

Stage Two of the Project: The Quantitative Study

Methodology and Sample

111. In November 1999 Woolcott Research P/L conducted a random telephone survey of 800 men and women aged between 16 and 24 years in Sydney and New South Wales country areas. The sample approximated population stratas for age, sex and area. Telephone subjects were recruited via a computer aided telephone interview system (CATI with a random digit dialing facility). Refusal rate for the sample was 10% with a successful call-back rate of 4%. Regular gamblers (twice a month or more often; n=226) completed the entire survey and lower frequency players were screened from the section on gambling related harms.

112. High School students were excluded from the telephone collection and the same survey was administered to a random selection of 6 high schools (3 country and 3 city) in March 2000, culminating in a representative sample of 1008 people (48.5% male and 51.5% female). The mean age of the sample was 19 (sd=2.52) and most subjects were un-partnered (60%) and living at home (74.5%), with 20% coming from non-English speaking backgrounds. Demographics for the sample can be found at Appendix 1.

Methodology

113. The quantitative analysis is presented in 2 sections. The current chapter presents univariate and bivariate descriptive information and contrasts findings with a subset of data of the appropriate age grouping from earlier gambling studies in NSW. In the following section the data is then submitted to multivariate analysis to statistically validate the findings from the qualitative phase of the study.

114. Univariate and bivariate analyses are broken down by key demographics age, sex and area. Area was split into Sydney and all other parts of NSW, and age was split into two groups, under 18 and 18 and over. These groups, along with sex, were examined for differences in responses on items tabled below.

115. Table 1 (below) identifies the sample and methodological characteristics of the studies used for comparison with the current data set. Two New South Wales surveys were conducted in 1995 and 1997 (Dickerson et al, 1996 & 1998 respectively) and the portion of the sample aged 18-24 have been selected for comparison.

Table 14: Sample & Methodological Characteristics

Study	Year	Age group	N	Collection Method
NSW (Present Study)	1999	16-24	1008	Telephone survey/school
NSW (Study 2 repeated)	1997	18-24	153	Door Knock survey
Western Sydney (Maddern)	1996	15-24	286	School survey
NSW (Study 2)	1995	18-24	179	Door Knock survey

Participation Rates

116. The target weights applied to the current study were based on the most recent updated census figures available (October, 1999). This gives a figure of 792,563 16-24 year olds living in New South Wales; 523,769 in Sydney and 268,794 across the rest of New South Wales.

Table 15: Participation Rates by Playrates and Population Equivalent

Playrate	N	%	Population Equivalent
Regular	226	22.4	177,534
Infrequent	349	34.6	274,227
Occasional	180	17.9	141,868
Non-player	245	24.3	192,593
No response	8	0.8	6,341
	1008	100	792,563

Table 16: Regular Gamblers: Population Equivalents for Key Demographic Groups

Demographic	N	% of N=1008	Population Equivalent
Age			
16-17 yrs	74	7.3	57,857
18 and over	152	15.1	119,677
Sex			
Male	144	14.3	113,337
Female	82	8.1	64,197
Area			
Sydney	121	12.0	95,108
Country NSW	105	10.4	82,426

Table 17: PlayRate Contrasted Across 1995, 1997, 1999 Studies for 18- 24 Ages only

	Min: 1/ week Max: infinite		Min: 1/6 mths Max: 3/mths		< every 6 mths		Never gambled	
	N	%	N	%	N	%	N	%
NSW Youth 1999 (18-24)	95	14.9	288	45.1	84	13.2	171	26.8
NSW Adult 1997	34	22.2	36	23.5	42	27.5	41	26.8
NSW Adult 1995	47	26.3	47	26.3	57	31.8	28	15.6
Western Sydney 1996	61	21.3	51	17.8	173		60.5*	

*combined figure, rarely/never gamble

117. The current study, the most recent and largest sample base focusing on the 16-24 age group, shows that *weekly* participation is, on average, 10 percentage points below comparative studies. Because of the wide disparity in playrate for the second group (Min once every 6 months; Max: 3 times per month), and consistent with the 1996 Youth study, respondents playing 2-3 times per month were combined with weekly or more frequent respondents and deemed 'regular' players who formed the base analysis group. Statistics hereafter are derived from these 226 regulars (accounting for 22.4% of the total sample N=1008) and are analysed by key demographic categories age, sex, and area.

Table 18: Playrate by Key Demographics

Playrate	Age		Sex		Area	
	<18 %	18+ %	Male %	Female %	Sydney %	Country %
Regular	20.4	24.0	29.8	15.9	19.6	27.4
Infrequent	32.6	35.9	31.8	37.8	36.5	32.4
Occasional	26.5	13.2	15.7	20.2	16.9	19.8
Non-player	20.4	26.9	22.7	26.2	27.1	20.4
Total N	74	152	144	82	121	105

Age $X^2=28.47$ (3df); $p<.01$ Sex $X^2=27.74$ (3df); $p<.01$ Area $X^2=13.0$ (3df); $p<.01$

Table 19: Regular Players: Amount Spent Per Session by Key Demographics

Amount Spent	Age		Sex		Area	
	<18 %	18< %	Male %	Female %	Sydney %	Country %
\$0-\$5	35.1	19.9	17.4	37.8	24.0	25.7
\$5-\$10	23.0	21.2	21.5	22.0	20.7	22.9
\$10-\$15	6.8	6.6	6.9	6.1	7.4	5.7
\$15-\$20	17.6	14.6	15.3	15.9	13.2	18.1
\$20-\$50	13.5	22.5	25.0	9.8	17.4	21.9
\$50+	4.1	15.2	13.9	8.5	17.4	5.7
Total N	74	152	144	82	121	105

Age $X^2=12.44$ (5df); $p<.05$ Sex $X^2=16.37$ (5df); $p<.01$ Area $X^2=8.28$ (5df); $p>.05$

118. Minimum amount spent per session was \$1 and the maximum was \$1000. Average amount spent was \$41.81 (SD=105.81), and a more reliable estimate is the median spend, of \$15 per session.

Table 20: Regular Players: Average Amount Spent Per Session by Key Demographics: - Age, Sex, Area

Age	Mean (Sd)		Median
	\$		\$
U18	32.40	(50.18)	17.43
18+	49.99	(116.31)	20.00
Sex			
Male	56.49	(120.28)	20.00
Female	25.98	(47.75)	10.00
Area			
Sydney	59.28	(134.93)	20.00
Country	32.86	(49.89)	17.50

119. No significant differences occurred for average amount spent on age, sex or area (Table 18). Median amount spent by males was \$20 compared to females who spent \$10. Less than \$3 per session separated the two age groups and area groups. The under 18s spent slightly less, on average than 18s and over, and country respondents spent slightly less than city respondents.

