



Public Health
England

Protecting and improving the nation's health

Gambling-related harms evidence review

Quantitative analysis of gambling involvement and gambling-related harms among the general population in England

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Executive summary

Background

In the UK, there has been increasing concern about the harms associated with gambling.

Public Health England (PHE) was commissioned to review the evidence for the prevalence, determinants and harms associated with gambling, and to estimate the social and economic burden of gambling-related harms in England.

To support the objectives of the PHE evidence review, this report brings together a range of quantitative data sources that seek to estimate gambling involvement and gambling-related harms among the general population.

Methods

The first part of the review focuses on a 4 year combined and weighted dataset from the Health Survey for England (HSE), which presents new analysis undertaken for this review. The second part focuses on previously published sources of gambling data, bringing these together for the first time to address questions not met by the HSE survey.

Results

Gambling participation

In England, 24.5 million people (half of the adult population) gamble each year. Participation in the National Lottery is the most common type of gambling, except among younger people where scratchcards are more common. Football pools and playing electronic gaming machines are much more prevalent gambling activities among people under 35 years of age compared to older age groups.

Overall, men are more likely to participate in gambling, and this sex difference is marked for online gambling where 15% of men participate compared to 4% of women. Since 2012, overall gambling prevalence has fluctuated. Participation in the National Lottery declined by 10% between 2012 and 2018. However, participation in other gambling activities increased from 40% in 2012 to 45% in 2015, before falling back to 40% in the most recent HSE survey. Online gambling (excluding the National Lottery) has increased from 6% in 2012 to 9% in 2018.

Harmful gambling

The most commonly used screening tools categorise gambling-related harm as either low-risk, moderate-risk or problem gambling. The levels of gambling are defined as:

- 1 Non-problem gambler: Gamblers who gamble with no negative consequences.
- 2 Low-risk gambler: Gamblers who experience a low level of problems with few or no identified negative consequences.
- 3 Moderate-risk: Gamblers who experience a moderate level of problems leading to some negative consequences.
- 4 Problem gambler: Gambling with negative consequences and a possible loss of control.

More specifically, problem gambling is typically defined as gambling to a degree that compromises, disrupts or damages family, personal or recreational pursuits. In 2018, the HSE estimated that 0.5% of the population were problem gamblers. This is a reduction from 0.9% in 2015 (although since the numbers are very small, this does not represent a real decline). However, the proportion of gamblers who experience low levels of gambling-related problems is increasing.

It is important to note that a recent YouGov study found a significantly different prevalence of 13% of the population experiencing some level of gambling harm compared to 4% from a combined version of the HSE¹. An assessment of both sources concluded that HSE likely underestimated the true prevalence in the population.

Profile of gamblers

Overall, the highest rates of gambling participation are reported among people who have higher academic qualifications, are employed, and among relatively less deprived groups. There are disproportionately more people classified as 'at-risk' or 'low-risk', 'moderate-risk' and 'problem gamblers' among men in younger age groups. However, the socio-demographic profile of gamblers appears to change as the level of gambling risk increases from low-risk to problem gambling. Harmful gambling is associated with people who are unemployed and among people living in more deprived areas.

Gambling and the risk of gambling-related harm also appear to be associated with psychological and physical health. Overall, the highest levels of gambling participation are reported by people who report better general psychological health (on the short general health questionnaire (GHQ-12)) and higher life satisfaction. In contrast, people

¹ This version of the HSE combined the health surveys for England, Scotland and Wales.

describing poorer psychological health are less likely to report gambling participation. Again, this reverses for problem gambling with higher prevalence among people with poor health, low life satisfaction and wellbeing, and especially for people where there is an indication of probable psychological health problems.

The health behaviour profile for gambling was inconclusive for BMI (Body Mass Index) status and cigarette smoking. But, there is a clear and strong association between gambling at all levels of harm and increasing alcohol consumption. This gradient is evident for overall gambling participation and becomes steeper for at-risk and problem gambling. There is a particularly high level of gambling risk for people consuming 50 units of alcohol or more per week.

Finally, harmful gambling has a very different activity profile to general gambling. It includes low National Lottery participation and high participation in online gambling including:

- slots
- casino and bingo games
- electronic gambling machines in bookmakers
- sports and other event betting
- betting exchanges
- dog racing

At-risk gamblers are significantly more likely than general gamblers to participate in online gambling.

Overall, demographic factors, particularly sex, appear to predict at-risk gambling behaviour more than economic factors such as income, employment, and relative deprivation. Poor mental health is a stronger predictor of at-risk gambling than both poor physical health and negative health behaviours, with the notable exception of alcohol.

Affected others, treatment, attitudes and influences, and children and young people

Including adults and children, around 7% of the population were found to be negatively affected by someone else's gambling. Affected others are more likely to be women, reflecting the association between problem gambling and men. Among affected others, immediate family members felt the most severe impacts of problem gambling.

Just over 9,000 people received treatment from the National Gambling Treatment Service (NGTS) in Great Britain during 2019 to 2020. This represents only a small fraction of problem gamblers in England. This was the highest number of people treated since the NGTS began in 2015 to 2016.

There is a negative and worsening public perception of how gambling is provided. Most people see gambling as dangerous, too readily available, and think it should be discouraged. The proportion of children and young people who participate in any gambling has been reducing. Boys are more likely to gamble than girls, and the rate increases with age. Fruit and slot (electronic gaming) machines were often identified as the first experiences of gambling among children and young people. Playing the National Lottery, scratchcards, and placing private bets with friends were the most common forms of gambling reported. But as the young people got older there was a significant increase in online gambling among men.

The rates of gambling among children and young people are lower than drinking alcohol but higher than using e-cigarettes, smoking tobacco cigarettes, or taking illegal drugs. There is a potential relationship between these other harmful activities and gambling. Compared with children who have not gambled, those who have spent their own money on gambling are more likely to have also consumed alcohol, taken drugs, or smoked either a tobacco cigarette or an e-cigarette.

Discussion and implications

The main findings of this report are that:

- half the population currently gamble with 0.5% of the population experiencing the highest level of harm
- people who are classed as 'at-risk' and 'problem gamblers' are disproportionately younger men
- socioeconomic and health inequalities persist among people classed as 'at-risk' and 'problem gamblers'
- alcohol is very strongly associated with gambling
- a significant proportion of the population (7%) are negatively affected by someone else's gambling

The previously published sources discussed in the second part of the report vary in the type and quality of gambling data available. Gambling is a relatively new field of research and inconsistencies in the robustness and standardisation of the publications and data available are to be expected. However, all sources included are encouraging additions to the existing body of work. This inconsistency in data quality, and the absence of longitudinal data, are a major gap in the evidence base to be addressed in future research and data collection.

No data here takes into account the impact of the coronavirus (COVID-19) pandemic on gambling behaviour. Public Health England (PHE) has published [a rapid evidence review to explore the impact of COVID-19 on gambling](#) separately.

1. Introduction

1.1 Background and aims

Concern about the harms associated with gambling has been increasing in the UK. In response, in March 2018, the PHE remit letter from Health Minister Steve Brine confirmed PHE's priorities for 2018 to 2019. This included the request for PHE to "inform and support action on gambling-related harm as part of the follow up to the Department for Digital, Culture, Media & Sport-led (DCMS) review of gaming machines and social responsibility" (1).

In May 2018, DCMS published their response to the consultation on proposals for changes to gaming machines and social responsibility measures. In it they announced that "PHE will conduct an evidence review of the health aspects of gambling-related harm to inform action on prevention and treatment" (2).

To fulfil this commitment, 2 complementary evidence reviews were undertaken.

- 1 The National Institute of Health Research (NIHR) carried out a mapping review of the literature on the effectiveness of national and international policies and interventions to reduce gambling-related harms (3).
- 2 PHE has undertaken a broader evidence review on the prevalence of gambling and associated health harms and social and economic burden.

This report presents the findings of the quantitative analysis aspect of the work conducted by PHE only. It is one of 7 technical reports that inform the broader evidence review. The aim is to describe the prevalence, characteristics, associations, and harms associated with gambling as described in the scope (4) of the high-level protocol. Specifically, this report aims to:

- describe the prevalence of gambling and gambling-related harms in England by socio-demographic characteristics, geographical distribution and year
- identify the determinants of gambling and harmful gambling

1.2 Methods

To begin the project, we undertook a search of common databases, websites, and other online resources (for example, Office for National Statistics, NHS Digital and the Gambling Commission websites) to see if published reports or datasets for England were available to fulfil the above objectives. We determined that this was not to be the case. So, we identified datasets and official statistics that include information on

gambling by adults or children. We used the HSE (for years 2012, 2015, 2016 and 2018) as the primary dataset.

We ran outputs from HSE to meet the objectives both on the most recent year (2018) and the whole combined dataset where necessary. All outputs have been non-response weighted in line with standard procedure of HSE analysis since 2003. We commissioned the National Centre for Social Research (NatCen), who manage the HSE on behalf of NHS Digital, to combine the datasets. NatCen calculated and appended new combined weighting variables to the file received by the project team. These were:

- wt_sc12151618: combined 2012, 2015, 2016, 2018 self-completion weight
- wt_gamb12151618: combined 2012, 2015, 2016, 2018 problem gambling weight
- wt_sc18 etc: specific year self-completion weight
- wt_gamb18 etc: specific year problem gambling weight

This weighting ensures the outputs are representative of the population. Following standard HSE analysis practice, as used in the 'Health Survey for England 2018: Supplementary analysis on gambling' publication (5), we used the problem gambling weight for all analyses involving variables based on the problem gambling screening tools. We used the self-completion weight for the rest.

You can find all important information related to the data source in the comprehensive user guide, data dictionary, and methods tables published as part of the standard dissemination of the Health Survey for England series (6). Registered users can access the separate datasets via the UK Data Archive (7).

We conducted all statistical analysis in SPSS version 25.

We supplemented the outputs from HSE with findings from statistical publications and reports available from other sources to better meet the objectives. Sources include several outputs by:

- the [Gambling Commission](#)
- the [British Gambling Prevalence Survey 2010](#)
- [YouGov](#)
- the [Royal Society for Public Health \(RSPH\)](#)
- the [Avon Longitudinal Study of Parents and Children \(ALSPAC\)](#)
- [hospital episode statistics \(NHS Digital\)](#)

The HSE asks children certain questions, including about smoking and alcohol, but this is not the case for gambling. However, we found published data to fulfil the aim to include children in the analytic aspect of the work, at least to an extent.

The Gambling Commission publish an analytical report 'Young people and gambling' that explores the gambling behaviours of young people aged 11 to 16 years old in England, Scotland and Wales. The survey was conducted by Ipsos MORI and includes adolescent-appropriate application of the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th version) to measure at-risk and problem gambling. This source only allows limited analysis of associations linked to gambling in children as it is only gambling behaviour focused and does not include any health topics.

This report has found the lack of health and gambling data for children to be a gap in the data currently available. However, gambling behaviours in the cohort is very detailed and includes aspects such as in-game gambling, parental gambling, and those following gambling companies on social media. Furthermore, trend data is available. We have supplemented the results from this source with recent findings from ALSPAC.

1.3 COVID-19

The Health Survey for England 2018 is the primary data source and the gambling supplementary questions refer to gambling behaviour in the last 12 months. The data was published in November 2019 and the 12 month period covered by the survey questions is 1 January 2018 to 31 December 2018. This was before COVID-19 and so no data here takes into account the impact of the pandemic on gambling behaviour. So, the term 'the last 12 months' does not refer to the 12 months of 2020 when the pandemic occurred. We have published a [rapid evidence review to explore the impact of COVID-19 on gambling](#) separately.

2. Overall gambling participation

2.1 Introduction

This section focuses on prevalence and associations with any gambling activity in the last 12 months (at the time of the survey year referenced, most recent refers to 2018). The HSE involves a set of questions and interviews conducted face to face in the homes of respondents. The gambling questions are completed using a self-completion questionnaire alongside the core health questionnaire. As part of this, respondents were asked whether they have participated in any gambling activity in the last 12 months and if so what type of activity.

2.2 Overall gambling participation by type of activity

Over half (54.0%) of the England population aged 16 and over have taken part in some form of gambling in the last 12 months (based on HSE 2018 (5)). This equates to almost 24.5 million people. Gambling activity questions were first included in the HSE in 2012 and again in 2015, 2016, and most recently in 2018. Since 2012, participation in any gambling activity has reduced significantly in the England population by over 10 percent (from 64.5% to 54.0%). However, the reduction between 2016 and 2018 is not statistically significant, meaning there is unlikely to have been a real change between the 2 most recent years for which data is available.

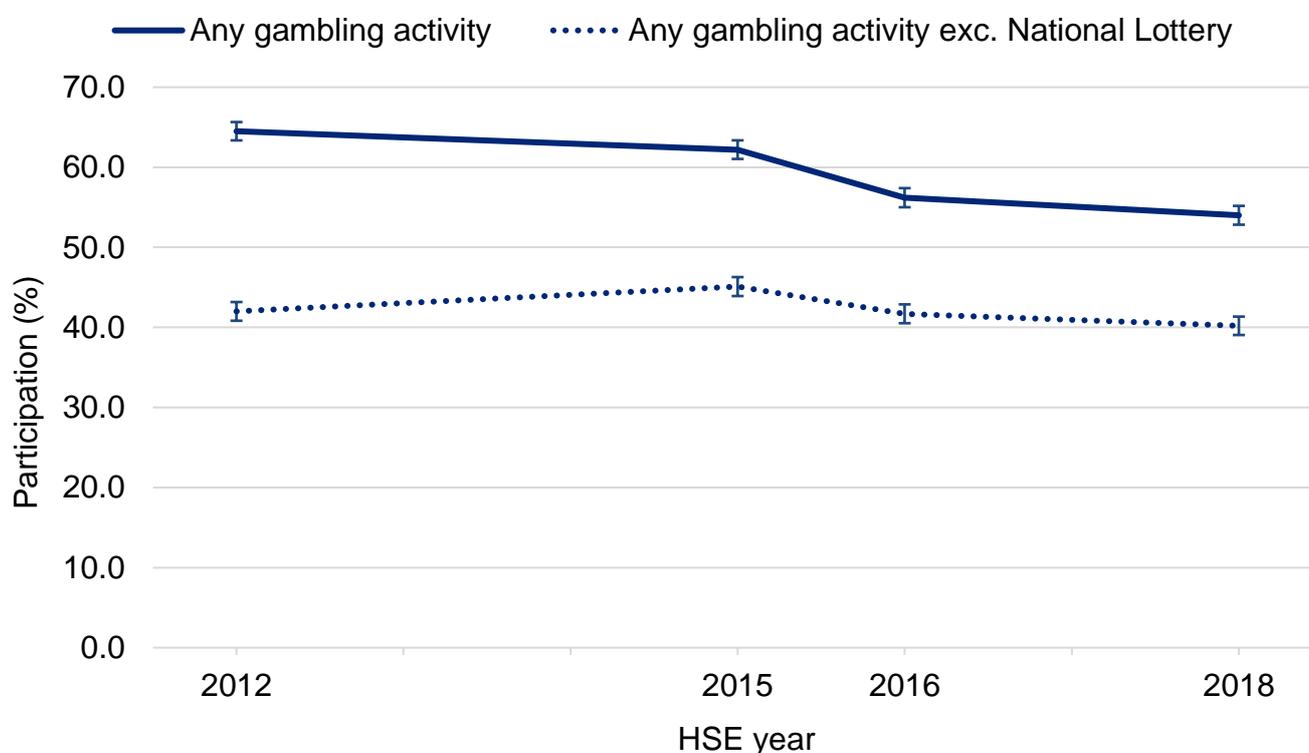
The National Lottery was the gambling activity with the highest level of participation in England with 36% of the population taking part in the last 12 months. The recent Gambling Commission annual report of gambling participation (8) found that in the individual National Lottery draws, the most common games of 2019 were:

- Lotto (played by 21% of all survey respondents in the past 4 weeks)
- EuroMillions (20%)
- Thunderball (3%)
- Hotpicks (1%)

However, participation in the National Lottery has declined from 52.5% in 2012 to 45.7% in 2015, 40.5% in 2016, to 36.0% in 2018. This is a statistically significant decline and suggests that the reduction seen in overall gambling participation is largely due to the reduction in National Lottery participation. **Figure 1** shows the percentage of overall gambling participation in England between 2012 and 2018. Once the National Lottery is excluded, gambling participation has stayed at the same level with 40.2% of the population having gambled on some other activity in the last 12 months. As shown in **Figure 1**, by excluding respondents who only play the National Lottery we see a different

pattern in gambling participation. This shows a pattern more resistant to change with the rate increasing to 45.1% between 2012 and 2015 before reducing to 40.2% in 2018.

Figure 1. Overall gambling participation, England 2012 to 2018



Source: HSE 2012, 2015, 2016, 2018

Table 1. Overall gambling participation, England 2012 to 2018

	2012 (%)	2015 (%)	2016 (%)	2018 (%)
Any gambling activity	64.5	62.2	56.2	54.0
Any gambling activity (excluding National Lottery)	42.0	45.1	41.7	40.2
Base ²	6,791	6,755	6,691	6,927

Source: HSE 2012, 2015, 2016, 2018

² Unless otherwise stated the base given in tables is the number of respondents who answered the relevant question.

After lotteries, the most common types of gambling activity according to HSE 2018 were:

- horse racing (not online³) (8.1%)
- online betting with a bookmaker (7.8%)
- slot (electronic gaming) machines (5.7%)
- bingo (not online) (4.5%)

These were also the most common activities in 2012, the only difference being that online betting with a bookmaker was less common in 2012.

Table 2. Overall gambling participation by type of activity, England 2012, 2015, 2016, 2018

	2012 (%)	2015 (%)	2016 (%)	2018 (%)
Lotteries and related products				
National Lottery	52.5	45.7	40.5	36.0
Scratchcards	18.7	22.2	20.3	17.9
Other lotteries	15.0	14.8	13.9	14.4
Machines and games				
Football pools	2.1	2.6	2.6	2.9
Bingo (not online)	5.8	5.9	4.9	4.5
Slot (electronic gaming) machines	6.2	7.1	6.2	5.7
Machines in a bookmakers	2.4	3.3	2.9	2.2
Casino table games (not online)	2.5	3.5	3.2	2.6
Poker played in pubs or clubs	1.0	1.1	0.8	0.7
Online gambling on slots, casino or bingo games	2.8	3.7	3.1	3.0
Betting activities				
Online betting with a bookmaker	4.3	7.2	7.4	7.8
Betting exchange	0.8	1.0	1.2	1.1
Horse races (not online)	10.4	11.1	9.2	8.1
Dog races (not online)	2.7	2.8	2.1	1.7
Sports events (not online)	3.8	5.2	5.1	4.0
Other events or sports (not online)	0.9	1.4	1.3	1.5

³ 'Not online' throughout this report means gambling in a bookmakers, by telephone or at the venue.

	2012 (%)	2015 (%)	2016 (%)	2018 (%)
Spread-betting	0.5	0.6	0.6	0.5
Private betting	4.6	5.1	4.1	3.8
Other gambling activity				
Any other gambling	1.3	1.8	1.3	1.2
Summary				
Any gambling activity	64.5	62.2	56.2	54.0
Any gambling (excluding National Lottery)	42.0	45.1	41.7	40.2
Any online gambling (excluding National Lottery)	6.6	9.4	9.4	9.4
Base	6,791	6,755	6,691	6,927

Source: HSE 2012, 2015, 2016, 2018

2.3 Overall gambling participation by age and sex

Participation in any gambling activity was most common in respondents aged 45 to 64 (60.4%) and least common in those aged 16 to 24 (39.0%). The National Lottery draws were the activity with greatest participation across all age groups except for those aged 16 to 24 years for whom scratchcards are more common. If we exclude National Lottery, gambling was more common in younger age groups for many activities⁴.

Also, 9.4% of people surveyed participated in some form of online gambling (excluding National Lottery) and this type of gambling is more common with younger people. Online gambling has increased in popularity from 6.6% in 2012 and since 2015 has remained consistent at 9.4%.

Slot (electronic gaming) machines were the most common type of machine or game betting. Except for bingo, most machine or games betting activity types were more common among younger people, particularly:

- slot (electronic gaming) machines
- football pools

⁴ It's worth noting that the HSE gambling measures are derived from a self-completion questionnaire for people aged 16 years and over. However, while the legal age limit for playing the National Lottery and scratchcards is currently 16 years (as well as for some (category D) slot machines) it is 18 years for most other forms of gambling. HSE does not take this legal age discrepancy into account.

- electronic gaming machines in bookmakers (including fixed odds betting terminals (FOBT))
- casino table games

Online betting with a bookmaker, sports betting, and private betting were also more common with younger age groups, particularly the under 35s.

Table 3. Overall gambling participation by age group, England 2018

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Lotteries and related products								
National Lottery	12.4	32.4	42.8	47.1	44.4	36.8	28.6	36.0
Scratchcards	19.7	26.8	23.6	19.6	14.0	9.1	4.9	17.9
Other lotteries	4.9	10.1	14.4	17.1	18.9	18.9	17.6	14.4
Machines and games								
Football pools	6.4	6.3	1.9	0.8	1.5	1.0	2.1	2.9
Bingo (not online)	4.9	5.5	5.3	3.0	4.1	3.7	5.1	4.5
Slot (electronic gaming) machines	8.3	9.7	7.1	5.3	4.1	1.3	1.0	5.7
Machines in a bookmakers	4.4	5.1	2.0	1.6	0.9	-	-	2.2
Casino table games (not online)	4.1	6.3	3.0	1.7	1.3	-	-	2.6
Poker played in pubs or clubs	1.6	1.3	0.8	-	-	-	-	0.7
Online gambling on slots, casino or bingo games	3.3	6.6	4.7	2.1	1.4	-	-	3.0
Betting activities								
Online betting with a bookmaker	9.2	15.9	10.5	7.7	4.0	1.8	1.1	7.8
Betting exchange	2.7	1.7	1.1	0.4	0.8	-	-	1.1
Horse races (not online)	9.9	8.7	8.0	8.9	8.6	7.8	3.3	8.1
Dog races (not online)	3.1	2.6	1.2	1.6	1.1	1.2	-	1.7
Sports events (not online)	6.8	7.5	3.6	3.8	2.9	1.4	-	4.0

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	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Other events or sports (not online)	3.8	2.7	1.0	1.1	1.2	-	-	1.5
Spread-betting	1.7	0.9	-	-	-	-	-	0.5
Private betting	8.5	6.4	3.9	2.3	1.9	1.1	1.4	3.8
Other gambling activity								
Any other gambling	1.9	1.6	1.5	0.8	0.9	1.1	0.6	1.2
Summary								
Any gambling activity	39.0	56.9	57.3	60.4	59.6	53.0	44.4	54.0
Any gambling (excluding National Lottery)	37.1	48.9	44.3	40.7	40.5	33.7	28.2	40.2
Any online gambling (excluding National Lottery)	11.2	18.5	12.9	9.1	5.1	2.4	1.5	9.4
Base	931	1,196	1,140	1,242	1,058	875	661	7,104

Note: missing data was not available due to small counts

Source: HSE 2018

The Gambling Commission annual report of gambling participation (8) found that on average online gamblers have 3 accounts with gambling websites and that 21% have bet ‘in-play’ (while the event is taking place) in the last 4 weeks. Furthermore, 20% of online gamblers aged 18 to 24 had more than 5 online accounts. Table 4 is taken from the Gambling Commission report and shows online and in-person participation in the last 4 weeks for those activities that can be accessed through multiple methods. The table shows that people playing bingo (81%) and the National Lottery (73%) were most likely to participate in-person while those participating in football betting (83%), sports betting (81%), and casino games (74%) were most likely to do so online.

Smartphones are now the most popular method of accessing online gambling with 50% of all online gamblers using their device for this purpose. This continues the trend seen in the Gambling Commission annual reports of increasing smartphone use for gambling in recent years. Younger age groups were most likely to gamble with multiple devices while the likelihood of using more than one device to gamble reduces with age.

Table 4. Online and in-person participation in the last 4 weeks (2019)

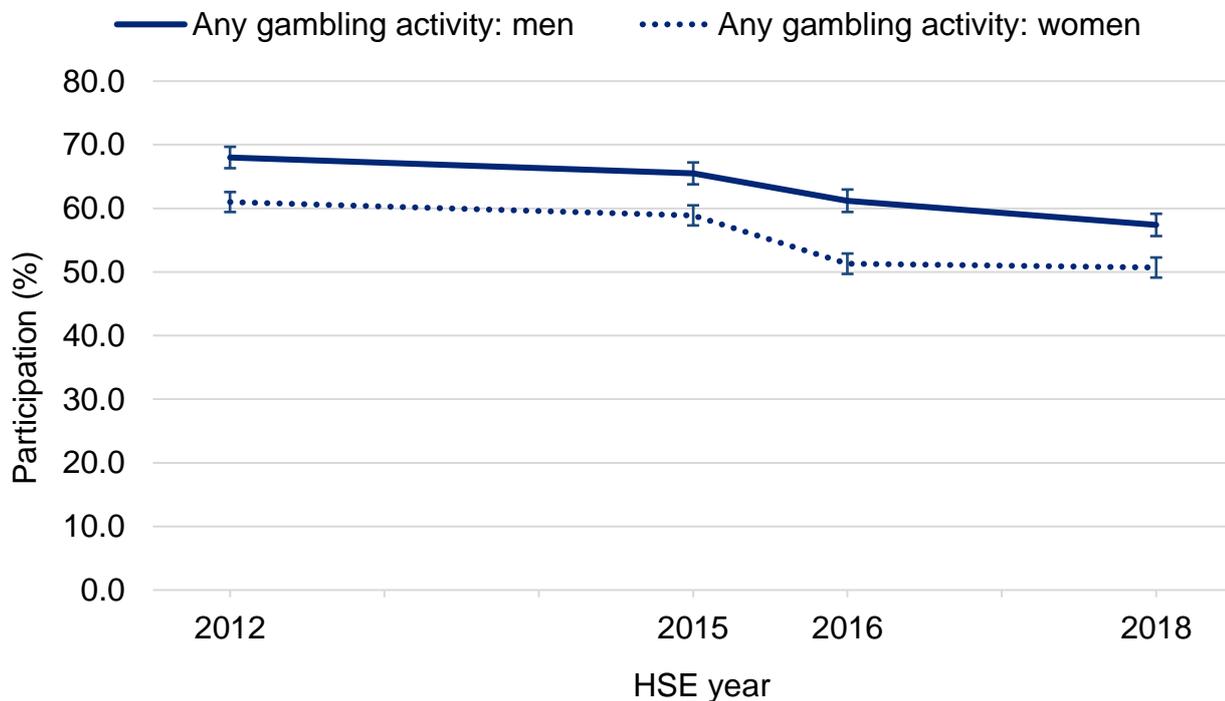
	National Lottery (%)	Bingo (%)	Football pools (%)	Horse racing (%)	Sports betting (%)	Football betting (%)	Betting on other events (%)	Casino games (%)
Online	36	24	55	61	81	83	58	74
In-person	73	81	50	49	27	26	53	47

Source: The Gambling Commission, Gambling participation in 2019: behaviour, awareness and attitudes, annual report, 2020

Figure 2 shows overall gambling participation for adults by sex in England between 2012 and 2018. Men (57.4%) were more likely than women (50.7%) to have participated in any gambling activity in the last 12 months. It also shows participation reducing at a similar rate for both men and women since 2012.

The difference is marked for online gambling with only 4.3% of women participating in online activities compared to 14.7% of men. Participation in online gambling reaches 28.4% for men aged 25 to 34. This means that of the 56.5% of 25 to 34 year old men that gamble (excluding the National Lottery), half do so online.

Figure 2. Overall gambling participation by sex, England 2012 to 2018



Source: HSE 2012, 2015, 2016, 2018

Table 5. Overall gambling participation by sex, England 2012 to 2018

	2012 (%)	2015 (%)	2016 (%)	2018 (%)
Any gambling activity: men	68.0	65.5	61.2	57.4
Any gambling activity: women	61.0	58.9	51.3	50.7
Base: men	3,042	2,996	2,965	3,506
Base: women	3,749	3,759	3,726	3,599

Source: HSE 2012, 2015, 2016, 2018

Women (17.8%) were as likely to buy scratchcards as men (18.1%) and more likely to take part in bingo (5.9% compared to 3.0% of men), but men had higher participation rates in all other gambling activities. The differences between men and women were greatest for:

- online betting with a bookmaker
- machines in bookmakers (including FOBT)
- betting on sports events
- private betting⁵

2.4 Overall gambling participation by highest educational qualification

By highest educational qualifications, participation in any gambling activity was most common in the below degree category (58.8%) followed by respondents with an NVQ4, NVQ5 and degree or equivalent (50.4%) level of qualification. Those with no qualification were least likely to participate in any gambling activity (46.5%).

There were differences by type of activity where those with an NVQ4, NVQ5 and degree or equivalent were less likely to participate in bingo (2.4%). Also, along with people in the below degree category, they were more likely to participate in betting on horse racing and sports events (not online). Respondents with no qualification were notably less likely than the rest of the population to participate in online betting with a bookmaker (2.3%).

Table 6. Overall gambling participation by highest educational qualification, England 2018

	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)	Total (%)
Lotteries and related products				
National Lottery	34.5	38.9	30.7	36.0
Scratchcards	13.1	21.8	14.7	17.9
Other lotteries	13.1	16.1	11.9	14.4
Machines and games				
Football pools	1.4	3.9	2.3	2.9
Bingo (not online)	2.4	5.3	5.5	4.5

⁵ This excludes poker played in clubs, betting exchanges and spread-betting, which are all relatively low participation activities but are dominated by men.

	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)	Total (%)
Slot (electronic gaming) machines	3.3	7.6	3.8	5.7
Machines in a bookmakers	1.3	3.1	1.0	2.2
Casino table games (not online)	3.4	3.0	0.5	2.6
Poker played in pubs or clubs	0.3	1.0	0.4	0.7
Online gambling on slots, casino or bingo games	2.4	3.8	1.4	3.0
Betting activities				
Online betting with a bookmaker	9.5	8.8	2.3	7.8
Betting exchange	1.4	1.0	0.8	1.1
Horse races (not online)	7.9	9.7	4.1	8.1
Dog races (not online)	1.1	2.1	1.2	1.7
Sports events (not online)	3.3	5.2	1.9	4.0
Other events or sports (not online)	0.9	2.1	1.0	1.5
Spread-betting	-	-	-	0.5
Private betting	3.3	4.6	2.3	3.8
Other gambling activity				
Any other gambling	1.1	1.4	1.0	1.2
Summary				
Any gambling activity	50.4	58.8	46.5	54.0
Any gambling activity (excluding National Lottery)	36.0	45.6	31.3	40.2
Any online gambling (excluding National Lottery)	10.7	10.9	3.4	9.4
Base	2,024	3,553	1,313	6,927

Note: missing data was not available due to small counts
Source: HSE 2018

2.5 Overall gambling participation by economic activity

Looking at economic activity, participation by group in any gambling activity was most common in the:

- employed, self-employed or training category (64.7%)
- retired (52.3%)
- unemployed (50.4%)

However, confounding is important here as economic groups like students and those in retirement comprise people of very different ages and previous tables have shown a strong association between gambling and age. You can find more information about the issues of confounding later in this report in the [section on at-risk and problem gambling](#) and in more detail in [Appendix B](#).

We based [Table 7](#) on the HSE combined dataset to increase the number of respondents for the smaller employment groups.

Table 7. Overall gambling participation by economic activity, England 2012, 2015, 2016, 2018

	Employed, self-employed or training (%)	In full-time education (%)	Retired (%)	Unemployed (%)	Other inactive ⁶ (%)	Total (%)
Lotteries and related products						
National Lottery	50.9	13.6	39.8	34.1	33.4	43.2
Scratchcards	24.6	16.6	8.4	20.5	20.5	19.9
Other lotteries	15.0	4.2	18.4	10.8	9.9	14.2
Machines and games						
Football pools	3.2	4.3	1.4	2.1	1.0	2.7
Bingo (not online)	5.2	3.7	5.9	5.2	6.2	5.3
Slot (electronic gaming) machines	8.3	7.6	1.8	7.4	5.0	6.5
Machines in a bookmakers	3.7	3.6	0.4	4.7	1.8	2.9
Casino table games (not online)	4.3	4.3	0.8	2.2	1.2	3.1
Poker played in pubs or clubs	1.3	1.9	0.2	1.1	-	1

⁶⁶ The economically inactive population comprises all persons who were neither employed nor unemployed during the short reference period used to measure current activity. This population is split into 4 groups: attendant at educational institutions, retired, engaged in family duties, other economically inactive.

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	Employed, self-employed or training (%)	In full-time education (%)	Retired (%)	Unemployed (%)	Other inactive ⁶ (%)	Total (%)
Online gambling on slots, casino or bingo games	4.3	2.6	0.6	4.4	3.0	3.3
Betting activities						
Online betting with a bookmaker	9.9	5.6	1.4	4.9	3.1	6.9
Betting exchange	1.3	2.5	0.3	1.1	-	1.1
Horse races (not online)	12.3	5.7	7.0	8.0	5.4	9.8
Dog races (not online)	3.2	1.6	1.1	2.2	1.1	2.4
Sports events (not online)	6.4	5.4	1.4	4.7	1.8	4.8
Other events or sports (not online)	1.8	1.4	0.4	1.6	-	1.3
Spread-betting	0.7	0.6	-	0.9	-	0.5
Private betting	5.6	9.2	1.7	3.6	2.2	4.6
Other gambling activity						
Any other gambling	1.7	2.2	0.9	1.4	0.7	1.5
Summary						
Any gambling activity	64.7	36.0	52.3	50.4	46.9	57.6
Base	15,321	2,029	5,906	1,796	2,111	27,164

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016, 2018

2.7 Overall gambling participation by Index of Multiple Deprivation

The Index of Multiple Deprivation (IMD) is the official measure of relative deprivation for small areas in England. Quintiles are calculated by ranking the neighbourhoods in England from most deprived to least deprived and dividing them into 5 equal groups. These range from the most deprived 20% of neighbourhoods nationally to the least deprived 20% of neighbourhoods nationally.

Overall participation in any gambling activity showed little variation in England by IMD quintile, but there were differences by activity type. Several activities were statistically significantly higher in the most deprived quintile compared to lesser deprived quintiles. We saw the strongest inequality gradients were for bingo and scratchcards.

