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# Prevalence and correlates of problem gambling in people with psychotic disorders

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**Abstract**

**Objective:** There are few published studies on the comorbidity of psychosis and problem gambling. This paper provides estimates of the prevalence and clinical correlates of problem gambling in a representative sample of people with psychotic disorders.
**Method:** The second Australian national survey of psychosis was undertaken in 2010 and included adults (18–64 years) attending mental health services. Problem gambling was measured using the Canadian Problem Gambling Index (CPGI) at two sites of this study, with 442 participants providing data suitable for analysis.
**Results:** There were 151 participants who screened positive to past-year gambling. 4.1% of the total sample was classified as low risk gamblers, 6.4% were moderate risk gamblers and 5.8% were problem gamblers. Moderate risk/problem gamblers were more likely to be male, have left school with no qualifications and have sought financial assistance in the last year. There was a significant association with substance use, including alcohol use disorders and use of cannabis and 'other' drugs (excluding cannabis).
**Conclusions:** People with psychosis are four times more likely to have a gambling problem than the general population. The association of gambling with substance use disorders is consistent with community studies, while the increased need for financial assistance suggests that problem gambling increases the likelihood of financial harm for this population. Clinicians should screen for comorbid gambling problems in people with psychosis, while there is also a need for additional research into this area.


## 1. Introduction

Pathological and problem gambling refer to a class of disorders that affect around 0.5 to 2.0% of the community across Western countries [1]. These disorders are characterised generally by "persistent and recurrent maladaptive gambling behaviour" (*DSM-IV*, 1994; p. 615) that leads to significant personal and social harm (e.g., financial difficulties, relationship breakdown). Despite a lack of consistent nomenclature, the term pathological gambling has described conditions that meet criteria for a diagnosis under *DSM-IV*. The *DSM-5* refers to this as 'gambling disorder' and has introduced three levels of severity: mild, moderate and severe.

The term problem gambling is also used frequently and may refer to a broader spectrum of conditions [2], that range from moderate difficulties (meeting some but not all diagnostic criteria) to extreme levels of harm that could otherwise be classified as pathological gambling. Petry (2005) [3] suggests that because lower levels of gambling problems have not received a *DSM-IV* diagnosis, there has been a lack of research into factors related to gambling at levels less than 'pathological'. Community studies suggest that gambling disorders across a range of severity are associated with adverse outcomes, including mental and physical health problems [3,4] and significant psychosocial difficulties such as relationship breakdown and financial or legal problems [3,5].

Gambling disorders are frequently comorbid with other psychiatric conditions, with studies of community [6] and

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clinical [7] samples of pathological and problem gamblers showing high rates of co-morbidity including substance related disorders, mood disorders and personality disorders (in particular antisocial personality disorder) [3,8]. Although rates of gambling disorders in samples of people suffering other primary psychiatric conditions are generally lower [9], there are data suggesting that there are particularly vulnerable clinical populations, such as those in treatment for substance use problems [10]. Little is currently known about the rates and implications of comorbid gambling problems in other psychiatric conditions.

People with psychotic disorders such as schizophrenia commonly suffer difficulties with social and occupational roles, and often experience socio-economic disadvantage including homelessness and poverty [11,12]. The only published data found specifically relating to gambling problems among people with schizophrenia and related disorders come from a small number of clinical case studies [13–15], and one quantitative investigation [16]. This latter study measured problem gambling in a sample of 337 participants with schizophrenia or schizoaffective disorder, who were users of two mental health services in the U.S. Among this sample, 19.3% were classified as problem gamblers (as defined by the National Opinion Research Center Diagnostic Screen) [17], which is around four times the rate in the U.S. general population. The study also identified potential covariates of problem gambling in psychosis, including: 1) substance use problems; 2) depressive symptoms; 3) legal difficulties and violence; and; 4) health service utilization. There were further trends suggesting links with severity of psychotic symptoms. Notwithstanding, the non-representative sample and lack of corroborating data means that conclusions regarding problem gambling in psychosis remain tentative. It cannot be excluded that apparent associations with covariates may be attributed to common factors, such as socio-economic disadvantage and substance use problems, which relate to both gambling and potential covariates (e.g., legal problems), and may explain the associations with these variables.

There remains a strong need for additional studies of problem gambling in a range of psychotic disorders and representative clinical contexts, and the current study will begin to address this need. It reports data on problem gambling in the second Australian national survey of psychosis (or Survey of High Impact Psychosis; SHIP [12]). This study involved recruitment of a representative sample of individuals with psychotic disorders from seven sites across Australia. It measured a range of variables additional to diagnosis and symptomatology, including socio-demographic characteristics, substance use and related problems, social adjustment, role functioning, physical health status and health service utilisation. A measure of gambling and problem gambling was administered at two sites in the State of Victoria. This paper focuses on data from these sites and provides estimates of the prevalence of problem gambling in a representative sample of people with a range of psychotic disorders. It also evaluates the clinical and social correlates of problem gambling in psychosis, and examines the potential roles of socio-demographic and substance use problems in explaining these associations.

## 2. Materials and method

### 2.1. Procedures

The SHIP study included adults (18–64 years) attending public mental health services or non-government organisations (NGOs) providing mental health support in seven Australian sites in the year prior to 31st March 2010. A two-phase ascertainment strategy was employed. First, a screening tool was administered to all individuals attending catchment services in the month of March 2010, while electronic screening of databases of the public mental health services was conducted for the 11 months prior to March 2010. In the second phase, a random sample of those participants screening positive for psychosis (excluding those without sufficient English or cognitive capacity) was contacted and invited to attend a full interview. The study was described to participants and written informed consent was obtained. Interviews took approximately 3 hours and were completed between April and December 2010 by experienced mental health clinicians with interview training. Full details of the methodology are provided by Morgan et al. [12].

### 2.2. Participants

A total of 496 participants were resident in the two Victorian sites of the SHIP study. Of these, 442 (89%) provided data suitable for the analyses described in this paper. The remaining 54 participants did not complete the gambling survey for several reasons including lack of time (after the full SHIP interview), fatigue, non-attendance at follow up interview or administrative error. This sample represented the following *DSM-IV* diagnostic groups: schizophrenia (44.1%), bipolar mania (19.2%), depressive psychosis (14.9%), schizoaffective disorder (12.4%), delusional disorders and other non-organic psychosis (6.1%) while 2.5% had severe depression but not active delusions or hallucinations.

### 2.3. Measures

Assessment of psychosis employed the Diagnostic Interview for Psychosis (DIP) [18]. It is an interview schedule based on the items of the OPCRIT (Operational Criteria for Psychosis [19],) and its validity has been well established [18]. The DIP is designed for use in epidemiological surveys and involves a semi-structured clinical interview conducted by a specially trained mental health clinician. The training and calibration in use of the instrument are described by Morgan et. al. (2012) [12]. A computerized algorithm provides a diagnosis of psychoses according to a range of operationalized criteria, including *DSM-IV*. The DIP includes standardised measures of use