Preferred Form

Table 21: Regular Players: Most Commonly Played Form of Gambling by Key Demographics: Age, Sex, Area

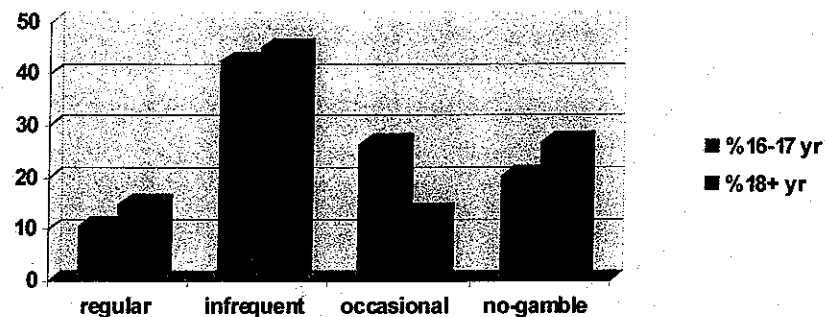
Form	Age		Sex		Area	
	<18 %	18+ %	Male %	Female %	Sydney %	Country %
Lotto/Oz Lotto	8.1	11.9	4.9	20.7	10.7	10.5
Instant Lottery	20.3	7.3	6.3	20.7	14.0	8.6
Pools/Bingo/Keno	4.1	2.0	2.1	3.7	1.7	3.8
Cards	9.5	1.3	6.9	0.0	4.1	4.8
Racing*	18.9	11.9	17.4	8.5	13.2	15.2
Egms	13.5	59.6	46.5	40.2	43.8	44.8
Miniature horse racing	1.4	0.0	0.70	0.0	0.8	0.0
Casino table games	14.9	2.0	6.9	4.9	5.8	6.7
Sports betting TAB/bookies	5.4	2.6	4.9	1.2	4.1	2.9
Sports betting with friends	1.4	0.0	0.70	0.0	0.0	1.0
Board Games (mah jongetc)	0.0	0.7	0.70	0.0	0.8	0.0
Can't say	2.7	0.7	2.1	0.0	0.8	1.9
	100.2	100	100.1	99.9	99.8	100.2
Total N	74	152	144	82	121	105

*all sports via TAB or bookies

Age

120. As illustrated in Figure 7 gambling age does not deter people from regular gambling. As can be seen from Table 21 (above) 16 and 17 year olds favour instant lotteries and scratchies (20%) with racing a close second (19%). These figures are consistent with findings from the Youth Gambling Study (Maddern, 1996) in which instant lotteries and racing were the most common forms for females and males respectively. The similarity in playrate for both age groups is mirrored in the equivalence of amounts spent by each age group. Sixteen and 17 year olds were highly represented in the \$0-\$5 per session spend category (35%) compared to 18 to 24 year olds (20%). In categories ranging from \$5 up to \$20 approximately the same proportion of cases occurred for both age groups. Beyond the \$20-\$50 category and particularly in the \$50 plus category, representation of 16-17 year olds declined sharply. This can be understood in the context of younger people having lower incomes and possibly still being in full-time study and with only part-time employment.

Figure 7: Play-rate for 16-17 year olds compared with 18-24 year olds



Sex

121. Table 21 shows that gambling participation rates are highest for males. Noticeably regular female gamblers (16%) are represented at a ratio of almost (1:2) compared with regular male gamblers (30%). The participation ratio by sex is consistent with other studies in Australia (e.g. Jackson et al 1999). Sex differences in amount spent are also marked. From Table 20 it can be seen that 38% of females spent no more than \$5 per session of gambling. The number of males spending \$5 per session was 20 percentage points lower (17%). The difference in spend rate between the two groups occurs at about the \$20 mark. Thirty percent of males and just 18% of females spend more than \$20, which corresponds to findings from adult studies where men reported spending on average, twice the amount that women did (Dickerson et al 1998). In this sample of 16-24 year olds a greater proportion of males spend a greater amount of money per session. Consequently, their losses are also likely to be higher and their reported harms potentially greater.

122. Looking at Table 21, the popularity of Egms is not gender specific with just 6 percentage points separating regular participation rates for males (46.5%) and females (40%). Consistent with previous reports (Dickerson & et al 1996 & 1998), Lotto type games and Lotteries appeal less to males (11.7%) than to females (41%). Racing appeals to males (17%) more so than females (8.5%) and this is also consistent with the findings reported by Maddern (1996).

Area

123. In total, participation rates for country people (80%) were higher than for city dwellers (73%). This is consistent with Study 2 repeat (Dickerson & et al 1996 & 1998), except that within a weekly playrate, city people were more highly represented than country people. In the present study total and regular participation was highest in the country. Amount spent per session is similar for both areas up to a ceiling of \$50. Thereafter, \$50 and above, city respondents (17%) outnumbered country respondents (6%) by a ratio of almost 3:1. Considering the sex differences in spend patterns, city males are likely to be the big spenders of New South Wales' 16-24 year olds. Popularity of each form of gambling remained consistent across area.

Harms Statements

124. The Productivity Commission's (1999) analysis of combined data sets drawing on a large population of respondents provided the best possible conceptual clustering of harm items with which to commence work. However, a methodological concern relating to the sample age and their manner of responding to direct questions about experienced harms needed to be addressed.

125. In the Stage One interviews, young males particularly, held contradictory attitudes toward gambling. On the one hand they described substantial life difficulties as a result of gambling, yet did not construe themselves as having a gambling problem. It seemed likely that interviewees minimised the extent of the impacts that occurred as a result of gambling, in order to maintain an image of control. The typical response to whether or not gambling caused problems in their life was negative, but as the interview progressed it became clear that flow-on effects from gambling were quite debilitating. The tendency not to construe themselves as having a problem is possibly due to the absence of financial commitments and living at home, which buffered the effects of the sizeable financial losses they sustained.

126. However this contradiction posed methodological issues for the follow-up survey. There was evidence of the severity of impacts, but reassurances that they weren't harmful. Given the insights gleaned from the qualitative interviews, the survey items relating to the harms were operationalised in a manner which elicited the strength of the perceived relationship between gambling and harms rather than asking how often it occurred. For example, when asking about family fights and gambling, a standard survey question is:

"My gambling has caused arguments about money with family or friends"..... "Yes" or "No"

127. For the youth survey the comparable question was:

*"On a scale of 1 = not associated to 9 = strongly associated, could you tell me whether these things go together in your life,
"Your gambling and family fights/arguments?"*

128. Pilot testing revealed that respondents understood the questions as causal. All Harm items are listed in Table 22.

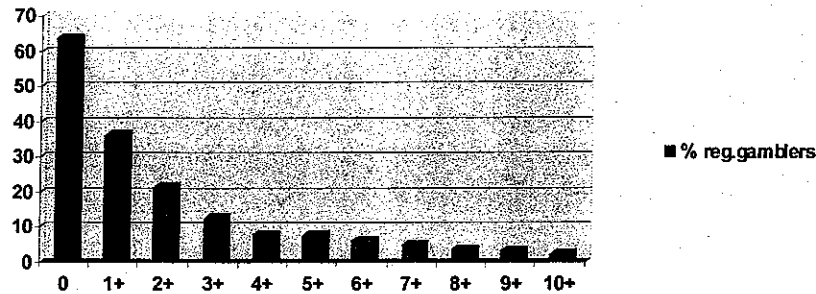
Determining the Overall Level of Harmful Impacts.