Table 8. Overall gambling participation by IMD, England 2018

	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)	Total (%)
Lotteries and related products						
National Lottery	32.5	35.5	38.2	37.6	35.8	36.0
Scratchcards	21.3	18.0	19.1	16.6	14.7	17.9
Other lotteries	10.8	13.1	16.3	16.2	15.4	14.4
Machines and games						
Football pools	2.6	4.0	3.0	2.4	2.4	2.9
Bingo (not online)	6.4	5.0	4.3	3.7	3.1	4.5
Slot (electronic gaming) machines	6.9	5.4	5.7	5.2	5.2	5.7
Machines in a bookmakers	3.0	2.6	1.9	2.5	1.0	2.2
Casino table games (not online)	2.2	3.2	2.9	2.7	2.0	2.6
Poker played in pubs or clubs	1.0	0.9	0.7	0.5	-	0.7
Online gambling on slots, casino or bingo games	4.1	2.7	2.9	2.9	2.4	3.0
Betting activities						
Online betting with a bookmaker	6.4	6.9	8.3	9.1	8.3	7.8
Betting exchange	1.3	0.7	0.8	1.5	1.3	1.1
Horse races (not online)	5.9	6.5	9.8	9.6	8.7	8.1
Dog races (not online)	1.6	1.5	1.6	2.7	0.9	1.7
Sports events (not online)	3.5	4.0	4.1	4.8	3.8	4.0

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	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)	Total (%)
Other events or sports (not online)	1.2	1.6	1.7	1.5	1.7	1.5
Spread-betting	0.5	0.6	0.4	0.5	0.5	0.5
Private betting	3.3	4.6	4.0	3.7	3.2	3.8
Other gambling activity						
Any other gambling	1.4	1.6	1.3	0.6	1.2	1.2
Summary						
Any gambling activity	51.4	52.7	56.7	55.3	53.4	54.0
Any gambling activity (excluding National Lottery)	39.5	39.3	42.9	40.0	38.8	40.2
Any online gambling (excluding National Lottery)	8.3	8.6	9.8	10.5	9.9	9.4
Base	1,278	1,528	1,515	1,474	1,310	6,927

Source: HSE 2018

2.8 Overall gambling participation by ethnicity

By broad ethnicity, overall participation in any gambling activity was most common in the White and White British ethnic group (60.8%) and least common in the Asian and Asian British ethnic group (31.2%).

We base Table 9 on the HSE combined dataset to increase the number of respondents for the smaller ethnic groups.

Table 9. Overall gambling participation by ethnicity, England 2012, 2015, 2016, 2018

	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)	Total (%)
Lotteries and related products					
National Lottery	45.7	22.8	31.1	34.5	43.2
Scratchcards	21.1	9.1	14.6	18.2	19.9
Other lotteries	15.2	7.1	8.3	9.3	14.2
Machines and games					
Football pools	2.6	2.3	3.2	4.3	2.7
Bingo (not online)	5.8	2.0	2.7	2.5	5.3
Slot (electronic gaming) machines	6.8	4.7	5.1	5.5	6.5
Machines in a bookmakers	2.9	2.3	3.3	3.3	2.9
Casino table games (not online)	3.2	2.7	3.7	3.3	3.1
Poker played in pubs or clubs	1.0	1.0	-	-	1.0
Online gambling on slots, casino or bingo games	3.6	1.2	1.5	3.1	3.3
Betting activities					
Online betting with a bookmaker	7.5	2.1	3.7	5.7	6.9
Betting exchange	1.1	0.7	-	-	1.1
Horse races (not online)	10.9	1.7	3.0	4.6	9.8
Dog races (not online)	2.7	-	-	-	2.4

	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)	Total (%)
Sports events (not online)	5.1	2.0	2.1	5.0	4.8
Other events or sports (not online)	1.4	0.9	-	2.2	1.3
Spread-betting	0.5	0.7	-	-	0.5
Private betting	4.9	2.8	1.7	5.6	4.6
Other gambling activity					
Any other gambling	1.5	1.2	-	1.7	1.5
Summary					
Any gambling activity	60.8	31.2	41.7	44.0	57.6
Base	23,586	2,043	821	688	27,164

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016, 2018

2.9 Overall gambling participation by region

The North East (64.7%) had the highest overall participation in gambling, while London (48.0%) was lower than average.

We based [Table 10](#) on the HSE combined dataset to increase the number of respondents for each region.

Table 10. Overall gambling participation by region, England 2012, 2015, 2016, 2018

	North East (%)	North West (%)	Yorkshire and the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)	Total (%)
Spent money on at least one gambling activity	64.7	58.7	60.8	61.1	57.8	61.1	48.0	56.8	57.8	57.6
Base	1,329	3,592	2,699	2,332	2,838	3,013	4,115	4,442	2,803	27,164

Source: HSE 2012, 2015, 2016, 201

2.10 Overall gambling participation by local authority

Variation in gambling participation was evident by upper tier local authority (UTLA). Discounting Rutland, which has wide confidence intervals, there were 19 UTLAs with a rate of gambling participation that was statistically significantly higher than average for England. The top 5 UTLAs in England with the highest levels of gambling participation were:

- Knowsley (78.6%)
- North Tyneside (75.9%)
- Barnsley (73.4%)
- Rotherham (72.9%)
- Stockton-on-Tees (72.6%)

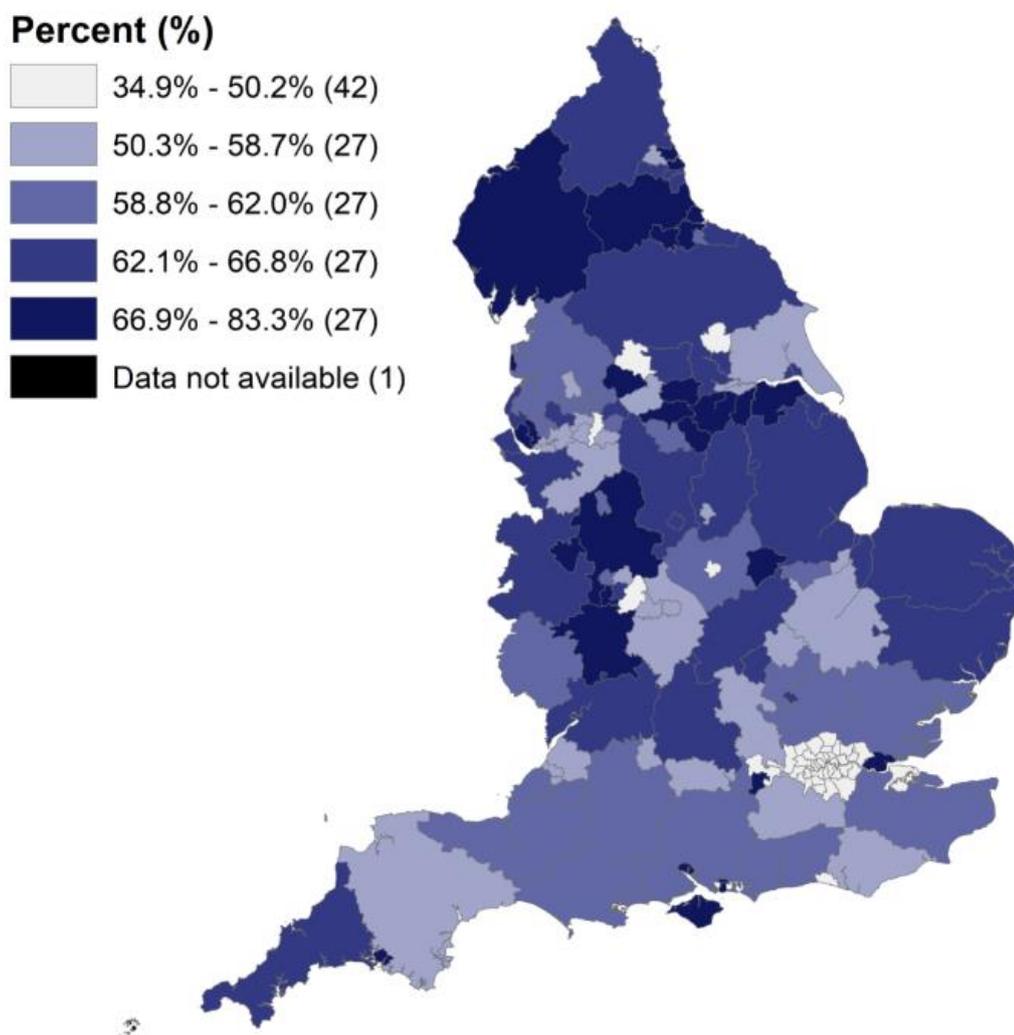
The 5 UTLAs with the lowest levels of gambling participation (all statistically significantly lower) were:

- Slough (34.9%)
- Birmingham (43.7%)
- Manchester (45.3%)
- Windsor and Maidenhead (46.9%)
- Leicester (47.6%)

It was not possible to produce meaningful local authority analysis for at-risk gambling or problem gambling due to the small number of counts for these questions at local authority level. The confidence intervals were too wide to show any useful evidence of variability.

For the full list of authorities included in [Figure 3](#) see [Appendix A](#). You should note that due to small sample sizes we have grouped together the authorities of inner and outer London.

Figure 3. Overall gambling participation by UTLA, England 2012, 2015, 2016, 2018



Source: HSE 2012, 2015, 2016, 2018

2.11 Overall gambling participation by self-assessed general health

In HSE, general health is self-assessed with the question: 'How is your health in general. Would you say it was very good, good, fair, bad, or very bad?'. There has been very little change in the general health status of the population over the course of the surveys, with 76% of respondents reporting very good or good health in 1993 compared to 75% in 2018 (in no survey year has this been below 74% or above 76%). This is the same for respondents who gamble, with 75.2% reporting very good or good health in HSE 2018.

Respondents reporting bad or very bad general health tend to gamble less (50.1%) than the general population and those reporting good or very good general health (58.0%).

We based Table 11 on the HSE combined dataset to increase the number of respondents for the smaller categories.

Table 11. Overall gambling participation by self-assessed general health, England 2012, 2015, 2016, 2018

	Very good/good (%)	Fair (%)	Bad/very bad (%)	Total (%)
Lotteries and related products				
National Lottery	43.5	44.4	38.1	43.2
Scratchcards	20.5	19.5	15.1	19.9
Other lotteries	14.2	15.3	12.0	14.2
Machines and games				
Football pools	3.0	2.0	1.1	2.7
Bingo (not online)	4.8	6.9	6.2	5.3
Slot (electronic gaming) machines	6.9	5.9	4.2	6.5
Machines in a bookmakers	3.1	2.4	2.0	2.9
Casino table games (not online)	3.6	1.8	1.3	3.1
Poker played in pubs or clubs	1.1	0.7	-	1.0
Online gambling on slots, casino or bingo games	3.4	3.0	2.9	3.3
Betting activities				
Online betting with a bookmaker	7.9	4.4	2.9	6.9
Betting exchange	1.2	0.7	-	1.1
Horse races (not online)	10.5	8.3	6.3	9.8
Dog races (not online)	2.6	2.0	1.4	2.4
Sports events (not online)	5.2	3.6	2.7	4.8
Other events or sports (not online)	1.4	1.0	1.2	1.3
Spread-betting	0.6	0.4	-	0.5
Private betting	5.2	3.4	1.6	4.6
Other gambling activity				
Any other gambling	1.5	1.6	1.0	1.5

Summary				
Any gambling activity	58.0	58.8	50.1	57.6
Base	20,488	4,684	1,987	27,164

Note: missing data was not available due to small counts
Source: HSE 2012, 2015, 2016, 2018

2.12 Overall gambling participation by life satisfaction

In HSE, life satisfaction is derived from the question: ‘Overall, how satisfied are you with life nowadays?’ This is scored and grouped low (score 0 to 4), medium (score 5 to 6), high (score 7 to 8) and very high (score 9 to 10).

Gambling participation across life satisfaction groups was inconclusive. As with self-assessed general health, the lowest group were again least likely to participate in gambling (49.2%). This was also true for respondents participating in the National Lottery where 31.5% in the lowest satisfaction group take part compared to 36.3% in the very high satisfaction group. The low satisfaction group were most likely to participate in online gambling including slots, casino and bingo games (5.0% compared to 2.8% in the very high group) but this reverses for online gambling with a bookmaker (4.4% of the low group compared to 7.0% of the very high group).

Table 12. Overall gambling participation by life satisfaction, England 2018

	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)	Total (%)
Lotteries and related products					
National Lottery	31.5	35.3	37.3	36.3	36.0
Scratchcards	18.8	20.4	18.1	16.6	17.9
Other lotteries	12.1	15.5	14.2	15.0	14.4
Machines and games					
Football pools	1.8	3.8	3.1	2.6	2.9
Bingo (not online)	4.6	5.7	4.1	4.5	4.5
Slot (electronic gaming) machines	5.8	5.5	6.1	5.1	5.7
Machines in a bookmakers	3.1	2	2.3	1.8	2.2
Casino table games (not online)	1.6	3.1	3.1	2.2	2.6
Poker played in pubs or clubs	-	-	-	-	0.7

	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)	Total (%)
Online gambling on slots, casino or bingo games	5.0	3.3	2.5	2.8	3.0
Betting activities					
Online betting with a bookmaker	4.4	8.2	9.2	7.0	7.8
Betting exchange	-	-	-	-	1.1
Horse races (not online)	6.3	6.6	8.7	8.6	8.1
Dog races (not online)	1.8	0.9	1.6	2.0	1.7
Sports events (not online)	3.1	4.3	4.6	3.6	4.0
Other events or sports (not online)	1.8	1.7	1.4	1.7	1.5
Spread-betting	-	-	-	-	0.5
Private betting	4.4	3.4	4.2	3.1	3.8
Other gambling activity					
Any other gambling	1.5	1.2	1.3	0.9	1.2
Summary					
Any gambling activity	49.2	52.3	55.9	53.5	54.0
Any gambling activity (excluding National Lottery)	35.9	42.2	41.8	38.4	40.2
Any online gambling (excluding National Lottery)	7.8	9.9	10.6	8.2	9.4
Base	604	937	3,038	2,408	6,927

Note: missing data was not available due to small counts
Source: HSE 2018

2.13 Overall gambling participation by wellbeing

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) is a widely used measure of subjective and psychological functioning. It was developed to capture a broad concept of positive mental wellbeing and incorporates 2 perspectives on wellbeing (9).

1. Eudaimonic wellbeing comes from a sense of purpose, personal growth and involvement in activities.
2. Hedonic wellbeing comes from feelings of joy, satisfaction and enjoyment.

WEMWBS includes 14 statements that cover psychological functioning, cognitive-evaluative dimensions and affective-emotional aspects of wellbeing. For each statement respondents can answer:

- none of the time
- rarely
- some of the time
- often
- all of the time

The statements are all expressed positively. The responses, from 1 to 5, are aggregated to form an index, which can range from 14 (those who answer 'none of the time' for every statement) to 70 (those who answer 'all of the time' to all statements) (10).

As above for life satisfaction, findings were inconclusive across WEMWBS quintiles with the highest participation rates seen in quintiles 2 to 4 and the lowest rate seen in quintile 5 (52.1%).

Table 13. Overall gambling participation by WEMWBS quintile, England 2016

	Low wellbeing (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	High wellbeing (57 to 70) (%)	Total (%)
Lotteries and related products						
National Lottery	39.6	41.7	39.9	42.9	39.2	40.5
Scratchcards	23.2	22.4	22.5	17.8	16.1	20.3
Other lotteries	12.9	13.2	14.4	14.2	14.8	13.9
Machines and games						
Football pools	2.8	1.9	2.9	2.8	3.0	2.6
Bingo (not online)	4.6	5.3	5.8	4.6	4.1	4.9
Slot (electronic gaming) machines	6.2	6.4	8.8	5.7	4.1	6.2
Machines in a bookmakers	4.3	2.8	3.6	2.3	1.8	2.9
Casino table games (not online)	2.6	2.9	4.4	3.2	3.1	3.2
Poker played in pubs or clubs	-	-	-	-	-	0.8
Online gambling on slots, casino or bingo games	4.4	2.6	3.5	2.8	2.4	3.1
Betting activities						
Online betting with a bookmaker	8.1	7.1	7.5	7.7	7.2	7.4
Betting exchange	1.1	1.6	0.8	1.0	1.7	1.2
Horse races (not online)	9.0	10.1	10.9	8.9	7.8	9.2
Dog races (not online)	1.7	2.5	2.6	2.0	1.7	2.1

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	Low wellbeing (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	High wellbeing (57 to 70) (%)	Total (%)
Sports events (not online)	5.6	4.4	7.4	5.0	3.8	5.1
Other events or sports (not online)	1.3	1.1	1.8	1.4	0.8	1.3
Spread-betting	-	-	-	-	-	0.6
Private betting	3.7	4.7	5.6	3.7	3.2	4.1
Other gambling activity						
Any other gambling	1.8	0.9	1.6	0.9	1.3	1.3
Summary						
Any gambling activity	55.5	58.5	57.0	58.9	52.1	56.2
Any gambling activity (excluding National Lottery)	-	-	-	-	-	41.7
Any online gambling (excluding National Lottery)	-	-	-	-	-	9.4
Base	1,281	1,426	1,189	1,272	1,375	6,691

Note: missing data was not available due to small counts

Source: HSE 2016

2.14 Overall gambling participation by GHQ-12

The 12-item General Health Questionnaire (GHQ-12) is a widely used and validated measure of psychological health. It addresses broader components of psychological morbidity with 12 items measuring:

- happiness
- depression
- anxiety
- sleep disturbance
- self-confidence

Each item is rated on a 4-point response scale to show whether symptoms of mental ill health are 'not at all present', or, if present, 'no more than usual', 'rather more than usual', or 'much more than usual'. For the purpose of the HSE, we adopted the standard GHQ coding method for each of the 4 possible responses to each item, as advocated by the test author. Each symptom was scored either 0 if 'not at all present' or present 'no more than usual', or 1 for symptoms that were present 'rather more than usual' or 'much more than usual' (11). So, using this method, the maximum score for any individual study participant is 12. No formal threshold exists for identifying probable mental ill health, with optimal values likely to be specific to the population under study. However, in keeping with previous HSE surveys, participants' scores are grouped according to 3 categories, which are:

- 0 (indicating no evidence of probable mental ill health)
- 1 to 3 (indicating less than optimal mental health)
- 4 or more (indicating probable psychological disturbance or mental ill health) (10)

Continuing the trend seen before for general health, life satisfaction and wellbeing, respondents scoring highest on GHQ-12 (indicating probable psychological disturbance or mental ill health) were less likely (50.6%) to participate in gambling than those who score 0 (no evidence of probable mental ill health) (55.5%).

Table 14. Overall gambling participation by GHQ-12, England 2018

	Score 0 (%)	Score 1-3 (%)	Score 4+ (%)	Total (%)
Lotteries and related products				
National Lottery	37.6	34.9	32.7	36.0
Scratchcards	17.5	18.9	18.7	17.9
Other lotteries	14.8	15.3	11.9	14.4

	Score 0 (%)	Score 1-3 (%)	Score 4+ (%)	Total (%)
Machines and games				
Football pools	3.2	2.6	2.4	2.9
Bingo (not online)	4.4	5.3	3.7	4.5
Slot (electronic gaming) machines	5.7	5.6	5.7	5.7
Machines in a bookmakers	2.0	2.4	2.8	2.2
Casino table games (not online)	2.5	2.8	3.4	2.6
Poker played in pubs or clubs	0.7	0.8	0.5	0.7
Online gambling on slots, casino or bingo games	2.7	3.2	3.7	3.0
Betting activities				
Online betting with a bookmaker	8.8	7.2	5.8	7.8
Betting exchange	1.2	1.1	1.1	1.1
Horse races (not online)	8.6	8.3	6.7	8.1
Dog races (not online)	1.8	1.9	0.9	1.7
Sports events (not online)	4.3	4.3	3.0	4.0
Other events or sports (not online)	1.7	1.0	1.8	1.5
Spread-betting	-	-	-	0.5
Private betting	3.9	3.6	3.8	3.8
Other gambling activity				
Any other gambling	1.1	1.4	1.3	1.2
Summary				
Any gambling activity	55.3	53.5	50.2	54.0
Any gambling activity (excluding National Lottery)	40.4	41.1	38.1	40.2
Any online gambling (excluding National Lottery)	10.0	9.3	8.3	9.4
Base	4,193	1,630	1,146	6,927

Note: missing data was not available due to small counts
Source: HSE 2018

2.15 Overall gambling participation by BMI group

BMI (body mass index) is a widely used measure of weight that takes into account the individual's height and is defined as weight in kilograms divided by the height in metres squared (kg/m²). Adults can be classified as:

- underweight (BMI less than 18.5)
- normal (BMI between 18.5 and 25)
- overweight (BMI between 25 and 30)
- obese (BMI 30 or above)

According to HSE 2018, 63% of adults in England were overweight or obese, and between 1993 and 2018 there has been a marked increase in the proportion of adults who are overweight or obese.

A greater proportion of respondents classified as obese (59.4%) and overweight (56.9%) participated in gambling compared to those classified not overweight or obese (48.6%). This difference was particularly notable for participation in the National Lottery as 42.9% of the obese group participated compared to 28.4% of the not overweight or obese group.

Table 15. Overall gambling participation by BMI group, England 2018

	Not overweight or obese (%)	Overweight (%)	Obese (%)	Total (%)
Lotteries and related products				
National Lottery	28.4	39.3	42.9	36.0
Scratchcards	16.1	18.2	21.2	17.9
Other lotteries	10.8	15.9	18.5	14.4
Machines and games				
Football pools	3.2	3.3	2.3	2.9
Bingo (not online)	3.7	4.4	5.5	4.5
Slot (electronic gaming) machines	5.2	5.4	6.6	5.7
Machines in a bookmakers	2.0	2.7	2.0	2.2
Casino table games (not online)	2.1	3.6	2.4	2.6
Poker played in pubs or clubs	0.4	1.0	0.7	0.7
Online gambling on slots, casino or bingo games	2.4	3.0	3.5	3.0

	Not overweight or obese (%)	Overweight (%)	Obese (%)	Total (%)
Betting activities				
Online betting with a bookmaker	7.8	9.2	7.4	7.8
Betting exchange	1.0	1.1	1.5	1.1
Horse races (not online)	7.9	9.7	7.7	8.1
Dog races (not online)	1.4	1.9	1.9	1.7
Sports events (not online)	3.4	6.0	3.0	4.0
Other events or sports (not online)	1.3	2.5	0.8	1.5
Spread-betting	-	-	-	0.5
Private betting	3.8	4.4	3.5	3.8
Other gambling activity				
Any other gambling	1.3	1.3	1.1	1.2
Summary				
Any gambling activity	48.3	56.9	59.4	54.0
Any gambling activity (excluding National Lottery)	37.2	41.6	44.6	40.2
Any online gambling (excluding National Lottery)	9.4	10.3	9.7	9.4
Base	2,113	2,234	1,815	6,927

Note: missing data was not available due to small counts

Source: HSE 2018

2.16 Overall gambling participation by alcohol consumption

HSE has asked about drinking alcohol since it began in 1993. The proportion of adults who have drunk alcohol in the last week has steadily reduced over the previous decades from 67% in 1998 to 57% in 2018. Across all age groups, men were more likely than women to drink at increasing and higher risk levels (12).

Alcohol consumption is reported in units of alcohol. One unit of alcohol is 10ml by volume of pure alcohol. In 2016, the UK Chief Medical Officers (CMOs) published new guidelines on low risk drinking (13). It is now recommended that men and women should not regularly (defined as most weeks) drink more than 14 units a week. Drinking at this level is considered to be 'low risk', and adults who regularly drink up to this amount are

advised to spread their drinking over 3 or more days. Above this level is considered to be 'increased risk'. For men this is now over 14 units and up to 50 units, and for women over 14 units and up to 35 units per week. Men who regularly drink more than 50 units a week and women more than 35 units are described as 'higher risk drinkers' and are considered to be at particular risk of alcohol-related health problems (12).

There was a clear pattern of increased participation in gambling as the number of alcohol units consumed per week increased, being most noticeable at the extremes. A total of 35.4% of non-drinkers participated in gambling compared to 74.4% of those consuming over 50 units. This trend persisted for every type of gambling activity.

Table 16. Overall gambling participation by average weekly units of alcohol consumed, England 2012, 2015, 2016, 2018

	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)	Total (%)
Lotteries and related products						
National Lottery	26.1	44.5	54.2	52.5	57.0	43.2
Scratchcards	12.0	20.7	22.8	23.4	29.5	19.9
Other lotteries	8.6	14.6	17.2	18.1	20.5	14.2
Machines and games						
Football pools	1.4	2.3	3.9	4.6	6.6	2.7
Bingo (not online)	3.6	5.8	5.0	4.9	7.2	5.3
Slot (electronic gaming) machines	3.2	6.1	9.1	10.5	12.7	6.5
Machines in a bookmakers	1.5	2.3	4.5	6.2	7.5	2.9
Casino table games (not online)	0.9	2.5	6.1	6.1	8.0	3.1
Poker played in pubs or clubs	0.5	0.7	1.4	2.5	3.6	1.0
Online gambling on slots, casino or bingo games	1.4	3.1	4.8	5.4	6.8	3.3
Betting activities						
Online betting with a bookmaker	1.5	6.1	12.3	13.5	15.0	6.9
Betting exchange	0.4	0.8	1.6	2.6	3.5	1.1
Horse races (not online)	2.8	8.9	16.2	19.8	20.7	9.8
Dog races (not online)	0.6	2.3	3.5	4.5	6.1	2.4
Sports events (not online)	1.3	3.8	8.7	11.3	13.7	4.8

	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)	Total (%)
Other events or sports (not online)	0.4	0.9	2.4	4.5	4.6	1.3
Spread-betting	0.3	0.4	0.7	1.4	2.9	0.5
Private betting	1.3	4.1	8.2	6.9	9.5	4.6
Other gambling activity						
Any other gambling	0.6	1.3	2.3	3.2	2.6	1.5
Summary						
Any gambling activity	35.4	59.5	69.5	68.6	74.4	57.6
Base	4,572	15,591	4,666	858	903	27,164

Source: HSE 2012, 2015, 2016, 2018

2.17 Overall gambling participation by cigarette smoking

Since it began, HSE has asked questions about cigarette smoking in adults. From the series, current cigarette smoking has steadily declined from 27% in 1993 to 17% in 2018. The proportion of respondents that have never regularly smoked cigarettes increased from 46% to 58% over the same period. HSE collects information about the use of various tobacco products including cigarettes, cigars and pipes. The focus of this analysis is on cigarette use, meaning we do not consider cigar and pipe use in the below definition of a current smoker.

There was little difference in overall gambling participation between smokers (60.5%) and non-smokers (58.8%). However, current smokers generally have a higher likelihood of participation for most gambling activity types. Most notable were:

- scratchcards (30.6% compared to 18.4% of non-smokers)
- football pools (5.2% compared to 2.6% of non-smokers)
- machines in a bookmakers (4.6% compared to 1.8% of non-smokers)

Table 17. Overall gambling participation by cigarette smoking, England 2018

	Current smoker (%)	Non-smoker (%)	Total (%)
Lotteries and related products			
National Lottery	37.7	40.6	36.0
Scratchcards	30.6	18.4	17.9
Other lotteries	12.1	17.2	14.4
Machines and games			
Football pools	5.2	2.6	2.9
Bingo (not online)	6.9	5.2	4.5
Slot (electronic gaming) machines	9.7	5.4	5.7
Machines in a bookmakers	4.6	1.8	2.2
Casino table games (not online)	4.0	2.7	2.6
Poker played in pubs or clubs	1.6	0.6	0.7
Online gambling on slots, casino or bingo games	5.8	3.1	3.0
Betting activities			
Online betting with a bookmaker	9.5	8.2	7.8
Betting exchange	0.7	1.4	1.1
Horse races (not online)	8.9	9.8	8.1
Dog races (not online)	2.4	1.4	1.7
Sports events (not online)	5.6	4.1	4.0
Other events or sports (not online)	2.4	1.5	1.5
Spread-betting	0.8	0.4	0.5
Private betting	7.0	3.6	3.8
Other gambling activity			
Any other gambling	1.8	1.4	1.2
Summary			
Any gambling activity	60.5	58.8	54.0
Any gambling activity (excluding National Lottery)	48.5	43.7	40.2
Any online gambling (excluding National Lottery)	12.3	9.9	9.4
Base	1,151	2,840	6,927

Source: HSE 2018

3. At-risk and problem gambling

3.1 Introduction

The most commonly used screening tools for gambling are the Diagnostic and Statistical Manual of Mental Disorders, 4th version (DSM-IV) and the Problem Gambling Severity Index (PGSI). They define levels of gambling as (14):

- 1 Non-problem gambler: Gamblers who gamble with no negative consequences.
- 2 Low-risk gambler: Gamblers who experience a low level of problems with few or no identified negative consequences.
- 3 Moderate-risk: Gamblers who experience a moderate level of problems leading to some negative consequences.
- 4 Problem gambler: Gambling with negative consequences and a possible loss of control.

Anyone scoring low risk or above are showing some signs of problematic behaviour. More specifically, problem gambling is defined as gambling to a degree that compromises, disrupts or damages family, personal or recreational pursuits. There are several screening tools available to identify problem gambling. The HSE uses both the DSM-IV and the PGSI.

The DSM-IV was created as a clinical diagnostic tool and was not intended for use as a screening instrument among the general population. However, an adapted version of the DSM-IV for use in a survey setting was developed for the British Gambling Prevalence Survey (BGPS) series and was subject to a rigorous development and testing process, including cognitive testing and piloting. The PGSI was designed for use among the general population rather than within a clinical context. It was developed, tested and validated within a general population survey of over 3,000 people and the questionnaire itself has been subject to critical evaluation and was revised in 2003 (12).

We base most tables in this section on the combined HSE dataset to increase sample sizes wherever possible.

3.2 Problem and at-risk gambling according to PGSI by age and sex

The PGSI consists of 9 items ranging from 'chasing losses' to 'gambling causing health problems' to 'feeling guilty about gambling'. Each item is assessed on a 4-point scale.

These are:

- never
- sometimes
- most of the time
- almost always

A score of 1 or more for PGSI indicates at-risk gambling. A score of 1 to 2 is considered low risk, a score of 3 to 7 is considered moderate risk, and a score of 8 or more indicates problem gambling (12).

We have combined the low and moderate groups into an 'at-risk' group (score 1 to 7) to give a picture of the total risk of being a problem gambler (score 8 or more) in the population. Non-problem gambling group includes people who have not participated in any gambling activity.

According to the PGSI, problem gambling has a prevalence of 0.4% in the general population (Table 18). The prevalence of people considered 'at-risk' was 3.8%. Men in the younger age groups were most likely to experience both problem and at-risk gambling. For example, 11.7% of men aged 16 to 24 and 10.1% of men aged 25 to 34 were participating in at-risk levels of gambling compared to 3.1% and 2.7% of women respectively (these differences are statistically significant).

Table 18. Problem gambling according to PGSI by age, England 2012, 2015, 2016, 2018

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem (including those not participating in any gambling activity) (score less than 1)	91.7	92.9	95.8	96.5	97.4	98.6	99.1	95.7
At-risk (score 1 to 7)	7.5	6.3	3.8	3.0	2.2	1.3	0.9	3.8
Problem gambler (score 8 or more)	0.8	0.8	0.4	0.5	0.3	-	-	0.4
Mean PGSI score	0.26	0.23	0.15	0.12	0.09	0.05	0.02	0.14
Base	3,727	4,547	4,459	4,726	3,913	3,186	2,520	27,078

Note: missing data was not available due to small counts
Source: HSE 2012, 2015, 2016, 2018

Table 19. Problem gambling according to PGSI by age and sex, England 2012, 2015, 2016, 2018

Men:

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem (inc. those not participating in any gambling activity) (score less than 1)	86.8	88.5	93.6	94.9	96.2	97.8	98.3	93.3
At-risk (score 1 to 7)	11.7	10.1	5.9	4.3	3.3	1.9	1.7	6.0
Problem gambler (score 8 or more)	1.5	1.4	0.5	0.8	-	-	-	0.8
Mean PGSI score	0.43	0.39	0.24	0.20	0.14	0.08	0.04	0.24
Base	1,889	2,249	2,219	2,336	1,928	1,534	1,092	13,246

Women:

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem (including those not participating in any gambling activity) (score less than 1)	96.7	97.2	98.0	98.1	98.6	99.3	99.7	98.1
At-risk (score 1 to 7)	3.1	2.7	1.8	1.8	1.2	0.7	-	1.7
Problem gambler (score 8 or more)	-	-	-	-	-	-	-	0.1
Mean PGSI score	0.09	0.07	0.06	0.05	0.04	0.01	0.00	0.05
Base	1,838	2,298	2,239	2,390	1,985	1,653	1,428	13,831

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016, 2018

According to the PGSI, in 2018 there were an estimated 168,149 people experiencing problem gambling in England. This is a reduction from the 2016 estimate of 208,700. Also, the PGSI estimates there to have been 377,242 moderate risk gamblers and 1,213,830 low risk gamblers in England. While estimates of problem gamblers and those at moderate risk have reduced since 2016, those estimated at low risk have increased since 2016 (from 1,094,066).

3.3 At-risk gambling

At-risk gambling according to PGSI by activity

This section shows at-risk gamblers among all respondents who participated in different gambling activities. The base is all respondents who participated in at least one activity (individual survey participants may be included in multiple rows).

It is worth noting that, in contrast to other gambling activities, participation in the National Lottery was very low among at-risk gamblers compared to the general population. While at-risk gamblers accounted for 7.4% of all gambling activity, they were significantly overrepresented for:

- spread betting (52.0%)
- machines in bookmakers (46.4%)
- poker played in pubs or clubs (45.6%)
- online gambling on slots, casino or bingo games (44.2%)
- betting exchanges (44.0%)

Also, in 2018⁷ overall participation in online gambling was more than double (23.4%) that of the general population (9.4%).

Table 20. At-risk gamblers among those who participate in gambling by type of activity, England 2012, 2015, 2016, 2018

	At-risk gamblers among those who participate in gambling (%)
Lotteries and related products	
National Lottery	6.8
Scratchcards	11.9
Other lotteries	8.0
Machines and games	
Football pools	29.1
Bingo (not online)	12.9
Slot (electronic gaming) machines	25.7
Machines in a bookmakers	46.4
Casino table games (not online)	31.5
Poker played in pubs or clubs	45.6
Online gambling on slots, casino or bingo games	44.2
Betting activities	
Online betting with a bookmaker	26.3
Betting exchange	44.0
Horse races (not online)	15.6
Dog races (not online)	26.6
Sports events (not online)	30.5
Other events or sports (not online)	43.6
Spread-betting	52.0
Private betting	25.0
Other gambling activity	
Any other gambling	33.8

⁷ We have used the latest year rather than the combined dataset due to how much online gambling has increased between 2012 and 2018.

	At-risk gamblers among those who participate in gambling (%)
Summary	
Any gambling activity	7.4
Any gambling activity (excluding National Lottery)	-
Any online gambling (excluding National Lottery)	-
Base ⁸	15,549

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016, 2018

While at-risk gamblers account for 7.4% of all gambling activity they account for 52.7% of those participating in 7 or more different gambling activities over the last 12 months.

