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052184701X - Gambling as an Addictive Behaviour: Impaired Control, Harm Minimisation, Treatment and Prevention

Mark Dickerson and John O'Connor

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## GAMBLING AS AN ADDICTIVE BEHAVIOUR

Impaired Control, Harm Minimisation, Treatment and Prevention

“If thinking about addiction is going to change, the study of excessive gambling is likely to be one of the richest sources of new ideas” (Jim Orford). In this book, the authors present the most recent and evolving research into gambling, showing the psychological variables that govern the erosion or maintenance of self-control over gambling behaviour. These studies provide an empirical basis for a model of impaired control of gambling. Impaired control, in its broadest sense, is considered to be the defining psychological construct of all the addictive behaviours and occupies a central position in conceptualising the addictive aspects of gambling.

MARK DICKERSON is a Professor of Psychology at the University of Western Sydney, Sydney and JOHN O'CONNOR is a Consultant Psychologist, Senior Lecturer in the School of Medicine at Flinders University, Adelaide.

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# GAMBLING AS AN ADDICTIVE BEHAVIOUR

Impaired Control, Harm Minimisation, Treatment and Prevention

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## Preface

This monograph provided the opportunity to describe a programme of gambling research completed at the School of Psychology, University of Western Sydney and to discuss the results in the context of contemporary research into problem and pathological gambling. As the principal researchers were mainly very able and independent-minded doctoral students the “programme” was by no means a coherent, planned sequence. Nonetheless, in the context of ongoing personal research, other postgraduate projects and collaboration with other academic staff, the body of work completed over the past 5 years or so has made some inroads on the agenda outlined in Dickerson & Baron (2000): by studying regular gamblers to focus on the psychological processes that erode and maintain subjective self-control over gambling behaviour.

The Australian gambling context provided a unique research opportunity having, as it does, significant populations of men and women who regularly engage in continuous forms of gambling such as electronic gaming machine (EGM) play, off-course betting and casino table games: the debt owed to those players who volunteered is acknowledged and the gratitude expressed to them previously repeated here. Whether they were involved in surveys, qualitative interviews or experimental studies, the research was utterly dependent on their participation.

The evolution of the ideas and methods was often a direct function of the success of the individuals in the PhD programme, independent and responsive to advice rather than supervision, from founding member, now co-author (J. O'Connor), to John Haw, Andrew Kyngdon, Robyn Maddern, and still to complete, Morten Boyer and Lee Shepherd. This text would not have been possible without the results of their creativity and that of other postgraduates and colleagues. The twofold objective of bringing this work together has been to:

1. Challenge some of the empirical and theoretical assumptions about regular gamblers that have been used to underpin both the mental disorder, pathological gambling and related harm-prevention policy.

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2. Illustrate common empirical ground between gambling and other addictive behaviours reaffirming common underlying psychological processes.

In reviewing the international context of problem gambling research the more usual sources such as refereed journals and new textbooks have been augmented by several reports describing national gambling reviews, for example in the USA, Australia and the UK. In addition, particularly in Australasia various state and federal government departments have been very active in funding research programmes into gambling and problem gambling. Typically university-based research teams following international competitive tendering have completed projects and the quality of the work has often been of a high standard. However, as the reports are often designed to satisfy government requirements and not a journal article length and style, the findings have not appeared in the academic literature. In this monograph we have followed the lead of other writers in the field who have referenced this body of work as it includes a number of important findings.

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## Declaration

During the period 1 July 1998 to 30 June 2003, I was employed by the University of Western Sydney (UWS) as the “Tattersall’s Chair of Psychology”, a professorial research appointment within the School of Psychology funded by Tattersall’s. (Tattersall’s is the largest privately owned business conglomerate in Australia whose core international business is lottery and gaming machine operations.) The position involved a competitive selection process in which Tattersall’s was not involved. Tattersall’s had naming rights only and if their financial support to the University had been withdrawn during the period of the contract the appointee remained on contract with UWS. Tattersall’s provided no funding or support in kind for any of the School of Psychology research projects.

I am grateful to Tattersall’s for providing the funding to my University that enabled me to focus entirely on research into gambling for the period of the contract.

I was appointed as a consultant to the Department of Human Services in Victoria from 1996 to 2003 advising on all aspects of research and policy relating to problem gambling: during the first 4 years I acted on behalf of UWS with payment going to the University and for the latter period was paid the fees as additional personal income.

Mark Dickerson  
March 2005

At no time have I received funding from any of the gambling industries to fund research. On one occasion only I received an honorarium to write a short discussion article for an umbrella gambling industry body in which I expressed the opinion that it was not possible to suppress all developing forms of interactive (electronic) gambling and that strict legislative frameworks would be required to minimise likely harm.