129. Taking ratings of 8 and 9 as indicating a definite perception of a gambling related harmful impact; 36.3% of the young regular, gamblers reported at least one 'Harm'. (Table 22). When expressed as a percentage of the whole sample of 1008 respondents, this gave a prevalence of 8.13%. This requires careful interpretation and placing in the context of the findings in the international literature on problem gambling in young people, which have commonly reported prevalence in levels, higher than adult estimates by factors of 3 and more (e.g. Shaffer et al 1996).

130. The Productivity Commission Report (1999) gave prevalence for a very large sample of Australian adults of just under 2 %. However in the present youth survey, as indicated above, the format of the questions was altered to measure the intensity of the harmful impact rather than the frequency. Thus, prevalence in the present study must be interpreted quite literally: about 8% of young people aged 16-24 years (about 1 in 3 of regular gamblers) reported a strong association between their gambling and at least one harmful impact. Whether the impact is transitory and manageable or significant and enduring requires analysis at the individual level, as was achieved in the Stage One interviews.

131. These estimates of the proportion of young regular gamblers at risk can be placed in the independent context of the Productivity Commission findings for adult, regular (once per week or more) gamblers: 1 in 5 for gaming machines and 1 in 3 for casino table games. In the present quantitative study, 1 in 3 young people who gambled once a fortnight or more frequently were 'at risk' and from the in-depth interviews with regular weekly and more frequent, youth gamblers, 1 in 3 were allocated to the Under-Controlled group.

Figure 8: Percentage of Regular Gamblers by the Total Number of Harm Associations Reported.



Demographic associations with Harm statements

Age

132. The significant differences¹ that occurred for the two age groups 18 and under and over 18 were in thoughts of suicide, fights with friends, taking money without asking and failing to repay monies borrowed.

Gender

133. The greatest number of significant differences across harm items occurred between males and females with males being more likely to report harmful associations across all items. Males were more likely to have reported losing or changing jobs/schools, stress and anxiety, depression, feeling like a different person, and spending less time on sports and hobbies because of gambling. Likelihood of feeling guilty and gambling related thoughts of suicide were the same for both males and females.

134. Males were also more likely to report their gambling as related to lying to and fighting with friends and family, relationship difficulties, and living situation.

135. Males also, more often reported financial 'harm' items. Males reported significantly more insecurity about their financial future as being related to their gambling, and also were significantly more likely to experience shortages of money which prevented them from going out, and possibly as a result, were more likely to borrow from friends and family.

Sydney metropolitan versus country

136. Just 3 significant differences occurred between areas; country respondents reported more incidences of a relationship between gambling and suicide than did Sydney respondents. Financial considerations were also more problematic for country respondents, who were more likely to borrow from friends and family, and banks and building societies due to gambling.

¹ All significant differences quoted on this page occurred at $t > 1.96; p < .05$ or better

Table 22: Regular Gamblers: Reported Harms by Gender

Harm Category Item No.		Male	Female	Total
		N=144	N=82	N=226
Work and study				
		%	%	%
106	losing/changing jobs/schools	4.9	0.0	3.1
107	taking time out from work/school	4.2	1.2	3.1
108	working below ability at work/school	4.9	2.4	4.0
Personal				
72	health problems, stress and anxiety	6.3	0.0	4.0
73	depression	4.2	0.0	2.7
74	thoughts of suicide	3.5	1.2	2.7
75	guilt feelings	6.9	6.1	4.4
79	feeling like a different person	8.3	2.4	6.2
97	less time spent on sports and hobbies	6.9	2.4	5.3
Interpersonal				
76	lying to people	6.9	1.2	4.9
80	fight with friends	10.4	1.2	7.1
88	living situation	14.6	9.8	12.8
98	family fights and arguments	6.3	1.2	4.4
100	being mean to others	7.6	2.4	5.8
103	relationship difficulties	6.3	1.2	4.4
104	physical violence	5.6	2.4	4.4
Legal				
102	taking money without asking	4.9	1.2	3.5
105	stealing	4.2	3.7	4.0
Financial				
81	uncertainty about future finances	5.6	2.4	4.0
89	shortage of money	9.7	4.9	8.0
90	having no money to go out	6.9	3.7	5.8
91	debts (credit cards, bank loans, friends)	5.6	2.4	4.4
92	selling or losing possessions	6.3	1.2	4.4
94	borrowing from friends, family	6.3	1.2	4.4
95	borrowing - banks, building societies	2.8	1.2	2.2
99	not paying money back	4.9	1.2	3.5

*p<.05; **P<.01

137. On a scale of 1= not associated with gambling to 9=strongly associated with gambling, responses of 8 and 9 were taken as indicative of the presence of the harm.

The most commonly cited Harms for each category were:

Work and study

- Working below ability at work/school (108)

Personal

- Feeling guilty about gambling (75)

Interpersonal

- Living situation (needs full items) (88)

Legal

- Taking money without asking (102)

Financial

- Uncertainty about future finances (81)

Internet

138. All respondents were asked to indicate on a scale of 1 (very true of me) to 9 (not true of me) whether they would be likely to gamble on the Internet if they knew how to go about it. Females were marginally more inclined to favour Internet gambling if they knew how, and overall the ratings of both sexes were significantly (chi-squared=8.8, df=1) in the direction of "not true of me" more likely *not* to use the Internet for gambling. Of the total sample base, just 16% said they would be likely to use the Internet for gambling if they knew how.

Table 23: Likelihood of Gambling on the Internet Demographically: Age, Sex, Area

Gambling on the Internet	Male	Female	16-17yrs	18-24yrs	Sydney	Country
	%	%	%	%	%	%
Likely	19.9	13.0	21.9	13.0	15.9	17.1
Unlikely	80.1	87.0	78.1	87.0	84.1	82.9

Likelihood of Internet gambling did not vary significantly by age, sex or area.

Effects of Existing Curricula

139. All respondents were asked to indicate whether anything they learned at school helped them to learn how to control gambling, and also whether they had gained an understanding of the potential harms associated with gambling. The results show that 20% of respondents had received some useful instruction about control of and potential harms arising from gambling.