Table 21. At-risk gamblers among those who participate in gambling by number of activities, England 2012, 2015, 2016, 2018

Number of gambling activities	At-risk gamblers among those who participate (%)
1 activity	1.8
2 to 3 activities	5.2
4 to 6 activities	19.7
7 or more activities	52.7
Total (any gambling activity)	7.4
Base ⁹	15,549

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by highest educational qualification

As we have seen before for overall gambling participation, at-risk gambling was most common in the population for respondents in the below degree category (4.5%). This category was statistically significantly higher than both the NVQ4, NVQ5 or degree or equivalent and the no qualification categories.

⁸ Base here is the number of respondents who spent money on 1 or more gambling activities.

⁹ Base here is the number of respondents who spent money on 1 or more gambling activities.

Table 22. PGSI risk category by highest educational qualification, England 2012, 2015, 2016, 2018

PGSI risk category	NVQ4/NVQ5/ Degree or equivalent (%)	Below degree (%)	No qualification (%)	Total (%)
Non-problem (including those not participating in any gambling activity) (PGSI score 0)	96.9	94.9	96.2	95.7
Low risk gambler (PGSI score 1 to 2)	2.2	3.3	2.2	2.8
Moderate risk gambler (PGSI score 3 to 7)	0.7	1.2	0.9	1.0
Problem gambler (PGSI score 8 or more)	0.2	0.5	0.6	0.4
All at-risk gamblers (PGSI score 1 to 7)	2.9	4.5	3.1	3.8
Base	7,582	14,415	5,033	27,078

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by economic activity

By economic activity, at-risk gambling was most common in the unemployed category (6.1%). This was statistically significantly higher than all groups other than those in full-time education. For overall participation in gambling, prevalence was the highest for the employed, self-employed or training category. This was statistically significant.

Table 23. PGSI risk category by economic activity, England 2012, 2015, 2016, 2018

PGSI risk category	Employed, self-employed or in government training (%)	Unemployed (%)	In full-time education (%)	Retired (%)	Other Inactive (%)	Total (%)
Non-problem (including those not participating in any gambling activity) (PGSI score 0)	95.0	92.5	94.1	98.7	96.9	95.7
Low risk gambler (PGSI score 1 to 2)	3.2	4.3	4.5	0.9	2.0	2.8
Moderate risk gambler (PGSI score 3 to 7)	1.2	1.8	1.0	0.3	0.7	1.0
Problem gambler (PGSI score 8 or more)	0.5	1.4	-	-	-	0.4
All at-risk gamblers (PGSI score 1 to 7)	4.4	6.1	5.6	1.2	2.7	3.8
Base	15,281	1,791	2,023	5,875	2,107	27,078

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by IMD

Overall participation in any gambling activity showed little variation in England by IMD quintile. However, for at-risk gambling there was a statistically significant gradient with prevalence increasing across quintiles from least deprived (3.0%) to most deprived (5.3%). This aligns with the higher prevalence seen before in the unemployed category.

Table 24. PGSI risk category by IMD, England 2012, 2015, 2016, 2018

PGSI risk category	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)	Total (%)
Non-problem (including those not participating in any gambling activity) (PGSI score 0)	93.9	95.4	96.0	96.3	96.9	95.7
Low risk gambler (PGSI score 1 to 2)	3.4	3.1	2.4	2.6	2.3	2.8
Moderate risk gambler (PGSI score 3 to 7)	1.8	1.0	1.0	0.7	0.7	1.0
Problem gambler (PGSI score 8 or more)	0.8	0.5	0.5	0.4	0.1	0.4
All at-risk gamblers (PGSI score 1 to 7)	5.3	4.1	3.4	3.3	3.0	3.8
Base	5,165	5,362	5,667	5,516	5,369	27,078

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by ethnicity

By ethnicity, the Asian and Asian British ethnic group had the lowest prevalence of at-risk gambling (2.0%). This was statistically significantly lower than the White and White British group (3.9%).

Table 25. PGSI risk category by ethnicity, England 2012, 2015, 2016, 2018

PGSI risk category	White/ White British (%)	Asian/ Asian British (%)	Black/ Black British (%)	Mixed/ Other (%)	Total (%)
Non-problem (including those not participating in any gambling activity) (PGSI score 0)	95.7	97.0	95.7	93.8	95.7
Low risk gambler (PGSI score 1 to 2)	2.8	1.5	2.8	4.1	2.8
Moderate risk gambler (PGSI score 3 to 7)	1.1	-	-	-	1.0
Problem gambler (PGSI score 8 or more)	0.4	1.0	-	-	0.4
All at-risk gamblers (PGSI score 1 to 7)	3.9	2.0	3.4	4.9	3.8
Base	23,513	2,037	816	687	27,078

Note: missing data was not available due to small counts
Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by region

The North East (4.9%) had the highest prevalence of at-risk gambling, while the South West (3.0%) had the lowest.

Table 26. PGSI risk category by region, England 2012, 2015, 2016, 2018

PGSI risk category	North East (%)	North West (%)	Yorkshire and the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)	Total (%)
Non-problem (including people not participating in any gambling activity) (PGSI score 0)	94.4	95.2	95.8	96.1	96.0	95.5	95.6	95.8	96.8	95.7
Low risk gambler (PGSI score 1 to 2)	3.6	3.2	2.5	2.6	2.4	3.0	2.6	3.0	2.3	2.8
Moderate risk gambler (PGSI score 3 to 7)	1.3	1.1	1.1	0.9	1.0	1.2	1.0	1.0	0.7	1.0
Problem gambler (PGSI score 8+)	-	0.4	0.7	-	0.5	-	0.8	-	-	0.4
All at-risk gamblers (PGSI score 1 to 7)	4.9	4.4	3.6	3.5	3.5	4.2	3.6	4.0	3.0	3.8
Base	1,325	3,584	2,685	2,321	2,824	3,008	4,107	4,429	2,794	27,078

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by self-assessed general health

There was no significant difference in at-risk gambling by respondents reporting bad and very bad general health and those reporting very good and good general health.

Table 27. PGSI risk category by self-assessed general health, England 2012, 2015, 2016, 2018

PGSI risk category	Very good/good (%)	Fair (%)	Bad/ very bad (%)	Total (%)
Non-problem (including people not participating in any gambling activity) (PGSI score 0)	95.8	95.5	95.8	95.7
Low risk gambler (PGSI score 1 to 2)	2.9	2.6	2.3	2.8
Moderate risk gambler (PGSI score 3 to 7)	1.0	1.1	1.2	1.0
Problem gambler (PGSI score 8 or more)	0.3	0.8	0.8	0.4
All at-risk gamblers (PGSI score 1 to 7)	3.8	3.8	3.5	3.8
Base	20,439	4,657	1,978	27,078

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by life satisfaction

Results for overall gambling participation across life satisfaction groups were inconclusive. This was not the case for at-risk gambling where respondents with low life satisfaction (6.2%) had a higher prevalence and those with very high life satisfaction had a notably lower prevalence (2.2%). This difference was statistically significant.

Table 28. PGSI risk category by life satisfaction, England 2016, 2018

PGSI risk category	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)	Total (%) ¹⁰
Non-problem (PGSI score 0)	92.7	95.6	95.7	97.7	96.0
Low risk gambler (PGSI score 1 to 2)	4.1	3.1	2.8	1.5	2.6

¹⁰ Totals differ from most tables in this section as life satisfaction question was only included in HSE 2016 and 2018.

PGSI risk category	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)	Total (%)¹⁰
Moderate risk gambler (PGSI score 3 to 7)	2.1	0.8	1.1	0.7	1.0
Problem gambler (PGSI score 8 or more)	1.1	0.4	0.4	-	0.4
All at-risk gamblers (PGSI score 1 to 7)	6.2	3.9	3.9	2.2	3.6
Base	1,231	2,064	6,016	3,926	13,601

Source: HSE 2016, 2018

At-risk gambling according to PGSI by wellbeing

As above for life satisfaction, there was a gradient for at-risk gambling with respondents in quintile 1 (lowest wellbeing) having the highest prevalence (6.4%) and those in quintile 5 (highest wellbeing) having the lowest prevalence (2.3%). This difference was statistically significant.

Table 29. PGSI risk category by WEMWBS quintile, England 2012, 2015, 2016

PGSI risk category	Low wellbeing (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	High wellbeing (57 to 70) (%)	Total (%)¹¹
Non-problem (PGSI score 0)	92.5	95.0	96.0	97.6	97.6	95.7
Low risk gambler (PGSI score 1 to 2)	4.5	3.0	2.8	1.7	1.8	2.8
Moderate risk gambler (PGSI score 3 to 7)	1.9	1.3	0.9	0.6	0.5	1.1
Problem gambler (PGSI score 8 or more)	1.1	0.6	0.3	-	0.2	0.5

¹¹ Totals differ from majority of tables in this section WEMWBS was only included in HSE 2012, 2015, and 2016.

PGSI risk category	Low wellbeing (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	High wellbeing (57 to 70) (%)	Total (%) ¹¹
All at-risk gamblers (PGSI score 1 to 7)	6.4	4.4	3.8	2.3	2.3	3.8
Base	3,351	3,772	3,386	3,238	3,432	20,193

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016

At-risk gambling according to PGSI by GHQ-12

Respondents scoring 4 or more on GHQ-12 (indicating probable psychological problems) had the highest prevalence of at-risk gambling (5.1%) while those scoring 0 (no evidence of probable mental ill health) had the lowest (3.0%). This is a reversal of the pattern seen before for overall gambling participation.

Table 30. PGSI risk category by GHQ-12, England 2012, 2015, 2016, 2018

PGSI risk category	Score 0 (%)	Score 1-3 (%)	Score 4+ (%)	Total (%)
Non-problem (PGSI score 0)	96.8	94.8	93.8	95.7
Low risk gambler (PGSI score 1 to 2)	2.3	3.4	3.7	2.8
Moderate risk gambler (PGSI score 3 to 7)	0.7	1.4	1.4	1.0
Problem gambler (PGSI score 8 or more)	0.2	0.4	1.0	0.4
All at-risk gamblers (PGSI score 1 to 7)	3.0	4.9	5.1	3.8
Base	11,463	5,025	3,357	27,078

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by BMI group

There were no statistically significant differences for at-risk gambling between respondents by BMI group.

Table 31. PGSI risk category by BMI group, England 2012, 2015, 2016, 2018

PGSI risk category	Not overweight or obese (%)	Overweight (%)	Obese (%)	Total (%)
Non-problem (PGSI score 0)	95.4	95.7	95.9	95.7
Low risk gambler (PGSI score 1 to 2)	3.2	2.7	2.5	2.8
Moderate risk gambler (PGSI score 3 to 7)	1.0	1.1	1.1	1.0
Problem gambler (PGSI score 8 or more)	0.5	0.5	0.5	0.4
All at-risk gamblers (PGSI score 1 to 7)	4.2	3.8	3.7	3.8
Base	8,910	8,471	6,378	27,078

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by alcohol consumption

As seen for overall gambling participation, there was a clear pattern of increased at-risk gambling as the number of alcohol units consumed per week increased. This gradient was statistically significant with 1.6% of non-drinkers gambling at-risk compared to 10.0% of people who consume over 50 units per week.

Table 32. PGSI risk category by average weekly units of alcohol consumed, England 2012, 2015, 2016, 2018

PGSI risk category	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)	Total (%)
Non-problem (PGSI score 0)	98.0	96.5	93.6	92.1	88.9	95.7
Low risk gambler (PGSI score 1 to 2)	1.1	2.3	4.3	4.7	7.6	2.8
Moderate risk gambler (PGSI score 3 to 7)	0.6	0.8	1.6	2.0	2.4	1.0
Problem gambler (PGSI score 8 or more)	0.4	0.3	0.5	1.3	1.1	0.4
All at-risk gamblers (PGSI score 1 to 7)	1.6	3.2	5.9	6.6	10.0	3.8
Base	4,558	13,678	4,645	894	899	27,078

Source: HSE 2012, 2015, 2016, 2018

At-risk gambling according to PGSI by cigarette smoking

We saw a similar pattern for at-risk gambling as we saw for overall gambling participation when looking at cigarette smoking. Current smokers (7.2%) had a higher prevalence of at-risk gambling compared to non-smokers (3.7%). This difference was statistically significant.

Table 33. PGSI risk category by cigarette smoking, England 2012, 2015, 2016, 2018

PGSI risk category	Current smoker (%)	Non-smoker (%)	Total (%)
Non-problem (PGSI score 0)	91.8	95.9	95.7
Low risk gambler (PGSI score 1 to 2)	5.3	2.6	2.8
Moderate risk gambler (PGSI score 3 to 7)	1.9	1.1	1.0
Problem gambler (PGSI score 8+)	0.9	0.4	0.4
All at-risk gamblers (PGSI score 1 to 7)	7.2	3.7	3.8
Base	4,839	9,660	27,078

Source: HSE 2012, 2015, 2016, 2018

3.4 Problem gambling

Problem gambling according to DSM-IV by age and sex

The DSM-IV contains 10 diagnostic criteria ranging from ‘chasing losses’ to ‘committing a crime to fund gambling’. Each item is assessed on a 4-point scale, ranging from ‘never’ to ‘very often’. A score of 3 or more indicates problem gambling.

According to the DSM-IV, and similar to PGSI, problem gambling has a prevalence of 0.5% in the general population. Though numbers are small, the younger age groups tend to have a higher prevalence. As we would expect given the higher rates of gambling participation, problem gambling according to the DSM-IV was higher in men (0.9%) than women (0.2%) with the highest prevalence again seen in men in the 25 to 34 age group (1.5%).

Table 34. Problem gambling according to DSM-IV by age, England 2012, 2015, 2016, 2018

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler (DSM-IV score less than 3)	99.2	99.1	99.5	99.4	99.6	99.7	99.9	99.4
Problem gambler (DSM-IV score 3 or more)	0.8	0.9	0.5	0.6	0.4	-	-	0.6
Mean DSM-IV score	0.09	0.08	0.06	0.05	0.05	0.03	0.02	0.1
Base	3,739	4,550	4,464	4,750	3,927	3,202	2,532	27,164

Source: HSE 2012, 2015, 2016, 2018

Table 35. Problem gambling according to DSM-IV by age and sex, England 2012, 2015, 2016, 2018

Men:

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler (DSM-IV score less than 3)	98.6	98.5	99.3	98.9	99.3	99.4	99.9	99.1
Problem gambler (DSM-IV score 3 or more)	1.4	1.5	0.7	1.1	0.7	-	-	0.9
Mean DSM-IV score	0.15	0.13	0.07	0.08	0.07	0.05	0.03	0.09
Base	1,899	2,251	2,222	2,355	1,934	1,540	1,097	13,297

Women:

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non problem gambler (DSM-IV score less than 3)	99.8	99.7	99.6	99.8	99.9	100.0	99.9	99.8

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Problem gambler (DSM-IV score 3 or more)	-	-	-	-	-	-	-	0.2
Mean DSM-IV score	0.03	0.03	0.04	0.02	0.03	0.02	0.01	0.03
Base	1,840	2,299	2,242	2,395	1,993	1,662	1,436	13,867

Note: missing data was not available due to small counts
Source: HSE 2012, 2015, 2016, 2018

In 2018 DSM-IV estimated there to be 223,975 problem gamblers in England. This was a reduction from the 2016 estimate of 257,930.

Problem gambling according to either DSM-IV or PGSI by age and sex

The proportion of problem gamblers in the population according to either DSM-IV or PGSI included in the HSE was 0.5% in 2018 (this increases to 0.7% when we combine HSE years 2012, 2015, 2016, and 2018). Prevalence was higher for men (0.8%) than women (0.3%). Using the combined HSE dataset (see Table 36), prevalence is highest in the younger age groups.

As reported by HSE, the proportion of problem gamblers in the population has been reducing from 0.9% in 2015, to 0.7% in 2016, to 0.5% in 2018. However, as numbers are very small the proportion of problem gamblers in 2018 is likely consistent with previous years and do not represent a real decline. In 2018 there were estimated to be 245,634 problem gamblers in England according to either DSM-IV or PGSI. This is a reduction from the 2016 estimate of 303,328.

Table 36. Problem gambling according to either DSM-IV or PGSI by age, England 2012, 2015, 2016, 2018

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	99.0	99.0	99.4	99.3	99.5	99.6	99.9	99.3
Problem gambler according to either DSM-IV or PGSI	1.0	1.0	0.6	0.7	0.5	0.4	-	0.7
Base	3,739	4,550	4,464	4,750	3,927	3,202	2,532	27,164

Note: missing data was not available due to small counts
Source: HSE 2012, 2015, 2016, 2018

Table 37. Problem gambling according to either DSM-IV or PGSI by age and sex, England 2012, 2015, 2016, 2018

Men:

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	98.2	98.3	99.2	98.7	99.2	99.3	99.9	98.9
Problem gambler according to either DSM-IV or PGSI	1.8	1.7	0.8	1.3	0.8	0.7	-	1.1
Base	1,899	2,251	2,222	2,355	1,934	1,540	1,097	13,297

Women:

	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	99.8	99.6	99.5	99.8	99.8	100.0	99.9	99.8
Problem gambler according to either DSM-IV or PGSI	-	-	0.5	-	-	-	-	0.2
Base	1,840	2,299	2,242	2,395	1,993	1,662	1,436	13,867

Note: missing data was not available due to small counts
Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by type of activity

While accounting for just 1.2% of all gambling activity, problem gamblers (according to either DSM-IV or PGSI) account for a significantly disproportionate level of participation in:

- machines in a bookmakers (46.4%)
- spread betting (15.9%)
- poker played in pubs or clubs (14.7%)
- other events or sports (not online) (13.5%)

The problem gambler group were less likely to participate in activities such as the National Lottery and scratchcards than the general gambling population.

The problem gambler group were more likely than the general gambling population to have participated in 7 or more gambling activities in the last 12 months.

Table 38. Problem gambling prevalence according to either DSM-IV or PGSI by type of activity, England 2012, 2015, 2016, 2018

	Problem gambler according to either DSM-IV or PGSI (%)
Lotteries and related products	
National Lottery	1.0
Scratchcards	1.8
Other lotteries	1.6
Machines and games	
Football pools	5.0
Bingo (not online)	3.3
Slot (electronic gaming) machines	4.9
Machines in a bookmakers	46.4
Casino table games (not online)	6.4
Poker played in pubs or clubs	14.7
Online gambling on slots, casino or bingo games	8.7
Betting activities	
Online betting with a bookmaker	3.7
Betting exchange	10.7
Horse races (not online)	3.0
Dog races (not online)	7.1
Sports events (not online)	5.6
Other events or sports (not online)	13.5
Spread betting	15.9
Private betting	4.3
Other gambling activity	
Any other gambling	9.9

Summary	
Any gambling activity	1.2
Any gambling (excluding National Lottery)	-
Any online gambling (excluding National Lottery)	-
Base ¹²	15,549

Note: missing data was not available due to small counts
Source: HSE 2012, 2015, 2016, 2018

Table 39. Problem gambling according to either DSM-IV or PGSI by number of activities participated in over the last 12 months, England 2012, 2015, 2016, 2018

Number of gambling activities	Problem gambler according to either DSM-IV or PGSI (%)
1 activity	0.3
2 to 3 activities	0.6
4 to 6 activities	2.8
7 or more activities	11.8
Total (any gambling activity)	1.2
Base ¹³	15,549

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by highest educational qualification

Based on the data from HSE, there is no observable difference for problem gambling by highest educational qualification.

¹² Base here is the number of respondents who spent money on 1 or more gambling activities.

¹³ Base here is the number of respondents who spent money on 1 or more gambling activities.

Table 40. Problem gambling according to either DSM-IV or PGSI by highest educational qualification, England 2012, 2015, 2016, 2018

	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)	Total (%)
Non-problem gambler	99.7	99.3	99.0	99.3
Problem gambler according to either DSM-IV or PGSI	0.3	0.7	1.0	0.7
Base	7,599	14,457	5,061	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by economic activity

By economic activity, problem gambling was most common in respondents who were currently unemployed (2.1%).

Table 41. Problem gambling according to either DSM-IV or PGSI by economic activity, England 2012, 2015, 2016, 2018

	Employed, self-employed or in government training (%)	Unemployed (%)	In full-time education (%)	Retired (%)	Other inactive (%)	Total (%)
Non-problem gambler	99.3	97.9	99.5	99.8	99.4	99.3
Problem gambler according to either DSM-IV or PGSI	0.7	2.1	0.5	0.2	0.6	0.7
Base	15,321	1,796	2,029	5,906	2,111	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by IMD

Unlike overall gambling participation, there was an inequality gradient across IMD quintiles for problem gambling. Prevalence was greatest in the most deprived group (1.2%) and declined for each quintile. The difference between the most and least deprived quintiles was statistically significant. We saw a similar pattern before for at-risk gambling.

Table 42. Problem gambling according to either DSM-IV or PGSI by IMD, England 2012, 2015, 2016, 2018

	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)	Total (%)
Non-problem gambler	98.8	99.3	99.5	99.6	99.8	99.3
Problem gambler according to either DSM-IV or PGSI	1.2	0.7	0.5	0.4	0.2	0.7
Base	5,183	5,379	5,684	5,532	5,386	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by ethnicity

Problem gambling was greater in the Asian and Asian British (1.1%) ethnic group compared to the White and White British group (0.5%). The difference between the 2 groups is statistically significant. Though numbers are small for the remaining groups (with confidence intervals too wide to draw any meaningful conclusions), the data suggests a paradox of harm regarding the Asian and Asian British group. This ethnic group is less likely to take part in gambling than the White and White British group (both overall participation and at-risk gambling), but more likely to experience problematic gambling than the White and White British group.

Table 43. Problem gambling according to either DSM-IV or PGSI by ethnicity, England 2012, 2015, 2016, 2018

	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/ Other (%)	Total (%)
Non-problem gambler	99.5	98.9	98.6	98.5	99.3
Problem gambler according to either DSM- IV or PGSI	0.5	1.1	1.4	1.5	0.7
Base	23,586	2,043	821	455	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by region

Even when we combined multiple HSE years, numbers were small and confidence intervals overlapped when looking at problem gambling by region.

Table 44. Problem gambling according to either DSM-IV or PGSI by region, England 2012, 2015, 2016, 2018

	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)	Total (%)
Non-problem gambler (including people not participating in any gambling activity)	99.0	99.4	99.0	99.5	99.3	99.5	98.8	99.6	99.7	99.3
Problem gambler according to either DSM-IV or PGSI	1.0	0.6	1.0	0.5	0.7	0.5	1.2	0.4	0.3	0.7
Base	1,329	3,598	2,655	2,341	2,843	3,067	4,022	4,451	2,820	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by self-assessed general health

Respondents reporting bad or very bad general health had a higher prevalence of problem gambling (1.3%) than those reporting very good or good general health (0.5%). As we saw for at-risk gambling, the difference between the groups was not statistically significant but the gradient represents a different pattern to overall gambling participation.

Table 45. Problem gambling according to either DSM-IV or PGSI by self-assessed general health, England 2012, 2015, 2016, 2018

	Very good/good (%)	Fair (%)	Bad/very bad (%)	Total (%)
Non-problem gambler	99.5	98.9	98.7	99.3
Problem gambler according to either DSM-IV or PGSI	0.5	1.1	1.3	0.7
Base	20,586	4,581	1,954	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by life satisfaction

Problem gambling continues the pattern we saw before for at-risk gambling with the highest prevalence in the low life satisfaction group (1.7%). This was statistically significant. Again, it is important to note that this was not the case for overall gambling participation where there was no clear pattern.

Table 46. Problem gambling according to either DSM-IV or PGSI by life satisfaction, England 2016, 2018

	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)	Total (%) ¹⁴
Non-problem gambler	98.3	99.5	99.4	99.8	99.4
Problem gambler according to either DSM-IV or PGSI	1.7	0.5	0.6	0.2	0.6
Base	1,223	2,049	5,996	3,909	13,629

Source: HSE 2016, 2018

Problem gambling according to either DSM-IV or PGSI by wellbeing

As with at-risk gambling, there was a clear gradient across WEMWBS quintiles with the highest prevalence of problem gambling in quintile 1 (lowest wellbeing) (1.6%) and lowest in quintile 5 (highest wellbeing) (0.3%). This difference was statistically significant.

Table 47. Problem gambling according to either DSM-IV or PGSI by WEMWBS quintile, England 2012, 2015, 2016

	Low wellbeing (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	High wellbeing (57 to 70) (%)	Total (%)
Non-problem gambler	98.4	99.0	99.6	99.8	99.7	99.3
Problem gambler according to either DSM-IV or PGSI	1.6	1.0	0.4	0.2	0.3	0.7
Base	3,338	3,761	3,393	3,245	3,431	20,272

Source: HSE 2012, 2015, 2016

¹⁴ Totals differ from most tables in this section as life satisfaction question was only included in HSE 2016 and 2018.

¹⁵ Totals differ from most tables in this section WEMWBS was only included in HSE 2012, 2015, and 2016.

Problem gambling according to either DSM-IV or PGSI by GHQ-12

Respondents scoring 4 or more on GHQ-12 (indicating probable psychological disturbance or mental ill health) had the highest prevalence of problem gambling (1.4%) while those scoring 0 (no evidence of probable mental ill health) had the lowest (0.3%). This difference was statistically significant. This is a similar pattern to at-risk gambling and differs from overall gambling participation.

Table 48. Problem gambling according to either DSM-IV or PGSI by GHQ-12, England 2012, 2015, 2016, 2018

	Score 0 (%)	Score 1-3 (%)	Score 4+ (%)	Total (%)
Non-problem gambler	99.7	99.3	98.6	99.3
Problem gambler according to either DSM-IV or PGSI	0.3	0.7	1.4	0.7
Base	11,507	5,037	3,357	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by BMI group

There was little difference for problem gambling across BMI groups. There was a similar picture showing a lack of association between BMI groups for at-risk gambling.

Table 49. Problem gambling according to either DSM-IV or PGSI by BMI group, England 2012, 2015, 2016, 2018

	Not overweight or obese (%)	Overweight (%)	Obese (%)	Total (%)
Non-problem gambler	99.4	99.3	99.3	99.3
Problem gambler according to either DSM-IV or PGSI	0.6	0.7	0.7	0.7
Base	8,964	8,497	6,364	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by alcohol consumption

There was a clear pattern of increased problem gambling as the number of alcohol units consumed per week increased.

Table 50. Problem gambling according to either DSM-IV or PGSI by average weekly units of alcohol consumed, England 2012, 2015, 2016, 2018

	Never or not in last 12 months (%)	1 to 14 (%)	15 to 35 (%)	36 to 50 (%)	Over 50 (%)	Total (%)
Non-problem gambler	99.5	99.4	99.3	98.5	98.6	99.3
Problem gambler according to either DSM-IV or PGSI	0.5	0.6	0.7	1.5	1.4	0.7
Base	4,503	15,575	4,693	863	911	27,164

Source: HSE 2012, 2015, 2016, 2018

Problem gambling according to either DSM-IV or PGSI by cigarette smoking

There was little difference by cigarette smoking status for overall gambling participation. This changed for problem gambling with current smokers (1.3%) having higher prevalence of problem gambling compared to non-smokers (0.6%). This difference is statistically significant.

Table 51. Problem gambling according to either DSM-IV or PGSI by cigarette smoking, England 2012, 2015, 2016, 2018

	Current smoker (%)	Non-smoker (%)	Total (%)
Non-problem gambler	98.7	99.4	99.3
Problem gambler according to either DSM-IV or PGSI	1.3	0.6	0.7
Base	4,879	9,663	27,164

Source: HSE 2012, 2015, 2016, 2018

3.5 Factors associated with harmful gambling

The previous sections have examined the relationships between gambling and various other factors separately. We carried out binary logistic regression models to further investigate the different factors associated with gambling. The following is a summary of the pre-registered analysis. We present the full outputs in [Appendix B](#).

To begin, we conducted a series of bivariate analyses to compare a range of variables to 3 increasing levels of gambling:

1. Overall gambling participation.
2. Harmful gambling (including low risk, moderate risk, and problem gambling).
3. Problem gambling taken in isolation.

The variables included were:

- age
- sex
- ethnicity
- income
- educational attainment
- employment
- IMD
- region
- general health
- wellbeing
- life satisfaction
- GHQ12
- BMI
- alcohol
- smoking

Of these, income, region, self-reported general health, and BMI were shown not to be statistically significantly associated with harmful gambling. Income and BMI were shown not to be statistically significantly associated with problem gambling.

After reviewing the bivariate output, we applied a multiple logistic regression to estimate associations of socio-demographic and health factors on the likelihood that respondents are participating in harmful gambling. We excluded factors not significant at the bivariate level from the model. ‘Harmful gambling’ as discussed here includes problem gambling and so the model takes account of the full continuum of gambling risk. It is important to note that the terms ‘low risk’ and ‘moderate risk’ (as used in the interpretation of the PGSI) do not mean that risk is negligible for these respondents, but rather that these

respondents are on a continuum of risk with people who have a definite problem with their gambling. This means the model includes all respondents with problem gambling behaviours and those at risk of developing problem gambling behaviours.

The logistic regression model for harmful gambling was statistically significant (p less than 0.05). The model explained 27% of the variance in harmful gambling (see [Appendix B](#) for more detail) and correctly classified 94% of cases, but this was skewed towards classifying respondents at no risk.

[Table 52](#) details the regression function itself and so summarises the effect of each variable. See the key below the table for the meaning of each column. However, the main values of concern are the p -value and the adjusted odds ratio. The p -value determines which variables are significant (by convention this is less-than 0.05) and these are highlighted in the table. The adjusted odds ratio is a measurement of likelihood that an outcome (harmful gambling) will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure (see [Appendix B](#) for more detail).

The likelihood of respondents experiencing harmful gambling is shown to reduce with age. Men were 4.2 times more likely than women to be harmful gamblers. Respondents with below degree attainment were 1.8 times the odds and those with no qualifications were 2.1 times the odds to be harmful gamblers compared to those with a NVQ4, NVQ5 or degree or equivalent level of attainment.

Wellbeing contributed significantly to the model, but more important was scoring on GHQ12. Comparing those scoring 0, the odds of respondents scoring 1 to 3 were 2.0 times more likely and those scoring 4 or more were 2.4 times more likely to participate in harmful gambling.

On physical health and health behaviours, smoking did not contribute significantly to the model, but alcohol did.

Compared to abstainers or those not drinking in the last 12 months, the odds of respondents who drank above the CMOs' low-risk drinking guidelines (14 to 35 units) were 3.3 times more likely to engage in harmful gambling. This increases markedly to 7.8 times for the heaviest drinkers (50 units or more). It should be noted that the group from HSE consuming 50 units or more is predominantly male (75.8%).

Table 52. Binary multiple logistic regression model of harmful gambling, variables in the equation, England, 2016

Covariable	B	S.E	Wald	d.f	p-value	AOR	95% CI	
							Lower	Upper
Age	-0.539	0.060	79.635	1	0.000	0.583	0.518	0.656
Sex	1.423	0.206	47.936	1	0.000	4.151	2.774	6.211
Ethnicity	-0.446	0.266	2.815	1	0.093	0.640	0.380	1.078
Educational qualification, 3 groups (NVQ4/NVQ5/degree or equivalent)	-	-	8.609	2	0.014	-	-	-
Educational qualification, 3 groups (below degree)	0.584	0.216	7.317	1	0.007	1.794	1.175	2.740
Educational qualification, 3 groups (no qualification)	0.754	0.296	6.493	1	0.011	2.124	1.190	3.793
In paid employment	-0.197	0.214	0.845	1	0.358	0.821	0.540	1.250
Unemployed	-0.195	0.296	0.433	1	0.510	0.823	0.461	1.470
Quintile of IMD score (Least deprived)	-	-	11.143	4	0.025	-	-	-
Quintile of IMD score (2)	-0.270	0.354	0.583	1	0.445	0.763	0.381	1.527
Quintile of IMD score (3)	0.018	0.307	0.003	1	0.953	1.018	0.558	1.859
Quintile of IMD score (4)	0.573	0.287	3.982	1	0.046	1.773	1.010	3.111
Quintile of IMD score (Most deprived)	0.366	0.294	1.550	1	0.213	1.442	0.810	2.566
WEMWBS score – quintiles (1)	-	-	15.525	4	0.004	-	-	-
WEMWBS score - quintiles (2)	0.714	0.344	4.303	1	0.038	2.041	1.040	4.006
WEMWBS score - quintiles (3)	0.003	0.331	0.000	1	0.993	1.003	0.525	1.918
WEMWBS score - quintiles (4)	0.482	0.314	2.352	1	0.125	1.619	0.875	2.999

Covariable	B	S.E	Wald	d.f	p-value	AOR	95% CI	
							Lower	Upper
WEMWBS score - quintiles (5)	-0.288	0.357	0.649	1	0.421	0.750	0.373	1.510
Life satisfaction (low (0 to 4))	-	-	4.262	3	0.235	-	-	-
Life satisfaction (medium (5 to 6))	-0.114	0.386	0.088	1	0.767	0.892	0.418	1.902
Life satisfaction (high (7 to 8))	-0.006	0.331	0.000	1	0.987	0.994	0.520	1.903
Life satisfaction (very high (9 to 10))	0.348	0.273	1.616	1	0.204	1.416	0.828	2.420
GHQ score – grouped (score 0)	-	-	15.279	2	0.000	-	-	-
GHQ score - grouped (score 1-3)	0.680	0.204	11.079	1	0.001	1.973	1.322	2.944
GHQ score - grouped (score 4+)	0.886	0.254	12.140	1	0.000	2.425	1.473	3.992
Alcohol weekly units (never/not in last 12 months)	-	-	36.554	4	0.000	-	-	-
Alcohol weekly units (1 to 14)	0.743	0.333	4.961	1	0.026	2.101	1.093	4.039
Alcohol weekly units (over 14 to 35)	1.188	0.360	10.900	1	0.001	3.280	1.620	6.640
Alcohol weekly units (over 35 to 50)	0.428	0.599	0.512	1	0.474	1.535	0.475	4.963
Alcohol weekly units (over 50)	2.060	0.395	27.226	1	0.000	7.848	3.620	17.015
Current smoker	0.160	0.174	0.851	1	0.356	1.174	0.835	1.650
Constant	-3.915	0.684	32.792	1	0.000	0.020	-	-

Notes:

Missing data was not available due to small counts.

Variable(s) entered on step 1: (D) Age 16-75+ in 10 year age bands, Sex_r, Ethnicity_r, (D) Highest Educational Qualification, 3 groups, Paid_employ_dum, Unemployed_dum, (D) Quintile of IMD SCORE (2010 IMD for 2012, 2015 IMD for 2015, 2016, 2018) - least deprived to most deprived, (D) Wemwbs score - quintiles - all HSE years, (D) Overall, how satisfied with life nowadays - grouped, (D) GHQ Score - grouped (0,1-3,4+), Alcwug_r, Whether smoke cigarettes nowadays (c+sc).