John O'Connor  
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## Executive Summary

*Chapter 1:* Contemporary worldwide developments in the gambling industry and a brief historical comment provide the back-drop for an introduction to research into gambling and “pathological gambling”. Definitions of the latter are discussed and international levels of prevalence are considered. Evidence is presented showing that men and women who gamble regularly (weekly or more often) on continuous forms of gambling (e.g. EGMs, casino table games, off-course betting) are most at risk of incurring harmful impacts arising from their gambling.

*Chapter 2:* The focus of the monograph, impaired self-control over gambling is defined and identified as a key psychological dependent variable in understanding pathological gambling and the harmful impacts of gambling. Two empirical research methodologies, traditional psychometric and mathematical psychology, for defining and measuring impaired self-control of gambling are described. Self-control over gambling is shown to be a central feature of regular gambling (a reliably measurable dimension, common to both regular gamblers and clinical cases of pathological gambling) that ranges from effortless control to extreme difficulty, despite repeated strenuous effort, to limit expenditure of time and money.

*Chapter 3:* A detailed review of the literature on problem gambling is presented, focusing on psychological variables that are likely to contribute to the erosion and/or maintenance of self-control over gambling. Variables reviewed include: current level of involvement in gambling, emotional factors, individual differences, alcohol consumption, cognitive variables and coping.

*Chapter 4:* Two recently completed empirical studies, one quantitative, one qualitative, identifying key psychological variables that contribute to the erosion of self-control over gambling are summarised, compared and contrasted.

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*Chapter 5:* The implications for the psychological treatment of pathological gamblers, arising from the emerging model of impaired self-control over gambling, are discussed.

*Chapter 6:* The validity of the contemporary approach to harm minimisation, “responsible gambling”, is challenged. In the context of the data showing how common, amongst ordinary regular gamblers, are reports of impaired self-control, it is argued that a totally new policy approach is required, one based on existing principles of consumer protection.

*Chapter 7:* A case study is presented of a single jurisdiction, Victoria in Australia, in which following the introduction of EGMs in the 1990s there developed an integrated set of harm minimisation strategies that have set international benchmarks. Data illustrating the efficacy of these over the past decade are presented. In the context of the arguments in the previous chapter the question arises whether the case study represents a public health success story, or a costly failure of policy selection.

*Chapter 8:* The research in measuring and modelling impaired control is critically evaluated. The essential nature of impaired control of gambling is described, and the implications and challenges for the “mental disorder” conceptualisation of pathological gambling are identified. The results are considered in the context of the addictive behaviours generally.

## Glossary

<i>EGM</i>	Electronic gaming machine or “poker machine” common name in Australia (see gaming machines).
<i>Excessive gambling</i>	Indicates a level of involvement in gambling that encroaches on the resources allocated to other activities of daily life such as relationships and employment.
<i>Expenditure</i>	The net amount lost by gamblers, amount staked minus winnings.
<i>Gambling</i>	Staking or risking money on the outcome of uncertain future events driven mainly by chance; the most commonly legalised forms are betting on races and sports events, gaming machines, casino table games, keno and a variety of lotteries.
<i>Gaming</i>	All forms of gambling except wagering, that is betting on sports events and racing.
<i>Gaming machines</i>	Machines derived from the original mechanical “one armed bandit” where the outcomes are entirely chance determined or where the player can make skilful choices, for example in simulated card games: pay-outs very greatly from “gifts” to over a million dollars in some casinos.
<i>Instant lottery</i>	Sometimes known as “scratchies”; on purchasing a panel is rubbed to remove a covering film to reveal whether a prize has been won.
<i>Keno</i>	Electronic version of bingo where players purchase a set of numbers, winning if they match the first set of numbers selected at random during play.

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Glossary

<i>Lotteries</i>	Includes a variety of forms, lotto, pools and instant lotteries. Typically involves the purchase/selection of numbers which if match those selected at random at the date and time of the draw may win very large pay-outs.
<i>Odds</i>	Statistical estimates of winning/losing: in wagering may also determine the relationship between the amount staked and the size of the amount won.
<i>Off-course betting</i>	Facility for wagering on races (horses and dogs) and other sporting events: may be stand-alone venue or incorporated into a casino, hotel or social club.
<i>Pathological gamblers</i>	Gamblers who are described as preoccupied with gambling and also satisfy other diagnostic criteria specified in the <i>Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV)</i> of the American Psychiatric Association (1994).
<i>Prevalence of problem gambling</i>	An epidemiological estimate of the proportion of a specified population that are seriously adversely affected by their gambling: typically estimated by general population survey measures, "current" prevalence referring to reports of harmful impacts occurring during the last year.
<i>Problem gambling</i>	Sometimes used to describe a mid-point between social, harm-free gambling and pathological gambling: in this monograph used to indicate gamblers who are currently experiencing significant harmful impacts arising from their gambling.
<i>Scratch lottery</i>	See Instant lottery above.
<i>Sports betting</i>	Wagering on the outcome of a sports event, the result or outcomes within a smaller time frame such as the next wicket to fall, sinking the next putt, scoring the next goal, etc.
<i>Wagering</i>	Gambling on racing and sports events.