Table 24: Responses to learning control at school

Response	% of sample
Ineffective (or no curriculum)	79.7
Influential (or experienced in curriculum)	20.3

Table 25: Responses to learning about harms at school

Response	% of sample
Ineffective (or no curriculum)	79.7
Influential (or experienced in curriculum)	20.3

140. Specific curricula aimed at educating school children about the potential harms associated with gambling, was uncommon amongst the young people interviewed. There were no significant differences in demographics, playrate and gambling expenditure spend or harm ratings associated with school-based learning about gambling.

Predicting Involvement in Gambling and the Negative Impacts or Harm

141. Questionnaire items were included in the survey that built upon the findings from the in-depth interview phase of the project. It will be recalled that the three groups were distinguished from each other using the concept of choice or control; i.e. the ability of the regular gamblers to regulate their expenditure of time and money on gambling.

142. This approach is compatible with the arguments of Dickerson & Baron (2000) and the related Scale of Gambling Choices (Baron, Dickerson & Blaszczynski, 1995). However in this study of youth gambling the work of Collins (1997) was taken as the conceptual model in exploring the relationship between a person's perceived ability (or lack of it) to control their gambling behaviours.

143. Collins work over the past 15 years has identified the role of emotions and cognitions in undermining an individual's capacity for restraint in alcohol consumption. Whilst each of us has the capacity for control, and exercises it in different areas of our lives, individual ability will determine the effectiveness of asserting self-control or self-restraint in an area of life in which we may not have had to do so before. This train of thought is particularly relevant in considering the experiences of young people, as they learn to manage the potentially exciting leisure activity of gambling readily available in a wide variety of forms and venues in NSW.

Method – Model Estimation Process

144. The adapted Gambling Temptation and Restraint Index (GTRI) was, designed to measure five dimensions of gambling behaviour within the theoretical framework of restricting and uninhibiting gambling. The GTRI consists of 15 items, each is rated on a 9 point scale where "1" reflects a lack of preoccupation and "9" reflects a high degree of preoccupation.

145. The items form 5 first-order factors,:

- I. **Govern** (difficulty controlling gambling),
- II. **Restrict** (attempts to limit gambling) and
- III. **Emotion** (negative affect as a reason for gambling).
- IV. **Concerns** (reducing gambling; worries over controlled gambling)
- V. **Cognitive Preoccupation** (CP; thoughts about gambling).

146. All five factors fit within a validated hierarchical structure of two second-order factors; Cognitive and Emotional Preoccupation (CEP) and Cognitive and Behavioural Concern (CBC). The CEP higher-order factor is composed of Govern, Emotion, and CP and essentially measures the temptation to gamble. The CBC higher-order factor is composed of Restrict and Concern and essentially measures the control/restriction of gambling behaviour. The wording in the 15 item scale is appropriate for high school students aged 13 and older and the instructions are straight-forward, thus it can be self-administered.

Table 26: Items Comprising the Gambling TRI

Item
Govern
9. Do you find that once you start gambling it is difficult for you to stop?
13. Do you have difficulty controlling your gambling?
15. Do you find it takes considerable effort to keep your gambling under control?
Emote
1. When you feel unhappy or anxious are you more likely to gamble?
2. When you feel lonely are you more likely to gamble?
6. Do you ever feel so stressed or nervous that you really need to gamble?
CP
4. Do you attempt to cut down the amount of time or money you gamble?
7. Do thoughts about gambling intrude into your every-day activities?
11. Is it hard to distract yourself from thinking about gambling?
#Restrict
3. How often do you attempt to cut down the amount you gamble?
10. Do feelings of guilt about gambling too much help you control your gambling?
14. Do you ever cut back on your gambling in an attempt to change your gambling habits?
#Concern
5. Does seeing other people gamble remind you of your efforts to control your own gambling?
8. Does seeing commercials, magazine ads., and or signs for gambling venues make you think about the need to limit your gambling?
12. Do the sights and sounds of gambling make you think about limiting your gambling?

Refining the Instrument – Models 100-103B

147. Support for the one-factor congeneric scales of the Gambling TRI was established. The next step was to evaluate how well the TRI scales fit together as a measurement model along with criterion and background variables.

Table 27: Results of CFAs for the Gambling TRI Measurement Models

Model No	Model Name	X ²	Df	RMSEA	RMSEAP rob <.05	NNFI	CFI	Comment
M100	5 factors a priori	39.46	100	0.0	1.00	1.22	1.00	
M101	4 factors	40.99	106	0.0	1.00	1.22	1.00	Collapse Restrict and Concern
M102	4 factors	29.35	106	0.0	1.00	1.26	1.00	Reassign CP4 to CBC
M103	4 factors	24.67	105	0.0	1.00	1.27	1.00	Free correlated uniqueness of E6 - CP
M103b	Add background variables	29.87	138	0.0	1.00	1.43	1.00	

148. The a priori '5' factor GTRI yielded a chi-squared of 39.46 (df=100), an NNFI of 1.22, CFI of 1.00 and RMSEA of 0.0. Whilst these fit indices are exceptionally good, a final decision as to the acceptability of the '5' factor structure was suspended, until further examination of the model variances and co-variances. The a priori model fit the data satisfactorily, but item 4 loaded on to Restrict and Concern, suggesting it sat better in the CBC side of the model. The improper factor loadings between Restrict and Concern (1.04) suggested that these 2 factors were not adequately discriminated and may therefore best be represented as a single CBC factor. No other modifications were indicated. In summary, the original GTRI required minimal modifications in order to be used as an instrument to measure gambling behaviour in this sample. The modifications undertaken are specified model by model below.

Model 101 – 102 Four factor measurement model for the Gambling TRI

149. Concern and Restrict were collapsed to a single factor and item 4 was reassigned to the CBC factor. The resulting analysis yielded a chi-squared of 40.99 (df=106), an NNFI of 1.22, CFI of 1.00 and RMSEA of 0.0. This was a well defined model with no improper loadings and excellent fit statistics. High correlations ranging from .86 to .92 occurred between the latent factors Govern, Emote and CP. Emote 6 item, feeling stressed and nervous, loaded more highly onto CP than Emote. Given that stress and nervousness may be emotional responses, they also occupy cognitive resources necessary to carry out behavioural control, and could be expected to load onto CP. Substantively it was reasonable to allow the crossloading as Emote and CP both contribute to the posited higher order factor CEP. A subsequent model was run with this modification.

Model 103 Four factor measurement model for the Gambling TRI

150. With Emote (item 6) free to load onto CP chi-squared was equal to 24.67 (df=105), NNFI = 1.27, CFI = 1.00 and RMSEA =0.0. No further modifications were required. The latent factor loadings between Govern, Emote and CP remained high.

Model 103b Four factor measurement model for the Gambling TRI

151. As Model 103 provided a good measurement model, the next step was to fit to the model the background variables age, sex and area. This resulted in an improved fit with chi-squared of 29.87 (df=138), an NNFI of 1.43, CFI of 1.00 and RMSEA of 0.0. The final measurement model validated the Gambling version of the Temptation and Restraint Inventory (GTRI) and is reported in detail below.