Key

B: the unstandardized coefficients for the model.

S.E.: the standard errors for the B-coefficients.

Wald: the test statistic for the individual predictor variables. Linear regression will have a t-test, while logistic regression has a chi-square test. It is used to determine the p-value.

d.f: the degrees of freedom for the Wald statistic.

p-value: determines which variables are significant. By convention, any variable with a p-value below 0.05 is significant.

AOR (adjusted odds ratio): the odds ratios associated with changes in predictor scores.

95% C.I.: the 95% confidence interval of the odds ratio.

Source: HSE 2016

The broad conclusion from this analysis is that demographic factors, particularly sex, appear more significant in predicting harmful gambling behaviour than economic factors such as income, employment, and relative deprivation. Meanwhile, mental health is a stronger predictor of harmful gambling than both poor physical health and negative health behaviours, with the notable exception of alcohol.

This conclusion is made with the caveat that regression analyses are sensitive to the model being selected, the variables included in the model (limited by those in HSE), and the method by which variables are entered into the model.

4. Gambling frequency

4.1 Introduction

This section considers how often people who do gamble participate in gambling activities and to what extent. Frequency is compared for respondents participating in any gambling activity, at-risk gamblers, and problem gamblers. This is followed by findings from the British Gambling Prevalence Survey, which combines gambling frequency with gambling volume in terms of money and time spent.

4.2 Gambling frequency of those who have gambled in the last 12 months

For all gamblers the most common frequency of participation was once a week (26.2%) followed by once or twice a year (25.3%). This was true for lotteries with 31.1% participating in the National Lottery once a week, 23.2% buying scratchcards once a week, and 27.6% participating in other lotteries once a week. A similar picture was seen for machines and games except for machines in a bookmakers, poker played in pubs or clubs, and online gambling. All these activities were slightly more likely to be played 2 or more times a week.

Most betting activities were also most frequently participated in 2 or more times a week or once a week except for horse racing and private betting. Dog racing was most frequently participated in either 2 or more times a week (23.6%) or once a week (22.2%) followed by once or twice a year (21.8%). This differs from horse racing where 34.9% participated only once or twice a year. This reinforces the difference between horse racing and dog racing seen before for at-risk and problem gambling.

Table 53. Frequency of spending money on gambling activities, England, 2012, 2015, 2016, 2018

	2 or more times a week (%)	Once a week (%)	Less than once a week, more than once a month (%)	Once a month (%)	Every 2 to 3 months (%)	Once or twice a year (%)
Lotteries and related products						
National Lottery	14.5	31.1	11.1	11.6	13.9	17.9
Scratchcards	12.6	23.2	13.3	13.1	17.5	20.3
Other lotteries	14.4	27.6	10.5	16.1	11.3	20.2

	2 or more times a week (%)	Once a week (%)	Less than once a week, more than once a month (%)	Once a month (%)	Every 2 to 3 months (%)	Once or twice a year (%)
Machines and games						
Football pools	21.9	30.1	12.1	15.2	10.4	10.4
Bingo (not online)	18.0	25.7	11.0	10.2	14.1	21.0
Slot (electronic gaming) machines	17.1	21.8	15.5	10.2	14.3	21.2
Machines in a bookmakers	24.6	23.2	15.8	13.6	10.1	12.7
Casino table games (not online)	15.2	19.1	14.6	12.7	15.2	23.1
Poker played in pubs or clubs	29.7	28.5	12.8	13.4	8.1	7.6
Online gambling on slots, casino or bingo games	25.2	24.8	17.3	12.6	11.7	8.4
Betting activities						
Online betting with a bookmaker	17.4	23.9	15.0	11.6	13.1	19.0
Betting exchange	27.2	25.8	16.1	6.9	11.5	12.4
Horse races (not online)	15.2	21.0	10.1	8.0	10.8	34.9
Dog races (not online)	23.6	22.2	10.0	10.2	12.2	21.8
Sports events (not online)	21.5	27.7	14.6	11.0	11.8	13.5
Other events or sports (not online)	34.5	32.0	17.5	6.9	4.4	4.7
Spread-betting	36.7	23.9	10.1	13.8	7.3	8.3
Private betting	15.5	20.4	14.0	13.0	12.7	24.5
Other gambling activity						
Any other gambling	21.3	24.8	9.9	13.8	10.6	19.5
Summary						
Any gambling activity	11.9	26.2	10.2	12.4	14.0	25.3

	2 or more times a week (%)	Once a week (%)	Less than once a week, more than once a month (%)	Once a month (%)	Every 2 to 3 months (%)	Once or twice a year (%)
Any gambling (excluding National Lottery)	-	-	-	-	-	-
Any online gambling (excluding National Lottery)	-	-	-	-	-	-
Base ¹⁶	1,342	2,961	1,147	1,403	1,581	2,853

Source: HSE 2012, 2015, 2016, 2018

4.3 Gambling frequency of at-risk and problem gamblers

As we would expect, gambling frequency increases as the level of gambling risk increases. Almost a quarter of low risk gamblers gamble 2 or more times a week and this increases to 45.1% of moderate risk gamblers and 54.1% of problem gamblers.

Respondents who are considered problem gamblers according to either DSM-IV or PGSI, 50.7% gamble 2 or more times a week compared to 11.4% of non-problem gamblers.

Table 54. Frequency of spending money on gambling activities for at-risk gamblers, England, 2012, 2015, 2016, 2018

	Low risk gambler (%)	Moderate risk gambler (%)	Problem gambler (%)
2 or more times a week	24.6	45.1	54.1
Once a week	26.6	29.4	19.4
Less than once a week, more than once a month	19.8	8.8	7.1
Once a month	13.3	5.4	17.3

¹⁶ Base here is the number of respondents who spent money on 1 or more gambling activities minus those who did not answer the frequency question.

	Low risk gambler (%)	Moderate risk gambler (%)	Problem gambler (%)
Every 2 to 3 months	9.8	7.8	-
Once or twice a year	5.9	-	-
Base	541	204	98

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016, 2018

Table 55. Frequency of spending money on gambling activities for problem gamblers, England, 2012, 2015, 2016, 2018

	Not a problem gambler according to either DSM or PGSI (%)	Problem gambler according to either DSM or PGSI (%)
2 or more times a week	11.4	50.7
Once a week	26.3	22.5
Less than once a week, more than once a month	10.2	5.6
Once a month	12.4	14.1
Every 2 to 3 months	14.2	-
Once or twice a year	25.5	4.2
Base ¹⁷	11,146	142

Note: missing data was not available due to small counts

Source: HSE 2012, 2015, 2016, 2018

4.4 Regular gambling and gambling volume

Although it is not as recent as the HSE 2018, the 2010 British Gambling Prevalence Survey (BGPS) (15) includes more detail than the HSE on certain issues relevant to the aims of this review. In particular, the BGPS offers additional data on gambling frequency ('regular' gambling or days per month) and gambling volume (money, time spent). While a summary is useful for the objectives of this report, it's worth noting that the gambling

¹⁷ The base for problem gamblers in Table 55 is respondents categorised as a problem gambler according to either DSM-IV or PGSI. This is the conventional approach and that taken throughout the section before focusing on problem gambling. This differs from the base for Table 54 which is respondents categorised as problem gamblers according to PGSI only. This difference is necessary as only PGSI allows the further breakdown into low and moderate risk that Table 54 requires.

landscape has changed considerably since 2010, particularly issues relating to online gambling.

The BGPS included questions to measure gambling volume among regular gamblers¹⁸ based on the amount of time spent gambling in an average month and the amount of money spent on gambling in an average month. This detail is not possible from the HSE.

When looking at time spent on gambling, the BGPS made a cut-off for analysis purposes to capture the top 10% of regular gamblers. This cut-off was around 7 hours per month gambling (with a mean for the group of 31.0 hours per month). The other 90% of regular gamblers either did not spend any time gambling or generally spent less than 7 hours a month gambling (with a mean of 30 minutes per month). The BGPS labelled these groups 'high-time' and 'non high-time' gamblers respectively.

When looking at money spent on gambling, the BGPS cut-off for the top 10% of regular gamblers was around £61.50 per month on gambling (with a mean of £209.92 per month). The remaining 90% of regular gamblers spent less than this amount (with a mean of £14.82 per month). The BGPS labelled these groups 'high-spend' and 'non high-spend' gamblers respectively. As a summary of gambling volume that considers both time and money spent, the BGPS provides 4 possible sub-groups of regular gamblers. These are respondents who were:

- non high-time and non high-spend gamblers (85%)
- high-time but non high-spend gamblers (4%)
- high-spend but non high-time gamblers (4%)
- high-time and high-spend gamblers (6%)

Most (85%) regular gamblers were both non high-time and non high-spend gamblers. Of the remainder, the BGPS found 4% were high-time but not high-spend and another 4% were high-spend but not high-time gamblers. It also found 6% were both high-time and high-spend gamblers.

Non high-time and non high-spend gamblers took part in 2.5 gambling activities in the past year. In comparison, high-time only gamblers took part in 4.0 gambling activities in the past year and high-spend only gamblers took part in 5.2 activities. High-time and high-spend gamblers had the highest levels of gambling participation, taking part in 6.6 gambling activities.

¹⁸ Respondents who gambled once a month or more.

Compared to all regular gamblers, the high-time and high-spend group were more likely to:

- be from semi-routine or routine households¹⁹
- live in areas of greatest deprivation
- have no educational qualifications
- be slightly more likely to live in the lowest income households
- be unemployed (they were much more likely to be unemployed)

Along with the high-time only gamblers, this group experiences the greatest socioeconomic deprivation.

¹⁹ Based on The National Statistics Socio-economic classification (NS-SEC)

5. Hospital admissions

5.1 Introduction

This section presents the number of hospital admissions due to gambling from NHS Digital's hospital episode statistics (HES). These statistics detail all admissions, outpatient appointments and A&E attendances at NHS hospitals in England. We use figures from finished admission episodes (FAEs) with a primary or secondary diagnosis as classified by the International Classification of Diseases (10th revision) (ICD-10) of:

- ICD-10 F63.0 Pathological Gambling
- ICD-10 Z72.6 Gambling and Betting

5.2 HES admissions due to gambling

Across England there were 375 admissions to hospital because of gambling in 2018 to 2019. Over the previous 3 years, admissions have increased but compared to other causes numbers²⁰ remain very small.

Table 56. Number of FAEs with a primary or secondary diagnosis relating to gambling by age group, England, between 2016 to 2017 and 2018 to 2019

Age group	2016 to 2017	2017 to 2018	2018 to 2019
<20	<10	<10	<10
20 to 29	75	90	115
30 to 39	70	105	120
40 to 49	60	50	60
50 to 59	40	50	55
60+	20	25	20
Total (will not sum due to rounding)	260	325	375

Source: Hospital episode statistics (HES), NHS Digital, 2020

²⁰ Numbers are too small relative to all hospital admissions to calculate meaningful rates.

6. Previously published sources of gambling data

This section of the report collates information on gambling previously published elsewhere. The purpose is to meet aspects of the objectives not fulfilled by the primary data source. Topics include:

- affected others
- treatment
- attitudes and influences
- children and young people

The published sources discussed in the rest of the report vary in the type and quality of gambling data available. Gambling is relatively new field of research. Inconsistencies in the robustness and standardisation of the publications and data available are to be expected. However, all sources included here are encouraging additions to the existing body of work and one of the recommendations of the review is to encourage further research and analysis in this area.

We discuss the methods and caveats of each source in the introduction to each topic.

6.1 Affected others

Introduction

A recent report published by YouGov (16) on behalf of GambleAware included a detailed section on ‘affected others’. The report defines ‘affected others’ as:

“...people that know someone who has had a problem with gambling (either currently, or in their past) and feel they have personally experienced negative effects from this person (or people's) gambling behaviour. This could include family members, friends and work colleagues, among others, with the negative effects ranging from financial to emotional or practical impacts”.

The BGPS included some analysis of affected others in 2010, but the YouGov report represents the most recent data available on affected others currently available. The source is not as robust as the HSE (which is designed to be representative of the population by adopting a multi-stage stratified probability sampling design based on postcode sectors) but does have a very good sample size of around 12,000 respondents, of which 7% are affected others.

The main difference between the HSE and the YouGov survey is the sampling method (probability vs. non-probability). The difference in mode is also important (face-to-face vs. online). YouGov describe the survey as nationally representative but this is unclear. These differences may account for the fact that the headline prevalences do differ somewhat from HSE²¹ in that YouGov finds 13% of the population experience gambling harm (PGSI score of 1+) compared to a figure of 4% on the combined HSE. This is a significant difference.

An independent report by the London School of Economics (LSE) (17) evaluates the differences between the sources. It concludes that HSE may under-estimate gambling harm by requiring a residential address and YouGov may over-estimate harm by excluding offline people. The conclusion drawn by LSE is that it is credible that the level of harm is probably somewhere between the 2 reported figures.

The LSE report does offer a level of scrutiny and transparency, but it is important to note when reading the following section that the YouGov report itself has not been peer reviewed and there is a lack of conclusions drawn and references to other published work on the subject. Furthermore, the report does not specify the time frame of the PGSI questions. The HSE is clear that the PGSI is based on the respondents' activities over the last 12 months. We could assume that YouGov also covered the last 12 months, but this is not clear from the publication. If YouGov did not specify the last 12 months, then respondents might have assumed the questions could apply to an earlier time, which would increase the prevalence of harm. Particularly relevant to this section, it is also unclear how YouGov arrived at the 7% affected others prevalence figure due to the complexity of how the report combines phases 1 and 2 of the study as it does not include this information.

However, the affected others section of the YouGov report is the most detailed contribution to the subject currently available and, taking into account the above caveats, adds value to the present review.

Prevalence of affected others

YouGov finds that 7% of the total adult population of Great Britain were affected others. The findings also reveal that the likelihood of being an affected other increases with PGSI score. Among gamblers, 20% of problem gamblers (according to PGSI) were affected others compared to 13% of moderate risk gamblers, and 9% of low risk

²¹ We do not compare this to HSE exactly, but rather the health surveys of England, Wales, and Scotland combined. Here, we refer to it as HSE for simplicity and consistency.

gamblers. The report suggests that this shows the complex relationship between a person's own gambling and the issues relating to other people's gambling.

Affected others were more likely to be women (57%) than men (43%), which reflects the fact that problem gambling is much more associated with men. There is little variation by age, but affected others were slightly more likely to be social class CD2E²² and less likely to be White British.

Type of affected others

Affected others were most likely to be negatively affected by a gambling problem of someone in their immediate family (61%). This is most commonly a spouse or partner (25%), followed by a parent (21%). Women (71%) were more likely than men (44%) to be negatively affected by the gambling of someone in their immediate family. Women were also much more likely to be affected by their spouse or partner (35% of women compared to 9% of men).

Due to their age, younger (18 to 24) affected others were most likely to have been affected by the gambling of a parent. Older affected others (55 and over) were most likely to have been affected by the gambling of a child.

Importantly, people who were both affected others and problem gamblers were more likely to have been negatively affected by the gambling problem of a child (15%), implying that gambling has profound impacts on the family as a whole. Problem gamblers were also more likely than average to say they have been negatively affected by a non-immediate family member or work contact, suggesting that gamblers were more likely to socialise with other gamblers.

Severity of impact upon affected others

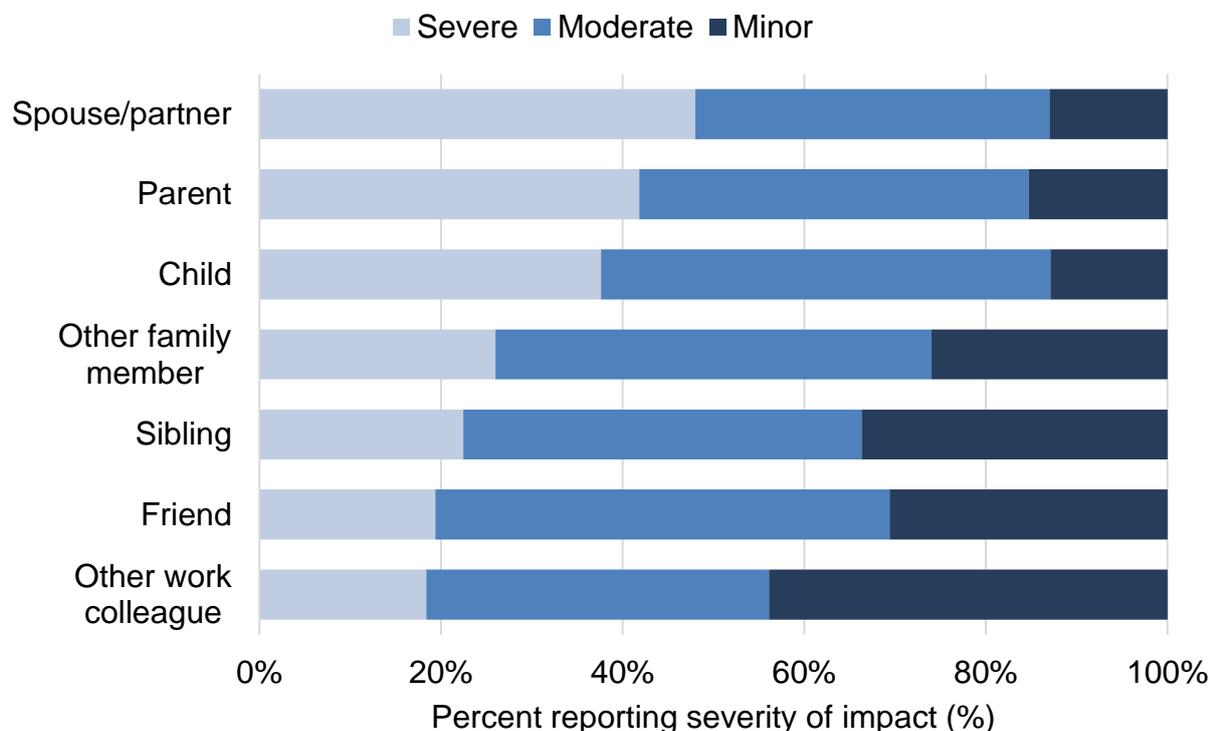
Among affected others, the most severe impacts of gambling were felt most by immediate family members. **Figure 4** shows the severity of impact by type of affected other in Great Britain in 2019. It presents the results from the YouGov report on severity of impact by percentage into either minor, moderate or severe. The figure shows that almost half (48%) of affected others that were affected by a spouse or partner report a severe negative impact. This is followed in severity by the gambling of a parent (41%)

²² Social class definition:

AB: higher and intermediate managerial, administrative and professional workers, C1: supervisory, clerical and junior managerial, administrative and professional workers, C2: skilled manual workers, D: semi-skilled and unskilled manual workers, E: people on long term state benefits, casual and lowest grade workers, unemployed with state benefits (including pension) only.

and a child (38%). A lower proportion of affected others reporting a severe negative impact were due to friends. The report suggests that the type and closeness of the relationship plays an important role in determining the severity of the negative impact experienced by affected others.

Figure 4. Severity of impact by type of affected other, Great Britain, 2019



Source: Gambling treatment and support, YouGov, 2019

The most significant type of impact reported by affected others was an inability to trust the problem gambler (62%). This was followed by:

- feelings of anger towards them (53%)
- anxiety (40%)
- a breakdown of communication (40%)
- reduced income for household running costs, such as food, rent and bills (38%)

Women were more likely to have experienced all the negative impacts of being an affected other with 81% reporting depression, anxiety and anger towards the problem gambler compared to 64% of men. Women were also more likely to have experienced financial impacts (67% of women compared to 48% of men).

Advice and support

YouGov found that most (64%) affected others have not sought advice or support on behalf of the problem gambler and an even greater proportion (72%) have not sought help for themselves as an affected other. When affected others do seek advice and

support either for themselves or for the problem gambler it is most likely from less formal sources. This included seeking help from:

- a friend or family member (19%)
- a spouse or partner (11%)
- gambling support websites (11%)

For more formal sources of advice and support, 12% report seeking help from mental health services and 8% from a GP. Also, 5% report seeking help from another addiction service (for example a drugs or alcohol service) again highlighting the complexity of addiction.

Concern for the safety or wellbeing of the problem gambler or family members (65%) is the most common reason affected others seek advice and support. Over half (57%) of affected others report not knowing how to deal with gambling and its impacts as the reason for seeking help. A similar proportion (54%) sought advice due to a relationship or family being affected by gambling or due to mental health problems (51%). Though a lower significant proportion (34%) report being prompted by a severe negative impact such as risk of losing employment, risk of losing their home, or criminal proceedings.

YouGov concluded that there is an evident demand for advice and support among affected others with almost half (48%) reporting a need for such help, whether for themselves, their spouse or partner, a family member, friend, or colleague.

The most reported barrier to seeking advice or support was that the person does not consider their gambling to be a problem (43%). The next most common reason is the belief that gambling treatment would not be helpful or be effective (40%). A further 14% reported feeling embarrassed or ashamed to ask for advice or support or that they would not want others to find out socially or professionally.

6.2 Treatment

Introduction

This section draws on published reports from Gambleaware. The National Gambling Treatment Service (NGTS) is a network of organisations providing treatment and support for people experiencing gambling-related harms. It is free to access across England, Scotland and Wales. GambleAware commissions the NGTS and it is funded through voluntary contributions from the gambling industry.

GambleAware publish annual statistics (18) covering the treatment activity of the NGTS and this is the source of the following summary. The annual statistics cover treatment provided by GamCare and its partner network, Gordon Moody Associates, and the

Central and North West London NHS Foundation Trust (London Problem Gambling Clinic). This represents most of the treatment provision for gambling in the UK, although there are other providers emerging in the public sector and third sector as a result of policy changes in England, Scotland and Wales²³.

Treatment provided (19)

GamCare offers:

- online treatment supported by regular contact with a therapist that people can access at a time and place convenient for them over the course of 8 weeks
- one-to-one in person, online and telephone therapeutic support and treatment for people with gambling problems, as well as affected others
- group based gambling recovery courses delivered face-to-face or online for between 6 to 8 weeks
- the National Gambling Helpline, which provides immediate telephone and online live chat support and referral into the treatment service
- information and advice via their website, moderated forums and online group chatrooms²⁴

Gordon Moody Association offers:

- two specialist residential treatment centres providing an intensive programme for men with a gambling addiction over a period of 14 weeks
- specialist relapse prevention housing for people who have completed the treatment programmes but need additional recovery support
- retreat and counselling programmes for women or men-only groups that combine short residential stays with at-home counselling support

Central and North West London NHS Foundation Trust (London Problem Gambling Clinic) offers treatment for gambling problems. This treatment is especially for people:

- with more severe addictions
- with co-morbid mental and physical health conditions
- with impaired social functioning
- who may come to treatment with more risk, such as risk of suicide

²³ The NHS Northern Gambling Service, provided by Leeds and York Partnership NHS Foundation Trust, has not been open for one full reporting year at time of publication. So, it is not included in the annual statistics for 2019 to 2020. Further regional NHS led clinics are being established as part of the NHS Long Term Plan.

²⁴ Data from these services are not included in the annual statistics publication.

GambleAware funded treatment providers are required to submit quarterly datasets in a standardised format. The annual statistics publication presents the analysis of these submissions. As of 2020 there is an additional service as part of the NGTS. However, this new service, the NHS Northern Gambling Service, was not operational in 2019 to 2020 so we have concentrated on the 3 service providers for which there is published data available.

Socio-demographic profile of people in treatment

The NGTS treated just over 9,000 people in Great Britain during 2019 to 2020. This is the most people treated since the NGTS began in 2015 to 2016 (5,909). For reference, this review has previously estimated there to be around 245,600 problem gamblers in England (according to PGSI or DSM-IV). Almost a quarter (23%) of people treated in 2019 to 2020 had been seen before by the service.

Most people treated were gamblers (84%) while 13% of referrals related to affected others. This is less than the estimate of affected others among the problem gambling population (20%), suggesting a certain level of unmet need for this group. As we can expect from previous sections of this review, affected others were more likely to be women.

Most people treated were men (75%) and a greater proportion are from the younger age groups. This corresponds to the prevalence of problem gambling in the population. However, there has been an overall small increase in the proportion of women being treated, increasing from 19% in 2015 to 2016 to 25% in 2019 to 2020.

Table 57. Age and sex of people treated in the National Gambling Treatment Service (NGTS), Great Britain, 2019 to 2020

Age group	<20 (%)	20-24 (%)	25-29 (%)	30-34 (%)	35-39 (%)	40-44 (%)	45-49 (%)	50-54 (%)	55-59 (%)	60+ (%)
Men	1.2	11.2	21.6	21.7	15.7	9.5	7.5	5.2	3.4	3.0
Women	0.5	4.8	13.6	15.9	16.1	12.0	8.5	10.4	9.0	9.1
All people in treatment	1.0	9.6	19.6	20.2	15.8	10.1	7.8	6.5	4.8	4.5

Source: Annual statistics from the National Gambling Treatment Service (Great Britain), 2020

Most people in treatment were employed (75%) with the next most reported category being unemployed (9%). Given the unemployment rate in the UK was around 4% in 2019, we can expect a higher proportion of people in treatment to be unemployed given previous findings that problem gambling is highest in the unemployed category.

On average, people in treatment reported problem gambling starting at the age of 24 years, although this was highly variable. Three-quarters reported problem gambling starting by the age of 32 years and one-quarter by the age of 19 years. At the point of coming to treatment services, people had typically been problem gambling for an average of 10 years.

Gambling profile of people in treatment

A large proportion of people in treatment (58%) participated online for their primary gambling activity, followed by bookmakers (27%). No other locations were used by more than 10% of people in treatment. For online activities, gambling on casino slots was the most common activity (38%), followed by sporting events (37%) and casino table games (27%). For bookmakers, gaming machines were the most common form of gambling (53%), followed by sporting events (31%) and horse racing (24%).

The most notable difference in gambling activity for people in treatment between 2015 to 2016 and 2019 to 2020 has been the increase in online gambling (from 57% to 69%). This has happened alongside the reduction in the proportion using bookmakers (from 56% to 38%).

About 12% of people in treatment had suffered a job loss as a result of their gambling and 26% had suffered a relationship loss through their gambling. Almost a third (29%) of people in treatment had no debt due to gambling at the time of assessment. But a quarter had debts up to £5,000 and 45% had debts over £5,000 or were bankrupt or in an Individual Voluntary Arrangement (IVA).

Over half of people in treatment (54%) spent up to £100 per day gambling in the 30 days before assessment. The NGST annual statistics also found:

- 16% spent between £100 and £200
- 18% spent between £200 and £500
- 15% spent over £500

On average (mean), people in treatment reported spending £2,102 on gambling in the 30 days before assessment.

Average (mean) money spent on gambling days was highest among people using casinos (£544) and online services (£435). The mean spend can be affected by outliers (extreme individual values) but even using the median, people using casinos still had the highest average daily spend (£200). Average monthly spend was again very high for people using casinos, followed by adult entertainment centres and online services. However, monthly spend was also high for bookmakers and bingo halls, especially

compared to daily spend. The report suggests that using these services often contributes to a high monthly spend.

Table 58. Average money spent on gambling by people treated in the National Gambling Treatment Service (NGTS), Great Britain, 2019 to 2020

	Average spend per gambling day (£)		Average spend in past month (£)	
	Mean	Median	Mean	Median
Bookmakers	295	100	1,785	1,000
Bingo hall	210	100	1,007	775
Casino	544	200	2,973	1,000
Live events	170	45	974	600
Adult entertainment centre	241	100	2,807	640
Family entertainment centre	136	100	737	600
Pub	212	100	1,519	700
Online	435	100	2,145	1,000
Miscellaneous	324	100	1,467	575
Private members club	160	50	1,777	700
Other	265	52	2,038	600

Source: Annual statistics from the National Gambling Treatment Service (Great Britain), 2020

Access and outcomes

The overwhelming majority of people (90.2%) self-referred to the NGTS. This was distantly followed by prisons (2.9%), other service or agency (2.7%), and GPs (1.5%).

For people treated during 2019 to 2020, 50% were seen within 3 days and 75% within 8 days. Waiting times for residential services were higher with 50% of people seen within 3 and a half months.

During 2019 to 2020 there was an average of 7 appointments per person and this was similar for both problem gamblers and affected others. Treatment lasted on average 8 weeks with a quarter of people receiving treatment for 3 weeks or less. Half of all people receiving treatment did so for between 3 and 15 weeks and a quarter received treatment for over 15 weeks. Treatment was slightly shorter for affected others and for those in residential centres was generally longer (an average of 13 weeks).

Between 2015 to 2016 and 2019 to 2020 the proportion of people completing treatment increased from 59% to 69% while the proportion dropping out of treatment decreased from 35% to 24%. Affected others were more likely to complete treatment than problem gamblers (80% compared to 66%). Overall, women were more likely to complete treatment than men, but when limited to just problem gamblers, female problem gamblers were slightly less likely to complete treatment (64% compared to 67% of male problem gamblers). Also, people who were unemployed were considerably more likely than the average to drop out of treatment (32%) and less likely to complete treatment (61%).

As expected, almost all (94%) people receiving treatment were defined as a problem gambler according to PGSI. The mean PGSI score for people in treatment was 20, markedly higher than the threshold of 8 required for the problem gambler definition. During 2019 to 2020 this proportion had reduced to 40% while PGSI scores had improved for most people in treatment (75%). Those defined as problem gamblers were most likely to improve by 10 to 18 points (31%) with a further 26% improving by 20 to 27 points.

6.3 Attitudes and influences

Introduction

The Gambling Commission has been tracking public perceptions of gambling since 2010. These attitudes and what influences gambling behaviours are the subject of this section. The primary source is the Gambling Commission annual report series 'Gambling participation: behaviour, awareness and attitudes' (20). The Gambling Commission collects data via a combination of telephone and online surveys. This is supplemented by tables from the HSE.

The telephone survey provides the main measure of past 4 week gambling participation, with waves conducted quarterly, in March, June, September and December, to reduce the effect of seasonal variations in gambling behaviour. The Gambling Commission conducts about 1,000 interviews each quarter from a survey sample generated through Random Digit Dialling (RDD)²⁵ of Great Britain phone numbers. The sample is subject to quotas to ensure it is as nationally representative as possible. Respondents are screened to ensure they are 16 or over and fit in remaining unfilled quotas. Quotas are set based on age, sex, religion, and social grade. Data is weighted to be representative

²⁵ Random Digit Dialling (RDD) is a method for sampling of telephone surveys which involves the random generation of telephone numbers.

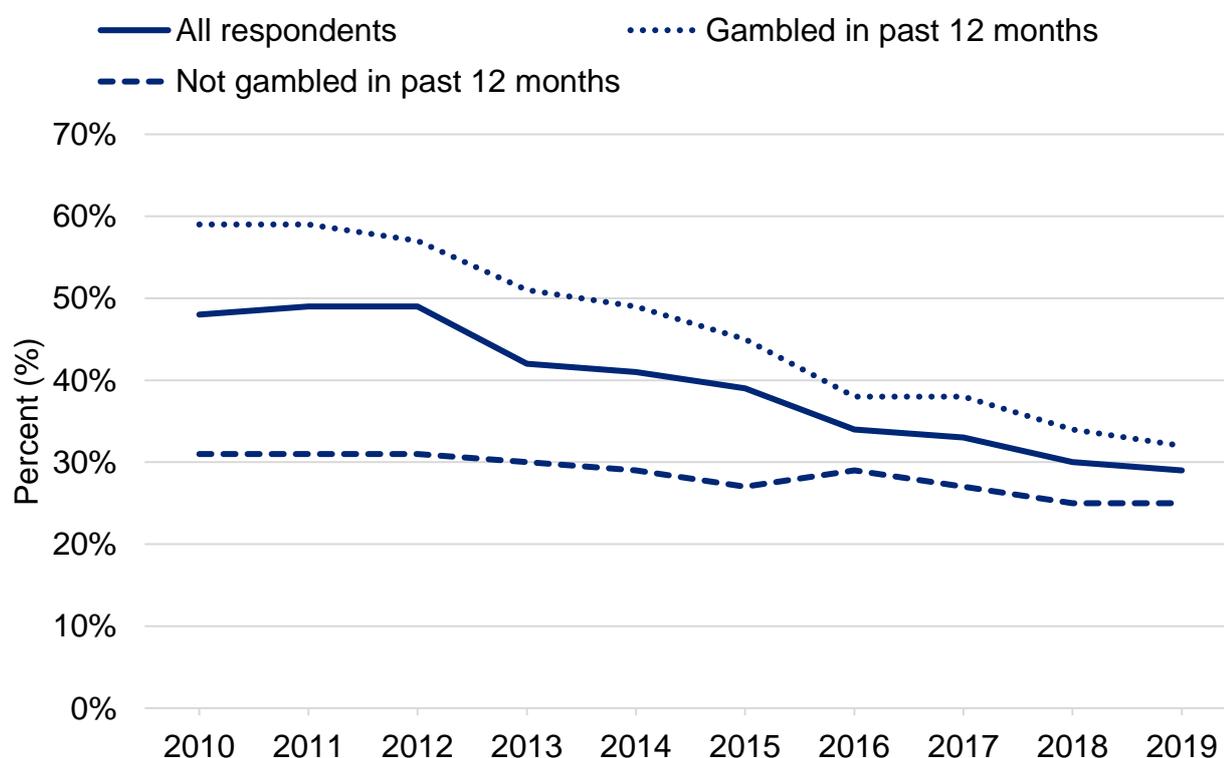
of the adult population with weights set based on the National Readership Survey (a face-to-face random probability sample).

The Gambling Commission uses the online survey to monitor online gambling behaviour. The survey was launched after the government introduced regulation of overseas gambling companies transacting with customers in Great Britain (in-line with the Gambling (Licensing and Advertising) Act 2014). The online survey sample is sourced through a panel and the sample is subject to quotas in-line with those used for the telephone survey. Also, data is weighted for analysis in-line with the methods used for the telephone survey.

Public perception of gambling

Considering the public perception of gambling back to 2010, gamblers' attitudes are more positive than non-gamblers, but the gap has reduced significantly in recent years (Figure 5). The proportion of gamblers and non-gamblers who think that gambling is conducted fairly and can be trusted has reduced gradually over the past 10 years.

Figure 5. Respondents who agree that gambling is conducted fairly and can be trusted, Great Britain, 2010 to 2019



Source: Gambling Commission, Gambling participation in 2019: behaviour, awareness and attitudes, annual report, 2020

The views of gamblers were also sought on the most important factors when selecting a company to gamble with. The most important factor was having the best odds (26%), followed by the company having:

- a fair and trustworthy reputation (24%)
- bonus offers (15%)
- a recognisable brand name (14%)

The Gambling Commission survey asked respondents about a series of attitudinal statements taken from the Attitudes Towards Gambling Scale (ATGS-8) (a validated scale to assess gambling attitudes among the general population, originally developed for the 2007 BGPS). From this, 82% of respondents in 2019 agreed that there were currently too many opportunities for gambling (a 3% increase from 2018), while 73% agreed that gambling is dangerous for family life. In 2019, we also saw an increase in the proportion saying that gambling should be discouraged (up to 62% from 58% in 2018) and a significant reduction in respondents agreeing that “gambling livens up life” (down to 26% from 28% in 2018).

