Factor Analysis/Scaling

Factor analysis of the control items, using principal components analysis with varimax rotation, produced 5 factors with eigen values greater than one. This solution accounted for 63.3 per cent of the variance of the control items, and created conceptually meaningful factors. These were: Personal Luck; Need Money; Control over Gambling; System Efficacy, and Low Chance of Winning. Percent of variance accounted for by each factor was 31.3%, 13.2%, 7.7%, 5.6%, and 5.6% respectively. Table 3 shows the highest factor loading for each item, with items grouped accordingly.

For each factor, a scale was developed by adding the ratings on each item comprising the factor. High scores represent stronger beliefs with respect to the named variable. Possible score ranges vary due to the variable number of items across scales. To allow for comparability therefore, when presenting group data on the scales, scale scores were divided by the number of items and presented as item scale means. The alpha reliability for each of the five scales was as follows: Personal Luck 0.85; Need Money 0.80; Control over gambling 0.83; System Efficacy 0.80; Low chance of winning 0.53.

Sex Differences

One-way anovas were conducted on the scale scores to assess sex differences on gambling behaviours and each of the control measures. Results are shown in Table 4. These differences provide a rationale for conducting the following regressions separately for the sexes.

Table 4: Sex differences on gambling and control measures

Variable	Male mean n=434	Female mean n=576	F
Gambling Frequency	7.31	5.58	27.58***
Problem Gambling	17.42	13.98	57.49***
Personal Luck[1]	2.34	2.17	11.55***
Need Money[1]	1.93	1.70	20.91***
Control over Gambling[1]	3.73	3.82	1.28
System Efficacy[1]	2.19	2.06	3.80*
Low Chance of Winning[1]	3.48	3.69	12.70***

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

[1] scale means presented as mean/item means

Males were more likely to gamble frequently and to express gambling problems. They had stronger beliefs in personal luck, were more likely to assert they needed money and that gambling might assist them with this, were stronger believers that it was possible to 'beat the system', and were less likely than girls to believe they had a low chance of winning at gambling.

Predicting gambling behaviour from control beliefs

Multiple regression analyses were conducted, separately for males and females, to assess the power of the control belief scales in predicting both gambling frequency and problem gambling (See Table 5).

Table 5 : Multiple regression analyses: Prediction of gambling frequency and problem gambling from control measures

	Gambling frequency β's		Problem Gambling β's	
	Males	Females	Males	Females
Personal Luck (PL)	.28***	.26***	.10	.06
Need Money (NM)	.03	.02	.39***	.40***
Control over Gambling (CG)	.20***	.27***	.00	-.03
System Efficacy (SE)	-.08	-.06	.22***	.10*
Low Chance of Winning (LW)	-.24***	-.07	-.03	-.13**
Adjusted R-square	.15	.12	.37	.28
F	15.80***	16.27***	51.36***	44.33***

Gambling frequency was significantly predicted by control beliefs for both males and females, with 15 and 12 per cent of the variance accounted for respectively. For boys, those who gambled more often had stronger beliefs in personal luck, believed they had control over their gambling to a greater extent than their peers, and were less likely to rate their chances of winning as low. For girls, only Personal Luck and Control over Gambling were significant predictors of gambling frequency.

Problem gambling was significantly predicted by control beliefs with quite high percentages of the variance accounted for - 37 per cent for boys and 28 per cent for girls. The patterns of significant predictors were slightly different. Boys who were more likely to be problem gamblers scored high on the Need Money factor, and believed it was possible to 'beat the system' in gambling. Girls showed a similar trend, but were also less likely than their peers to rate their chances of winning as low. Thus the patterns of significant predictors of gambling frequency were quite different from the pattern of predictors for problem gambling.

Control Beliefs of Problem Gamblers

Scores on the problem gambling scale, as used in the regressions above, give a continuous measure of problem gambling but do not 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 SOGS. 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. There were 31 problem gamblers and 898 non-problem gamblers in the sample, a problem gambling rate of 3.3 per cent. Of these, 25 were males and 6 were females. Data for the sexes was collapsed for the following analysis, because of the small number of females in the group. A discriminant function analysis was conducted, with problem/non-problem gambler as the dependent variable category, and the 19 control items as the independent variables. The discriminant function was highly significant (Wilks lambda =0.8475; Chi-square =151.87; $p < .0001$), and successfully predicted 88.1 per cent of problem gamblers and 77.4 per cent of non-problem gamblers, an overall classification success rate of 87.7 per cent. Pooled within group correlations between discriminating variables and the discriminant function showed the strongest discriminators were items 18, 17, 12, 14, 16 and 19, that is, item related to the Need Money and Personal Luck factors. One-way

anovas on the predictor variables indicated that problem gamblers and others were significantly different at the .001 level or better on 13 out of 19 items, and at the .01 level on 3 items. On three items there were no significant differences between the groups (items C1, C2, C7). Table 6 shows the mean scores on each item, with associated F values, for the problem and non-problem gamblers.