Table 28: Factor Loadings and Uniqueness' for the 4 factor solution

Item No	Govern	Emote	CP	CBC	Uniqueness
Govern 9	.70				.75
Govern 13	.68				.77
Govern 15	.77				.70
Emote 1		.77			.71
Emote 2		.84			.65
Emote 6		.33	.55		.78
CP 7			.75		.72
CP 11			.82		.66
*CP 4				.66	.79
Restrict 3				.65	.79
Restrict 10				.73	.74
Restrict 14				.59	.83
Concern 5				.49	.88
Concern 8				.59	.82
Concern 12				.66	.78

*Reassigned from CP to CBC

Table 29: Latent Factor Correlations Between the Four GTRI Scales and Criteria and Background Variables

	Govern	Emote	CP	CBC	Freq	Harms	Age	Area	Sex
Govern	1.00								
Emote	0.86*	1.00							
CP	0.92*	0.64*	1.00						
CBC	0.72*	0.60*	0.55*	1.00					
Freq	0.31*	0.21*	0.33*	0.19*	1.00				
Harms	0.57*	0.44*	0.52*	0.41*	0.18*	1.00			
Age	-0.09	-0.03	-0.07	0.01	-0.02	-0.05	1.00		
Area	0.03	0.03	0.05	0.00	0.05	0.01	-0.05	1.00	
Sex	-0.24*	-0.14	-0.23*	-0.18*	-0.06	-0.17*	0.02	0.05	1.00

*P<.05

152. Correlations between all 4 latent factors were, as expected, significant and varied from 0.55 to 0.92. The background variables age and area bore no relationship to any latent factor or criterion variable. Respondents living in Sydney answered in much the same way as those in country NSW, and younger respondents answered in much the same way as older respondents. Sex groups did differ significantly on a number of items. Negative and weak correlations were significant² for males on Govern, CP, CBC and Harms. Males and females played as frequently as each other, but males reported more control difficulties and more associated Harms. Along with increased control issues males also reported greater preoccupation with controlling gambling.

153. The combination of control issues and cognitive preoccupation with control are the central characteristics of the Abstinence Violation Effect, the theoretical basis of the Collins & Lapp (1992) model of alcohol temptation and restraint. The theory suggests that when attempts to control gambling are unsuccessful they result in a cycle of abstinence and binge behaviour. Abstinence is brought about through considerable cognitive effort, and is unsustainable for that reason. The significant, positive and strong correlations between Govern, Emote and CP suggest that people with control issues and who are highly preoccupied with gambling, are likely to gamble as a result of emotional states such as anxiety and loneliness.

154. The significant³ moderate positive correlations between CBC and the 3 latent factors posited to underlie the CEP higher order factor, support the contention that gambling involves a reciprocal relationship between regulated (CBC) and unregulated or excessive (CPC) behaviour. In particular, the 3 factors forming the posited higher order factor CEP were related to higher frequency of play and reported Harms than was the CBC factor. When environmental cues lead to thoughts about restricting gambling, and restrictions are applied, a person is more likely to report playing less often and experiencing fewer harms.

² All at the $p < .05$ level

³ All at the $p > .05$ level

Regression analysis

155. Total scores were computed for each of the factors of the GTRI and were then used as the basis for predicting the number of reported Harms. Multiple regression analyses, were conducted to determine whether the two factor structure, CEP and CBC, had an effect on Harms and frequency of gambling, and whether that affect differed when adjusted for sex. The multivariate results indicated a significant effect for Harms and Frequency taken together, $F(3, 216)=115.3; p<0.001$ for Harms, and $F(3, 216)=28.9; p<0.001$ for Frequency.

Regression of Reported Harms and Frequency on the Factors of the GTRI.

156. Separate hierarchical multiple regressions were performed to test the prediction of Frequency (regular gambling) and reported Harms by the two factors CEP and CBC. Sex of the respondent was entered first in each equation to statistically control for any pre-existing differences between male and female's self-reported playrate and gambling related problems. The two factors CBC and CEP were entered second in each equation and the product interaction of these two gambling restraint factors was entered third.

Harms

157. Although males reported somewhat more Harms associated with gambling, in the stepwise regression analysis gender did not predict gambling Harms, and was excluded from the analysis. The result was $F(2, 218)=172.6; p<.001$ with CEP and CBC accounting for 61% of variance in the model. The CEP factor predicted *higher* levels of Harms ($\beta=0.72$) and CBC factor predicted considerably *lower* levels of Harms ($\beta=0.11$). The interaction term was not significant.

Frequency

158. In stepwise regression, Frequency of Play was predicted by CEP $F(1, 19)=87.18; p<.001$ accounting for 29% of variance. CEP predicted moderately high frequency of gambling ($\beta=0.53$). The interaction term was not significant.

Summary of Findings

159. The primary aim of this part of Stage Two was to investigate the validity of the GTRI in a sample of young, regular gamblers. Although the original TRI model from alcohol research was not able to be replicated exactly, a four factor version of the model (GTRI) resulted, comprising Govern, Emote, Cognitive Preoccupation (CP), and Cognitive and Behaviour Control (CBC). The Concern and Restrict factors were not sufficiently independent and thus were collapsed in accordance with the posited higher order factor CBC.

160. The results provide an original contribution to the psychology of gambling as they demonstrate control of gambling is a complex and multifaceted behaviour, and thus cannot be viewed uni-dimensionally.

161. The multifaceted characterisation of gambling restraint consists of a reciprocal relationship between restricted and excessive behaviours. Cognitive and emotional preoccupation with gambling predicted a substantial increase in frequency of play in a sample of regular gamblers.

162. In accordance with research on drinking restraint (Collins & Lapp, 1992), the relationship between cognitive emotional preoccupation and cognitive behavioural control of gambling shows a similar pattern of results to the cycle of excess and restraint evident in research with social drinkers. Thus the results support the theoretical stance that the mental processes underlying regular gambling embody a dynamic tension between temptation resulting in excessive levels of gambling and attempts at restriction. Cognitive emotional preoccupation with gambling is a risk factor for both higher levels of gambling and related harmful impacts, and cognitive behavioural control is associated with lower frequency play-rates and fewer reported impacts.

Conclusions: Youth Gambling in NSW

163. The following final section of this report has been organised according to the original 8 objectives of the grant application. Under each objective the most relevant Stage Two, quantitative results from the survey of over 1008 16 – 24 year olds in NSW are summarised. Where appropriate the qualitative information gathered from the Stage One in-depth interviews of young people who gamble weekly or more frequently is used to expand on or provide alternative interpretations of the findings.

Objectives of the Research

OBJECTIVE 1:

Research the social impacts of gambling on young people in NSW.