Awareness of gambling

The Gambling Commission’s gambling participation survey asks whether gamblers follow a gambling company on social media. Overall, 23% of respondents followed a gambling company on either Facebook, Twitter, YouTube, Snapchat or Instagram in 2019. Facebook (17%) was the most popular social media platform in which gamblers follow gambling companies and despite a decrease over recent years this has been the case since 2015. This is followed by:

- Twitter (8%)
- YouTube (6%)
- Instagram (5%)
- Snapchat (2%)

These figures are consistent with the Adult’s Media Use and Attitudes Report (21) which identifies Facebook as the most popular social media platform with use decreasing since 2017.

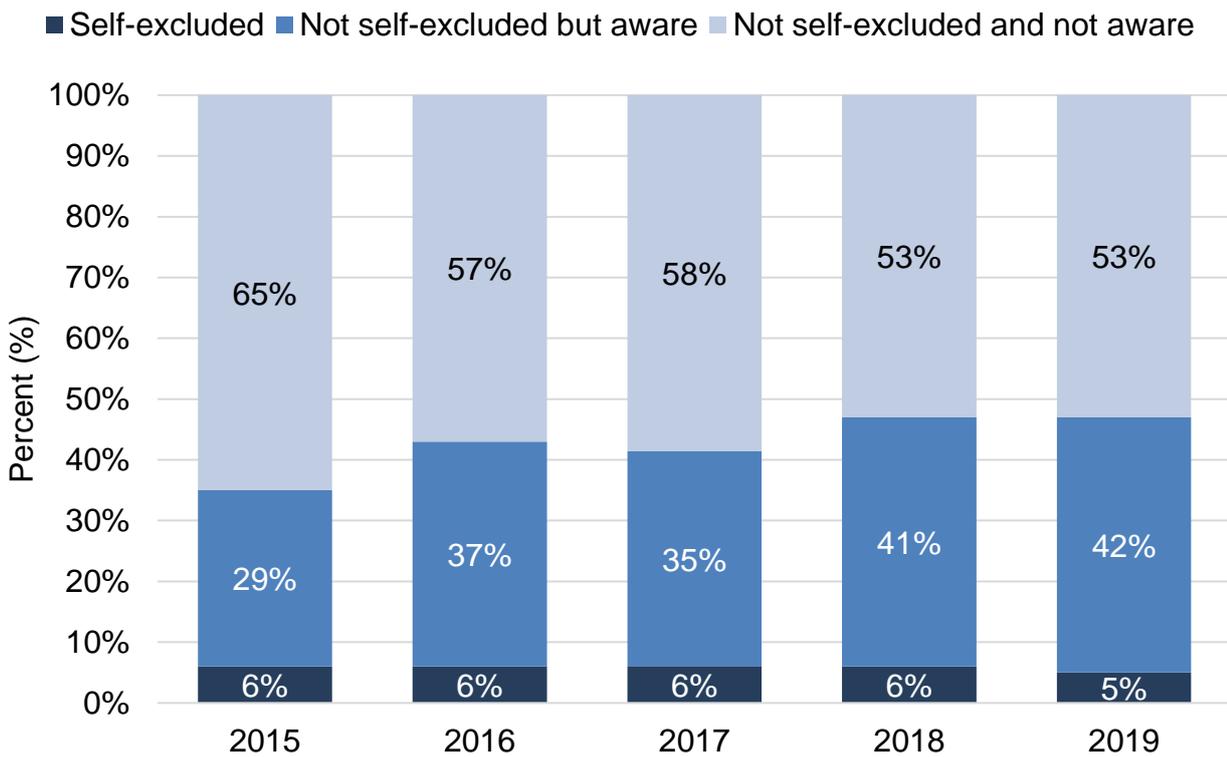
Overall, 86% of respondents have ever seen or heard any gambling advertisements and 82% have ever seen or heard any gambling sponsorship. A higher proportion of men (89%) than women (83%) have seen or heard gambling advertisements. Also, compared to the 2018 survey, we saw a decrease in the visibility of gambling sponsorships among those aged 25 to 34 years (77% in 2019 compared to 82% in 2018).

Gambling management tools

The Gambling Commission’s gambling participation survey also asks about wider issues of self-exclusion and gambling management tools.

If a gambler considers themselves to be spending too much time or money gambling, either online or in person, they can request to be self-excluded from a gambling company or can self-exclude from multiple operators. Figure 6 shows the percentage of gamblers who have self-excluded from gambling activities through a gambling management tool, and whether they were aware of these tools. In 2019, 5% of gamblers have ever self-excluded, which is a slight reduction from 6% in the previous 4 years. The proportion. The proportion of gamblers who had not self-excluded but were aware of self-exclusion increased steadily from 29% in 2015 to 42% in 2019. The proportion of gamblers who were not aware of self-exclusion reduced from 65% in 2015 53% in 2019.

Figure 6. Gamblers’ awareness and use of self-exclusion, Great Britain, 2015-2019



Source: Gambling Commission, Gambling participation in 2019: behaviour, awareness and attitudes, annual report, 2020

Among gamblers in 2019, more men (6%) have self-excluded than women (4%) while those aged 25 to 34 have the highest self-exclusion rates (9%). Other management tools used were:

- setting financial limits (9%)

- time out (3%)
- reality check (3%)
- exclusion by product (2%)

Table 59. Use and awareness of gambling management tools, Great Britain, 2019

	Self-exclusion (%)	Exclusion by product (%)	Time out (%)	Financial limits (%)	Reality check (%)
Used	5	2	3	9	3
Aware but not used	42	24	34	49	27
Not aware	53	74	63	42	70

Source: Gambling Commission, Gambling participation in 2019: behaviour, awareness and attitudes, annual report, 2020

Compared to the previous year, the Gambling Commission reported an increase in the proportion of respondents seeing information about where to seek help to control gambling (40%) in 2019. They also reported a decrease in respondents seeing information on whether a machine is random or compensated²⁶ (6%).

Overall, 20% of gamblers have ever read the terms and conditions provided by a gambling operator. The proportion of respondents who have not read terms and conditions but were aware they are available was 62%, while 18% were not aware terms and conditions are available. Women (22%) and those aged 65 or over (30%) were more likely to be unaware of terms and conditions.

6.4 Children and young people

Introduction

This section focuses on gambling prevalence among children and young people. The legal gambling age in the UK is 18, and this includes both gambling in person and online. Historically, the exception was the National Lottery but the government plans to

²⁶ All gambling machines have a return to player rate that dictates how frequently they are likely to pay out. For random machines and online slots this is typically based on a random number generator, meaning it is totally random whether the machine hits this number and pays out. In contrast, the likelihood of a compensated machine paying out is based on previous plays. The most common example is a fruit machine, which is more likely to pay out the more money it has taken (this is necessary as they can only physically hold a certain number of coins).

raise this from 16 to 18 no later than October 2021 following the announcement of the Review of the Gambling Act 2005 (22).

The primary source used is the Gambling Commission series 'Young People and Gambling Survey: A research study among 11-16 year olds in Great Britain' (23). We supplement this with information from the Royal Society for Public Health (RSPH) report 'Skins in the game' (24) as well as the Avon Longitudinal Study of Parents and Children (ALSPAC) (25).

The Gambling Commission series 'Young People and Gambling Survey: A research study among 11-16 year olds in Great Britain' is conducted as part of Ipsos MORI's annual Young People Omnibus (YPO) and examines gambling behaviours, such as where young people gamble and with whom, perceptions of gambling and awareness of gambling advertising. The survey also asks a series of questions relating to potential issues associated with gambling and uses the DSM-IV-MR-J2 problem gambling screen to classify gamblers as low risk, moderate risk or problem gamblers. The survey is conducted in schools, with pupils completing online self-completion surveys in class. Data is weighted by sex, age and region.

The RSPH report 'Skins in the game' used a mixed methods approach comprising of a series of 6 focus groups with a total of 79 young people across England, Scotland and Wales. It also included a survey conducted through Survey Monkey and promoted through social media, which 1,025 young people responded to. The ethnicity and geographical region of the respondents was fairly representative of the UK population. However, most take-up in the survey was by boys (83%), which is not representative of the general population. That said, the authors quote studies that have found boys to have significantly higher participation rates in games most heavily associated with loot boxes and skin betting such as the FIFA series and Fortnite.

ALSPAC is a longitudinal study of young peoples' gambling between 17 and 24 years, using a contemporary UK cohort, the Avon Longitudinal Study of Parents and Children (ALSPAC). When the children were aged 6 in 1997 to 1998, their parents completed the South Oaks Gambling Screen. Then, when aged 18 the parents completed the PGSI. Between 2008 and 2018, all young people still registered with the ALSPAC (10,155) were invited to take part and complete a gambling frequency survey which included PGSI. The sample sizes completing the gambling surveys were:

- 3,757 at age 17
- 4,340 at age 20
- 4,345 at age 24

Depression, anxiety and wellbeing scores, and drug and alcohol use, were also collected by self-completion questionnaires. The main strength of this report is its use of

the large ALSPAC cohort, which has collected detailed data for over 25 years. The main limitation is the missing data, with less than half of the whole ALSPAC cohort completing the gambling surveys. Non-responders to the gambling surveys, when compared to ALSPAC responders overall, were more likely to be male and from more deprived social backgrounds, with mothers with lower educational levels. There was also a significant gender bias, with the final sample comprising 58% females. As males were more likely to engage in gambling activity, this gender bias will have resulted in an under-estimate of gambling prevalence and associated characteristics (26).

A main limitation of all sources used in this section is a lack of general health data. We acknowledged this in the protocol of this review and represents a gap in the data available for children, young people, and gambling.

Gambling participation

The proportion of 11 to 16-year-old children who have spent their own money on any gambling activity in the last 7 days has been decreasing since 2011 from 23% to 11% in 2019 (Figure 7). This decrease follows the trend of any gambling in the last 12 months, which has reduced from 39% in 2018 to 36% in 2019²⁷. We should view this reduction in the context of declining rates of drinking, smoking and drug-taking in children and young people. Though poor diet remains an issue, obesity rates are also falling and levels of activity increasing, largely through increased activity at school (27).

Nearly double the number of boys (13%) reported participating in any gambling activity in the past 7 days than girls (7%). Participation was higher in older children (12% of 14 to 16 year olds compared to 9% of 11 to 13 year olds).

Table 60. Gambling participation in the last 7 days by age and sex, Great Britain, 2019

	11 year olds	12 year olds	13 year olds	14 year olds	15 year olds	16 year olds	Boys aged 11-16	Girls aged 11-16	Total aged 11-16
Has played a National Lottery game in past 7 days	7	3	4	2	3	9	5	2	4
Has played any gambling game in the past 7 days	14	8	9	11	11	16	13	7	11

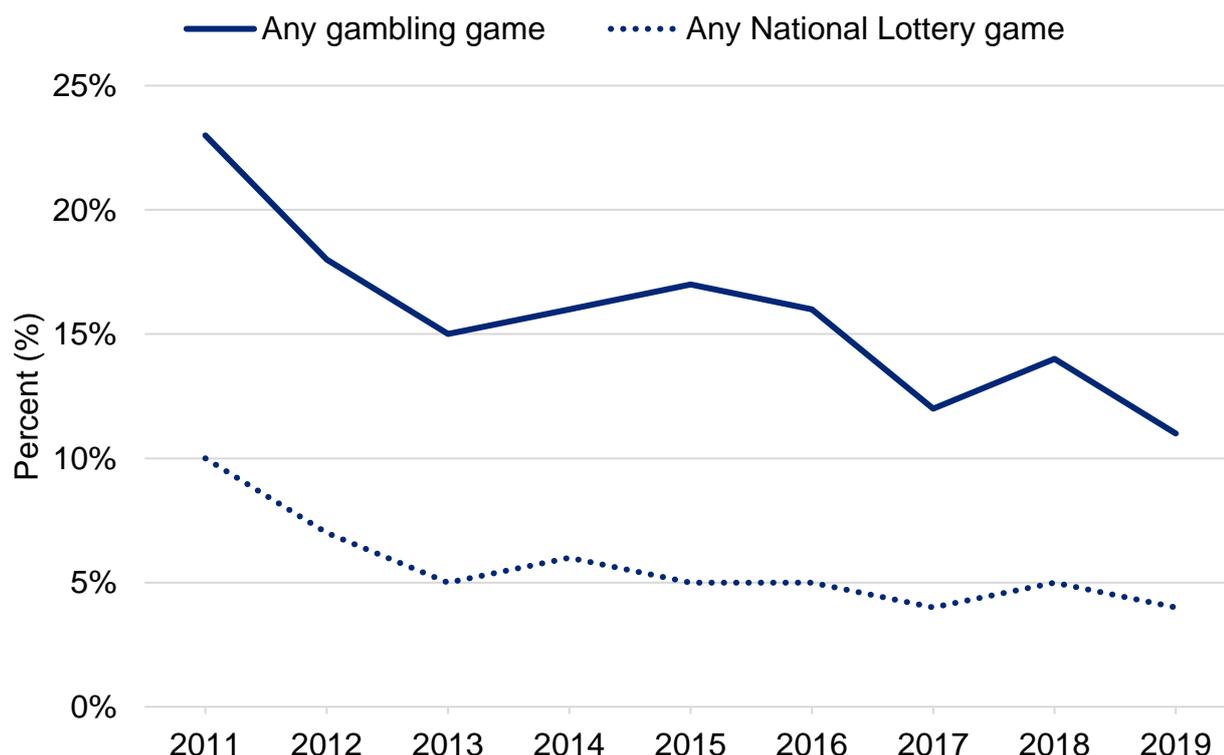
²⁷ Reported prevalence in 2020 was 37%, but the 2020 study was severely affected by the COVID-19 pandemic and the closure of schools in Great Britain on 20 March 2020.

Source: Gambling Commission, Young People and Gambling Survey 2019: A research study among 11-16 year olds in Great Britain, 2019

The most common gambling activities for 11 to 16-year-old children in the past 7 days were placing a private bet for money (5%) and playing fruit or slot (electronic gaming) machines (4%). A consistent finding in the report series is that fruit and slot (electronic gaming) machines (mentioned by 23% of respondents who have gambled) was the first experience of gambling. The main reason for gambling given was “because it’s fun” (55%) while among children who do not gamble the main reason given was that it is illegal and they are too young to take part (56%).

National Lottery participation in the past 7 days among 11 to 15 year olds was at its lowest reported level in 2019. Figure 7 shows that the proportion of 11 to 15 year olds who have played National Lottery games in the past week has decreased over time, from 10% in 2011, to 4% in 2019.

Figure 7. Gambling participation in the last 7 days by activity, Great Britain, 2019



Source: Gambling Commission, ‘Young People and Gambling Survey 2019: A research study among 11-16 year olds in Great Britain’ 2019

Scratchcards remained the most common National Lottery product among children under 16 who have ever played (mentioned by 10%), compared with:

- Lotto, the main National Lottery draw (6%)

- National Lottery online instant win games (4%)
- other National Lottery games (5%)

Most under 16s who bought a National Lottery product were in the company of a parent or guardian (67%) and report that the parent typically pays at the till (73%). The report concludes that although under 16s play the National Lottery for a range of reasons, the influence of parents and family members was as important as having fun.

On average, 11 to 16 year olds who had gambled in the past 7 days spent £17. The overall amount of money this group was given as pocket money, birthday money, or money earned over the same period was £34.

The rates of gambling reported in the past week (11%) were lower than drinking alcohol (16%) but higher than using e-cigarettes (7%), smoking tobacco cigarettes (6%) or taking illegal drugs (5%). Since 2017 the series has seen a potential relationship between these other harmful activities and gambling such that those who have spent their own money on gambling in the past 7 days were also more likely to have drunk alcohol (41%), taken drugs (21%), or smoked either a tobacco cigarette (25%) or an e-cigarette (27%), compared with children who had not gambled.

Online gambling and gaming

Participation in online gambling among children in the last 7 days compared with in person gambling was low (3%), particularly in the context of the time young people spend online (the series shows how chatting online with friends and using social media are 2 of the most popular spare time activities for this age group). Given the low rate of participation in online gambling it is difficult to draw conclusions across the report series.

Any past participation in online gambling was higher at 12% with differences across age and sex showing the same pattern seen for overall gambling. Boys (16%) were more likely than girls (8%) to have ever played an online gambling-style game. Participation was higher in older children compared to younger children (14% of 14 to 16 year olds compared to 10% of 11 to 13 year olds).

Among children who have ever played online gambling-style games, fruit and slot (electronic gaming) machines were most commonly mentioned (30%) followed by casino games such as:

- roulette or blackjack (26%)
- poker games (24%)
- bingo (21%)

This was consistent with previous surveys. Almost half (47%) of children who play online gambling-style games do so via apps. Of these, 26% were apps unrelated to social

networking sites, 18% were via Facebook, and 17% were free demo games via gambling apps.

Half (52%) of 11 to 16 year olds were aware of in-game items (for example weapons, power-ups and tokens). Awareness of in-game items was more common in boys (66%) than girls (37%). Of these children, 44% had paid money for loot boxes, crates or packs to get in-game items within the game they're playing. In most cases, the money used for loot boxes, crates or packs comes from money they had received as a birthday or Christmas present or from pocket money.

The RSPH report 'Skins in the game' (24) explored the relationship between gambling and video games. This report was undertaken to explore concerns that these activities introduce young people to gambling before they have been able to develop strategies to avoid gambling-related harms.

The RSPH report states that around 93% of young people regularly play video games and that there is a growing concern around loot boxes and skin betting²⁸. The report found that in the past 7 days twice as many 11 to 14 year olds had bought loot boxes than 22 to 24 year olds and almost twice as many had taken part in skin betting. Also, children under 18 were significantly less likely than older respondents to classify these activities as gambling and less likely to associate gambling harms with an increased risk of health issues such as anxiety and alcohol consumption. Finally, only 25% of children aged 11 to 14 years strongly support classifying loot boxes as gambling compared to 73% of those aged 22 to 24 years.

You should note, with reference to the caveats given at the start of this section, that although this source allows us to include information on this new topic, the sampling design it is not as robust as the 'Gambling Commission, Young People and Gambling Survey 2019'.

Problem gambling

In 2019, 1.7% of 11 to 16 year olds were classified as problem gamblers²⁹ and 2.7% as at-risk gamblers (as defined by the youth-adapted problem gambling screen DSM-IV-

²⁸ Loot boxes are purchasable rewards that are uncertain at the time of purchase. They include cosmetics such as new 'skins' for a character or they can be functional, providing an advantage within the game. As they cost money to buy and there is an element of chance involved it has led to concerns that they are a form of gambling. On sites external to the game itself players can trade, sell, or bet on their skins for money – this is skin betting. The Gambling Commission's view on loot boxes, skin betting, and related issues is set out in the position paper published March 2017.

²⁹ Reported prevalence in 2020 was 1.9%, but the 2020 study was severely affected by the COVID-19 pandemic and the closure of schools in Great Britain on 20 March 2020.

MR-J screen). These figures have remained stable compared to the previous year. However, it is important to note that problem gambling prevalence in children and young people from this source is higher than problem gambling prevalence in adults as reported in the HSE. In reality this is perhaps unlikely to be the case, suggesting the DSM-IV as used here may result in an overestimation.

There was a higher proportion of boys at risk (3.8%) and problem gamblers (2.0%) than girls at risk (1.6%) and problem gamblers (0.7%). This gender difference was consistent with the higher prevalence seen in boys throughout the survey as well as what we see in adult problem gambling from the HSE and other sources referenced throughout this report.

Another important aspect of gambling for public health not included in the HSE is the harmful impact on family members. The BGPS asks 2 questions about this issue. The first asked whether the respondent's parents or guardians had ever regularly gambled. If so, the respondent was asked to report whether they felt that either of their parents or guardians had ever had a problem with their gambling. Problem gambling prevalence was significantly higher among respondents whose parents gambled regularly (1.6%) than for those whose parents did not (0.7%). Also, 5.0% of respondents who reported having a parent with a gambling problem were themselves problem gamblers, compared with 1.0% of those who reported that, although their parents regularly gambled, they did not have a problem with their gambling.

Attitudes and influences

Most young people believe gambling to be dangerous (59%) and feel well informed about the issue (60%). Also, 7% agree that most people their age gamble, 11% agree it is OK for someone their age to gamble to see what it's like, and 7% agree it is OK for someone their age to gamble once a week. Consistent with previous surveys, it is interesting to note that despite the higher gambling prevalence in boys compared to girls, both show a similar level of agreement that gambling is dangerous (60% of boys and 59% of girls).

Exposure to advertising was high among children and young people with 69% reporting to have seen or heard some form of gambling advertisements or sponsorship, most commonly via television. Boys (39%) were more likely than girls (28%) to report seeing or hearing a gambling advert about a sports event or a betting company (34% of boys compared to 21% of girls). Girls (47%) were more likely than boys (34%) to remember the last advert they saw about a National Lottery based game or bingo (33% of girls compared to 20% of boys). Also, just over one in 10 (12%) follow gambling companies on social media while 11% had received direct marketing from gambling companies.

Half (50%) of young people have been spoken to about the potential problems that gambling can lead to and 74% say they know who to go to for help if they had problems

related to gambling. Children were most likely to have been spoken to about the potential problems with gambling by their parents or guardians (34%) followed by a teacher (19%).

These findings also highlight how parents or guardians were typically present when a young person gambles (67% of those who have ever spent money on gambling) but are also recognised as the first contact for help if they were to have problems with gambling (53%). Most young people (57%) say their family would discourage them from gambling if they started or found out, but 23% report that their parents or guardians set rules about gambling.

A recent release from ALSPAC (25) measured young people's gambling at age 17, 20, and 24 (3 points of transition from adolescence to adulthood) and revealed that regular weekly gamblers had developed habits and patterns of play by 20 years of age. Playing the National Lottery, scratchcards, and placing private bets with friends were the most common forms of gambling reported, but as the young people got older there was a significant increase in online gambling among men from 9% at age 17 to 35% at age 20 and 47% at age 24. There was also an increase seen among women but not as steep (from 0.8% at age 17 to 4% at age 20 and 11% at age 24). The study shows how young people who gamble regularly were more likely to:

- have parents who gambled regularly
- have high social media usage
- have been regular players of video games when younger

Also, regular gamblers had lower wellbeing scores and were at least twice as likely to smoke cigarettes daily and consume alcohol weekly. Finally, a small minority (6% to 7%) of men demonstrated problem gambling behaviours associated with poor mental health and wellbeing, involvement in crime, and potentially harmful use of drugs and alcohol.

7. Discussion

Over half of the population take part in gambling (24.5 million people in England). Participation in the National Lottery declined by 10% between 2012 and 2018. However, participation in other gambling activities increased from 40% in 2012 to 45% in 2015, before falling back to 40% in the most recent survey. Online gambling (excluding the National Lottery) has increased from 6% in 2012 to 9% in 2018.

The trend in problem gambling between 2012 and 2018 has also reduced, accounting for 0.5% of the population in 2018 (245,600 people in England). As numbers are very small the proportion of problem gamblers in 2018 is likely consistent with previous years rather than representative of a real decline. However, low risk gambling is increasing and a cause for concern.

The prevention paradox states that on a health continuum – alcohol being the typical example – the larger volume of harm is associated with people lower on the continuum because there are more of them. It is unclear from the data available whether problem gambling is actually declining, but low risk gambling does appear to be increasing. So, it is difficult to say whether gambling risk and the associated harms have increased or decreased overall. The HSE gambling questionnaire is not detailed enough about the harms themselves and so we cannot draw a clear conclusion based on the quantitative data presented here. This is a limitation of this study and in the data currently available for this topic area.

Problem, moderate risk and low risk gambling are all associated with men in the younger age groups. Demographic factors, particularly sex, appear more significant in predicting at-risk gambling behaviour than economic factors such as income, employment, and relative deprivation. Meanwhile, mental health is a stronger predictor of at-risk gambling than poor physical health and negative health behaviours, with the exception of alcohol.

There is a negative and worsening public perception of how gambling is provided. Most people see gambling as dangerous, too readily available, and think it should be discouraged.

Including adults and children, around 7% of the population were affected others. Among children, playing the National Lottery, scratchcards, and placing private bets with friends were the most common forms of gambling reported. But as the young people got older there was a significant increase in online gambling among men from 9% at age 17 to 35% at age 20 and 47% at age 24.

Figures presented do not cover the period of the COVID-19 pandemic with the most recent published data from the primary data source covering 2018. We have published a separate [evidence review to explore the impact of COVID-19 on gambling](#). It is important

to note that some findings, particularly for problem gambling, may be deemed inconclusive because of the limited sample size.

7.1 Strengths and limitations

The main strength of the findings of this report comes from the HSE. The HSE is a primary resource used to monitor the nation's health and care. It is a robust, transparent, detailed, widely used and well-respected data source. Including the gambling questionnaire allows us to compare gambling with a range of other health behaviours and conditions. However, while sample size is adequate for analysing a range of topics in England, we had to combine several survey years at times in this report. In particular, we had to combine data when looking at more detailed breakdowns. Though it is the most robust source available for estimating problem gambling in England, the combined dataset only included around 150 problem gamblers (according to either DSM-IV or PGSI).

The main limitations of this report come from relying on alternative sources of previously published data to meet aspects of the objectives not fully met by the HSE. The HSE does not ask questions about:

- time spent on gambling
- money spent on gambling
- affected others
- attitudes towards gambling
- the gambling behaviours of children and young people

The sources used are the best available for quantitative gambling data on these topics but in general they lack the data quality of the HSE. They also vary considerably in robustness and how representative they are of the national population. Finally, except for ALSPAC referenced in this report, there is no longitudinal gambling data source currently available. The addition of longitudinal data would have contributed significantly to the objectives of this report by allowing us to see important changes in the gambling behaviours of individuals over time. As a relatively new field in public health, we hope that more and better-quality quantitative gambling data will become available as more research is carried out.

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Appendix A: Overall gambling participation by local authority

Introduction

Table 61 shows the prevalence of overall gambling participation in the last 12 months by upper tier local authority (UTLA) as illustrated in Figure 4 of the main report. Due to sample size the authorities of Inner and Outer London have been grouped together.

It was not possible to produce meaningful local authority analysis for at-risk gambling or problem gambling due to the small number of counts for these questions at local authority level. The confidence intervals were too wide to show any useful evidence of variability.

Results

Variation in gambling participation is evident by UTLA. Discounting Rutland, which has wide confidence intervals, there were 19 UTLAs with a rate of gambling participation that is statistically significantly higher than average for England. The top 5 UTLAs in England with the highest levels of gambling participation were:

- Knowsley (78.6%)
- North Tyneside (75.9%)
- Barnsley (73.4%)
- Rotherham (72.9%)
- Stockton-on-Tees (72.6%)

The 5 UTLAs with the lowest levels of gambling participation (all statistically significantly lower) were:

- Slough (34.9%)
- Birmingham (43.7%)
- Manchester (45.3%)
- Windsor and Maidenhead (46.9%)
- Leicester (47.6%)

Table 61. Gambling participation in the last 12 months by upper tier local authority, England, 2012, 2015, 2016, 2018

UTLA Code	UTLA Name	Gambling participation in last 12 months (%)	Lower confidence limit (%)	Upper confidence limit (%)
E06000001	Hartlepool	70.7	59.6	79.8
E06000002	Middlesbrough	61.2	49.2	72.0
E06000003	Redcar and Cleveland	66.7	56.1	75.8
E06000004	Stockton-on-Tees	72.6	63.7	79.9
E06000005	Darlington	70.0	57.5	80.1
E06000006	Halton	58.2	45.0	70.3
E06000007	Warrington	52.5	42.8	62.1
E06000008	Blackburn with Darwen	57.1	44.1	69.2
E06000009	Blackpool	69.0	56.2	79.4
E06000010	Kingston upon Hull	65.4	56.7	73.1
E06000011	East Riding of Yorkshire	54.7	46.4	62.7
E06000012	North East Lincolnshire	64.0	52.7	73.9
E06000013	North Lincolnshire	68.3	58.7	76.6
E06000014	York	50.0	40.9	59.1
E06000015	Derby	63.3	53.9	71.8
E06000016	Leicester	47.6	39.7	55.7
E06000017	Rutland	83.3	43.6	97.0
E06000018	Nottingham	52.7	44.7	60.5
E06000019	Herefordshire	60.0	48.3	70.7
E06000020	Telford and Wrekin	71.1	61.4	79.2
E06000021	Stoke-on-Trent	61.5	53.5	68.9
E06000022	Bath and North East Somerset	58.9	48.9	68.3
E06000023	Bristol	54.7	47.6	61.6
E06000024	North Somerset	60.6	51.0	69.4
E06000025	South Gloucestershire	56.6	47.1	65.6

UTLA Code	UTLA Name	Gambling participation in last 12 months (%)	Lower confidence limit (%)	Upper confidence limit (%)
E06000026	Plymouth	67.5	58.7	75.2
E06000027	Torbay	55.0	42.5	66.9
E06000030	Swindon	58.3	48.3	67.7
E06000031	Peterborough	61.7	51.6	70.9
E06000032	Luton	64.6	54.8	73.4
E06000033	Southend-on-Sea	59.8	48.9	69.7
E06000034	Thurrock	69.0	58.5	77.9
E06000035	Medway	50.0	42.4	57.6
E06000036	Bracknell Forest	68.1	56.6	77.7
E06000037	West Berkshire	57.5	46.6	67.7
E06000038	Reading	54.9	44.1	65.2
E06000039	Slough	34.9	25.7	45.4
E06000040	Windsor and Maidenhead	46.9	36.4	57.7
E06000041	Wokingham	59.5	48.5	69.6
E06000042	Milton Keynes	65.4	57.0	73.0
E06000043	Brighton and Hove	50.0	39.9	60.1
E06000044	Portsmouth	70.1	59.8	78.7
E06000045	Southampton	71.0	61.1	79.2
E06000046	Isle of Wight	67.5	56.8	76.6
E06000047	County Durham	68.7	63.0	73.8
E06000049	Cheshire East	51.9	45.2	58.6
E06000050	Cheshire West and Chester	62.7	56.1	68.8
E06000051	Shropshire	65.3	58.7	71.3
E06000052	Cornwall	63.0	58.3	67.3
E06000054	Wiltshire	60.3	54.4	65.9
E06000055	Bedford	56.9	44.8	68.2
E06000056	Central Bedfordshire	62.0	53.1	70.1
E06000057	Northumberland	62.7	55.2	69.7

UTLA Code	UTLA Name	Gambling participation in last 12 months (%)	Lower confidence limit (%)	Upper confidence limit (%)
E06000058	Bournemouth, Christchurch and Poole	61.4	54.6	67.7
E06000059	Dorset	58.8	52.0	65.4
E08000001	Bolton	60.3	53.3	66.9
E08000002	Bury	60.2	51.2	68.5
E08000003	Manchester	45.3	39.5	51.2
E08000004	Oldham	62.4	54.4	69.8
E08000005	Rochdale	61.4	52.7	69.4
E08000006	Salford	55.1	45.7	64.2
E08000007	Stockport	54.9	48.0	61.5
E08000008	Tameside	60.9	51.6	69.5
E08000009	Trafford	55.8	45.8	65.4
E08000010	Wigan	62.2	53.8	70.0
E08000011	Knowsley	78.6	67.6	86.6
E08000012	Liverpool	68.3	61.2	74.6
E08000013	St. Helens	59.6	49.2	69.1
E08000014	Sefton	65.0	56.7	72.4
E08000015	Wirral	66.5	59.1	73.1
E08000016	Barnsley	73.4	64.4	80.8
E08000017	Doncaster	70.3	63.1	76.6
E08000018	Rotherham	72.9	63.3	80.8
E08000019	Sheffield	59.5	54.4	64.3
E08000021	Newcastle upon Tyne	55.8	48.0	63.4
E08000022	North Tyneside	75.9	63.5	85.0
E08000023	South Tyneside	69.2	58.3	78.4
E08000024	Sunderland	66.4	58.4	73.6
E08000025	Birmingham	43.7	39.3	48.1
E08000026	Coventry	54.9	47.9	61.8
E08000027	Dudley	68.2	59.8	75.5
E08000028	Sandwell	63.0	53.6	71.5
E08000029	Solihull	50.5	41.2	59.7

UTLA Code	UTLA Name	Gambling participation in last 12 months (%)	Lower confidence limit (%)	Upper confidence limit (%)
E08000030	Walsall	55.8	46.9	64.4
E08000031	Wolverhampton	61.3	50.0	71.5
E08000032	Bradford	49.0	42.1	55.9
E08000033	Calderdale	70.7	60.1	79.5
E08000034	Kirklees	56.3	50.2	62.1
E08000035	Leeds	63.5	58.6	68.2
E08000036	Wakefield	70.2	62.9	76.6
E08000037	Gateshead	63.5	53.6	72.5
E10000002	Buckinghamshire	53.3	47.4	59.2
E10000003	Cambridgeshire	58.7	53.7	63.4
E10000006	Cumbria	68.8	62.6	74.3
E10000007	Derbyshire	63.1	58.5	67.5
E10000008	Devon	54.2	49.6	58.7
E10000011	East Sussex	53.2	47.0	59.3
E10000012	Essex	62.0	58.3	65.5
E10000013	Gloucestershire	63.5	57.9	68.8
E10000014	Hampshire	60.2	56.5	63.7
E10000015	Hertfordshire	61.5	57.6	65.2
E10000016	Kent	60.7	57.3	64.1
E10000017	Lancashire	61.9	58.1	65.6
E10000018	Leicestershire	60.4	55.3	65.3
E10000019	Lincolnshire	66.4	61.7	70.7
E10000020	Norfolk	63.8	59.5	67.9
E10000021	Northamptonshire	66.8	61.7	71.5
E10000023	North Yorkshire	65.1	60.1	69.8
E10000024	Nottinghamshire	64.3	59.7	68.7
E10000025	Oxfordshire	63.6	58.9	68.0
E10000027	Somerset	58.9	53.0	64.5
E10000028	Staffordshire	69.5	65.5	73.3
E10000029	Suffolk	65.8	60.9	70.4
E10000030	Surrey	56.5	52.8	60.2

Gambling-related harms evidence review: Quantitative analysis of gambling involvement and gambling-related harms among the general population in England

UTLA Code	UTLA Name	Gambling participation in last 12 months (%)	Lower confidence limit (%)	Upper confidence limit (%)
E10000031	Warwickshire	52.8	47.6	57.9
E10000032	West Sussex	61.0	55.9	65.8
E10000034	Worcestershire	67.3	61.9	72.4
	Inner London	50.2	47.3	53.0
	Outer London	50.0	48.2	51.8
Total		59.3	58.7	59.8

Source: HSE 2012, 2015, 2016, 2018

Appendix B: Factors associated with harmful gambling

Introduction

This analysis forms one part of a larger piece of work described in the pre-registered 'Gambling-related harms evidence review: Analysis protocol'. The aim is to describe the prevalence and determinants of gambling, the harms associated with gambling, and the social and economic burden of gambling. This analysis seeks to address the following research questions:

- 1 What socio-demographic factors are associated with gambling and harmful gambling in England?
- 2 Is gambling and harmful gambling associated with health status?

