

# PREVALENCE STUDIES: WHAT DO THEY REALLY TELL US?

BY MARK GRIFFITHS AND RICHARD WOOD

It is only through acknowledging complexity and a willingness to engage in an ongoing quest for understanding that we can ever hope to fully understand the phenomena of problem gambling. While prevalence studies constitute one of the most frequently used types of research in the field of gambling studies, are they prone to be misinterpreted when efforts are made to gain an insight into the causes behind the development of gambling problems?



**P**revalence studies constitute one of the most frequently used types of research in the field of gambling studies. Primarily, they have been used by government agencies worldwide to identify the level of problem gambling within a particular population through administering one or several diagnostic self-report screens designed to identify problematic gambling behaviour.

There are a number of good reasons why prevalence studies are important. In short, they:

- Provide indicative data on the broad extent of clinical need for the overall population and sub-populations, general population risk factors, and some correlates of a particular disorder. This is useful information for many different stakeholders including those who have responsibility for programmes concerning intervention, treatment and social responsibility.
- Identify groups of people (for example, 18-24 year olds) where apparent needs do not match up with treatment service use. If we just surveyed treatment populations and/or those who attend Gamblers Anonymous, we would almost inevitably conclude that most problem gamblers are primarily white middle-aged men who typically have problems gambling on horse racing and/or casino games because females, various ethnic groups, and youth are disproportionately represented in treatment. It can also provide new research questions such as why such groups are not accessing treatment services.
- Allow comparison of different regions (within country or across counties) in terms of prevalence and their association with game availability, treatment availability, economic prosperity, crime rates, etc.
- Provide a snap shot of the life of a 'normal' gambler at a time of our choosing, rather than theirs. In contrast, clinical samples are consistent with people in crisis. We cannot always learn

about the "normal" state of gambling, and how individuals can stay that way, from clinical samples.

- Provide attitudes and beliefs and behaviours in the general public (i.e., non-affected people) rather than non-representative groups (like problem gamblers) (e.g., Orford et al, 2009).

Prevalence studies clearly have a role within the gambling studies field and both of us have helped carry out such studies in both adult and adolescent populations in Great Britain (e.g., MORI/International Gaming Research Unit, 2006; Wardle et al, 2007) However, nationally representative prevalence surveys are rather expensive to carry out and funding agencies should be clear about what kinds of information can or (just as importantly) cannot be gathered.

Frequently, the results from prevalence studies are interpreted both within the reports themselves, and by those who read them, as providing an insight into the causes behind the development of gambling problems. There are many reasons why this kind of interpretation can be both inaccurate and misleading. As highlighted above, prevalence studies have a useful purpose in identifying general levels of gambling (and to some extent) problem gambling and can help to focus the allocation of resources for treatment services. However, they have very little explanatory power for understanding the development of problem gambling. This is the case for several reasons. For instance:

**Problem gambling is non-normally distributed across populations:** Prevalence surveys select a sample that is representative of the entire adult population. However, problem gamblers are not equally distributed amongst that population and are therefore under-represented in general population surveys. For example, problem gambling in the UK is usually more prevalent amongst males, 18-24 age groups, those on lower incomes, for instance. Consequently, the actual prevalence of problem gambling may be higher.

**Problem gambling is a 'sensitive' issue for participants:** Given that gambling is a behaviour that most problem gamblers do not want to talk about, they are much more likely than non-problem gamblers to refuse to agree to participate in any survey. (Conversely, those who do not gamble at all may also be under-represented in gambling surveys as they may feel that the issue is no concern of theirs).

**Non-response from problem gamblers:** If problem gamblers happen to be in a household that is surveyed, they are much less likely to return the form than non-problem gamblers. If they happen to be in a household surveyed, they are less likely to return the call or form. Many may make themselves unavailable to answer survey questions if appointments are made to interview them. Furthermore, problem gamblers who agree to be surveyed are more likely to lie about the amount of time and money they spend on gambling, and about the frequency of their gambling - especially if they have not told their family that they have a problem and their family are not aware of the extent of their gambling. They are even more likely to lie during a survey if another family member is at home when they are answering the survey takers questions. No matter what the interview technique, households are not always places that encourage disclosure of information. Furthermore, household telephone interviews may also facilitate non-response as it is harder for problem gamblers to be honest when compared to self-completion methods. PGs are often in denial until they reach a point where they either get discovered or ask for help.

