A Psychological Investigation of Gambling in South Australia:
with particular reference to the demographic, behavioural
and cognitive factors underlying regular poker/slot
machine gambling

by

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Abstract

A series of seven studies was carried out to investigate the sociological and psychological factors underlying gambling in South Australia, with a particular emphasis upon the determinants of poker machine gambling. Studies 1 and 2 involved a large community gambling survey (n=1200) conducted during 1996 to determine the prevalence of gambling and gambling-related problems in South Australia. The results showed a high level of gambling participation, with 79% of South Australians having gambled at least once during the previous 12 months, and 42% having gambled at least once on poker machines. Gambling participation was significantly related to demographic characteristics, with younger, single and employed people more likely to gamble than other segments of the population. In line with recent research by Mok and Hraba (1991) and Hraba and Lee (1995), participation in certain activities was significantly related to age and gender with younger males more likely than older people and women to gamble on casino games and racing, who tended to confine their gambling to a narrower range of activities such as poker machines, lotteries and bingo.

Furthermore, it was found, using the South Oaks Gambling Screen (Lesieur & Blume, 1987) that 1.21% of the sample could be classed as probable problem gamblers (based upon the U.S. criterion of 5 points or more). This result was generally consistent with previous Australian research (Dickerson, Baron, & O’Conner, 1994; Dickerson, Walker, & Maddern, 1995; Dickerson, Allcock, Blaszczynski, Nicholls, Williams, & Maddern, 1996). Gambling-related problems were most commonly observed in people aged 18-24 years, who were single or unemployed. Finally, although 60% of all gambling-related problems were related to poker machines in absolute terms, poker machines were no more likely than other continuous types of gambling to be associated with gambling-related problems after controlling for differences in participation.

Study 3 involved a survey of Casino patrons (n=120) and was designed to explore further the gender and age differences observed in Study 1, and also people’s perceptions of, and motivations for gambling. The results revealed several additional gender and age differences. Although men reported being significantly more likely to attribute their successes to skill and to use strategies when they gambled, they did not
differ in their motivations for gambling, or in their perceptions of each activity, after controlling for differences in participation. Similarly, correlation analysis, using age, showed that younger people were significantly more likely to use skill when they gambled, and to rate 'winning money' as being of greater importance than did older people. More generally, consistent with previous research by Ladouceur and Gaboury (1988), and Walker (1992a), the results showed that most of the beliefs and behaviours reported by gamblers were irrational. Gamblers were more likely to report that their behaviour was based upon luck and superstitions than upon rational practices such as checking the odds, or obtaining information about the activities on which they were gambling.

Study 4 was the first of a series of studies which focussed specifically upon poker machine gambling. Based upon a sample of 38 regular (once per week) and 21 non-regular (less than once per week) poker machine gamblers, this study used questions previously developed by Griffiths (1993b, 1994) to examined the role of motivation, skill and mood in regular and non-regular poker machines players, and how these results compared with those obtained by Griffiths. The results were generally consistent with previous studies (e.g., Dumont & Ladouceur, 1990; Griffiths, 1995a; Walker, 1988) which have revealed multiple motives for participation including: the need for enjoyment, excitement, winning money, and escaping negative mood states. However, the results differed from those of Griffiths (1995a), with Australian players significantly less likely to experience negative mood states during gambling and to see poker machine playing as a skilful activity.

Study 5 involved a laboratory investigation of the within session characteristics of poker machines gambling, including response rate variations in relation to variations in reinforcement and expectations of winning. Twenty-four non-regular players were observed gambling on a poker-machine for sessions of between 25 and 40 minutes. The results were only partially consistent with previous research by Dickerson, Hinchy, Legg-England, Fabre, and Cunningham (1992). Response-rate decreases were observed in relation to large wins, but no response-rate increases were observed in relation to small wins. In addition, the results provided only limited support for the idea that players' expectations of winning vary systematically in relation to outcomes. This was further confirmed in Study 6, which examined the role of behavioural events.
and cognitions in an 'ecologically valid' setting. Eighteen regular and 21 occasional poker machine players were observed, using a methodology that allowed a simultaneous recording of machine events, behaviour and cognitions. The results supported previous research by Dickerson (1993), namely, that slot machine gambling is a highly disciplined, or 'stereotyped' behaviour. However, contrary to the fact that poker machines are based upon random-ratio schedules, behaviour was found to be more consistent with 'fixed-ratio responding' (Ferster & Skinner, 1957), with players in both groups showing a tendency to pause after having obtained large rewards and maintain rapid response rates in the absence of reward. Further analyses of betting behaviour showed that regular players were not only less likely to alter their stakes, but also appeared more sensitive to the nature of outcomes, with stake increases typically following wins and, decreases following losses. Finally, although confirming that expectations of winning are unrelated to behaviour or outcomes, observations revealed that many players nonetheless believed that they could 'discriminate' the conditions under which reinforcement was most likely.

Study 7 was based upon previous research by Walker (1988; 1992b), Ladouceur, Gaboury, Bujold, Lachance, and Tremblay (1991) and Griffiths (1994) which has suggested that irrational-thinking may play a central role in the maintenance of behaviour in slot-machine gambling. Consistent with Walker's (1992b) study, 75% of 'strategic' cognitions were found to be irrational; but they showed that irrational statements comprised only 14% of total cognitions. Overall, irrationality was found to be unrelated to gender, or the amount won, but was predicted by a measure of risk-taking, with greater irrationality observed in players who gambled larger stakes. The validity of the speaking-aloud method and the implications of this research for cognitive-behavioural interventions were discussed.