Table 6: Mean scores on control belief items for problem and non-problem gamblers

	Non-Problem Gamblers (n=897)	Problem Gamblers (n=31)	F
Factor 1: Personal luck			
8. The chances of winning a substantial amount of money at the Casino are quite high	2.39	3.45	27.68***
9. I think I will win a good prize in Tattslotto (Over $10,000) one day	2.40	3.22	15.27***
11. One day I'm going to strike it lucky at gambling	2.40	3.58	35.80***
12. Sometimes I think I might have the power to 'will' my numbers to come up in gambling games	2.01	3.52	62.93***
13. To win at gambling you need to think positively	2.40	3.74	41.46***
14. If I concentrated hard enough I might be able to influence whether I win when I play the pokies	1.86	3.22	59.15***
15. I am more likely to win at lotto or gambling games if I use my 'lucky numbers'	2.01	3.32	46.66***
Factor 2: Need Money			
16. I need to win some money to balance my budget	1.89	3.32	53.28***
17. The only way I will ever get ahead is if I win a decent prize at gambling	1.81	3.45	80.41***
18. Winning at gambling is important to me	1.70	3.61	105.58***
19. I wouldn't mind losing $100 at the pokies, because I could win it back another day	1.59	2.84	53.19***
Factor 3: Control over gambling			
1. I believe I can completely control the amount I gamble	3.80	4.06	0.98
2. I can/could stick to a budget when/if I gamble	3.80	3.65	0.37
4. I could stop gambling any time I want to	3.96	3.32	6.59**
Factor 4: System efficacy			
5. You can win at the pokies if you adopt the right system	2.03	3.22	36.14***
6. You can 'beat the system' at the Casino in you know how	2.09	3.45	42.70***
Factor 5: Low chance of winning			
7. The likelihood of winning a large amount of money is so small its not worth bothering	3.36	3.29	.09
10. The only way I will ever make money is to work for it	4.17	3.61	7.66**
20. I can't afford to gamble	3.36	2.71	6.70**

Items most strongly discriminating between problem gamblers and others were "Winning at gambling is important to me", and "The only way I will ever get ahead is if I win a decent prize at gambling", followed by "Sometimes I think I might have the power to 'will' my numbers to come up in gambling games" and "If I concentrated hard enough I might be able to influence whether I win when I play the pokies".

Discussion

On the whole, this large and relatively representative sample of working class-lower middle class young people, living in areas with many opportunities for gambling, exhibited quite low levels of both gambling behaviour and of problem gambling. Few young people classified themselves as problem gamblers (about 3%), the percentage being somewhat lower than that estimated by Fisher (1993) in the UK and Shaffer and Hall (1996) in a meta-analysis of studies from the USA and Canada, but in line with generally low estimates of problem gambling emanating from surveys of the general population in Australia.

Interestingly, the relationship between gambling frequency and problem gambling, while positive and statistically significant, was not strong, reflecting the earlier findings of Hraba, Mok and Huff (1990). From a stratified random telephone sample of 2000 Iowa residents, they showed that while gambling behaviour was relatively common, the relationship of such behaviour to perceived loss of control or the experience of negative consequences was only moderate, indicating that gambling need not be associated with undesirable outcomes or feelings.

On the other hand, among the young people in the current sample, a greater number had gambled more than they meant to (14%), or chased losses (29%). Occasional gambling was normative. In addition, while a 3% problem gambling rate is statistically low, it represents higher levels of troublesome behaviour (and associated distress) than would be desirable in any group of people, let alone such a youthful population.

Boys and girls who scored higher on the problem gambling scale were more likely to believe they needed money (and gambling might provide a way to get it). They also had more faith in gambling systems and their abilities to 'beat the system'. The fantasy of escaping from financial difficulty by outsmarting the system may have been an important motivator toward gambling for these young people. In addition, the small number of young people designated as problem gamblers were far more likely than the rest of the sample to be motivated toward gambling through a perceived need to win money, and to hold irrational beliefs about their power to win. There would seem to be value in presenting adolescents with educational material which includes rational information about the nature of luck and chance, and the odds of winning at gambling. Although we know that information alone is not always enough to change behaviour, especially when that behaviour has an obsessional or high arousal value, the importance of dispelling myths about gambling before behaviours become entrenched would seem important.

Prediction of gambling frequency was not so clear cut, with only a small per cent of the variance accounted for by the control beliefs, in comparison with a much higher per cent for problem gambling. Belief in personal luck, and that one can control whether and how much one gambles were major predictors of gambling frequency for both girls and boys. Thus, although more frequent gamblers held some irrational beliefs, they also felt able 'in control' of the extent and amount that was gambled, believing they could stick to a budget and stop at any time. These results underline the difference between problem gambling and gambling frequency - these two variables are related but not particularly strongly in a population that is relatively moderate in its gambling behaviour. Gambling as leisure can

be managed for most. Nevertheless the prevalence of magical and superstitious thinking about gambling places many young people at risk of becoming problem gamblers.

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