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## Foreword

Like gamblers who experience the mixed emotions of excitement, hope, regret and depression, reading the foregoing chapters has left me with mixed feelings of stimulation, dismay and reassurance. Let me try to unpick the tangle, starting with stimulation.

### **Stimulation**

I am greatly stimulated by Dickerson and O'Connor's central idea of a continuum of control and choice over gambling (they acknowledge their debt to Heather et al.'s idea of impaired control over the consumption of alcohol). In place of diagnosing pathology, they draw on a variety of studies that they and their colleagues have carried out, including a qualitative study of limit setting amongst 16–24-year-old regular gamblers, which support the continuum of control concept. The dimension runs from “free effortless enjoyment”, via the exertion of increasing effort to resist, to a position in which self-control can scarcely be maintained. The 12-item Scale of Gambling Choices that their group has developed for assessing control over gambling correlates highly with scores on the most commonly used measure of problem gambling – The South Oaks Gambling Screen – and with measures of greater gambling involvement, more time and money spent gambling, and the accumulation of higher debts.

That way of understanding the essence of problematic gambling represents an important shift that is bound to be controversial. It recognises the reality of difficult-to-control gambling whilst rejecting the idea of a diagnosable entity called “pathological gambling” or “compulsive gambling”. It is possible to be “addicted” to gambling in the sense of being habitually engaged in, or attached or devoted to the activity to such an extent that it is difficult to disengage from it despite harms that it may be causing. In extreme form it can be devastatingly disabling to individuals who experience it and can turn upside down the lives

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of affected families. But it is on a continuum, with large proportions of gamblers, particularly machine gamblers, experiencing some degree of erosion of control and choice. One implication is that any attempt to draw a line between those who have a gambling problem and those who do not is bound to be arbitrary. That may be a problem for epidemiologists and for service planners and those who seek to influence them. But it is a problem that we live with in many areas of health and well-being, including the closely parallel topic of difficult-to-control alcohol consumption.

Although the authors wish to focus on erosion of self-control as candidate for being the core process in addiction, they recognise that it cannot easily be separated from the harmful impacts of uncontrolled gambling, since harm feeds a cycle of increasing impact and strength of attachment to the activity. That is important because it acknowledges the need for a developmental component in a full model of impaired control over an activity such as gambling. It is not just the learning of a habit that underlies the erosion of choice, but also the further processes that become overlaid on top of habitual activity. In *Excessive Appetites* (Orford, 2001), I argued that much of that overlay can be thought of as the consequences of conflict. Conflict develops between the motivation to engage in activity that is rewarded and has become habitual and the motivation to minimise the harms that habitual activity is giving rise to. The consequences of that conflict, which can include demoralisation, poor information processing, compulsive behaviour, and alterations of social role and social group, very often have the effect of introducing new motives for continued gambling, and fewer opportunities for reward from activities alternative to gambling.

One of the further strengths of Dickerson and O'Connor's formulation is their recognition and explication of the complex but crucial role of the flux of emotions surrounding gambling. That includes: dysphoric mood, either preceding or following excessive gambling; the role of hope after a stake is placed, and the role of anticipated regret in supporting continued gambling; the arousing, but sometimes calming, effects of gambling; and the central role of "chasing" as a cognitive-emotional-behavioural constellation that contributes to continuing to gamble and to a raising of stakes; plus the motivating effects of the "near-miss". One of the intriguing complexities of most, perhaps all, forms of appetitive behaviour that can become excessive or out-of-control is that they can enhance mood in ways that are both positively and negatively reinforcing. Cooper et al. (1995) contrasted the "enhancing" effect of alcohol in increasing positive emotion, and the "coping" or self-medicating effect of decreasing negative emotions. These were distinct, but in practice positively correlated, so that only minorities of people were pure enhancement drinkers or pure coping

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drinkers. Similarly, Lesieur and Rosenthal (1991) found evidence for “action-seeking” and “escape-seeking” motives for gambling. Others have considered the cycle of emotions associated with single consumption episodes. For example, Hsu (1990) found that women who experienced eating binges were likely to choose terms such as “anxious” or “tense” to describe their feelings before a binge, “depressed” at stages during a binge, and “guilty” and “exhausted” at the end of a binge cycle. A similar cycle of emotions surrounding shopping episodes has been described by women who feel out-of-control over shopping (Dittmar, 2004).