**Small numbers of problem gamblers:** One of the real disadvantages of prevalence surveys is that they do not tell us very much about problem gambling. Although prevalence surveys can highlight slight fluctuations in problem gambling rates in comparison with other prevalence surveys, they do not tell us very much about problem gambling itself. The most recent British Gambling Prevalence Survey (BGPS) had a sample of 9003 participants, but out of that sample only 54 people were identified as problem gamblers (Wardle et al, 2007). Many qualitative studies (including

treatment) studies have bigger samples of problem gamblers than that but are classed as unrepresentative.

Gambling data from diverse groups may be unrepresentative: Some have argued that gambling prevalence surveys rarely capture responses from Culturally and Linguistically Diverse (CALD) groups. Some studies have found that gaming environments such as casinos comprise a disproportionate number of individuals from CALD groups (Griffiths, 2008).

**Problem gambling is not uniformly distributed in the population:** Given that many prevalence surveys such as the latest BGPS are household surveys, it should be noted that problem gamblers are more likely to be homeless and/or to be institutionalised (in prison, in mental hospitals), and therefore not even accessed to survey about their gambling behaviour in the first place.

**Unknown effect of false positives and false negatives on problem gambling estimates:** One of the most highlighted problems is that when it comes to the screening instruments used to identify problem gambling, we do not know what effect false positives and false negatives have on the data. Typical survey samples worldwide are rather small (1,000 to 10,000 depending on population size). Therefore, the actual numbers of problem gamblers on which conclusions (and policy decisions) are made are very small (e.g., just over 50 problem gamblers in the case of the latest BGPS). To overcome the problem of small numbers and their analysis, the researchers often collapse sub-clinical and clinically significant cases of interest together. This analysis usually fails to consider the impact of false positive (in the sub-clinical group) on the validity of the conclusions drawn.

**Response rates to national surveys are decreasing:** In the latest BGPS, the response rate for this survey was significantly lower than the previous survey (51 percent in 2007 versus 65 percent in 2000) (Sproston et al, 2000; Wardle et al, 2007). This may have decreased the prevalence of problem gambling as problem gamblers are more likely to be in the group of non-responders.

**Survey response may differ as a function of media exposure to problem gambling:** Australian researchers have argued that any given moment in time, the number of people surveyed who will admit to having a gambling problem is dependent on how much media attention has been given to concerns about gambling losses, and the level of problem gambling in the community. In Australia, the Productivity Commission's Report (1999) into gambling prevalence is possibly the only survey to even get close to accurately assessing the true level of problem gambling as it was conducted at a time when media reports and public concerns about problem gambling were at their lowest. Shame and guilt (and therefore lying about gambling involvement) are apt to increase as public concern about gambling and gambling losses increases and as media reports become more prevalent and shocking.

**Random samples are still self-selecting samples:** Even though most national gambling prevalence surveys are random it could still be argued that those who are approached still ultimately decide whether or not to participate and in that sense the sample is still self-selecting.

**Self-report methods can be problematic:** The use of anonymous self-report methods may allow people to be economical with the truth and/or exaggerate and lie about certain issues. This is coupled with the fact that they may be asked things on which they have to rely on long-term memory (which may not be the most reliable). Furthermore, it is easy for a respondent to exaggerate or lie when they know that they are relatively anonymous and that nobody will question the validity of their answers. For example, if a person says that they spend £10,000 a week gambling how certain can we be that this is a truthful answer? By contrast, if this statement is made during an interview the interviewer could ask more questions to determine the credibility of the response. This may be even more problematic for surveys that sample youth populations who may not take the subject matter seriously, and who have been assured that their responses are entirely anonymous.

Actual problematic gambling behaviour is rarely considered in large-scale surveys: In order to overcome question fatigue and to increase participation rates, very few questions in large prevalence surveys actually focus on gambling problems beyond the screen questions used to identify people with problems. This leaves correlational factors only which are often basic demographics (e.g., age, location, etc.) or frequency questions (how often they play, etc.), that by themselves they do not provide much information as to why problems develop.

Lack of theory-driven and/or model-driven research: In almost all gambling prevalence surveys there is a great emphasis on closed (forced) question responses rather than allowing respondents to explain what the issues are for their specific gambling behaviour (i.e., the studies are more about 'data trawling' rather than 'theory building'). This also means that we are just measuring fluctuations rather than developing and testing theories that help us understand the fundamental issues.