164. The survey results showed that about 20% of respondents aged 16-24 gambled regularly once a fortnight or more often. Males in this category exceeded females by a ratio of 2:1. Expenditure by the 16 – 17 year olds was mainly \$10 or less per session. Forty percent of the older group usually spent this amount and 1 in 5 \$20-50 a session. The most commonly used forms by the 16-17 year olds were Instant Lotto (scratchies) 20.3%, Racing 18.9%, casino table games 14.9% and gaming machines 13.5%, the older group more commonly using gaming machines 60%, racing 12% and lotto 12%.

165. The present representative sample of NSW 16-24 year olds has shown that the earlier NSW surveys of the general population (Dickerson et al 1996 & 1998) tended to overestimate the level of regular participation in gambling, by the 18-24 age group. This specific difference is likely to have arisen because of the small number of respondents in this younger age group in the earlier general population studies. None-the-less the results for participation in gambling, even for the 16-17 year age group, show strong similarities to all previous studies of adults in Australia (e.g. the Productivity Commission 1999). Therefore it is probable that the social and economic impacts for youth are also similar to these previous estimates but with some specific exceptions that the present research has identified.

166. However before discussing these data, the finding that 1 in 5 young people aged 16 – 17 years of age in NSW gamble regularly, once a fortnight or more, merits a brief comment. The forms of gambling preferred by these young people include all the commercially available products, all of which are restricted by law to over-18 year olds. In the context of the social impacts of gambling, this fact alone has valence. Such participation rates are similar (or higher) to those found for under-age smoking, drinking of alcohol and the use of illicit substances.

167. There have been no attempts, for example in the Productivity Commission report (1999), to 'cost' this aspect of gambling as an item separate from and additional to, the harmful impacts that may arise from the individual's gambling behaviour. That there is an *additional social cost* can be readily argued. For example if a gaming venue 'permits' under-age gambling, as well as the potential for the under-age player to incur negative impacts that may arise from excessive gambling, the venue itself incurs a social cost in the form of the undermining of its probity and its responsible provision of gambling. How this may be evaluated and the related considerable difficulties faced by venues in ensuring that all players are over 18 years of age are beyond the scope of this report but merit future discussion and research.

168. Turning to the impacts on individual players the *positive or attractive aspects of gambling* are apparent both from the fact that 75% of young people gamble and especially from the qualitative interviews in which most of the regular players described the fun and excitement that they experienced while gambling. A significant aspect of the fun was that it typically occurred in the company of friends. The level of excitement experienced by some of the respondents was higher than any other social or sporting activity and this was what made it so attractive.

169. In estimating the *negative impacts of gambling*, the proportion of regular players who report an association between their gambling and at least one of a range of negative impacts is 1 in 3. In the Productivity Commission report (1999) the proportion of adult, regular gamblers who were 'at risk' of significant gambling related problems ranged between 1 in 3 and 1 in 6 according to the player's preferred form of gambling. Thus similar levels of reporting negative impacts were found from the present survey results for regular players although the criteria for 'regular' were set at fortnightly or more often compared with the weekly or more frequent criteria used in the Productivity Commission report.

The overall similarity of the type and distribution of the negative impacts compared with the existing literature on adult problem gambling needs to be tempered in two ways.

170. The second, and more important way in which the similarity to the adult literature of the present results on harmful impacts needs tempering is that the 'same' impact may be more costly. For example the loss of productivity in a job reported by an adult may generate costs in terms of loss of income, reduced promotion etc for a period of time, but the costs to a young person in an educational or training context may endure throughout their lives. Similarly the harmful impacts on the emotional and interpersonal experiences of a young person may be far more costly than during adult years as they may lead to the disruption of newly forming support networks of friends and the development of the ability to establish intimate relationships.

OBJECTIVE 2:

Extend the ACOSS (1997) study on youth gambling and the Internet usage.

Table 30: Likelihood of Gambling on the Internet Demographically: Age, Sex, Area

Gambling on the Internet	Male	Female	16-17yrs	18-24yrs	Sydney	Country
	%	%	%	%	%	%
Likely	19.9	13.0	21.9	13.0	15.9	17.1
Unlikely	80.1	87.0	78.1	87.0	84.1	82.9

171. Almost 1 in 5 respondents amongst the males said they would be likely to use the Internet to gamble if they knew how. The 16–17 year olds were also more likely to use the Internet to gamble than the over-18s.

172. In the interview sample of regular gamblers a third thought they would try the Internet to gamble if the opportunity arose but stated that they would not go out of their way to set up access, as that would imply that they were very serious about gambling. Most knew very little about existing sites, and if they did, thought the stakes were too high. As most of these young regular gamblers liked to be with friends when they gambled Internet gambling was perceived as just another type of gambling that they might try if the opportunity arose.

OBJECTIVE 3:

Compile a valid and reliable state-wide measure of youth participation in gambling in relation to demographic characteristics, city/country etc.

173. 75% of the representative sample of 16-24 year-olds in NSW gambled, about 1 in 5 once a fortnight or more often. Regular gambling was associated with being over-18, male, and living outside the Sydney metropolitan region. This latter, regional difference was in the context of spending patterns in which almost 60% spend \$10 or less and session spend greater than \$50 was more frequently reported by Sydney metropolitan respondents. (see tables 19,20) Overall the participation rates of this age group, including the 16-17 year-olds, are very similar to those previously reported for adults in NSW (Dickerson et al 1996 & 1998)

OBJECTIVE 4:

Determine the effects of existing gambling related curricula on patterns of youth gambling.

174. 1 in 5 of the survey group reported that they had learned something in school about controlling involvement in gambling and a similar proportion recalled learning about the harmful impacts that could arise from gambling.

175. In the interviews with regular gamblers about a third of them recalled educational units in which gambling had featured. Most of the respondents who said that this had been covered in maths related units had only vague recollections of the content and none could recall the probabilities of winning at Lotto for example. They did not seem to have translated the information about probabilities into useful principles about their selection of preferred forms of gambling or the development of informed expectations about winning and losing.

176. In contrast, the recall and possible efficacy of the gambling-related education included in Personal Development and Health and Physical Education (PDHPE) was quite notable. Respondents recalled information from these units more vividly, and commented that they had learnt things they had not previously known. The information had stayed with them and had left an awareness of what happens when gambling gets out of control. None-the-less, recall of learning from school was not associated with a reduced likelihood of reporting harmful impacts in the survey group. Similarly in the interview group respondents described a range of gambling 'hard-luck' stories from amongst their peers but did not link these to their own development of any protective or control strategies.

OBJECTIVE 5:

Determine the negative impacts of gambling on young people in relation to demographics.

