

## Rapid Communication

# Sociodemographic Correlates of Internet Gambling: Findings from the 2007 British Gambling Prevalence Survey

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### Abstract

This study provides the first analysis ever made of a representative national sample of Internet gamblers. Using participant data from the 2007 British Gambling Prevalence Survey ( $n = 9,003$  adults aged 16 years and over), all participants who had gambled online, bet online, and/or used a betting exchange in the last 12 months ( $n = 476$ ) were compared with all other gamblers who had not gambled via the Internet. Overall, results showed a number of significant sociodemographic differences between Internet gamblers and non-Internet gamblers. When compared to non-Internet gamblers, Internet gamblers were more likely to be male, relatively young adults, single, well educated, and in professional/managerial employment. Further analysis of DSM-IV scores showed that the problem gambling prevalence rate was significantly higher among Internet gamblers than among non-Internet gamblers. Results suggest that the medium of the Internet may be more likely to contribute to problem gambling than gambling in offline environments.

### Introduction

IT HAS BEEN CLAIMED that remote types of gambling provide the biggest cultural shift in gambling in the past decade<sup>1</sup> and that the introduction of Internet gambling may lead to increased levels of problematic gambling behavior.<sup>2</sup> Despite the introduction of this new medium in which to gamble, there has been little empirical research examining Internet gambling in the United Kingdom. The first prevalence survey by Griffiths<sup>3</sup> was published in 2001 (from data collected in 1999) when Internet gambling was almost nonexistent. The most recent survey by the British Gambling Commission<sup>4</sup> reported that 8.8% of the 8,000 adults surveyed said they had participated in at least one form of remote gambling (through a computer, mobile phone, or interactive/digital TV) in the previous month with no change in the participation rate from the previous year's survey.

Another UK national prevalence survey examined Internet gambling among adolescents. In a survey of 8,017 children aged 12 to 15 years old, Griffiths and Wood<sup>5</sup> reported that 8% of their sample ( $n = 621$ ) had played a national lottery game on the Internet. Boys were more likely than girls to say they

had played national lottery games on the Internet (10% and 6% respectively), as were young people who were Asian and black. Not surprisingly, young people classified as "problem gamblers" (as defined by the DSM-IV-J) were more likely than "social gamblers" to have played a national lottery game on the Internet (37% compared with 9%).

There is no conclusive evidence that Internet gambling is more likely than other gambling media to cause problem gambling, although recent studies using self-selected samples suggest that the prevalence of problem gambling among student Internet gamblers is relatively high for students who gamble on the Internet in general<sup>6</sup> and for those who engage in online poker.<sup>7</sup> Given this relative lack of empirical research, the following study performed some secondary analysis of the 2007 British Gambling Prevalence Survey carried out by Wardle and colleagues in 2007.<sup>8</sup> More specifically, the data were further examined to see whether (a) any particular demographic variable was significantly associated with Internet gambling, (b) any particular demographic variable was significantly associated with non-Internet gambling, and (c) the demographic profile between Internet and non-Internet gamblers was significantly different.

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## Method

Data analyzed in this study came from the second British Gambling Prevalence Survey. Using the Postcode Address File as the sampling frame, private addresses were randomly selected within 317 postcode sectors stratified by region occupational status and proportion of nonwhite residents. Fieldwork was carried out between September 2006 and March 2007. Following an advance letter, interviewers called at the selected addresses in order to complete a household interview with the household reference person (HRP) or the HRP's spouse/partner (to collect socioeconomic information about the HRP and demographic information about each person resident in the household) and to assign a copy of the main self-completion questionnaire for each person aged 16 and over living in the household. Completed questionnaires were collected either at the same visit or on a later occasion. An online completion option was made available and was taken up by 7% of respondents. HRP interviews were achieved at 63% of addresses, and questionnaires were completed by 81% of adults at those addresses. Hence, the overall response rate was 52% ( $n = 9,003$ ). Further methodological details are provided in the full report of the survey.<sup>8</sup>

From the data collected, a new variable was created that identified those people who gambled using the Internet. Internet gamblers were all those participants who reported gambling online, betting online, and/or gambling using a betting exchange. All other survey participants were either those who gambled but not online or those who did not gamble at all. It should also be noted that the prevalence of Internet gamblers in this study was likely to be lower than the true prevalence because those who used the Internet to play the national lottery or one of its associated products were not included. Therefore, secondary analysis was carried out on those participants who gambled using the Internet ( $n = 476$ ) and compared sociodemographic characteristics of this group against non-Internet gamblers ("non-Internet gamblers" is an umbrella heading for a diverse group covering a wide range of sociodemographics and activities). All significance testing on the data to be reported used an adjusted Wald's test to model the differences, taking into account the complex sample design, weighting, and clustering. All  $p$  values in the next section relate to this particular type of statistical testing.