**Dismay**

My feelings of dismay are related to what this work tells us about the rapidity of technological change and innovation in gambling, and the creation of more continuous and ever more dangerous forms of gambling. We are reminded that the slot machine, perhaps rather like the hypodermic needle in relation to drug taking, has been with us for only a little more than a 100 years. The authors illustrate some of the ways in which modern gambling machines have become much more complex than they once were. In one, a sequence of eight responses to the machine is possible, including selecting the pay-line, bet multiplication, feature option and further gambles, in place of a sequence of only three responses in the case of older, simpler machines that were available until around 1970 (see also Parke and Griffiths, 2004; Dowling et al., 2005). One effect is likely to be a considerable enhancement of the “illusion of control” (Langer and Roth, 1975) which has been shown to encourage continued play and is found to be more strongly held by problem gamblers (Griffiths, 1995). It is interesting to note that the median age of the machines in one of the studies reviewed by Dickerson and O'Connor was only 9 months.

A great strength of much of the work collected together in this book is that it takes us right into the nitty gritty of machine gambling. Using the detailed tracking data that is now available, the reality of machine gambling is exposed. The example provided in Chapter 6 is graphic. Half-an-hour into a session a regular player, on average playing about a dozen games a minute, would have played getting on for 400 games. Dickerson and O'Connor argue that it is a strange entertainment product that faces the purchaser with such a rapid sequence of complex winning and losing outcomes. Although the cost per game may appear trivial (on average only 40 cents for regular players of machines in New South Wales where the maximum stake is A\$10 per game), the per annum spend for regular players totals about \$8000 on average. They calculate that the

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maximum loss per hour has risen from just over \$5 in the early 1950s to around \$500 in the mid-1990s. Evidence from Canada, cited by Dickerson and O'Connor, suggests that nearly a quarter of regular machine players may have gambling problems, and their own finding from Australia is that it is unusual for regular machine players not to experience some degree of impaired control of their gambling.

There seems truth in their statement regarding machine gambling:

... an apparently innocuous mechanical gambling device, is now permitted to be sold as an automated, rapid and emotionally distracting product of unlimited sequences in venues specially designed to heighten the focus on gambling (p. 119).

That makes the policy issue as much one of consumer protection as a public health issue. Is the gambling machine in its modern form unethical? Does it at the very least need to be significantly modified in order to maintain the standards that would be expected of any other entertainment product? How, under the conditions so graphically illustrated, can freedom of choice reasonably be preserved for people who play such machines?

Not that earlier generations of gambling machines were innocuous. Even in the inter-war years in Britain voices with experience were being raised against them. For example, in 1927 the Lord Chief Justice stated that the slot machine, "was a pest and a most mischievous pest, because it operates on the minds of young persons and corrupts them in their youth" (cited by Clapson, 1992, p. 88). In 1932 the Chief Constable of the Metropolitan Police told Parliament that, "By far the most troublesome form of gaming [in] recent years is the automatic gaming machine of the 'fruit' variety" (cited by Clapson, 1992, p. 85).

In Chapter 8 the authors refer to:

The extraordinarily contrived and regulated nature of much contemporary gambling, where by design there is repetition of temporal sequences of stimuli that give pleasure whilst eroding self-control ... The behaviours themselves are all relatively simple and readily acquired, but after conditioning consistently provide access to salient positive emotion. Where else in human endeavours, in relationships, in parenting, in work, in play, are such simple dependable responses available to access similar salient positive emotion? (p. 119).

The question is raised of whether we can speak of "harm minimisation", or what the gambling industry is tending to call "responsible gambling"? The latter may be thought to imply that the fault lies with the irresponsibility of the gambler rather than the structural features of the product itself. The authors prefer the expression "low-risk gambling". Would minimising the risk inevitably

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clash with efforts to enhance the attractiveness of the product? The thorough investigation carried out by the Australian Productivity Commission (1999) estimated that one-third of gambling revenue came from problem gamblers. A Canadian study mentioned by Dickerson and O'Connor found that about half of all those people found to be sitting at an EGM terminal at any one time were regular gamblers with gambling problems.