177. When ratings of 8 and 9 (i.e. indicating a strong perceived relationship between a respondents gambling and a particular harm) were taken as indicating a definite perception of a gambling related harmful impact, 36.3% of the young regular gamblers reported at least one Harm (see Figure 7). This proportion, 1 in 3, is similar to the proportion of the regular once a week gamblers in the Stage One interviews who were allocated to the Uncontrolled group. When expressed as a percentage of the whole sample of 1008 respondents this gave a prevalence of 8.13%.

178. To suggest that 1 in 3 of regular youth gamblers may be at risk of gambling related harmful impacts is not alarmist. As discussed above such a ratio is to be found in the Productivity Commission report (1999) for regular adult gamblers depending on their preferred form of gambling.

179. None of the harm items were cited frequently, only two by 10% or more of the respondents, 'living condition issues' 14.6% and 'fights with friends' 10.4%. Harm statements were cited significantly more often by males than females. Some cited instances, of 'harm', particularly those relating to shortage of money and excessive expenditure on gambling, may not be viewed by the youth gambler as negative. Conversely, some, such as the loss of time from study (which may result in poor grades), may have more significant long-term costs to the developing person than to adults. Evidence for this was mainly from the in-depth interviews and depended on the life circumstances of the individual as well as their philosophy or approach to life.

180. At this stage of our knowledge it seems appropriate to assume that negative impacts of gambling occur at similar rates for youth gamblers as for adults but that the actual extent of the cost to the individual may vary greatly according to individual circumstances.

OBJECTIVE 6:

Identify the salient content (facts, superstition, referent groups) used by youth in the decision making process of whether or not to gamble.

181. The in-depth interviews with the group of young regular (weekly or more frequent) gamblers provided detailed insights into their thinking about the process of gambling. Only three out of the 34 respondents stated that there was no way to win at gambling in the long term. Just 2 claimed or showed evidence that they took a professional approach to gambling such as only preferring potentially skill-based forms, keeping records etc. None-the-less 31 respondents detailed a strategy of some kind to assist their chances of winning:

- Forty-four percent of young people carried an item to bring them luck and/or went through a minor ritualistic process to bring them luck.
- The Under-controlled group believed you must be prepared to *bet big and lose big*, before being gratified by a win.
- Superstition functioned as i) a higher 'power', which is believed to be beyond control, or ii) as a higher power able to be manipulated to produce luck.
- Superstition was most strongly associated with Controlled and Moderately Controlled Groups. The use of superstitious versus skilled strategies to win in the Under-controlled Group occurred at a ratio of 2:5. The greater the involvement in gambling the more likely respondents would believe that outcomes could be influenced by skill.
- The Under-controlled Group was 'entrepreneurial' in their approach to winning. They viewed skill as the means and were disciplined in their pursuit of strategies that they believed gave a greater likelihood of winning even though the preferred gaming product might be poker machines or the strategies without logical foundation.

Gambling Outcomes

182. The most popularly held belief was that in order to 'win big you must bet big'. As most of the gambling of these young players was in the company of friends this generated a peer pressure to stake high and /or to be prepared to 'chase' losses.

- Sixty-three percent of the sample was motivated to gamble by the chance of winning. Winning was not solely about receiving money: young people like the kudos that goes with being seen by friends to be a winner.
- Sixty-eight percent of the sample admitted to gambling losses.
- A common misperception as respondents recalled their gambling experiences was that winning was instantaneous, which overlooked the time and money invested between wins.
- When wins actually did occur at the very beginning of a session, the money received was devalued, and typically not taken out but reinvested.

Fun

183. Fun was found to be more of a social event as:

- Sixty-five percent of respondents said they gambled for fun.
- Gambling was often described, as fun because it brought relief from boredom, was undemanding, easy to do, and used up time; in essence it was effortless entertainment.
- Companionate fun included co-gambling with a sense of companionship with *mates* who buffered the disappointment of losing.

OBJECTIVE 7:

Identify factors that predict regular incidences of high involvement (expenditure) in gambling.

Table 15: Participation Rates by Playrates and Population Equivalent

Play-rate	N	%	Population Equivalent
Regular	226	22.4	177,534
Infrequent	349	34.6	274,227
Occasional	180	17.9	141,868
Non-player	245	24.3	192,593
No response	8	0.8	6,341
	1008	100	792,563

Table 16: Regular Gamblers: Population Equivalents for Key Demographic Groups

Demographic	N	% of N=1008	Population Equivalent
Age			
16-17 years	74	7.3	57,857
18 and over	152	15.1	119,677
Sex			
Male	144	14.3	113,337
Female	82	8.1	64,197
Area			
Sydney	121	12.0	95,108
Country NSW	105	10.4	82,426

184. Regular gambling by young people was found to be associated with male gender and being over 18 years old. The latter is likely to be a function of the legal availability/ease of access, and the increased income of the older group. More frequent involvement in terms of sessions was associated with living outside Sydney metropolitan but the reverse was true of the highest expenditure category (greater than \$50).

OBJECTIVE 8:

Identify factors that predict those most at risk of incurring negative impacts arising from gambling.

185. All surveys of gambling behaviour show a strong association between levels of expenditure of time and money on gambling and the occurrence of harmful impacts. Thus regularity of gambling is a risk factor in itself and so is the choice of a continuous form of gambling (i.e. forms other than lotteries that permit continuous periods of stake and play) (Productivity Commission 1999).

186. Within the group of regular gamblers surveyed in the present study, statistical modeling based on the Gambling Temptation and Restraint Inventory resulted in factors that predicted both greater involvement in gambling and the likelihood of the reporting of harmful impacts. Cognitive emotional preoccupation with gambling is a risk factor for both higher levels of gambling and related harmful impacts, and cognitive behavioural control is associated with lower frequency play-rates and fewer reported negative impacts.

187. **Cognitive Emotional Preoccupation** is assessed by positive responses to questionnaire items tapping difficulties in controlling gambling, gambling as a response to negative emotions and continually thinking about gambling. Higher scores on these items predicted greater involvement in gambling and the greater likelihood that the respondent would report strong associations between their gambling and harmful impacts.

188. **Cognitive Behavioural Control** is assessed by items that dealing with actual attempts to limit involvement and by continual awareness of the need to control time and money spent on gambling- recall that this is within a population of young people who gamble regularly. Higher scores on this scale were associated with a reduced likelihood that the gambler would report associations between their gambling and harmful impacts.

189. In addition to this quantitative modeling the in-depth interviews with the 34 regular players also provided some detailed insights into variables that were either protective or rendered the individual more vulnerable to gambling-related harmful impacts.

Parental Expectations

190. Overall Responses:

- Interviewees who reported quality relationships with parents were less likely to be experiencing difficulties with their gambling. The majority of Under-Controlled Group members reported difficult relationships with their parents.
- Relationship difficulties centered around parental expectations of the youth. The majority of Under-Controlled Group members felt unable to live up to their parents' somewhat unrealistic expectations of them.