## Results

### Gender

Of the total sample, 6% had gambled on the Internet (9% male, 3% female). Results showed that Internet gamblers were significantly more likely to be male: 74% men vs. 26% women,  $F(1, 158) = 170.33$ ;  $p < 0.001$ . There were no gender differences for non-Internet gamblers,  $F(1, 158) = 0.20$ ;  $p = 0.65$ .

### Age

Results showed that Internet gamblers were more likely to be people aged 34 years and younger (55%). Only one in five Internet gamblers (21%) were older than 45 years. The prevalence of Internet gambling was highest among those in the 16 to 24 and 24 to 34 age groups, and prevalence decreased with advancing age. This pattern was different from

that observed among those who gambled offline, among whom prevalence was highest in the 45 to 64 age group. These differences were significant. Age was significantly associated with online gambling,  $F(6, 153) = 25.25$ ;  $p < 0.001$ , and was highest among the youngest age groups. In addition, age was significantly associated with non-Internet gambling,  $F(6, 153) = 16.27$ ;  $p < 0.001$ , which was highest among those aged 55 to 64 and lowest among those aged 16 to 24.

### Education

The relationship between gambling and education was somewhat variable. However, it is worth noting that the prevalence of Internet gambling was higher among those with a degree, whereas the prevalence of non-Internet gambling was lowest among this group. Further analysis showed that the level of education was significantly associated with Internet gambling,  $F(5, 154) = 15.30$ ;  $p < 0.001$ , which was highest among those with A-levels and a degree and lowest among those with no qualifications. Level of education was also significantly associated with non-Internet gambling, which was highest among those with a professional qualification or General Certificate of Secondary Education and lowest among those with a degree,  $F(5, 154) = 17.00$ ;  $p < 0.001$ .

### Occupational status

Results showed that almost half of all Internet gamblers (48%) came from managerial and professional households. The prevalence of Internet gambling was significantly higher among managerial/professional occupations and small account worker households than among routine and semi-routine households. The opposite was true for non-Internet gamblers: those in semi-routine and routine households and lower supervisory households were more likely to gamble offline. Further analysis showed that type of occupation was significantly associated with Internet gambling,  $F(4, 155) = 5.28$ ;  $p < 0.001$ , which was highest among small employers and lowest among semi-routine households. In addition, type of occupation was significantly associated with non-Internet gambling, which was highest among lower supervisory workers and lowest among managerial and professional groups,  $F(4, 155) = 8.66$ ;  $p < 0.001$ .

### Type of gambling activity

Internet gambling prevalence was also examined by gambling activity. Spread bettors were the most likely to have gambled on the Internet (64%), followed by those who used fixed-odds betting terminals (FOBTs) (47%). The remaining results were gambling or betting on casino games (38% also used the Internet to gamble), football pools (27%), greyhounds (24%), slot machines (20%), horses (17%), scratchcards (13%), bingo (12%), and the national lottery draw (8%).

### Problem gambling

Overall, problem gambling prevalence among Internet gamblers, using the DSM-IV, was 5%. The base sizes were too small to analyze by age and gender, but an analysis by age showed that problem gambling prevalence rate peaked at 5.7% in the 35 to 54 year age group. Results also showed that Internet gamblers were more likely than non-Internet

gamblers to score positively on the DSM-IV. Further analysis of DSM-IV scores showed that problem gambling prevalence rate was significantly higher among Internet gamblers than among non-Internet gamblers,  $F(1, 158) = 52.09$ ;  $p < 0.001$ .