### Reassurance

My feeling of reassurance comes from a growing sense, much enhanced by the present work, that gambling is coming to occupy what I have long thought is its proper place near the centre of addiction studies. Dickerson and O'Connor suggest that gambling may show us, "... a potentially more transparent addictive process" (Chapter 8) because it is free of the "noise" of a psychoactive drug. As "substances" have been privileged in expert discussions about addiction, particularly drugs such as heroin and cocaine that have caused havoc in some of the most powerful countries, the field has been distorted and it has been difficult to identify the essence of addiction. In my view we have been misled into thinking that "substance dependence" or "substance misuse" is the prototype, and that "behavioural addictions" are of marginal interest. Recognising the addictive potential of gambling products – like alcohol, no "ordinary commodity" (Babor et al., 2003) – helps us reshape the field. "It is not to 'substances' that we are at risk of becoming addicted, but rather to 'objects and activities' of which drugs are a special example" (Orford, 2001, p. 2). All addictions are "behavioural addictions".

The pages of recent issues of *Addiction* are testimony to the move towards acknowledging excessive or uncontrolled gambling as an addiction. An example is Dowling et al.'s (2005) review of the evidence linking electronic gaming machines (EGMs) and gambling problems. They reviewed evidence in support of the existence of that link although they drew short of agreeing with the idea that EGMs were the "crack-cocaine of gambling" in the sense that they might stand out from other forms of gambling as being more addictive. Other work recently published in the same journal includes a number of experimental studies examining evidence for the existence of gambling addiction mental schemata in the form of attention and memory biases towards gambling-related stimuli or psychophysiological reactions to gambling-related cues (e.g. Moodie and Finnigan, 2005).

Greatly reassuring is the case study presented in Chapter 7 describing the government-funded campaign undertaken in the Australian State of Victoria.

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The campaign was a response to the rise in public concern about gambling harms that quickly followed the introduction of EGMs in 1992 and the first casino in 1994 (the latter housing over 1000 EGMs, with around 30,000 in the State overall). (One poll found 84% thinking that gambling represented a serious social problem.) The campaign included both public awareness raising and the provision of treatment services (which importantly were available also for concerned “others”, mainly family members, even if the problem gambler was not attending). The gambling industry became positively involved, for example agreeing to the setting up of a “customer support centre” at the casino in Melbourne.

What has been happening in Australia is undoubtedly of relevance elsewhere. In Britain, for example, gambling is in a state of flux. At the time of writing there is a Gambling Bill before the Houses of Parliament. Although it has been hailed by the Government as a move to update old fashioned gambling legislation and to provide increased protection for “children and the vulnerable”, its overall impact would be a liberalisation of gambling regulation on several fronts, and it is widely expected to lead to an increase in the prevalence of problem gambling. The Government is reluctant to admit to that possibility, although it has agreed to carry out regular national prevalence surveys, and the Department of Health is carrying out consultations about ways of providing treatment for problem gambling. Notable is the shift of lead Government responsibility for gambling that occurred while the Gambling Review Body (whose recommendations formed the basis of the Gambling Bill) was sitting. Throughout most of the 20th century the Home Office had taken the lead in Britain, reflecting concern about the link between gambling and crime. The lead has now been moved to the Department for Culture, Media and Sport, and Government rhetoric is all about the rights of people to enjoy gambling like any other leisure entertainment product, and the opportunities for an industry to expand and innovate with the minimum of necessary restriction (Orford, 2005).

Amongst other things the new British Gambling Bill would legalise British-based Internet gambling, remove the demand test on new gambling outlets, remove the 24-hour rule for new casino membership, allow alcohol to be served on the gaming floor of casinos, and allow advertising of gambling products. One of the most controversial proposals is the permitting of the development of large, regional casinos and the creation of a new category of super gaming machine with unlimited stakes and prizes, up to a 1000 or more of which could be situated in a regional casino. Also controversial has been the proposal to allow the continuation of Britain’s unique position as a jurisdiction that permits children to play low-stake/low-prize gaming machines (the so-called “amusements with prizes”) situated in “family entertainment centres” at the seaside and elsewhere.

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What is proposed for Britain fills me with dismay, as does the picture painted by Dickerson and O'Connor of escalating technical advance in the design of gambling machines and the evidence they present of the widespread experience of diminished control over gambling. But at the same time I am stimulated by their struggle to understand the phenomenon of reduced control without falling back on conventional ways of thinking about addiction and dependence. I am greatly reassured that the problem of excessive gambling is being dragged by them and others out of the wings and towards the centre stage. It is no accident that this lead should be coming from Australia where liberalisation in several States has made gambling as widely accessible as almost anywhere in the world and where there is now greater public awareness of the dangers than in most other countries.

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