Gambling Motivation

191. In Context:

- When gambling was used to enhance social events it was always accompanied by a positive emotional state.
- The negative moods that preceded gambling had their origins in relationship disappointments and/or consuming alcohol.
- Negative affect was more often reported as an antecedent to gambling by the Under-Controlled Group at a ratio of 1:5 with the Controlled Group.
- Escape from stress was the most common antecedent to a gambling session for the Under-Controlled Group
- When Controlled and Moderately Controlled gamblers give stress as a reason for gambling it is episodic in nature, where as Under-Controlled Gamblers cited the broad context of a stressful life.
- The data suggests that under-achievers may be more attracted to and over-rate their chances of winning at gambling.
- Sensate fun, or the adrenaline high, was described exclusively by Under-Controlled gamblers. Moderately Controlled Gamblers report achieving the most fun from gambling, with fewer numbers of Controlled and Under-Controlled Gamblers having fun.

References

- Australian Council for Social Services. (1997). *Young people, gambling, and the Internet*. Paper No. 28. Sydney, Australia.
- Dickerson, M.G. & Baron, E. (2000). Contemporary issues and future directions in research into Pathological Gambling, *Addiction*. Vol 95(8)
- Collins, R.L. & Lapp, W.M. (1992). The Temptation and Restraint Inventory for measuring drinking restraint. *British Journal of Addiction*. Vol 87(4), 625-633.
- Dickerson, M.G., Allcock, C., Blaszczynski, A., Nicholls, B., Williams, J. & Maddern, R. (1996). *Study 2: An examination of the socio-economic effects of gambling on individuals, families and the community, including research into the costs of problem gambling in New South Wales*. Report to Casino Community Benefit Fund, NSW Government.
- Dickerson, M.G., Allcock, C., Blaszczynski, A., Nicholls, B., Williams, J. & Maddern, R. (1998). *Study 2 Repeat: An examination of the socio-economic effects of gambling on individuals, families and the community, including research into the costs of problem gambling in New South Wales*. Report to Casino Community Benefit Fund, NSW Government.
- Jackson, A. et al. (2000). *The impacts of Gambling on Adolescents and Children: A report to the Department of Human Services*. Problem Gambling Research Programme, Research Project 4 (Stage 2), Melbourne, Victoria. (ISBN 0 7311 6053 3)
- Maddern, R. (1996). *Modelling Youth Gambling. Honours Thesis*. University of Western Sydney, Australia.
- Maddern, R. (1997). *Psychological modeling of gambling behaviours*. Paper presented to the 8th National Association for Gambling Studies Conference, Melbourne, and Victoria.
- Moore, S. M. & Ohtsuka, K. (1997) Gambling Activities of Young Australians: Developing a Model of Behaviour. *Journal of Gambling Studies*. Vol 13(3), 207-236.
- National Impact Study Commission, (1999) Final Report United States Government, Washington D. C.
- Ohtsuka, K., & Maddern, R. (1997). *Youth gambling in Australia (1996-1997)*. Under review.
- Productivity Commission, (1999). *Australia's Gambling Industries*. Canberra.
- Ronneberg, S., Volberg, R.A., Abbott, M.W., Moore, W.L., Andren, A., Munck, I., Jonsson, J., Nilsson, T. & Svensson, O. (1999) *Gambling and problem gambling in Sweden*, Report No. 2 of the National Institute of Public Health Series on Gambling.

Shaffer, Howard J. The most important unresolved issue in the addictions: Conceptual chaos. *Substance Use & Misuse*. Vol 32(11), 1573-1580.

Toneguzzo, S. J. (1995). *Entrepreneur's dream or regulator's nightmare?* In J. O'Connor (Ed.), *High stakes in the nineties NAGS '95: Proceedings of the Sixth National Conference of the National Association for Gambling Studies*, Fremantle, Western Australia (pp.53 – 66). Perth, Western Australia: Curtin University of Technology.

Toneguzzo, S. J. (1997). *Internet gaming: The next 5 years – Can we control it?* In B.Tolchard (Ed.), *Towards 2000: The future of gambling NAGS '96 - Seventh National Conference of the National Association for Gambling Studies* (pp. 311 – 320). Adelaide, South Australia: Flinders Medical Centre.

APPENDIX 1

Table 31(a): Demographics of young Adult Gamblers 1995, 1996, 1997, 1999

	NSW Youth 1999	NSW Adult 1997	NSW Adult 1995	Western Sydney 1996
	16-24yrs N=1008 %	18-24yrs N=153 %	18-24yrs N=179 %	15-24yrs N=286 %
SEX				
Male	48.5	48.4	54.2	51.0
Female	51.5	51.6	45.8	49.0
AGE				
16-17	36.4	0.0	0.0	76.2
18-24	62.4	100.0	100.0	23.8
No response	1.2	0.0	0.0	0.0
MARITAL STATUS				
Partnered	37.9	24.2	19.6	N/A
Single	61.2	75.8	80.4	N/A
No response	0.9	0.0	0.0	N/A
EDUCATIONAL LEVEL				
Primary	0.5	0.7	0.6	0.0
Secondary	57.0	37.3	38.5	82.5
Tertiary	42.2	61.4	60.3	17.5
No response	0.3	0.7	0.6	0.0
WORK STATUS				
Full time-worker	28.7	37.3	43.0	0.0
Part-time worker	41.0	27.5	17.9	95.8
No employment	17.4	5.9	5.6	4.2
Other	5.7	28.1	33.5	0.0
No response	7.2	1.3	0.0	0.0
Student	61.9	22.2	2.2	100
Non-student	38.1	77.8	97.8	0.0

Table 31(b): Demographics of young Adult Gamblers 1995, 1996, 1997, 1999

INCOME				
<\$10,000	33.2	37.9	18.3	100.0
\$10,001-\$19,999	13.1	24.2	29.2	0.0
\$20,00-\$29,999	12.3	18.3	26.7	0.0
\$30,000-\$39,999	8.6	9.2	16.7	0.0
\$40,000-\$49,999	6.8	5.3	2.5	0.0
\$50,000-\$59,999	7.3	0.7	1.7	0.0
>\$60,000	11.3	1.3	0.8	0.0
No response	7.4	3.3	4.2	0.0

OCCUPATION				
Professional /Semi Prof	6.9	6.5	3.4	N/A
Managers/Business Owners	2.7	1.3	34.6	N/A
Trades /Skilled & Unskilled	39.4	45.8	2.8	N/A
Clerical/sales	18.4	30.1	26.3	N/A
Apprentice	0.6	0.0	0.0	N/A
None	22.9	16.3	33.3	N/A
No response	9.1	0.0	0.0	N/A

NESB				
Yes	20.4	29.4	22.3	23.4
No	79.6	68.0	77.7	76.6
No response	0.0	2.6	0.0	0.0