What are we actually measuring in prevalence surveys anyway? If problem gambling prevalence rates are higher then what does this mean? Are promotional and education campaigns helping more people to be aware of and acknowledge their problems? Is increased gambling advertising having an effect on gambling behaviour? Are new games or channels for gambling having a negative impact? Or are other factors such as poverty and unemployment contributing to the problem? The same is true if gambling problems decrease. How do we know which factors contributed to a reduction in problem gambling behaviour? The number of possible variables could be very large and it is unlikely that a prevalence survey will cover all of them. The real causes of prevalence rate changes may be missed altogether and yet such reports almost always rely on explaining their findings purely in relation to the way data were gathered in the survey.

Understanding severity: There appears to be an assumption that endorsing one or two items on a problem gambling screen indicates a problem at a low level when there is little evidence to support this. Whilst endorsing the specified number of criteria on a diagnostic screen may be a good indicator of a gambling problem, the scores for endorsing one or two items may not have been validated as an indicator of a lesser problem. Answering in this way to one or two items may in fact indicate the extent of 'normal' risk inherent in gambling activities. For example, it is likely that many 'normal' gamblers have spent more than they intended in the last year. Also, regular gamblers are likely to exaggerate wins now and again. No one likes to be a loser. Men, in particular, may not like to admit to losing because of the competitive nature of the society we live in. Nevertheless, studies often report to have identified less severe gambling problems in their samples through endorsement of just one or two criteria. There is an inherent assumption being made here that the behaviour of 'normal' gamblers who report occasional risky behaviours are somehow qualitatively similar to people with full blown gambling problems. However, there is no evidence to support this claim, and in fact people with gambling problems may have other underlying predisposing factors that contributed to the development of their gambling problem (e.g., a history of depression, parents who had gambling problems and poor coping skills) (Griffiths, 2006).

By highlighting some of the problems of prevalence surveys we are not saying that these should not be carried out (as they clearly have a use as outlined at the start of this article). However, there are lots of other methodologies for examining and understanding problem gambling. We need to look at the lives of the problem gamblers in far more detail than the data collected from prevalence surveys. Future prevalence surveys should be complemented with other more 'in-depth' methodologies including interviews, focus groups, Q-sorts and online discussions. Such methods are particularly important for the design stage of a survey by understanding what the right questions are to ask. Furthermore, other methodologies can provide the "how" and "why" questions that may go unidentified and are not answered by a survey. For example, a survey that identifies that more women are gambling

online is unlikely to establish why that is the case.

There is also a major problem with asking people with gambling problems a few basic questions about why they gamble. Problem gambling is frequently characterised by a lack of insight in the individual as to why they gamble so much. Often a person with gambling problems does not think and act in a rational manner and consequently may not answer simple questions in a rational or well informed manner either. In this respect, more can be learned about the motivations underlying problem gambling through detailed interviews where participants can explain their answers, or through talking to clinicians who can provide an informed insight into the ways that people with gambling problems think and act. Such methodologies can then be used to develop testable theories that can then be tested upon much larger samples.

So, why are prevalence studies used so much? One answer is that they are relatively easy to put together and administer. By controlling which variables are selected for further examination, simplistic answers can be derived based upon a limited set of predefined questions. Another reason is to do with the large samples that can be used for prevalence surveys. There appears to be a perception among some researchers and policy makers, that the more people who participate in the study, the more valid it is, or the more value for money it is. Although a large sample size may contribute towards overall statistical validity it is rare that anyone questions the validity of the constructs upon which the statistics are based. In other words, were the right questions asked and did the respondents have the opportunity to provide a complete range of responses? Or did they only have the option to tick a few predefined boxes?

It is human nature to try and simplify complex situations, and it is not always helpful to conclude that the results indicate that a situation is more complex than initially believed. However, it is only through acknowledging complexity and through a willingness to engage in an ongoing quest for understanding that we can ever hope to fully understand the phenomena of problem gambling. In the final analysis, the initial complexity in understanding the situation will be far outweighed by the more protracted but ultimately more enlightening route derived through detailed examination and consequent understanding that comes through asking the right questions to the right people. In many situations, such a process cannot be undertaken through survey-based research but instead must be pieced together through interview-based methods whereby respondents have the chance to explain their situation in detail. Through such studies, theory can be developed which can then be tested to determine the generalisability of the findings either to the population as a whole or to specific sub-groups. **CGI**

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