The hypotheses tested are:

- 1 'Any gambling activity' is associated with socio-demographic factors in England.
- 2 'Any at-risk gambling activity' is associated with socio-demographic factors in England.
- 3 Problem gambling is associated with socio-demographic factors in England.
- 4 'Any gambling activity' is associated with health conditions in England.
- 5 'Any at-risk gambling activity' is associated with health conditions in England.
- 6 Problem gambling is associated with health conditions in England.

Data source

The data source is a combined dataset of the HSE for years 2012, 2015, 2016, and 2018.

The HSE is a survey of the general population aged 16 and over. Participants are selected using a random probability sample. The survey design ensures that every address in England has an equal chance of being included in the survey each year and the results are representative of the population living in private households. Gambling specific questions are included in the 2012, 2015, 2016, and 2018 surveys only.

Outputs have been non-response weighted in line with standard procedure of HSE analysis since 2003. NatCen were commissioned to combine the datasets. They manage the HSE on behalf of NHS Digital. NatCen calculated and appended new combined weighting variables to the file received by the project team. These were:

- wt_sc12151618: combined 2012, 2015, 2016, 2018 self-completion weight
- wt_gamb12151618: combined 2012, 2015, 2016, 2018 problem gambling weight
- wt_sc16 etc: specific year self-completion weight
- wt_gamb16 etc: specific year problem gambling weight

This weighting ensures the outputs are representative of the population. Following standard HSE analysis practice, as used in the ‘Health Survey for England 2018: Supplementary analysis on gambling’ publication³⁰, the problem gambling weights were used for all analyses involving variables based on the problem gambling screening tools. The self-completion weights were used for the remaining analyses.

All important information related to the data source is available in the comprehensive user guide, data dictionary and methods tables published as part of the standard dissemination of the HSE series³¹. Registered users can access the un-combined datasets via the UK Data Archive³².

We used SPSS version 25 software for all statistical analysis.

Variables

We selected the variables below as they were of the most interest to the research aims of the study within the limitations of the data available. The independent variables are those measuring the main socio-demographic and health concepts reported in the HSE series. Initially, only Anyacty and PROBGAM as dependent variables were within scope. However, following feedback from the expert reference group associated with the wider project, we agreed that a measure of any level of risk (‘harmful gambling’) should be included if feasible. A common proxy from HSE and Gambling Commission outputs is to use a PGSI score of 1 or more to describe any level of gambling risk. The analysis follows this precedent.

Table 62. Dependent gambling variables of interest

Variable name	Variable label	Measure
Anyacty	Whether spent any money on gambling in last 12 months	Categorical
PGSI_atrisk	Respondents with a PGSI score of 1 or more	Categorical
PROBGAM	Whether a problem gambler according to either DSM-IV or PGSI	Categorical

³⁰ NHS Digital (2019) Health Survey for England 2018: Supplementary analysis on gambling

³¹ NHS Digital (2019) Health Survey for England 2018

³² UK Data Service (2020) Health Survey for England

Table 63. Independent socio-demographic variables of interest

Variable name	Variable label	Measure
ag16g10	Age 16 to 75 in 10-year age bands	Categorical
Sex	Gender	Categorical
Origin2	Grouped ethnicity (White, Black, Asian, Mixed, Other)	Categorical
Eqv3	Equivalentised income tertiles (lowest, middle, highest)	Ordinal
TopQual4	Highest educational qualification (NVQ4/NVQ5/degree or equivalent, below degree, no qualification)	Ordinal
Employment_r	Recoded variable of Activb2/activity status of previous week (in education, paid employment/self-employed, unemployed, retired, looking after home/family, other)	Categorical
Qimd	Quintile of Index of Multiple Deprivation (IMD) score (2010 IMD for 2012 and 2015 IMD for 2015, 2016, 2018)	Ordinal
Gor1	Government Office Region	Categorical

Table 64. Independent health-related variables of interest

Variable name	Variable label	Measure
Genhelf2	Self-assessed general health grouped (very good/good, fair, bad/very bad)	Ordinal
WemwbsQ	WEMWBS score quintiles	Ordinal
LifeSatG	LifeSatG: Life satisfaction (low, medium, high, very high)	Ordinal
GHQg2	GHQ score group (0, 1-3, 4+)	Ordinal
BMIlvg3	BMI group (not overweight or obese, overweight, obese)	Categorical
Totalwug	Alcohol units per week grouped	Categorical
Cignow	Current smoker	Categorical

Missing data

Missing data was coded as such in the source dataset and was excluded as appropriate from statistical analysis.

Results

Step 1: Bivariate analysis

For step 1 of this pre-registered analysis, a series of chi-squared tests were conducted to refute the null hypothesis. This was that the variables of interest are independent of the 3 dependent gambling variables³³.

All 3 dependent variables are categorical, as are most of the independent variables of interest. Chi-square was also used to test the ordinal variables against the categorical dependents while acknowledging that the test will treat both as categorical. The results of such tests concerning ordinal variables are valid, but there is an acceptable loss of information in the output (for example, the order of the categories). This is a common approach and the ordinal variables are fully accounted for in step 2 of the analysis using binary multiple logistic regression. To trust the conclusions from a chi-square test, the 2 standard assumptions are that:

- observations are independent
- all expected frequencies are more than 5³⁴ for a 2x2 table (for example, PROBGAM x Sex)

These assumptions are true for the HSE combined dataset. However, the SPSS syntax used tested the latter assumption as part of the output.

Step 1: Findings

Tables 68, 69, and 70 show the main output from the bivariate analysis.

The most important figure for the hypotheses measured is the significance determined by the chi-square test. Where this is less-than 0.05 the null hypothesis is rejected, and the conclusion can be made that the association between the dependent and independent is likely not due to chance variation. From the outputs below this cannot be determined for income, region, self-reported general health, and region.

The output also includes measures for Cramer's-V/Phi³⁵ to quantify the correlation. Chi-square has determined whether there is a significant relationship between the variables but is not able to quantify how important this is. Cramer's-V is a post-test that provides this additional information. Given the relatively large sample size of the dataset it is

³³ Technically, a chi-square test is a descriptive test, not a modelling technique, and as such there are no dependent variables but for simplicity of language and consistency with the following description of Step 2 of this analysis, the main gambling measures are here referred to as dependent.

³⁴ For larger tables, no more than 20% of all cells may have an expected frequency less than 5 and all expected frequencies more than 1.

³⁵ Phi is used where the table is 2x2.

important to note that even small effects can become significant (as chance reduces with larger sample sizes). Including this post-test suggests that this may be the case for our study given that all measures of the correlation are low. However, results here do not preclude any variables from step 2. The results of the chi-square test are used to test whether including a variable reduces the badness-of-fit measure. This means that if chi-square is significant then the variable will be considered a significant predictor in the equation. So, only income, region, and self-reported general health were excluded from step 2 of the analysis and the conclusion made that the sample size may be amplifying significance at the bivariate level.

Table 65. Bivariate output for gambling participation in the last 12 months

	Pearson Chi-square	Cramer's-V/Phi
Socio-demographic factors		
Age	0.000	0.121
Sex	0.000	0.075
Ethnicity	0.000	0.171
Income	0.000	0.087
Educational qualification	0.000	0.076
Employment	0.000	0.180
IMD	0.000	0.039
Region	0.000	0.087
Health factors		
General health	0.000	0.042
Wellbeing	0.000	0.045
Life satisfaction	0.000	0.045
GHQ	0.000	0.032
BMI	0.000	0.096
Alcohol	0.000	0.227
Smoking	0.000	0.031

Table 66. Bivariate output for harmful gambling

	Pearson Chi-square	Cramer's-V/Phi
Socio-demographic factors		
Age	0.000	0.123
Sex	0.000	0.121
Ethnicity	0.001	0.027
Income	0.831	0.004
Educational qualification	0.000	0.044
Employment	0.000	0.088
IMD	0.000	0.050
Region	0.021	0.026
Health factors		
General health	0.577	0.006
Wellbeing	0.000	0.092
Life satisfaction	0.000	0.070
GHQ	0.000	0.061
BMI	0.330	0.010
Alcohol	0.000	0.106
Smoking	0.000	0.085

Table 67. Bivariate output for problem gambling

	Pearson Chi-square	Cramer's-V/Phi
Socio-demographic factors		
Age	0.000	0.036
Sex	0.000	0.053
Ethnicity	0.000	0.042
Income	0.017	0.019
Educational qualification	0.000	0.029
Employment	0.000	0.052
IMD	0.000	0.047
Region	0.000	0.037
Health factors		
General health	0.000	0.036

	Pearson Chi-square	Cramer's-V/Phi
Wellbeing	0.000	0.062
Life satisfaction	0.000	0.052
GHQ	0.000	0.053
BMI	0.849	0.004
Alcohol	0.002	0.031
Smoking	0.000	0.040

Step 2: Binary logistic regression

Whereas step 1 describes the significance of the relationship between the independent variables and gambling behaviour, step 2 models the determinants of and predicts the likelihood of gambling behaviour among the study population. Unlike the bivariate analysis, the aim here is to explicitly define a dependent gambling variable and make predictions, so a logistic regression is most appropriate.

Because most variables and outcomes were categorical, it could be argued that a log linear analysis would be preferred for step 2. While this is an extension of the chi-square test used in step 1 it has the disadvantage of being unintuitive and problematic to interpret and explain. So, we decided to use logistic regression as it is easier to understand than log linear analysis, simple to explain to the audience of the final report and is still a reasonable tool for the aims of this study.

All standard assumptions of binary logistic regression are met by the present analysis, namely:

- dependent is dichotomous
- one or more independent variables that can be either categorical (nominal or ordinal) or continuous
- independent observations
- dependent variable is mutually exclusive
- linear relationship between any continuous independent variables and the logit transformation of the dependent variable

Before the regression some variables were recoded into more practical or meaningful groups and others were dummy coded to turn certain categories into binary variables to give them directionality (such as higher category is 1, lower category is 0). This allows the regression to look at direction of association by comparing 2 sides.

Table 68. Variables entered into the equation

Variable name	Entered into equation	Recodes
ag16g10	Yes	No recode
Sex	Yes	Recoded into dummy variable Sex_r (Male (0), Female (1))
Origin2	Yes	Recoded into Ethnicity_r (White (0), Non-White (1))
Eqv3	No	Excluded in Step 1 (>0.05)
TopQual4	Yes	No recode
Employment_r	Yes	Recoded into 2 dummy variables Paid_employ_dum (In paid employment/self-employed (1)) and Unemployed_dum (Unemployed (1))
Qimd	Yes	No recode
Gor1	No	Excluded in Step 1 (>0.05)
Genhelf2	No	Excluded in Step 1 (>0.05)
WemwbsQ	Yes	No recode
LifeSatG	Yes	No recode
GHQg2	Yes	No recode
BMIlv3	No	Excluded in Step 1 (>0.05)
Totalwug	Yes	Recoded into Alcwug_r (Never drink (0), 1-14 units (1), Over 14 to 35 units (2), Over 35 to 50 units (3), 50+ units (4))
Cignow	Yes	No recode

Not all questions were asked in every HSE year. For example, life satisfaction is included in the 2016 and 2018 surveys, while WEMWBS is included in 2012, 2015, and 2016 surveys only. Given the results of step 1, life satisfaction and WEMWBS are to be included in the logistic regression. This means that the analysis will be run on 2016 as this is the most recent year that includes all variables of interest. This is suitable from a sample size perspective for Anyacty and PGSI_atrisk (harmful gambling).

While there is no consensus regarding sample size for logistic regression, a conventional guideline suggests that maximum likelihood estimation with less than 100 cases is “risky”, 500 cases is “adequate” and there should be at least 10 cases per

predictor³⁶. Others have refined this, saying that 10 times the number of predictors (k) should consider the proportion (p) of successes ($n = 10k/p$)³⁷. Given the results of step 1 this means we need a sample of 253 for Anyacty and 2,933 for PGSI_atrisk (harmful gambling). We used 3,395 in the analysis for Anyacty and 3,315 for PGSI_atrisk. The sample requirement for PROBGAM to be meaningful cannot be achieved within the limits of the dataset used, no matter the number of HSE years included.

One final consideration about the sample size for the logistic regression is specific to the calculation of logs ratios, which is the output of step 2. A bias³⁸ of up to 15% is acknowledged for the log odds ratio when the sample size is around 100, but this reduces close to zero when around 1,000 cases are included. So, the current analysis should not be unduly affected by such bias.

Table 69. Sample size calculation

Model	Proportion of successes (p)	Number of predictors (k)	Sample size (n)
Anyacty	0.473743	12	253
Atrisk	0.040908	12	2,933
Probgam	0.006601	12	18,180

Step 2: Findings

The Anyacty model is poor and is not described in detail here.

The first output below (Table 73) allows us to reject the null hypothesis. Here, this is that the model based on the variables inputted fits equally well as the null model (Block 0 in full output).

³⁶ Long, J. (1997) Regression models for categorical and limited dependent variables, SAGE Publications, London.

³⁷ Peduzzi, P., Concato, J., Kemper, E., Holford, T. R., and A. R. Feinstein (1996). A simulation study of the number of events per variable in logistic regression analysis. *Journal of clinical epidemiology*, 49(12), 1373-1379.

³⁸ Nemes, S., Jonasson, J. M., Genell, A., and G. Steineck (2009). Bias in odds ratios by logistic regression modelling and sample size. *BMC medical research methodology*, 9, 56-60.

Table 70. Binary logistic regression (PGSI_atrisk), Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step	329.38	25	0.000
Block	329.38	25	0.000
Model	329.38	25	0.00

The second main output is the pseudo-R² values. It's worth noting that these will be lower than the R² of multiple regression. 'Pseudo' as R² in this analysis is not technically the proportion of variation accounted for by variation in the independents, rather, it is only an analogue of correlation. The Nagelkerke R² will be quoted as the preferred measure over Cox and Snell R² because the latter has the limitation that it cannot reach 1 as R² in linear regression can. Nagelkerke R² overcomes this limitation by adjusting the scale of the statistic. So, as this analysis aims to be as analogous as possible to the R² of least squares regression, Nagelkerke R² will be used.

The present model has an R² of 27%, which is good but not great. However, it is typical of Nagelkerke and Cox & Snell to vary and so it is best practice not to over-emphasize the pseudo-R² in logistic regression. The Hosmer & Lemeshow uses non-significance as a measure of goodness of fit of the model. Greater than 0.05 indicates it is a good fitting model which the PGSI_atrisk (harmful gambling) model achieves.

Table 71. Binary logistic regression (PGSI_atrisk), Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1128.789^a	0.097	0.267

Note:

^a Estimation terminated at iteration number 7 because parameter estimates changed by less than 0.001

Table 72. Binary logistic regression (PGSI_atrisk), Hosmer and Lemeshow Test (step 1)

Chi-square	df	Sig.
9.080	8	0.336

A drawback of the model is the low classification rate, particularly regarding true classifications. A model with a good accuracy rate would demonstrate high proportions for both those with no PGSI risk and those with any PGSI risk. The current model is good at predicting cases that have no risk (99.7%) but not very good at predicting cases that do have risk (10.4%).

Table 73. Binary logistic regression (PGSI_atrisk), Classification Table^a

		Predicted (PGSI_atrisk)		Percentage Correct
		No risk	At risk	
Observed (PGSI At risk (1plus))	No risk	3,023	8	99.7
	At risk	172	20	10.4
Overall Percentage				94.4

Note:

^a The cut value is 0.500

The most important output for the aim of this study is the variables in the equation table, which details the regression function itself. This analysis is not concerned with the raw scores because natural scales do not make sense when dealing with a dichotomous dependent variable. As the analysis here aims to predict the likelihood of falling into one of 2 groups (at risk gambling yes or no), meaning the relationship is non-linear, then we quote the log odds (essentially, the analysis has made the relationship linear by converting the raw probability scores into log odds). By taking the natural log of the odds ratios we get an indirect measure of probability of being in the target group that will then be linearly related. So, the final output of the analysis is the predicted change in log odds for every one unit change in the independents. Those that were significant were tabulated and summarised in the body of the main report These are:

- age
- sex
- GHQ-12 (all levels)
- alcohol consumption (over 14 to 35 units, and 50 units or more)

Table 74. Binary logistic regression (PGSI_atrisk), Variables in the Equation^a

Covariable	B	S.E.	Wald	d.f.	p-value	Adjusted odds ratio	95% C.I.	
							Lower	Upper
Age	-0.539	0.060	79.635	1	0.000	0.583	0.518	0.656
Sex	1.423	0.206	47.936	1	0.000	4.151	2.774	6.211
Ethnicity	-0.446	0.266	2.815	1	0.093	0.640	0.380	1.078
Educational Qualification, 3 groups (NVQ4/NVQ5/degree or equiv)			8.609	2	0.014			
Educational Qualification, 3 groups (Below degree)	0.584	0.216	7.317	1	0.007	1.794	1.175	2.740
Educational Qualification, 3 groups (No qualification)	0.754	0.296	6.493	1	0.011	2.124	1.190	3.793
In paid employment	-0.197	0.214	0.845	1	0.358	0.821	0.540	1.250
Unemployed	-0.195	0.296	0.433	1	0.510	0.823	0.461	1.470
Quintile of IMD score (least deprived)			11.143	4	0.025			
Quintile of IMD score (2)	-0.270	0.354	0.583	1	0.445	0.763	0.381	1.527
Quintile of IMD score (3)	0.018	0.307	0.003	1	0.953	1.018	0.558	1.859
Quintile of IMD score (4)	0.573	0.287	3.982	1	0.046	1.773	1.010	3.111
Quintile of IMD score (most deprived)	0.366	0.294	1.550	1	0.213	1.442	0.810	2.566
WEMWBS score – quintiles (1)			15.525	4	0.004			
WEMWBS score - quintiles (2)	0.714	0.344	4.303	1	0.038	2.041	1.040	4.006
WEMWBS score - quintiles (3)	0.003	0.331	0.000	1	0.993	1.003	0.525	1.918
WEMWBS score - quintiles (4)	0.482	0.314	2.352	1	0.125	1.619	0.875	2.999
WEMWBS score - quintiles (5)	-0.288	0.357	0.649	1	0.421	0.750	0.373	1.510

Covariable	B	S.E.	Wald	d.f.	p-value	Adjusted odds ratio	95% C.I.	
							Lower	Upper
Life satisfaction (Low (0-4))			4.262	3	0.235			
Life satisfaction (Medium (5-6))	-0.114	0.386	0.088	1	0.767	0.892	0.418	1.902
Life satisfaction (High (7-8))	-0.006	0.331	0.000	1	0.987	0.994	0.520	1.903
Life satisfaction (Very high (9-10))	0.348	0.273	1.616	1	0.204	1.416	0.828	2.420
GHQ Score – grouped (Score 0)			15.279	2	0.000			
GHQ Score - grouped (Score 1-3)	0.680	0.204	11.079	1	0.001	1.973	1.322	2.944
GHQ Score - grouped (Score 4+)	0.886	0.254	12.140	1	0.000	2.425	1.473	3.992
Alcohol weekly units (Never/not in last 12 months)			36.554	4	0.000			
Alcohol weekly units (1 to 14)	0.743	0.333	4.961	1	0.026	2.101	1.093	4.039
Alcohol weekly units (Over 14 to 35)	1.188	0.360	10.900	1	0.001	3.280	1.620	6.640
Alcohol weekly units (Over 35 to 50)	0.428	0.599	0.512	1	0.474	1.535	0.475	4.963
Alcohol weekly units (Over 50)	2.060	0.395	27.226	1	0.000	7.848	3.620	17.015
Current smoker	0.160	0.174	0.851	1	0.356	1.174	0.835	1.650
Constant	-3.915	0.684	32.792	1	0.000	0.020		

Note:

Empty cells indicate missing data that was not available due to small counts.

^a Variable(s) entered on step 1: (D) Age, Sex_r, Ethnicity_r, (D) Highest Educational Qualification, 3 groups, Paid_employ_dum, Unemployed_dum, (D) Quintile of IMD SCORE (2010 IMD for 2012, 2015 IMD for 2015, 2016, 2018) - least deprived to most deprived, (D) Wemwbs score - quintiles - all HSE years, (D) Overall, how satisfied with life nowadays - grouped, (D) GHQ Score - grouped (0,1-3,4+), Alcweg_r, Whether smoke cigarettes nowadays (c+sc)

Limitations

The main limitations to the analysis are the low classification rate for positive cases, and that while the R^2 is less important in binary logistic regression than linear regression, and automatically lower, the model overall seems to be good but not great. The other main limitation is that the variables included, and so the concepts measured, are restricted by what is included in HSE.

Finally, it is important to note that while the model goes some way to explaining the relationship between harmful gambling and the available range of variables and concepts, all conclusions relate to association only, not causation.

Conclusions

A series of bivariate analyses were conducted to compare a range of variables to 3 increasing levels of gambling participation and harm. Of these, income, region, self-reported general health, and BMI were shown not to be significant for harmful gambling. Income and BMI were shown not to be significant for problem gambling.

We performed a logistic regression to look at the effects of important socio-demographic and health factors on the likelihood that respondents are participating in harmful levels of gambling. The logistic regression model was statistically significant (p less-than 0.05). The model explained 27% of the variance in harmful gambling and correctly classified 94% of cases, but this was skewed towards classifying those at no risk.

The likelihood of respondents experiencing harmful gambling is shown to reduce with age. Men were 4.2 times more likely than women to be at-risk gamblers. Wellbeing contributed significantly to the model, but more important was scoring on GHQ12. Compared to respondents scoring 0, the odds of those scoring 1 to 3 were 2.0 times more likely to participate in harmful gambling. Those scoring 4 or more were 2.4 times more likely to participate.

Regarding physical health and health behaviours, smoking and BMI did not contribute significantly to the model, but alcohol did. Compared to abstainers or people not drinking in last 12 months, the odds of respondents who drank above the recommended limits (14 to 35 units) were 3.3 times more likely to engage in harmful gambling. This increased markedly to 7.8 times for the heaviest drinkers (50 units or more). Given the importance of gender mentioned above, it should be noted that the group from HSE consuming 50 units or more is predominantly male (75.8%).

The broader conclusion from this analysis is that demographic factors, particularly gender, appear more significant in predicting harmful gambling behaviour than economic factors such as income, employment, and relative deprivation. Meanwhile, mental health

is a stronger predictor of harmful gambling than poor physical health and negative health behaviours, with the exception of alcohol.

This conclusion is made with the caveat that regression analyses are sensitive to the model selected, the variables included in the model (limited by those in HSE), and the method by which variables are entered into the model.

Appendix C: Confidence limits

This appendix presents the confidence intervals³⁹ that correspond to the tables produced from the Health Survey for England.

Note that empty cells indicate missing data that was not available due to small counts.

Table 1. Confidence limits

Lower confidence limit	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)
Any gambling activity	63.35401			61.03706	55.00798		52.82442
Any gambling activity (excluding National Lottery)	40.83098			43.91650	40.52367		39.05112

Upper confidence limit	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)
Any gambling activity	65.62960			63.34907	57.38490		55.17114
Any gambling activity (excluding National Lottery)	43.17807			46.28907	42.88585		41.35974

Table 2. Confidence limits

Lower confidence limits	2012	2015	2016	2018
Lotteries and related products				
National Lottery	51.31122	44.51484	39.32956	34.87769
Scratchcards	17.79043	21.22489	19.35338	17.01510
Other lotteries	14.14683	13.97320	13.09177	13.59294
Machines and games				
Football pools	1.82619	2.24660	2.24504	2.53018
Bingo (not online)	5.25364	5.36277	4.40814	4.03652

³⁹ A confidence range has been constructed using the Wilson Score method applied to the unweighted survey data. This range (+x% and -y%) has then been applied to the weighted estimate to produce 95% confidence intervals based on weighted prevalence levels.

Lower confidence limits	2012	2015	2016	2018
Slot (electronic gaming) machines	5.65450	6.51162	5.64692	5.17818
Machines in a bookmakers	2.03497	2.89984	2.52415	1.88015
Casino table games (not online)	2.17587	3.08750	2.80441	2.25071
Poker played in pubs or clubs	0.75259	0.87758	0.61298	0.52915
Online gambling on slots, casino or bingo games	2.47617	3.27553	2.71087	2.62360
Betting activities				
Online betting with a bookmaker	3.84863	6.60760	6.79692	7.19161
Betting exchange	0.57923	0.78901	0.96568	0.88006
Horse races (not online)	9.66001	10.37288	8.53068	7.48048
Dog races (not online)	2.31290	2.43261	1.78292	1.42126
Sports events (not online)	3.37418	4.69553	4.59815	3.56345
Other events or sports (not online)	0.70264	1.14616	1.05517	1.23946
Spread-betting	0.32504	0.44184	0.44120	0.35913
Private betting	4.14193	4.60042	3.65062	3.37475
Other gambling activity				
Any other gambling	1.06871	1.50925	1.05517	0.96928
Summary				
Any gambling activity	63.35401	61.03706	55.00798	52.82442
Any gambling (excluding National Lottery)	40.83098	43.91650	40.52367	39.05112
Any online gambling (excluding National Lottery)	6.03368	8.72696	8.72386	8.73509

Table 3. Confidence limits

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Lotteries and related products								
National Lottery	10.43636	29.80783	39.95669	44.33740	41.43208	33.66952	25.28593	34.89166
Scratchcards	17.27215	24.36717	21.22630	17.48760	12.03935	7.36928	3.49895	17.02598
Other lotteries	3.68931	8.51805	12.48142	15.10844	16.65525	16.44453	14.88600	13.60281
Machines and games								
Football pools	5.00017	5.05813	1.25403	0.43431	0.92364	0.52245	1.25216	2.53452
Bingo (not online)	3.68931	4.34472	4.14316	2.18671	3.06199	2.63832	3.66695	4.04203
Slot (electronic gaming) machines	6.69475	8.14954	5.74877	4.18627	3.06199	0.73441	0.47549	5.18443
Machines in a bookmakers	3.25948	3.99073	1.33402	1.03672	0.48250			1.88385
Casino table games (not online)	3.00370	5.05813	2.15674	1.11586	0.77250			2.25478
Poker played in pubs or clubs	0.97038	0.79631	0.42318					0.53100
Online gambling on slots, casino or bingo games	2.33091	5.32732	3.61625	1.43797	0.84765			2.62801
Betting activities								
Online betting with a bookmaker	7.50752	13.93731	8.85118	6.34445	2.97618	1.10693	0.54080	7.19896

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Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Betting exchange	1.83742	1.10705	0.63786	0.17054	0.41341			0.88251
Horse races (not online)	8.14337	7.23214	6.56254	7.44063	7.05698	6.20226	2.18526	7.48796
Dog races (not online)	2.16520	1.83867	0.71194	1.03672	0.62513	0.66258		1.42445
Sports events (not online)	5.35416	6.13960	2.66506	2.87132	2.04688	0.80724		3.56862
Other events or sports (not online)	2.74971	1.92195	0.56493	0.65233	0.69829			1.24242
Spread-betting	1.04643	0.50020						0.36061
Private betting	6.87487	5.14776	2.92227	1.60184	1.23468	0.59188	0.74454	3.37978
Other gambling activity								
Any other gambling	1.20051	1.02830	0.93988	0.43431	0.48250	0.59188	0.23266	0.97187
Summary								
Any gambling activity	35.91860	54.07593	54.40884	57.65226	56.61399	49.68794	40.65485	52.83918
Any gambling (excluding National Lottery)	34.05626	46.07524	41.44038	38.00076	37.58191	30.64607	24.90272	39.06545
Any online gambling (excluding National Lottery)	9.33176	16.40157	11.07806	7.62420	3.92939	1.57519	0.81463	8.74316

Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Lotteries and related products								
National Lottery	14.67259	35.10485	45.69168	49.88049	47.40843	40.04582	32.16145	37.12348
Scratchcards	22.37681	29.38136	26.15102	21.89984	16.22106	11.18809	6.82241	18.80872
Other lotteries	6.48125	11.93740	16.55770	19.29442	21.36972	21.62721	20.68854	15.23567
Machines and games								
Football pools	8.15807	7.82166	2.86905	1.46905	2.42719	1.90570	3.50156	3.31639
Bingo (not online)	6.48125	6.94019	6.75709	4.10309	5.47004	5.16624	7.05209	5.00715
Slot (electronic gaming) machines	10.24788	11.50848	8.73938	6.68934	5.47004	2.29112	2.09095	6.26345
Machines in a bookmakers	5.91519	6.49674	2.98839	2.46170	1.67268	0.78437	0.76382	2.56781
Casino table games (not online)	5.57344	7.82166	4.15895	2.58195	2.17978	1.23019	1.09263	2.99645
Poker played in pubs or clubs	2.62730	2.11548	1.50729	0.79335	0.70360	0.78437	0.93306	0.92229
Online gambling on slots, casino or bingo games	4.65280	8.15055	6.08802	3.05738	2.30391	1.23019	1.09263	3.42279
Betting activities								
Online betting with a bookmaker	11.22772	18.08101	12.41414	9.31637	5.35657	2.91423	2.22447	8.44666
Betting exchange	3.95122	2.60219	1.89059	0.93528	1.54249	1.23019	1.24567	1.37034

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Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Horse races (not online)	11.98611	10.43228	9.71956	10.61279	10.44250	9.76648	4.95459	8.75733
Dog races (not online)	4.42015	3.66481	2.01584	2.46170	1.92860	2.16382	1.24567	2.02776
Sports events (not online)	8.60079	9.13250	4.84660	5.01354	4.09383	2.41741	1.53840	4.48110
Other events or sports (not online)	5.22990	3.78089	1.76420	1.84919	2.05472	0.78437	1.24567	1.81001
Spread-betting	2.75043	1.61416	0.67548	0.64526	0.85458	0.43689	0.76382	0.69289
Private betting	10.46612	7.93138	5.18737	3.29227	2.91327	2.03539	2.61727	4.27016
Other gambling activity								
Any other gambling	2.99471	2.48158	2.38589	1.46905	1.67268	2.03539	1.53840	1.48088
Summary								
Any gambling activity	42.17178	59.67990	60.14213	63.08361	62.51656	56.28584	48.20989	55.15650
Any gambling (excluding National Lottery)	40.24973	51.73180	47.19791	43.45658	43.48681	36.89635	31.74929	41.34514
Any online gambling (excluding National Lottery)	13.38704	20.80011	14.97113	10.82799	6.59541	3.64073	2.74602	10.10073

Table 5. Confidence limits

Lower confidence limit	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)
Any gambling activity: Males	66.32052			63.77894	59.43259		55.75595
Any gambling activity: Females	59.42819			57.31883	49.69458		49.06675

Upper confidence limit	2012 (%)	2013 (%)	2014 (%)	2015 (%)	2016 (%)	2017 (%)	2018 (%)
Any gambling activity: Males	69.63408			67.18136	62.93842		59.02785
Any gambling activity: Females	62.54929			60.46300	52.90274		52.33175

Table 6. Confidence limits

Lower confidence limit	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)
Lotteries and related products			
National Lottery	32.46002	37.30976	28.26442
Scratchcards	11.69964	20.47322	12.88765
Other lotteries	11.69964	14.92822	10.25881
Machines and games			
Football pools	0.97245	3.31162	1.61764
Bingo (not online)	1.81793	4.61044	4.39165
Slot (electronic gaming) machines	2.60591	6.77371	2.89335
Machines in a bookmakers	0.89066	2.57882	0.58685
Casino table games (not online)	2.69453	2.48786	0.23699
Poker played in pubs or clubs	0.13817	0.72168	0.17435
Online gambling on slots, casino or bingo games	1.81793	3.21958	0.89155
Betting activities			
Online betting with a bookmaker	8.29815	7.91242	1.61764
Betting exchange	0.97245	0.72168	0.44142
Horse races (not online)	6.80296	8.76993	3.15458

Lower confidence limit	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)
Dog races (not online)	0.72929	1.67769	0.73727
Sports events (not online)	2.60591	4.51712	1.28970
Other events or sports (not online)	0.57156	1.67769	0.58685
Spread-betting			
Private betting	2.60591	3.95884	1.61764
Other gambling activity			
Any other gambling	0.72929	1.06282	0.58685
Summary			
Any gambling activity	48.22296	57.17294	43.81627
Any gambling activity (excluding National Lottery)	33.93706	43.96794	28.84939
Any online gambling (excluding National Lottery)	9.42692	9.91720	2.54771

Upper confidence limit	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)
Lotteries and related products			
National Lottery	36.59871	40.51421	33.24819
Scratchcards	14.64018	23.18770	16.71830
Other lotteries	14.64018	17.34501	13.76348
Machines and games			
Football pools	2.01170	4.58796	3.26066
Bingo (not online)	3.16244	6.08611	6.86798
Slot (electronic gaming) machines	4.17105	8.51788	4.97620
Machines in a bookmakers	1.89387	3.72249	1.69903
Casino table games (not online)	4.28205	3.61367	1.05181
Poker played in pubs or clubs	0.65016	1.38416	0.91504
Online gambling on slots, casino or bingo games	3.16244	4.48022	2.19200
Betting activities			
Online betting with a bookmaker	10.85531	9.77657	3.26066

Upper confidence limit	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)
Betting exchange	2.01170	1.38416	1.44563
Horse races (not online)	9.15656	10.71712	5.31322
Dog races (not online)	1.65600	2.62578	1.94744
Sports events (not online)	4.17105	5.97965	2.79093
Other events or sports (not online)	1.41449	2.62578	1.69903
Spread-betting	0.18946	0.10800	0.29172
Private betting	4.17105	5.33922	3.26066
Other gambling activity			
Any other gambling	1.65600	1.84216	1.69903
Summary			
Any gambling activity	52.57552	60.40806	49.20415
Any gambling activity (excluding National Lottery)	38.11599	47.24157	33.85971
Any online gambling (excluding National Lottery)	12.12199	11.96726	4.52417