## Discussion

This study provides the first analysis ever done of a representative national sample of Internet gamblers. Overall, results showed a number of significant sociodemographic differences between Internet gamblers and non-Internet gamblers. When compared to non-Internet gamblers, Internet gamblers were more likely to be male, relatively young adults, single, well educated, and in professional/managerial employment. Problem gambling (as measured by the DSM-IV) was also significantly more likely among Internet gamblers when compared to non-Internet gamblers. Many of these results confirm findings from smaller-scale studies.<sup>6,9</sup>

Previous UK studies have tended to report that Internet gamblers are more likely to be male,<sup>5-7</sup> although some studies, done elsewhere, have shown that females appear to gamble on the Internet as much as males do.<sup>10</sup> However, this may be a consequence of the self-selection methodologies used. This study clearly showed that males were nearly three times more likely than females to gamble on the Internet and reflects studies carried out in different but related fields, such as online computer gaming.<sup>11,12</sup> In many nongambling technological fields, males are often more likely than females to be early adopters of such technologies, but such gender differences will likely erode over time, as evidenced in other online commercial activities such as computer gaming and shopping. The increase in certain activities, such as online bingo, that are being increasingly marketed to women is likely to facilitate this erosion.

The finding that Internet gamblers are more likely to be below the age of 35 years is unsurprising and most likely reflects Internet usage in the general population. "Technophobia" is less prevalent in younger age groups, and new technologies (such as mobile phones and the Internet) are used widely by adolescents and young adults. The latest national British adolescent gambling survey found that 8% of adolescents had engaged in lottery gambling online,<sup>5</sup> a slightly higher percentage of online gambling than found in this British adult gambling survey. As these adolescents and young adults get older, the age differences in Internet gambling are likely to be less pronounced and to dissipate over time.

This study also revealed many sociodemographic indicators that are likely to be connected to each other. For instance, the results of the secondary analysis also showed that Internet gamblers were more likely than non-Internet gamblers to be well educated (especially degree level and above). Computer literacy may be a consequence of being well educated, and therefore those who are more computer literate may be more likely to engage in computer-based activities. Another consequence of being well educated is that it increases the likelihood of (a) getting a job and (b) getting a good (well-paying) job. Therefore, the finding that Internet gamblers are more likely than non-Internet gamblers to work in managerial or professional employment is perhaps un-

surprising given its relationship to education. A further consequence of having a good job is being able to afford computer equipment and broadband access at home. Therefore, having a computer at home is likely to increase the likelihood of engaging in "convenience" gambling.

In respect to the type of gambling activities that Internet gamblers engaged in, there were some interesting findings. Results also showed that people who participated in particular forms of gambling, such as spread betting, FOBTs, and casino games, were the most likely to have also used the Internet to gamble. These types of gambling are very closely associated with dedicated gambling environments and gaming operators. In essence, individuals engaged in these types of gambling activity are people who seek out particular gambling experiences in particular environments. Perhaps unsurprisingly, then, these individuals are also more likely to gamble on the Internet because they are looking for value and convenience.<sup>1</sup>

The finding that Internet gamblers were more likely to be problem gamblers has been reported previously in a number of smaller-scale studies in both the United Kingdom<sup>6</sup> and the United States,<sup>9</sup> and as noted in the introduction, many studies have claimed that Internet gambling could be a less protective environment for vulnerable gamblers.<sup>1,2</sup> The findings of this large-scale, nationally representative study appear to confirm such assertions. As asserted by much research over the last decade, to a problem gambler, the Internet provides the possibility for year-round, 24/7 gambling from the comfort of home. Given the low levels of social responsibility found by empirical studies of Internet gambling sites<sup>13,14</sup> and the vulnerability problem gamblers, this constant availability of a gambling medium is of particular concern.

Given these findings and the potential concerns that arise from them, it is clear that gaming companies must acknowledge they need to provide even better social responsibility infrastructures online than offline. Some companies are starting to do so.<sup>15</sup> The issue of how Internet problem gamblers can be helped is another issue. Recent research suggests that online problem gamblers appear to prefer to seek help online;<sup>16,17</sup> therefore, online help, guidance, and treatment may be a potential way forward to help those who may feel too stigmatized to seek traditional face-to-face help for their gambling problems.

The rise of Internet gambling and its consequent challenges cannot be seen in isolation, particularly because there is ever-increasing multimedia integration between the Internet, mobile phones, and interactive television. Furthermore, young people appear to be very proficient in using and accessing these media and are likely to be increasingly exposed to remote gambling opportunities. These young people will therefore require targeted education and guidance to enable them to cope with the challenges of convenience gambling in all its guises.

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## Disclosure Statement

The authors have no conflict of interest.

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