Table 7. Confidence limits

Lower confidence limit	In employment, self-employed or training (%)	In full-time education (%)	Retired (%)	Unemployed (%)	Other inactive (%)	Total (%)
Lotteries and related products						
National Lottery	50.10828	12.17707	38.55865	31.94364	31.41982	42.61193
Scratchcards	23.92446	15.04443	7.71932	18.69685	18.83219	19.42949
Other lotteries	14.44337	3.41029	17.43242	9.44731	8.69787	13.78997
Machines and games						
Football pools	2.93283	3.50031	1.13038	1.53197	0.65571	2.51384
Bingo (not online)	4.85953	2.96228	5.32725	4.26543	5.24869	5.03985
Slot (electronic gaming) machines	7.87354	6.52538	1.49092	6.27816	4.14928	6.21294
Machines in a bookmakers	3.41252	2.87313	0.26812	3.81417	1.31420	2.70701
Casino table games (not online)	3.99008	3.50031	0.60262	1.61672	0.81619	2.90043
Poker played in pubs or clubs	1.13245	1.39049	0.11396	0.71133		0.88841
Online gambling on slots, casino or bingo games	3.99008	1.99203	0.43262	3.54482	2.35334	3.09408
Betting activities						
Online betting with a bookmaker	9.43709	4.68090	1.13038	3.99434	2.44162	6.60465

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Lower confidence limit	In employment, self-employed or training (%)	In full-time education (%)	Retired (%)	Unemployed (%)	Other inactive (%)	Total (%)
Betting exchange	1.13245	1.90517	0.18918	0.71133		0.98270
Horse races (not online)	11.78937	4.77241	6.37685	6.83310	4.51433	9.45210
Dog races (not online)	2.93283	1.13840	0.86397	1.61672	0.73550	2.22461
Sports events (not online)	6.02327	4.49816	1.13038	3.81417	1.31420	4.55212
Other events or sports (not online)	1.60124	0.97291	0.26812	1.11449		1.17202
Spread-betting	0.57978	0.34490		0.55608		0.42284
Private betting	5.24694	8.01832	1.40032	2.83272	1.65567	4.35724
Other gambling activity						
Any other gambling	1.50708	1.64632	0.68903	0.95111	0.42311	1.36216
Summary						
Any gambling activity	63.93967	33.93970	51.02509	48.08928	44.77874	57.01128
Any gambling activity (excluding National Lottery)						
Any online gambling (excluding National Lottery)						

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Upper confidence limit	In employment, self-employed or training (%)	In full-time education (%)	Retired (%)	Unemployed (%)	Other inactive (%)	Total (%)
Lotteries and related products						
National Lottery	51.69127	15.16050	41.05461	36.32423	35.44049	43.78999
Scratchcards	25.28827	18.28181	9.13477	22.42908	22.27498	20.37902
Other lotteries	15.57418	5.16281	19.40866	12.32003	11.24781	14.62015
Machines and games						
Football pools	3.49063	5.27241	1.73280	2.87250	1.52230	2.89954
Bingo (not online)	5.56293	4.61270	6.53008	6.32580	7.31043	5.57279
Slot (electronic gaming) machines	8.74737	8.83487	2.17174	8.70369	6.01420	6.79936
Machines in a bookmakers	4.01069	4.50223	0.59636	5.77920	2.46091	3.10631
Casino table games (not online)	4.63283	5.27241	1.06134	2.98732	1.76110	3.31283
Poker played in pubs or clubs	1.49196	2.59130	0.35079	1.69741		1.12545
Online gambling on slots, casino or bingo games	4.63283	3.38712	0.83160	5.44983	3.81740	3.51912
Betting activities						
Online betting with a bookmaker	10.38302	6.68690	1.73280	5.99818	3.92876	7.20754
Betting exchange	1.49196	3.27436	0.47543	1.69741		1.23113

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Upper confidence limit	In employment, self-employed or training (%)	In full-time education (%)	Retired (%)	Unemployed (%)	Other inactive (%)	Total (%)
Horse races (not online)	12.82954	6.79502	7.67906	9.34619	6.44769	10.15927
Dog races (not online)	3.49063	2.24453	1.39960	2.98732	1.64214	2.58885
Sports events (not online)	6.79859	6.47040	1.73280	5.77920	2.46091	5.06066
Other events or sports (not online)	2.02292	2.01077	0.59636	2.29211		1.44176
Spread-betting	0.84494	1.04180		1.45351		0.59116
Private betting	5.97532	10.53588	2.06247	4.56535	2.91798	4.85560
Other gambling activity						
Any other gambling	1.91713	2.93434	1.17480	2.05634	1.15599	1.65156
Summary						
Any gambling activity	65.45296	38.11322	53.57192	52.70901	49.03252	58.18657
Any gambling activity (excluding National Lottery)						
Any online gambling (excluding National Lottery)						

Table 8. Confidence limits

Lower confidence limit	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)
Lotteries and related products					
National Lottery	29.98785	33.13954	35.78576	35.16211	33.24918
Scratchcards	19.143	16.15445	17.19943	14.78757	12.88589
Other lotteries	9.21428	11.50021	14.52543	14.40705	13.54701
Machines and games					
Football pools	1.85938	3.1272	2.25267	1.7336	1.70005
Bingo (not online)	5.18444	4.01551	3.38874	2.85037	2.29006
Slot (electronic gaming) machines	5.63566	4.37439	4.64056	4.17836	4.12342
Machines in a bookmakers	2.19643	1.91307	1.32429	1.81788	0.58654
Casino table games (not online)	1.52757	2.42814	2.16674	1.9874	1.37049
Poker played in pubs or clubs	0.58271	0.5344	0.38722	0.24671	
Online gambling on slots, casino or bingo games	3.14336	1.99825	2.16674	2.15808	1.70005
Betting activities					
Online betting with a bookmaker	5.18444	5.73413	7.01384	7.73594	6.92533
Betting exchange	0.8089	0.38818	0.45942	0.9936	0.8136
Horse races (not online)	4.73551	5.36962	8.40279	8.19922	7.29218
Dog races (not online)	1.043	1.00084	1.07956	1.9874	0.51313
Sports events (not online)	2.62367	3.1272	3.21201	3.82119	2.89254

Lower confidence limit	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)
Other events or sports (not online)	0.73249	1.08136	1.1606	0.9936	1.12815
Spread-betting	0.2347	0.31777	0.18411	0.24671	0.23682
Private betting	2.45207	3.65855	3.12388	2.85037	2.37546
Other gambling activity					
Any other gambling	0.88618	1.08136	0.84028	0.31424	0.73691
Summary					
Any gambling activity	48.65969	50.19271	54.19072	52.75098	50.69299
Any gambling activity (excluding National Lottery)	36.85513	36.88054	40.42843	37.52781	36.19792
Any online gambling (excluding National Lottery)	6.90953	7.29585	8.40279	9.03618	8.39822

Upper confidence limit	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)
Lotteries and related products					
National Lottery	35.11704	37.9332	40.67395	40.10237	38.43384
Scratchcards	23.62902	20.00608	21.15692	18.58612	16.72048
Other lotteries	12.62067	14.8849	18.24509	18.16872	17.45527
Machines and games					
Football pools	3.62472	5.10357	3.98515	3.31394	3.37824
Bingo (not online)	7.87689	6.21024	5.4425	4.79041	4.18413
Slot (electronic gaming) machines	8.42267	6.64936	6.9836	6.45461	6.53849

Upper confidence limit	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)
Machines in a bookmakers	4.08527	3.52472	2.7191	3.42913	1.69993
Casino table games (not online)	3.15893	4.20664	3.87158	3.65857	2.91013
Poker played in pubs or clubs	1.71099	1.51192	1.26224	1.0107	
Online gambling on slots, casino or bingo games	5.33175	3.63904	3.87158	3.88685	3.37824
Betting activities					
Online betting with a bookmaker	7.87689	8.28209	9.79717	10.67675	9.91846
Betting exchange	2.083	1.25915	1.38953	2.25862	2.07111
Horse races (not online)	7.32881	7.84861	11.40062	11.21087	10.34927
Dog races (not online)	2.44709	2.24247	2.36535	3.65857	1.57392
Sports events (not online)	4.65504	5.10357	5.22024	6.01386	4.97756
Other events or sports (not online)	1.96001	2.36144	2.4838	2.25862	2.55422
Spread-betting	1.06199	1.13005	0.86687	1.0107	1.05257
Private betting	4.42784	5.76921	5.10888	4.79041	4.29815
Other gambling activity					
Any other gambling	2.20512	2.36144	2.00614	1.14265	1.94839
Summary					
Any gambling activity	54.13192	55.19375	59.17538	57.82146	56.08713
Any gambling activity (excluding National Lottery)	42.2078	41.77314	45.40749	42.52419	41.46756

Upper confidence limit	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)
Any online gambling (excluding National Lottery)	9.94041	10.11184	11.40062	12.16923	11.63622

Table 9. Confidence limits

Lower confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Lotteries and related products				
National Lottery	45.06501	21.03280	28.02777	31.04280
Scratchcards	20.58401	7.92842	12.34950	15.49603
Other lotteries	14.74748	6.06499	6.60149	7.35006
Machines and games				
Football pools	2.40450	1.73397	2.19725	3.02101
Bingo (not online)	5.50883	1.47693	1.79245	1.57085
Slot (electronic gaming) machines	6.48570	3.86423	3.79327	4.03041
Machines in a bookmakers	2.69339	1.73397	2.27916	2.20317
Casino table games (not online)	2.98290	2.08101	2.60953	2.20317
Poker played in pubs or clubs	0.88076	0.65122		
Online gambling on slots, casino or bingo games	3.36971	0.81107	0.86615	2.04294
Betting activities				
Online betting with a bookmaker	7.17074	1.56226	2.60953	4.20097

Lower confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Betting exchange	0.97462	0.41968		
Horse races (not online)	10.50863	1.22333	2.03434	3.27088
Dog races (not online)	2.50072			
Sports events (not online)	4.82648	1.47693	1.31947	3.60673
Other events or sports (not online)	1.25778	0.57277		1.34063
Spread-betting	0.41769	0.41968		
Private betting	4.63178	2.16842	1.01452	4.11562
Other gambling activity				
Any other gambling	1.35258	0.81107		0.96828
Summary				
Any gambling activity	60.17525	29.22783	38.37359	40.33433
Any gambling activity (excluding National Lottery)				
Any online gambling (excluding National Lottery)				

Upper confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Lotteries and related products				
National Lottery	46.33639	24.66930	34.34827	38.12932
Scratchcards	21.62540	10.42510	17.18023	21.25711
Other lotteries	15.66385	8.29603	10.38692	11.70192

Upper confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Machines and games				
Football pools	2.81094	3.04507	4.63866	6.08649
Bingo (not online)	6.10557	2.70324	4.04813	3.95663
Slot (electronic gaming) machines	7.12837	5.70581	6.82495	7.46376
Machines in a bookmakers	3.12195	3.04507	4.75582	4.91544
Casino table games (not online)	3.43234	3.49653	5.22173	4.91544
Poker played in pubs or clubs	1.13520	1.53271		
Online gambling on slots, casino or bingo games	3.84540	1.77211	2.58560	4.67789
Betting activities				
Online betting with a bookmaker	7.84311	2.81753	5.22173	7.69098
Betting exchange	1.24130	1.16537		
Horse races (not online)	11.30410	2.35796	4.40344	6.43329
Dog races (not online)	2.91468			
Sports events (not online)	5.38815	2.70324	3.32669	6.89299
Other events or sports (not online)	1.55805	1.41153		3.59019
Spread-betting	0.59843	1.16537		
Private betting	5.18291	3.60874	2.83536	7.57744
Other gambling activity				
Any other gambling	1.66321	1.77211		2.96809
Summary				

Upper confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Any gambling activity	61.42123	33.24273	45.10372	47.73230
Any gambling activity (excluding National Lottery)				
Any online gambling (excluding National Lottery)				

Table 10. Confidence limits

Lower confidence limit	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)
Spent money on at least one gambling activity	62.09163	57.08136	58.94410	59.10459	55.97362	59.34614	46.47612	55.33803	55.96221

Upper confidence limit	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)
Spent money on at least one gambling activity	67.22364	60.30005	62.62520	63.05890	59.60529	62.82559	49.52761	58.25022	59.61644

Table 11. Confidence limits

Lower confidence limit	Very good/good (%)	Fair (%)	Bad/very bad (%)
Lotteries and related products			
National Lottery	42.82244	42.98228	35.98961
Scratchcards	19.95277	18.39055	13.59311
Other lotteries	13.72875	14.29754	10.64399
Machines and games			
Football pools	2.77508	1.63664	0.72657
Bingo (not online)	4.51567	6.20892	5.22183
Slot (electronic gaming) machines	6.56096	5.26067	3.40283
Machines in a bookmakers	2.87133	1.99915	1.47071
Casino table games (not online)	3.35349	1.45687	0.88760
Poker played in pubs or clubs	0.96607	0.49834	
Online gambling on slots, casino or bingo games	3.16045	2.54867	2.24818
Betting activities			
Online betting with a bookmaker	7.53849	3.84907	2.24818
Betting exchange	1.05979	0.49834	
Horse races (not online)	10.08762	7.54369	5.31374
Dog races (not online)	2.39082	1.63664	0.96923
Sports events (not online)	4.90429	3.10339	2.07346
Other events or sports (not online)	1.24799	0.75251	0.80668
Spread-betting	0.50312	0.25545	
Private betting	4.90429	2.91800	1.13436
Other gambling activity			
Any other gambling	1.34242	1.27829	0.64737
Summary			
Any gambling activity	57.32273	57.38381	47.90347
Any gambling activity (excluding National Lottery)			
Any online gambling (excluding National Lottery)			

Upper confidence limit	Very good/good (%)	Fair (%)	Bad/very bad (%)
Lotteries and related products			
National Lottery	44.18000	45.82689	40.25631
Scratchcards	21.05829	20.65944	16.74158
Other lotteries	14.68467	16.35933	13.50266
Machines and games			
Football pools	3.24254	2.44202	1.66214
Bingo (not online)	5.10128	7.66172	7.34720
Slot (electronic gaming) machines	7.25520	6.61161	5.17392
Machines in a bookmakers	3.34626	2.87886	2.71453
Casino table games (not online)	3.86391	2.22213	1.90034
Poker played in pubs or clubs	1.25227	0.98246	
Online gambling on slots, casino or bingo games	3.65702	3.52835	3.73358
Betting activities			
Online betting with a bookmaker	8.27729	5.02566	3.73358
Betting exchange	1.35851	0.98246	
Horse races (not online)	10.92719	9.12465	7.45491
Dog races (not online)	2.82695	2.44202	2.01833
Sports events (not online)	5.51251	4.17265	3.50907
Other events or sports (not online)	1.57023	1.32780	1.78164
Spread-betting	0.71540	0.62584	
Private betting	5.51251	3.95838	2.25242
Other gambling activity			
Any other gambling	1.67577	2.00103	1.54172
Summary			
Any gambling activity	58.67427	60.20177	52.29614
Any gambling activity (excluding National Lottery)			
Any online gambling (excluding National Lottery)			

Table 12. Confidence limits

Lower confidence limit	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)
Lotteries and related products				
National Lottery	27.92229	32.30571	35.59739	34.40260
Scratchcards	15.88487	17.94312	16.77146	15.16730
Other lotteries	9.73585	13.32406	13.00397	13.62961
Machines and games				
Football pools	1.00467	2.75244	2.54047	2.03593
Bingo (not online)	3.19703	4.38844	3.45092	3.74197
Slot (electronic gaming) machines	4.20026	4.21365	5.30313	4.29061
Machines in a bookmakers	1.98705	1.28019	1.82413	1.34065
Casino table games (not online)	0.86254	2.16759	2.54047	1.68580
Poker played in pubs or clubs				
Online gambling on slots, casino or bingo games	3.52860	2.33340	2.00193	2.21251
Betting activities				
Online betting with a bookmaker	3.03246	6.60924	8.22312	6.04791
Betting exchange				
Horse races (not online)	4.62504	5.18085	7.74924	7.54509
Dog races (not online)	1.00467	0.46459	1.21105	1.51252
Sports events (not online)	1.98705	3.17701	3.91068	2.92677
Other events or sports (not online)	1.00467	1.04797	1.03936	1.25531
Spread-betting				
Private betting	3.03246	2.41672	3.54266	2.47898
Other gambling activity				
Any other gambling	0.79275	0.67552	0.95429	0.59327
Summary				
Any gambling activity	45.23069	49.09906	54.12810	51.50385
Any gambling activity (excluding National Lottery)	32.17452	39.07588	40.05754	36.47737
Any online gambling (excluding National Lottery)	5.91819	8.14832	9.55467	7.16959

Upper confidence limit	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)
Lotteries and related products				
National Lottery	35.31155	38.41433	39.03469	38.24104
Scratchcards	22.10949	23.09860	19.50911	18.13910
Other lotteries	14.94319	17.95766	15.48645	16.48188
Machines and games				
Football pools	3.20456	5.22482	3.77799	3.31506
Bingo (not online)	6.57681	7.37332	4.86501	5.40297
Slot (electronic gaming) machines	7.95842	7.14974	7.00775	6.05242
Machines in a bookmakers	4.80575	3.11178	2.89634	2.41289
Casino table games (not online)	2.94922	4.41540	3.77799	2.86647
Poker played in pubs or clubs				
Online gambling on slots, casino or bingo games	7.04018	4.64795	3.11804	3.53785
Betting activities				
Online betting with a bookmaker	6.34391	10.13210	10.27993	8.08906
Betting exchange				
Horse races (not online)	8.52731	8.37355	9.75507	9.78679
Dog races (not online)	3.20456	1.73636	2.11119	2.64039
Sports events (not online)	4.80575	5.79618	5.40398	4.42104
Other events or sports (not online)	3.20456	2.74645	1.88339	2.29855
Spread-betting				
Private betting	6.34391	4.76382	4.97301	3.87042
Other gambling activity				
Any other gambling	2.82027	2.12298	1.76871	1.36314
Summary				
Any gambling activity	53.17942	55.48216	57.65700	55.48500
Any gambling activity (excluding National Lottery)	39.80370	45.38781	43.56317	40.35958
Any online gambling (excluding National Lottery)	10.21521	11.97914	11.74485	9.36357

Table 13. Confidence limits

Lower confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Lotteries and related products					
National Lottery	36.95674	39.16652	37.15339	40.20550	36.65308
Scratchcards	20.97067	20.31186	20.21718	15.79579	14.25222
Other lotteries	11.17472	11.54159	12.51896	12.38946	13.02119
Machines and games					
Football pools	2.02809	1.30988	2.08740	2.02579	2.22107
Bingo (not online)	3.58227	4.25267	4.60826	3.57911	3.17347
Slot (electronic gaming) machines	5.00585	5.24312	7.31955	4.55425	3.17347
Machines in a bookmakers	3.31904	2.06236	2.68175	1.60863	1.21980
Casino table games (not online)	1.86011	2.14760	3.37373	2.36494	2.30656
Poker played in pubs or clubs					
Online gambling on slots, casino or bingo games	3.40663	1.89273	2.59613	2.02579	1.71397
Betting activities					
Online betting with a bookmaker	6.72818	5.87908	6.13590	6.35899	5.94967
Betting exchange	0.65744	1.06679	0.42865	0.58198	1.13910
Horse races (not online)	7.55297	8.64165	9.25293	7.45641	6.49722
Dog races (not online)	1.12296	1.80838	1.83676	1.36284	1.13910
Sports events (not online)	4.46856	3.45241	6.04535	3.93194	2.91135

Lower confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Other events or sports (not online)	0.80935	0.67501	1.18494	0.88524	0.44729
Spread-betting					
Private betting	2.79705	3.71799	4.43040	2.79430	2.39231
Other gambling activity					
Any other gambling	1.20300	0.52494	1.02695	0.50895	0.82259
Summary					
Any gambling activity	52.76613	55.92315	54.16787	56.17329	49.45734
Any gambling activity (excluding National Lottery)					
Any online gambling (excluding National Lottery)					

Upper confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Lotteries and related products					
National Lottery	42.30545	44.27808	42.71166	45.63725	41.80709
Scratchcards	25.58958	24.63644	24.95995	19.99811	18.13667
Other lotteries	14.84713	15.05614	16.51034	16.22613	16.77494
Machines and games					
Football pools	3.85415	2.74857	4.01597	3.85844	4.04082
Bingo (not online)	5.88920	6.58751	7.27642	5.89428	5.28229
Slot (electronic gaming) machines	7.65606	7.79116	10.54581	7.11252	5.28229

Upper confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Machines in a bookmakers	5.55423	3.79126	4.81711	3.27861	2.64877
Casino table games (not online)	3.62332	3.90548	5.71997	4.31688	4.15476
Poker played in pubs or clubs					
Online gambling on slots, casino or bingo games	5.66604	3.56196	4.70337	3.85844	3.35126
Betting activities					
Online betting with a bookmaker	9.72237	8.55143	9.13784	9.29573	8.68881
Betting exchange	1.83496	2.39328	1.48824	1.71309	2.53003
Horse races (not online)	10.69220	11.77274	12.79891	10.59108	9.33792
Dog races (not online)	2.56586	3.44685	3.66853	2.92621	2.53003
Sports events (not online)	6.99693	5.59261	9.02903	6.33905	4.94607
Other events or sports (not online)	2.08186	1.78774	2.72551	2.20742	1.42685
Spread-betting					
Private betting	4.87981	5.92542	7.05558	4.88452	4.26846
Other gambling activity					
Any other gambling	2.68522	1.53889	2.48479	1.58672	2.04877

Summary					
Any gambling activity	58.20098	61.03118	59.78704	61.57312	54.73096
Any gambling activity (excluding National Lottery)					
Any online gambling (excluding National Lottery)					

Table 14. Confidence limits

Lower confidence limit	Score 0 (%)	Score 1-3 (%)	Score 4+ (%)
Lotteries and related products			
National Lottery	36.14585	32.62398	30.04568
Scratchcards	16.37980	17.07333	16.54845
Other lotteries	13.75741	13.63414	10.15146
Machines and games			
Football pools	2.70864	1.93181	1.66022
Bingo (not online)	3.81984	4.31371	2.75273
Slot (electronic gaming) machines	5.03795	4.58465	4.49980
Machines in a bookmakers	1.61810	1.76141	1.99119
Casino table games (not online)	2.06914	2.10338	2.49667
Poker played in pubs or clubs	0.48888	0.46850	0.22542
Online gambling on slots, casino or bingo games	2.25102	2.44956	2.75273
Betting activities			
Online betting with a bookmaker	7.97979	6.04322	4.58858
Betting exchange	0.91223	0.69632	0.63876
Horse races (not online)	7.78883	7.05673	5.39231
Dog races (not online)	1.43947	1.34151	0.49405
Sports events (not online)	3.72668	3.41796	2.15860
Other events or sports (not online)	1.35062	0.61918	1.17588
Spread-betting			
Private betting	3.35497	2.79923	2.83850
Other gambling activity			
Any other gambling	0.82604	0.93322	0.78806
Summary			
Any gambling activity	53.79095	51.07325	47.30935
Any gambling activity (excluding National Lottery)	16.25845	38.73510	35.33251
Any online gambling (excluding National Lottery)	4.53456	7.98417	6.83864

Upper confidence limit	Score 0 (%)	Score 1-3 (%)	Score 4+ (%)
Lotteries and related products			
National Lottery	39.07685	37.24702	35.46992
Scratchcards	18.67970	20.87292	21.06069
Other lotteries	15.90703	17.12903	13.90311
Machines and games			
Football pools	3.77703	3.49108	3.45783
Bingo (not online)	5.06364	6.49649	4.95664
Slot (electronic gaming) machines	6.44314	6.82414	7.19620
Machines in a bookmakers	2.46977	3.26243	3.92418
Casino table games (not online)	3.01782	3.71857	4.61470
Poker played in pubs or clubs	1.00137	1.36286	1.10532
Online gambling on slots, casino or bingo games	3.23557	4.17051	4.95664
Betting activities			
Online betting with a bookmaker	9.69563	8.55805	7.30675
Betting exchange	1.57711	1.73363	1.88798
Horse races (not online)	9.48696	9.73936	8.29701
Dog races (not online)	2.24876	2.68468	1.63402
Sports events (not online)	4.95698	5.39693	4.15544
Other events or sports (not online)	2.13780	1.61123	2.74618
Spread-betting			
Private betting	4.52942	4.61896	5.07019
Other gambling activity			
Any other gambling	1.46348	2.09531	2.13734
Summary			
Any gambling activity	56.79935	55.91029	53.08932
Any gambling activity (excluding National Lottery)	18.55188	43.50675	40.94700
Any online gambling (excluding National Lottery)	5.87617	10.80722	10.03999

Table 15. Confidence limits

Lower confidence limit	Not overweight or obese (%)	Overweight (%)	Obese (%)
Lotteries and related products			
National Lottery	26.51783	37.29469	40.64039
Scratchcards	14.59465	16.65503	19.38147
Other lotteries	9.54702	14.44234	16.78079
Machines and games			
Football pools	2.53038	2.63571	1.70451
Bingo (not online)	2.97553	3.62493	4.54205
Slot (electronic gaming) machines	4.33199	4.53700	5.54696
Machines in a bookmakers	1.48439	2.10476	1.45004
Casino table games (not online)	1.56996	2.90372	1.79002
Poker played in pubs or clubs	0.20646	0.66338	0.40707
Online gambling on slots, casino or bingo games	1.82870	2.36932	2.74792
Betting activities			
Online betting with a bookmaker	6.73162	8.07051	6.28360
Betting exchange	0.65583	0.74372	1.03450
Horse races (not online)	6.82479	8.54102	6.56091
Dog races (not online)	0.97998	1.41093	1.36599
Sports events (not online)	2.70792	5.08869	2.30904
Other events or sports (not online)	0.89781	1.92957	0.48153
Spread-betting			
Private betting	3.06505	3.62493	2.74792
Other gambling activity			
Any other gambling	0.89781	0.90690	0.71294
Summary			
Any gambling activity	46.17434	54.83635	57.12319
Any gambling activity (excluding National Lottery)	35.16410	39.57222	42.32697
Any online gambling (excluding National Lottery)	8.22832	9.10695	8.42232

Upper confidence limit	Not overweight or obese (%)	Overweight (%)	Obese (%)
Lotteries and related products			
National Lottery	30.36056	41.34205	45.18960
Scratchcards	17.72839	19.85414	23.14018
Other lotteries	12.19525	17.47473	20.35226
Machines and games			
Football pools	4.03947	4.12462	3.09698
Bingo (not online)	4.59251	5.33162	6.64592
Slot (electronic gaming) machines	6.23061	6.41612	7.83637
Machines in a bookmakers	2.68983	3.45763	2.75271
Casino table games (not online)	2.80389	4.45558	3.21105
Poker played in pubs or clubs	0.77356	1.50485	1.20117
Online gambling on slots, casino or bingo games	3.14406	3.79204	4.44850
Betting activities			
Online betting with a bookmaker	9.02154	10.46957	8.69635
Betting exchange	1.52201	1.62416	2.17037
Horse races (not online)	9.12801	10.99733	9.01776
Dog races (not online)	1.99641	2.55421	2.63719
Sports events (not online)	4.26121	7.06237	3.88949
Other events or sports (not online)	1.87894	3.23351	1.32630
Spread-betting			
Private betting	4.70263	5.33162	4.44850
Other gambling activity			
Any other gambling	1.87894	1.86030	1.69362
Summary			
Any gambling activity	50.43183	58.93996	61.63711
Any gambling activity (excluding National Lottery)	39.28235	43.65662	46.89584
Any online gambling (excluding National Lottery)	10.71903	11.62935	11.14791

Table 16. Confidence limits

Lower confidence limit	Never/not in last 12 months (%)	1 to 14 (%)	15 to 35 (%)	36 to 50 (%)	Over 50 (%)
Lotteries and related products					
National Lottery	24.84741	43.72137	52.76755	49.15487	53.74800
Scratchcards	11.08981	20.07129	21.61887	20.68953	26.61741
Other lotteries	7.82168	14.05446	16.14427	15.66777	17.99449
Machines and games					
Football pools	1.09794	2.07619	3.38138	3.38922	5.15747
Bingo (not online)	3.09779	5.44387	4.41083	3.64588	5.68919
Slot (electronic gaming) machines	2.72783	5.73503	8.30806	8.62187	10.68509
Machines in a bookmakers	1.18618	2.07619	3.94168	4.77341	5.95632
Casino table games (not online)	0.66450	2.26639	5.44874	4.68590	6.40326
Poker played in pubs or clubs	0.33301	0.58073	1.10064	1.64810	2.56825
Online gambling on slots, casino or bingo games	1.09794	2.83929	4.22295	4.07680	5.33432
Betting activities					
Online betting with a bookmaker	1.18618	5.73503	11.38851	11.37546	12.81953
Betting exchange	0.25408	0.67178	1.27774	1.72804	2.48473
Horse races (not online)	2.35999	8.46311	15.17068	17.27076	18.18423
Dog races (not online)	0.41390	2.07619	3.00976	3.30401	4.71722
Sports events (not online)	1.01014	3.51108	7.92492	9.35181	11.61056

Lower confidence limit	Never/not in last 12 months (%)	1 to 14 (%)	15 to 35 (%)	36 to 50 (%)	Over 50 (%)
Other events or sports (not online)	0.25408	0.76338	1.99845	3.30401	3.41538
Spread-betting	0.17786	0.31240	0.49802	0.80286	1.98927
Private betting	1.01014	3.79989	7.44672	5.38911	7.75547
Other gambling activity					
Any other gambling	0.41390	1.13381	1.90751	2.21520	1.74577
Summary					
Any gambling activity	34.02663	58.72721	68.16336	65.41742	71.45430
Any gambling activity (excluding National Lottery)					
Any online gambling (excluding National Lottery)					

Upper confidence limit	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)
Lotteries and related products					
National Lottery	27.39271	45.28134	55.62554	55.82284	60.19270
Scratchcards	12.97399	21.34314	24.02588	26.34760	32.55627
Other lotteries	9.44783	15.16298	18.30969	20.81660	23.25544
Machines and games					
Football pools	1.78366	2.54731	4.49447	6.21550	8.41022

Upper confidence limit	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)
Bingo (not online)	4.18012	6.17791	5.66320	6.55617	9.07342
Slot (electronic gaming) machines	3.75075	6.48660	9.95923	12.73026	15.03092
Machines in a bookmakers	1.89525	2.54731	5.13318	8.01704	9.40375
Casino table games (not online)	1.21794	2.75702	6.82349	7.90545	9.95257
Poker played in pubs or clubs	0.75010	0.84356	1.77932	3.77534	5.02486
Online gambling on slots, casino or bingo games	1.78366	3.38382	5.45142	7.12079	8.63168
Betting activities					
Online betting with a bookmaker	1.89525	6.48660	13.27352	15.94993	17.47699
Betting exchange	0.62920	0.95246	2.00189	3.89451	4.90922
Horse races (not online)	3.31926	9.35714	17.28493	22.59846	23.46400
Dog races (not online)	0.86904	2.54731	4.06674	6.10161	7.85471
Sports events (not online)	1.67162	4.11168	9.54302	13.59318	16.09698
Other events or sports (not online)	0.62920	1.06081	2.87986	6.10161	6.16925
Spread-betting	0.50558	0.51203	0.98309	2.43038	4.20977
Private betting	1.67162	4.42273	9.02205	8.79511	11.58765
Other gambling activity					
Any other gambling	0.86904	1.49018	2.77097	4.60200	3.85581

Summary					
Any gambling activity	36.79789	60.26811	70.80456	71.61677	77.13898
Any gambling activity (excluding National Lottery)					
Any online gambling (excluding National Lottery)					

Table 17. Confidence limits

Lower confidence limit	Current smoker (%)	Non-smoker (%)
Lotteries and related products		
National Lottery	34.94549	38.80776
Scratchcards	28.00592	17.01792
Other lotteries	10.34091	15.85660
Machines and games		
Football pools	4.05984	2.07566
Bingo (not online)	5.57456	4.44225
Slot (electronic gaming) machines	8.12186	4.62738
Machines in a bookmakers	3.53341	1.37215
Casino table games (not online)	3.01251	2.16477
Poker played in pubs or clubs	1.01963	0.37516
Online gambling on slots, casino or bingo games	4.59092	2.52321
Betting activities		
Online betting with a bookmaker	7.93825	7.24651
Betting exchange	0.35595	1.02887
Horse races (not online)	7.38878	8.76023
Dog races (not online)	1.66154	1.02887
Sports events (not online)	4.41342	3.43059
Other events or sports (not online)	1.66154	1.11399
Spread-betting	0.42443	0.22554
Private betting	5.66454	2.97514
Other gambling activity		
Any other gambling	1.17695	1.02887
Summary		
Any gambling activity	57.64541	56.97910
Any gambling activity (excluding National Lottery)	45.62254	41.88547
Any online gambling (excluding National Lottery)	10.52700	8.85515

Upper confidence limit	Current smoker (%)	Non-smoker (%)
Lotteries and related products		
National Lottery	40.53634	42.41764
Scratchcards	33.32315	19.86745
Other lotteries	14.11123	18.63201
Machines and games		
Football pools	6.63820	3.25240
Bingo (not online)	8.51218	6.07878
Slot (electronic gaming) machines	11.54624	6.29312
Machines in a bookmakers	5.96862	2.35807
Casino table games (not online)	5.29352	3.36302
Poker played in pubs or clubs	2.50237	0.95830
Online gambling on slots, casino or bingo games	7.30313	3.80349
Betting activities		
Online betting with a bookmaker	11.33119	9.26642
Betting exchange	1.37204	1.90243
Horse races (not online)	10.68465	10.94838
Dog races (not online)	3.45513	1.90243
Sports events (not online)	7.08196	4.89341
Other events or sports (not online)	3.45513	2.01704
Spread-betting	1.50289	0.70846
Private betting	8.62153	4.35022
Other gambling activity		
Any other gambling	2.74371	1.90243
Summary		
Any gambling activity	63.28473	60.59713
Any gambling activity (excluding National Lottery)	51.38744	45.53155
Any online gambling (excluding National Lottery)	14.32381	11.05318

Table 18. Confidence limits

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non problem (score less than 1)	90.77077	92.11674	95.17075	95.93713	96.85299	98.12957	98.64932	95.45183
At risk (score 1-7)	6.69745	5.63003	3.27741	2.55052	1.78513	0.96121	0.59878	3.57875
Problem gambler (score 8+)	0.56035	0.57940	0.25265	0.33521	0.17067			0.33153

Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non problem (score less than 1)	92.54336	93.61084	96.35040	96.98734	97.85404	98.95338	99.40122	95.93521
At risk (score 1-7)	8.39007	7.04375	4.40212	3.52582	2.70863	1.75609	1.35068	4.03436
Problem gambler (score 8+)	1.14097	1.10366	0.63274	0.74520	0.52682			0.48254

Table 19. Confidence limits

Men:

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non problem (score less than 1)	85.19860	87.11536	92.50440	93.93184	95.25060	96.93782	97.34680	92.86154
At risk (score 1 to 7)	10.32766	8.92188	4.99373	3.54966	2.59088	1.32731	1.08543	5.60818
Problem gambler (score 8+)	1.04206	0.99068	0.28010	0.51089				0.66191

Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non problem (score less than 1)	88.25203	89.75334	94.54491	95.72073	96.96566	98.42337	98.91457	93.71335
At risk (score 1 to 7)	13.22780	11.41419	6.95870	5.20040	4.19484	2.71299	2.65320	6.41733
Problem gambler (score 8+)	2.15479	1.97506	0.89099	1.25066				0.96662

Women:

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non problem (score less than 1)	95.78099	96.44270	97.33259	97.47049	97.98131	98.76829	99.25357	97.85876
At risk (score 1 to 7)	2.40027	2.11211	1.32617	1.33917	0.80652	0.39690		1.49759
Problem gambler (score 8+)								0.05940

Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non problem (score less than 1)	97.42421	97.79976	98.50299	98.57514	99.03095	99.60310	99.87975	98.31453
At risk (score 1 to 7)	3.99536	3.44576	2.43894	2.41552	1.78199	1.23171		1.92924
Problem gambler (score 8+)								0.16832

Table 20. Confidence limits

All PGSI at-risk gamblers (%)	Lower confidence limit	Upper confidence limit
Lotteries and related products		
National Lottery	6.41488	7.20646
Scratchcards	11.40046	12.41836
Other lotteries	7.58388	8.43687
Machines and games		
Football pools	28.39128	29.81904
Bingo (not online)	12.38228	13.43604
Slot (electronic gaming) machines	25.01922	26.39279
Machines in a bookmakers	45.61713	47.18465
Casino table games (not online)	30.77452	32.23462
Poker played in pubs or clubs	44.81833	46.38384
Online gambling on slots, casino or bingo games	43.42093	44.98193
Betting activities		
Online betting with a bookmaker	25.61391	26.99780
Betting exchange	43.22136	44.78161
Horse races (not online)	15.03817	16.17882
Dog races (not online)	25.91132	27.30024
Sports events (not online)	29.78122	31.22841
Other events or sports (not online)	42.82224	44.38092
Spread-betting	51.21433	52.78468
Private betting	24.32562	25.68673
Other gambling activity		
Any other gambling	33.06058	34.54743
Summary		
Any gambling activity	6.99899	7.82206
Any gambling activity (excluding National Lottery)		
Any online gambling (excluding National Lottery)		

Table 21. Confidence limits

All PGSI at-risk gamblers (%)	Lower confidence limit	Lower confidence limit
1 activity	1.60262	2.02119
2 to 3 activities	4.86195	5.56018
4 to 6 activities	19.08236	20.33261
7 or more activities	51.91468	53.48399
Total	6.99899	7.82206

Table 22. Confidence limits

Lower confidence limit	NVQ4/NVQ5/degree or equivalent (%)	Below degree (%)	No qualification (%)
Non problem (PGSI score 0)	96.48551	94.52875	95.63557
Low risk gambler (PGSI score 1 to 2)	1.89323	3.02060	1.82973
Moderate risk gambler (PGSI score 3 to 7)	0.53570	1.03480	0.67396
Problem gambler (PGSI score 8 or more)	0.12157	0.39731	0.42110
All at-risk gamblers (PGSI score 1 to 7)	2.54548	4.17354	2.65579

Upper confidence limit	NVQ4/NVQ5/degree or equivalent (%)	Below degree (%)	No qualification (%)
Non problem (PGSI score 0)	97.26699	95.24733	96.69396
Low risk gambler (PGSI score 1 to 2)	2.55518	3.60428	2.64318
Moderate risk gambler (PGSI score 3 to 7)	0.91424	1.39120	1.20093
Problem gambler (PGSI score 8 or more)	0.32887	0.62907	0.85425
All at-risk gamblers (PGSI score 1 to 7)	3.30222	4.85071	3.61575

Table 23. Confidence limits

Lower confidence limit	In employment, self-employment or government training (%)	Unemployed (%)	In full-time education (%)	Retired (%)	Other Inactive (%)
Non problem (PGSI score 0)	94.64299	91.18712	92.98723	98.37688	96.07037
Low risk gambler (PGSI score 1 to 2)	2.93250	3.45425	3.67963	0.68855	1.48376
Moderate risk gambler (PGSI score 3 to 7)	1.03921	1.27950	0.64986	0.18895	0.42291
Problem gambler (PGSI score 8 or more)	0.39993	0.95061			
All at-risk gamblers (PGSI score 1 to 7)	4.08612	5.08276	4.67966	0.95173	2.08930

Upper confidence limit	In employment, self-employment or government training (%)	Unemployed (%)	In full-time education (%)	Retired (%)	Other Inactive (%)
Non problem (PGSI score 0)	95.33439	93.63096	95.04561	98.95948	97.55893
Low risk gambler (PGSI score 1 to 2)	3.49103	5.34137	5.49284	1.17562	2.69095
Moderate risk gambler (PGSI score 3 to 7)	1.38532	2.52683	1.53588	0.47600	1.15653
Problem gambler (PGSI score 8 or more)	0.62495	2.05743			
All at-risk gamblers (PGSI score 1 to 7)	4.73680	7.30515	6.68865	1.51205	3.48286

Table 24. Confidence limits

Lower confidence limit	Most deprived (%)	2nd (%)	3rd (%)	4th (%)	Least deprived (%)
Non problem (PGSI score 0)	93.21411	94.80605	95.45787	95.76877	96.40182
Low risk gambler (PGSI score 1 to 2)	2.93936	2.66863	2.0326	2.21189	1.93183
Moderate risk gambler (PGSI score 3 to 7)	1.47161	0.76655	0.77211	0.51171	0.50955
Problem gambler (PGSI score 8 or more)	0.59097	0.34342	0.34692	0.26447	0.04394
All at-risk gamblers (PGSI score 1 to 7)	4.72157	3.60129	2.95883	2.86013	2.57623

Upper confidence limit	Most deprived (%)	2nd (%)	3rd (%)	4th (%)	Least deprived (%)
Non problem (PGSI score 0)	94.52064	95.92895	96.47981	96.76678	97.33111
Low risk gambler (PGSI score 1 to 2)	3.92991	3.59853	2.83189	3.05409	2.73638
Moderate risk gambler (PGSI score 3 to 7)	2.20003	1.3036	1.29428	0.95691	0.96095
Problem gambler (PGSI score 8 or more)	1.08216	0.72746	0.72015	0.60457	0.22741
All at-risk gamblers (PGSI score 1 to 7)	5.94487	4.66443	3.90431	3.80487	3.49097

Table 25. Confidence limits

Lower confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Non problem (PGSI score 0)	95.43316	96.16616	94.08087	91.74175

Lower confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Low risk gambler (PGSI score 1 to 2)	2.59672	1.05609	1.87044	2.85473
Moderate risk gambler (PGSI score 3 to 7)	0.97444			
Problem gambler (PGSI score 8 or more)	0.32703	0.65081		
All at-risk gamblers (PGSI score 1 to 7)	3.65999	1.47627	2.35874	3.52165

Upper confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Non problem (PGSI score 0)	95.95191	97.65690	96.89087	95.37114
Low risk gambler (PGSI score 1 to 2)	3.01870	2.12649	4.17188	5.85573
Moderate risk gambler (PGSI score 3 to 7)	1.24153			
Problem gambler (PGSI score 8 or more)	0.48918	1.53365		
All at-risk gamblers (PGSI score 1 to 7)	4.15508	2.70443	4.87796	6.77991

Table 26. Confidence limits

Lower confidence limit	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)
Non problem (PGSI score 0)	93.02879	94.45046	94.97357	95.23320	95.21257	94.69934	94.92898	95.16849	96.08043
Low risk gambler (PGSI score 1 to 2)	2.72358	2.67204	1.97386	2.02673	1.89687	2.44778	2.15582	2.53691	1.80619

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Lower confidence limit	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)
Moderate risk gambler (PGSI score 3 to 7)	0.81569	0.80707	0.76948	0.58876	0.69385	0.86843	0.73820	0.74650	0.45143
Problem gambler (PGSI score 8 or more)		0.23985	0.44753		0.29872		0.56980		
All at-risk gamblers (PGSI score 1 to 7)	3.86243	3.77595	2.95904	2.82584	2.88287	3.53966	3.07224	3.46162	2.42915

Upper confidence limit	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)
Non problem (PGSI score 0)	95.51450	95.85275	96.49557	96.81445	96.66246	96.18459	96.18579	96.35214	97.39105
Low risk gambler (PGSI score 1 to 2)	4.74469	3.82818	3.16187	3.32992	3.03245	3.67211	3.13277	3.54455	2.92479
Moderate risk gambler (PGSI score 3 to 7)	2.06588	1.49764	1.57024	1.37350	1.43928	1.65606	1.35338	1.33843	1.08395
Problem gambler (PGSI score 8+)		0.66636	1.09334		0.83576		1.12215		
All at-risk gamblers (PGSI score 1 to 7)	6.19832	5.12170	4.37354	4.32782	4.24346	4.97717	4.21448	4.61810	3.69991

Table 27. Confidence limits

Lower confidence limit	Very good/good (%)	Fair (%)	Bad/very bad (%)
Non problem (PGSI score 0)	95.51629	94.86617	94.82365
Low risk gambler (PGSI score 1 to 2)	2.67865	2.18054	1.72604
Moderate risk gambler (PGSI score 3 to 7)	0.87250	0.83816	0.80596
Problem gambler (PGSI score 8 or more)	0.23379	0.58161	0.49173
All at-risk gamblers (PGSI score 1 to 7)	3.54644	3.28786	2.77601

Upper confidence limit	Very good/good (%)	Fair (%)	Bad/very bad (%)
Non problem (PGSI score 0)	96.06650	96.05883	96.59880
Low risk gambler (PGSI score 1 to 2)	3.13905	3.09759	3.05887
Moderate risk gambler (PGSI score 3 to 7)	1.14591	1.44244	1.78322
Problem gambler (PGSI score 8 or more)	0.38489	1.09950	1.29900
All at-risk gamblers (PGSI score 1 to 7)	4.07092	4.38830	4.40425

Table 28. Confidence limits

PGSI Risk Category	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)
Non problem (PGSI score 0)	91.11018	94.62725	95.15756	97.18238
Low risk gambler (PGSI score 1 to 2)	3.12764	2.43504	2.41229	1.16443
Moderate risk gambler (PGSI score 3 to 7)	1.43552	0.49671	0.86588	0.48311
Problem gambler (PGSI score 8 or more)	0.65081	0.20491	0.26909	
All at-risk gamblers (PGSI score 1 to 7)	4.98432	3.14684	3.43949	1.78574

PGSI Risk Category	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)
Non problem (PGSI score 0)	94.02415	96.40332	96.18411	98.12436
Low risk gambler (PGSI score 1 to 2)	5.35794	3.93921	3.24795	1.93039
Moderate risk gambler	3.06251	1.28609	1.39653	1.01327

PGSI Risk Category	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)
(PGSI score 3 to 7)				
Problem gambler (PGSI score 8 or more)	1.85343	0.77937	0.59421	
All at-risk gamblers (PGSI score 1 to 7)	7.68820	4.82444	4.41935	2.70771

Table 29. Confidence limits

Lower confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Non problem (PGSI score 0)	91.55873	94.25755	95.28615	97.01374	97.03227
Low risk gambler (PGSI score 1 to 2)	3.84868	2.50161	2.29556	1.30857	1.40608
Moderate risk gambler (PGSI score 3 to 7)	1.48983	0.98486	0.63289	0.38633	0.31309
Problem gambler (PGSI score 8 or more)	0.79863	0.39886	0.16379		0.09625
All at-risk gamblers (PGSI score 1 to 7)	5.62021	3.79057	3.20660	1.83742	1.84927

Upper confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Non problem (PGSI score 0)	93.34394	95.65089	96.60959	98.07345	98.06130
Low risk gambler (PGSI score 1 to 2)	5.25552	3.59403	3.41141	2.20589	2.30170
Moderate risk gambler (PGSI score 3 to 7)	2.42033	1.71423	1.27839	0.93075	0.79760
Problem gambler (PGSI score 8 or more)	1.51335	0.90166	0.54885		0.41510
All at-risk gamblers (PGSI score 1 to 7)	7.27964	5.10221	4.49811	2.87563	2.85740

Table 30. Confidence limits

Lower confidence limit	Score 0 (%)	Score 1-3 (%)	Score 4+ (%)
Non problem (PGSI score 0)	96.46180	94.15118	92.93309
Low risk gambler (PGSI score 1 to 2)	2.04114	2.93344	3.11256
Moderate risk gambler (PGSI score 3 to 7)	0.56303	1.11028	1.05447
Problem gambler (PGSI score 8 or more)	0.13323	0.25937	0.71499
All at-risk gamblers (PGSI score 1 to 7)	2.70312	4.33683	4.40578

Upper confidence limit	Score 0 (%)	Score 1-3 (%)	Score 4+ (%)
Non problem (PGSI score 0)	97.10684	95.38038	94.56678
Low risk gambler (PGSI score 1 to 2)	2.59082	3.93775	4.39328
Moderate risk gambler (PGSI score 3 to 7)	0.87001	1.76397	1.85663
Problem gambler (PGSI score 8 or more)	0.30014	0.61641	1.39703
All at-risk gamblers (PGSI score 1 to 7)	3.32837	5.53207	5.89687

Table 31. Confidence limits

Lower confidence limit	Not overweight or obese (%)	Overweight (%)	Obese (%)
Non problem (PGSI score 0)	94.94512	95.24690	95.38509
Low risk gambler (PGSI score 1 to 2)	2.85425	2.37569	2.14448
Moderate risk gambler (PGSI score 3 to 7)	0.81349	0.89900	0.87185
Problem gambler (PGSI score 8 or more)	0.37336	0.37060	0.35420
All at-risk gamblers (PGSI score 1 to 7)	3.80286	3.41334	3.26392

Upper confidence limit	Not overweight or obese (%)	Overweight (%)	Obese (%)
Non problem (PGSI score 0)	95.81575	96.11167	96.35965
Low risk gambler (PGSI score 1 to 2)	3.58609	3.06719	2.91270
Moderate risk gambler (PGSI score 3 to 7)	1.22875	1.34533	1.38702
Problem gambler (PGSI score 8 or more)	0.66930	0.67427	0.70539
All at-risk gamblers (PGSI score 1 to 7)	4.63662	4.22854	4.19182

Table 32. Confidence limits

Lower confidence limit	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)
Non problem (PGSI score 0)	97.55131	96.19945	92.85949	90.10047	86.67875
Low risk gambler (PGSI score 1 to 2)	0.83572	2.07589	3.75341	3.47399	6.04245
Moderate risk gambler (PGSI score 3 to 7)	0.41367	0.67162	1.27709	1.25476	1.58387
Problem gambler (PGSI score 8 or more)	0.25390	0.22545	0.33406	0.73004	0.59660
All at-risk gamblers (PGSI score 1 to 7)	1.27437	2.93471	5.25814	5.12384	8.20593

Upper confidence limit	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)
Non problem (PGSI score 0)	98.36785	96.77758	94.26846	93.72379	90.79022
Low risk gambler (PGSI score 1 to 2)	1.44664	2.54767	4.92212	6.33031	9.51836
Moderate risk gambler (PGSI score 3 to 7)	0.86953	0.95269	2.00289	3.17363	3.62119
Problem gambler (PGSI score 8 or more)	0.62963	0.39910	0.74774	2.30460	2.01952
All at-risk gamblers (PGSI score 1 to 7)	2.00714	3.48841	6.61474	8.46350	12.13446

Table 33. Confidence limits

Lower confidence limit	Current smoker (%)	Non-smoker (%)
Non problem (PGSI score 0)	90.99340	95.48599
Low risk gambler (PGSI score 1 to 2)	4.70349	2.30101
Moderate risk gambler (PGSI score 3 to 7)	1.55175	0.91058
Problem gambler (PGSI score 8 or more)	0.67013	0.29234
All at-risk gamblers (PGSI score 1 to 7)	6.50515	3.34161

Upper confidence limit	Current smoker (%)	Non-smoker (%)
Non problem (PGSI score 0)	92.54028	96.27752
Low risk gambler (PGSI score 1 to 2)	5.96743	2.93668
Moderate risk gambler (PGSI score 3 to 7)	2.32455	1.32830
Problem gambler (PGSI score 8 or more)	1.20777	0.54710
All at-risk gamblers (PGSI score 1 to 7)	7.96275	4.09520

Table 34. Confidence limits

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler (DSM-IV score less than 3)	98.85967	98.78118	99.24628	99.13695	99.34834	99.44198	99.68002	99.30092
Problem gambler (DSM-IV score 3 or more)	0.56067	0.66401	0.33140	0.41679	0.24529			0.51489

Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler (DSM-IV score less than 3)	99.43933	99.33599	99.66860	99.58321	99.75471	99.83891	99.96880	99.48511
Problem gambler (DSM-IV score 3 or more)	1.14033	1.21882	0.75372	0.86305	0.65166			0.69908

Table 35. Confidence limits

Men:

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler (DSM-IV score less than 3)	97.96495	97.90890	98.85826	98.39198	98.81842	98.87272	99.47056	98.92470
Problem gambler (DSM-IV score 3 or more)	0.96118	1.07416	0.42843	0.75125	0.41388			0.75306

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Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler (DSM-IV score less than 3)	99.03882	98.92584	99.57157	99.24875	99.58612	99.68144	99.98118	99.24694
Problem gambler (DSM-IV score 3 or more)	2.03505	2.09110	1.14174	1.60802	1.18158			1.07530

Women:

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler (DSM-IV score less than 3)	99.46745	99.37883	99.24067	99.52449	99.63538	99.76940	99.55621	99.71059
Problem gambler (DSM-IV score 3 or more)								0.13817

Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler (DSM-IV score less than 3)	99.92505	99.85535	99.78965	99.91601	99.97263	100.0000 0	99.97753	99.86183
Problem gambler (DSM-IV score 3 or more)								0.28941

Table 36. Confidence limits

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	98.62701	98.66674	99.12713	99.01984	99.22588	99.31413	99.68002	99.19365
Problem gambler according to either DSM-IV or PGSI	0.72759	0.74941	0.41208	0.49951	0.32263	0.23300		0.60759

Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	99.27241	99.25059	99.58792	99.50049	99.67737	99.76700	99.96880	99.39241
Problem gambler according to either DSM-IV or PGSI	1.37299	1.33326	0.87287	0.98016	0.77412	0.68587		0.80635

Table 37. Confidence limits

Men:

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	97.49746	97.67784	98.73539	98.15674	98.69402	98.74373	99.47056	98.70806
Problem gambler according to either DSM-IV or PGSI	1.29207	1.24241	0.50521	0.91536	0.48908	0.38907		0.93630

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Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	98.70793	98.75759	99.49479	99.08464	99.51092	99.61093	99.98118	99.06370
Problem gambler according to either DSM-IV or PGSI	2.50254	2.32216	1.26461	1.84326	1.30598	1.25627		1.29194

Women:

Lower confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	99.46745	99.24651	99.11158	99.52449	99.48608	99.76940	99.55621	99.71059
Problem gambler according to either DSM-IV or PGSI			0.28092					0.13817

Upper confidence limit	Age group							Total (%)
	16-24 (%)	25-34 (%)	35-44 (%)	45-54 (%)	55-64 (%)	65-74 (%)	75+ (%)	
Non-problem gambler	99.92505	99.78801	99.71908	99.91601	99.92232	100.0000 0	99.97753	99.86183
Problem gambler according to either DSM-IV or PGSI			0.88842					0.28941

Table 38. Confidence limits

Problem gambler according to either DSM-IV or PGSI (%)	Lower confidence limit	Upper confidence limit
Lotteries and related products		
National Lottery	0.85526	1.16894
Scratchcards	1.60262	2.02119
Other lotteries	1.41440	1.80951
Machines and games		
Football pools	4.66841	5.35382
Bingo (not online)	3.03055	3.59252
Slot (electronic gaming) machines	4.57170	5.25058
Machines in a bookmakers	45.61713	47.18465
Casino table games (not online)	6.02596	6.79557
Poker played in pubs or clubs	14.15214	15.26530
Online gambling on slots, casino or bingo games	8.26715	9.15325
Betting activities		
Online betting with a bookmaker	3.41456	4.00831
Betting exchange	10.22381	11.19561
Horse races (not online)	2.74326	3.27996
Dog races (not online)	6.70683	7.51436
Sports events (not online)	5.24945	5.97248
Other events or sports (not online)	12.97189	14.04615
Spread betting	15.33366	16.48318
Private betting	3.99228	4.63030
Other gambling activity		
Any other gambling	9.44042	10.37939
Summary		
Any gambling activity	1.04050	1.38360
Any gambling (excluding National Lottery)		
Any online gambling (excluding National Lottery)		

Table 39. Confidence limits

Problem gambler according to either DSM-IV or PGSI (%)	Lower confidence limit	Upper confidence limit
1 activity	0.22545	0.39910
2 to 3 activities	0.49022	0.73418
4 to 6 activities	2.55212	3.07119
7 or more activities	11.30234	12.31654
Total	1.04050	1.38360

Table 40. Confidence limits

Lower confidence limit	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)
Non-problem gambler	99.54942	99.15039	98.68631
Problem gambler according to either DSM-IV or PGSI	0.19964	0.57658	0.76064

Upper confidence limit	NVQ4/NVQ5/ degree or equivalent (%)	Below degree (%)	No qualification (%)
Non-problem gambler	99.80036	99.42342	99.23936
Problem gambler according to either DSM-IV or PGSI	0.45058	0.84961	1.31369

Table 41. Confidence limits

Lower confidence limit	In employment, self-employment or government training (%)	Unemployed (%)	In full-time education (%)	Retired (%)	Other inactive (%)
Non-problem gambler	99.15506	97.12750	99.08589	99.64921	98.96912
Problem gambler according to either DSM-IV or PGSI	0.57978	1.53197	0.27297	0.11396	0.34858

Upper confidence limit	In employment, self-employment or government training (%)	Unemployed (%)	In full-time education (%)	Retired (%)	Other inactive (%)
Non-problem gambler	99.42022	98.46803	99.72703	99.88604	99.65142
Problem gambler according to either DSM-IV or PGSI	0.84494	2.87250	0.91411	0.35079	1.03088

Table 42. Confidence limits

Lower confidence limit	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)
Non-problem gambler	99.70101	99.41246	99.23436	99.08721	98.50406
Problem gambler according to either DSM-IV or PGSI	0.08286	0.25670	0.37646	0.46856	0.89809

Upper confidence limit	IMD 1 (most deprived) (%)	IMD 2 (%)	IMD 3 (%)	IMD 4 (%)	IMD 5 (least deprived) (%)
Non-problem gambler	99.91714	99.74330	99.62354	99.53144	99.10191
Problem gambler according to either DSM-IV or PGSI	0.29899	0.58754	0.76564	0.91279	1.49594

Table 43. Confidence limits

Lower confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Non-problem gambler	99.42933	98.27380	97.44833	96.75853
Problem gambler according to either DSM-IV or PGSI	0.39650	0.69453	0.76037	0.69096

Upper confidence limit	White/White British (%)	Asian/Asian British (%)	Black/Black British (%)	Mixed/Other (%)
Non-problem gambler	99.60350	99.30547	99.23963	99.30904
Problem gambler according to either DSM-IV or PGSI	0.57067	1.72620	2.55167	3.24147

Table 44. Confidence limits

Lower confidence limit	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)
Non-problem gambler	98.54415	99.10787	98.57493	99.13822	98.92022	99.20618	98.39632	99.37886	99.42973

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Lower confidence limit	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)
Problem gambler according to either DSM-IV or PGSI	0.70998	0.40821	0.72334	0.28763	0.46875	0.32433	0.91573	0.26562	0.16867

Upper confidence limit	North East (%)	North West (%)	Yorkshire & the Humber (%)	East Midlands (%)	West Midlands (%)	East of England (%)	London (%)	South East (%)	South West (%)
Non-problem gambler	99.45585	99.69213	99.42507	99.86178	99.67978	99.79382	99.20368	99.82114	99.97027
Problem gambler according to either DSM-IV or PGSI	1.29002	0.79179	1.27666	0.71237	0.93125	0.67567	1.48427	0.53438	0.43133

Table 45. Confidence limits

Lower confidence limit	Very good/good (%)	Fair (%)	Bad/very bad (%)
Non-problem gambler	99.39398	98.55435	98.09368
Problem gambler according to either DSM-IV or PGSI	0.41245	0.83629	0.88478

Upper confidence limit	Very good/good (%)	Fair (%)	Bad/very bad (%)
Non-problem gambler	99.58755	99.16371	99.11522
Problem gambler according to either DSM-IV or PGSI	0.60602	1.44565	1.90632

Table 46. Confidence limits

Lower confidence limit	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)
Non-problem gambler	97.40976	99.08850	99.17042	99.60283
Problem gambler according to either DSM-IV or PGSI	1.11223	0.27376	0.43368	0.10061

Upper confidence limit	Low (0-4) (%)	Medium (5-6) (%)	High (7-8) (%)	Very high (9-10) (%)
Non-problem gambler	98.88777	99.72624	99.56632	99.89939
Problem gambler according to either DSM-IV or PGSI	2.59024	0.91150	0.82958	0.39717

Table 47. Confidence limits

Lower confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Non-problem gambler	97.91533	98.62827	99.32436	99.57659	99.45326
Problem gambler according to either DSM-IV or PGSI	1.22660	0.72826	0.23654	0.09436	0.16443

Upper confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Non-problem gambler	98.77340	99.27174	99.76346	99.90564	99.83557

Upper confidence limit	Quintile 1 (14 to 42) (%)	Quintile 2 (43 to 48) (%)	Quintile 3 (49 to 52) (%)	Quintile 4 (53 to 56) (%)	Quintile 5 (57 to 70) (%)
Problem gambler according to either DSM-IV or PGSI	2.08467	1.37173	0.67564	0.42341	0.54674

Table 48. Confidence limits

Lower confidence limit	Score 0 (%)	Score 1 to 3 (%)	Score 4 or more (%)
Non-problem gambler	99.58214	99.02923	98.14337
Problem gambler according to either DSM-IV or PGSI	0.21531	0.50437	1.05447

Upper confidence limit	Score 0 (%)	Score 1 to 3 (%)	Score 4 or more (%)
Non-problem gambler	99.78469	99.49563	98.94553
Problem gambler according to either DSM-IV or PGSI	0.41786	0.97077	1.85663

Table 49. Confidence limits

Lower confidence limit	Not overweight or obese (%)	Overweight (%)	Obese (%)
Non-problem gambler	99.21761	99.09910	99.06334
Problem gambler according to either DSM-IV or PGSI	0.45993	0.54365	0.52282

Upper confidence limit	Not overweight or obese (%)	Overweight (%)	Obese (%)
Non-problem gambler	99.54007	99.45635	99.47718
Problem gambler according to either DSM-IV or PGSI	0.78239	0.90090	0.93666

Table 50. Confidence limits

Lower confidence limit	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)
Non-problem gambler	99.24761	99.26594	99.01786	97.44784	97.60771
Problem gambler according to either DSM-IV or PGSI	0.33199	0.49030	0.49850	0.87770	0.81586

Upper confidence limit	Never/not in last 12 months (%)	1 to 14 (%)	Over 14 to 35 (%)	Over 35 to 50 (%)	Over 50 (%)
Non-problem gambler	99.66801	99.50970	99.50150	99.12230	99.18414
Problem gambler according to either DSM-IV or PGSI	0.75239	0.73406	0.98214	2.55216	2.39229

Table 51. Confidence limits

Lower confidence limit	Current smoker (%)	Non-smoker (%)
Non-problem gambler	98.34167	99.22517
Problem gambler according to either DSM-IV or PGSI	1.01829	0.46444

Upper confidence limit	Current smoker (%)	Non-smoker (%)
Non-problem gambler	98.98171	99.53556
Problem gambler according to either DSM-IV or PGSI	1.65833	0.77483

Table 53. Confidence limits

Lower confidence limit	2 or more times a week (%)	Once a week (%)	Less than once a week, more than once a month (%)	Once a month (%)	Every 2-3 months (%)	Once or twice a year (%)
Lotteries and related products						
National Lottery	12.71729	29.45796	9.41041	10.02800	12.28218	16.53678
Scratchcards	10.93044	21.71483	11.45690	11.43454	15.70657	18.86444
Other lotteries	12.62295	26.01960	8.85593	14.26952	9.83242	18.76728
Machines and games						
Football pools	19.76900	28.47439	10.33817	13.41628	8.99014	9.33261
Bingo (not online)	16.03655	24.15815	9.31788	8.72323	12.47152	19.54492
Slot (electronic gaming) machines	15.17999	20.34979	13.52120	8.72323	12.66097	19.73946
Machines in a bookmakers	22.37019	21.71483	13.80390	11.90513	8.71014	11.52814
Casino table games (not online)	13.37847	17.72444	12.67479	11.05867	13.51490	21.59024
Poker played in pubs or clubs	27.31578	26.90263	10.99009	11.71680	6.85457	6.68361
Online gambling on slots, casino or bingo games	22.94993	23.27774	15.22123	10.96479	10.20778	7.43724
Betting activities						
Online betting with a bookmaker	15.46529	22.39824	13.05066	10.02800	11.52603	17.60254
Betting exchange	24.88655	24.25602	14.08685	5.68786	10.02002	11.24095
Horse races (not online)	13.37847	19.57088	8.48726	6.69221	9.36408	33.17233

Lower confidence limit	2 or more times a week (%)	Once a week (%)	Less than once a week, more than once a month (%)	Once a month (%)	Every 2-3 months (%)	Once or twice a year (%)
Dog races (not online)	21.40529	20.73956	8.39523	8.72323	10.67781	20.32342
Sports events (not online)	19.38477	26.11768	12.67479	9.46779	10.30171	12.29504
Other events or sports (not online)	32.00389	30.34395	15.41067	5.68786	3.49482	3.98246
Spread-betting	34.16236	22.39824	8.48726	12.09360	6.11868	7.34288
Private betting	13.66227	18.98725	12.11196	11.34052	11.14871	22.95682
Other gambling activity						
Any other gambling	19.19276	23.27774	8.30324	12.09360	9.17703	18.08759
Summary						
Any gambling activity	10.27530	24.64764	8.57936	10.77713	12.37684	23.73874
Any gambling (excluding National Lottery)						
Any online gambling (excluding National Lottery)						

Upper confidence limit	2 or more times a week (%)	Once a week (%)	Less than once a week, more than once a month (%)	Once a month (%)	Every 2-3 months (%)	Once or twice a year (%)
Lotteries and related products						
National Lottery	16.48541	32.79102	13.04925	13.38178	15.69279	19.34955

Upper confidence limit	2 or more times a week (%)	Once a week (%)	Less than once a week, more than once a month (%)	Once a month (%)	Every 2-3 months (%)	Once or twice a year (%)
Scratchcards	14.48311	24.75462	15.38808	14.96704	19.45096	21.81543
Other lotteries	16.38032	29.23845	12.40773	18.11568	12.95516	21.71286
Machines and games						
Football pools	24.19145	31.77718	14.11481	17.17383	12.00180	11.57388
Bingo (not online)	20.14617	27.30483	12.94245	11.89419	15.90249	22.53307
Slot (electronic gaming) machines	19.20787	23.32329	17.70908	11.89419	16.11206	22.73799
Machines in a bookmakers	26.97484	24.75462	18.02439	15.49372	11.68326	13.97217
Casino table games (not online)	17.22023	20.55564	16.76151	14.54510	17.05377	24.68210
Poker played in pubs or clubs	32.20013	30.15309	14.85823	15.28315	9.54852	8.63041
Online gambling on slots, casino or bingo games	27.59168	26.38757	19.59705	14.43953	13.37786	9.47463
Betting activities						
Online betting with a bookmaker	19.52085	25.46940	17.18297	13.38178	14.85282	20.48083
Betting exchange	29.64364	27.40670	18.33943	8.34759	13.16659	13.66017
Horse races (not online)	17.22023	22.50428	11.97907	9.53723	12.42592	36.66828
Dog races (not online)	25.94545	23.73249	11.87178	11.89419	13.90541	23.35242
Sports events (not online)	23.77797	29.34012	16.76151	12.74527	13.48344	14.80312
Other events or sports (not online)	37.08461	33.70270	19.80627	8.34759	5.52620	5.53936

Gambling-related harms evidence review: Quantitative analysis of gambling involvement and gambling-related harms among the general population in England

Upper confidence limit	2 or more times a week (%)	Once a week (%)	Less than once a week, more than once a month (%)	Once a month (%)	Every 2-3 months (%)	Once or twice a year (%)
Spread-betting	39.31358	25.46940	11.97907	15.70416	8.68828	9.36926
Private betting	17.53472	21.88946	16.12834	14.86161	14.43208	26.11176
Other gambling activity						
Any other gambling	23.57111	26.38757	11.76443	15.70416	12.21394	20.99443
Summary						
Any gambling activity	13.74225	27.81404	12.08631	14.22827	15.79765	26.92769
Any gambling (excluding National Lottery)						
Any online gambling (excluding National Lottery)						

Table 54. Confidence limits

Lower confidence limit	Low risk gambler (%)	Moderate risk gambler (%)	Problem gambler (%)
2 or more times a week	21.15834	38.42514	44.26600
Once a week	23.05108	23.57524	12.78810
Less than once a week, more than once a month	16.66011	5.63551	3.47431
Once a month	10.69570	3.04294	11.08443
Every 2 to 3 months	7.57091	4.85165	
Once or twice a year	4.20816		

Upper confidence limit	Low risk gambler (%)	Moderate risk gambler (%)	Problem gambler (%)
2 or more times a week	28.39983	51.95599	63.62470
Once a week	30.47889	35.98625	28.32036
Less than once a week, more than once a month	23.36575	13.48746	13.96207
Once a month	16.42181	9.40571	25.98245
Every 2 to 3 months	12.59596	12.30828	
Once or twice a year	8.21370		

Table 55. Confidence limits

Lower confidence limit	Not a problem gambler according to either DSM or PGSI (%)	Problem gambler according to either DSM or PGSI (%)
2 or more times a week	10.82324	42.56754
Once a week	25.49093	16.40856
Less than once a week, more than once a month	9.65178	2.85899
Once a month	11.80106	9.31875
Every 2 to 3 months	13.56433	
Once or twice a year	24.69937	1.93456

Upper confidence limit	Not a problem gambler according to either DSM or PGSI (%)	Problem gambler according to either DSM or PGSI (%)
2 or more times a week	12.00336	58.79558
Once a week	27.12540	30.04014
Less than once a week, more than once a month	10.77564	10.68000
Once a month	13.02485	20.77246
Every 2 to 3 months	14.86034	
Once or twice a year	26.31751	8.87818

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-leading science, research, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

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Published September 2021

PHE gateway number: GOV-9697



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