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Isle of Man Gambling Survey 2017:
Prevalence, methods, attitudes

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Prevalence, methods, attitudes

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Contributorship

Nadia Butler and Zara Quigg prepared and analysed the survey data, and drafted the report. Madeleine Sayle and Henrietta Ewart (and colleagues) planned and implemented the survey and commissioned data analyses and report production. All authors contributed to and edited draft reports, and agreed the final text.

Acknowledgements

Contents

Isle of Man Gambling Survey 2017

GAMBLING PARTICIPATION

75.9% of adults have participated in gambling in the past 12 months
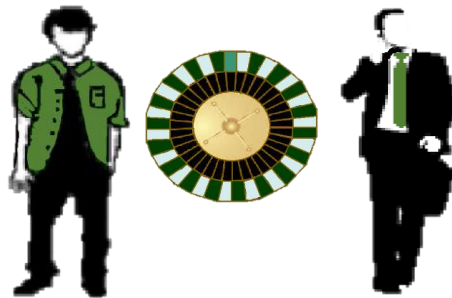
National Lottery draws 56.9%

Gambled online 18.5%

PROBLEM AND AT-RISK GAMBLING

8.5% Of adults were classed as at-risk gamblers (PGSI score 1-7)

The highest levels of at-risk gambling was amongst males aged 18-24 years

0.8% Of adults were classed as problem gamblers (DSM-IV or the PGSI)

The highest levels of problem gambling was amongst males aged 35-44 years

ATTITUDES TOWARDS GAMBLING AND SIGNIFICANT OTHERS' GAMBLING

77.9% of adults had a negative attitude towards gambling

48.7% agreed gambling should be discouraged

53.9% disagreed that gambling livens up life

25.4% disagreed that most people who gamble do so sensibly

14.2% agreed that it would be better if gambling was banned all together

70.6% agreed there are too many opportunities for gambling nowadays

53.9% disagree that on balance gambling is good for society

56.9% agreed gambling is dangerous for family life

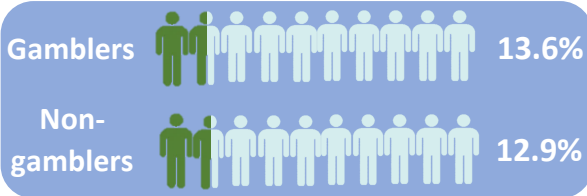36.1% agreed people should have the right to gamble whenever they want

3.0% of adults reported having been affected by someone in their family gambling in the past 12 months

7.6% of adults had advised any family members, friends or acquaintances to gamble less in the past 12 months

All figures presented on this page are based on sample data weighted by age and gender to align with the Isle of Man population.

Isle of Man Gambling Survey 2017

HEALTH INDICATORS / HEALTH HARMING BEHAVIOURS

Poor general health

Gamblers — 13.6%
Non-gamblers — 12.9%

Overweight or obese *

Gamblers — 69.0%
Non-gamblers — 62.9%

Life unworthwhile

Gamblers — 18.4%
Non-gamblers — 15.2%

Poor diet **

Gamblers — 8.0%
Non-gamblers — 3.8%

Tobacco smoking **

Gamblers — 9.7%
Non-gamblers — 5.4%

High risk drinking **

Gamblers — 33.8%
Non-gamblers — 25.5%

Binge drinking **

Gamblers — 23.3%
Non-gamblers — 15.2%

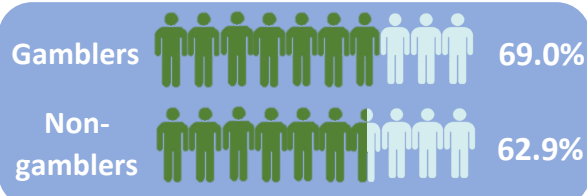**After controlling for socio-demographics, compared to non-gamblers, gamblers were:**

1.5 times more likely to report poor general health

1.3 times more likely to be overweight or obese
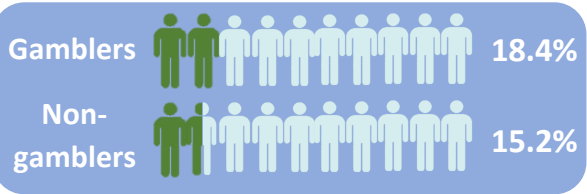
1.5 times more likely to report feeling that their life is unworthwhile
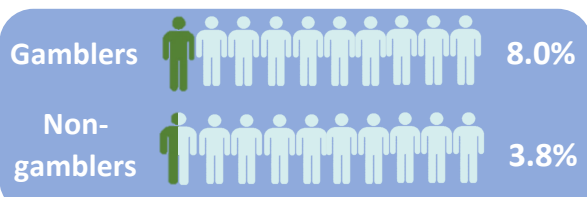
1.8 times more likely to report having a poor diet
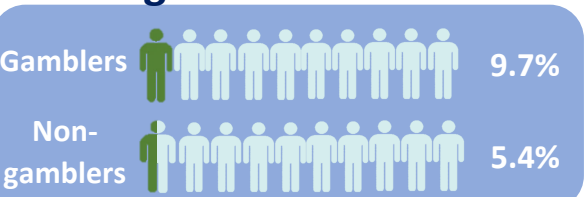
1.7 times more likely to report currently smoking tobacco
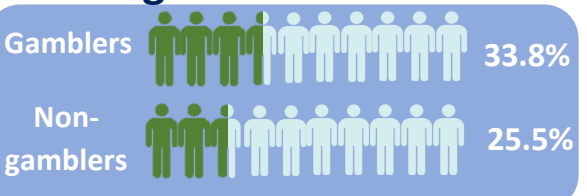
1.6 times more likely to report high risk drinking
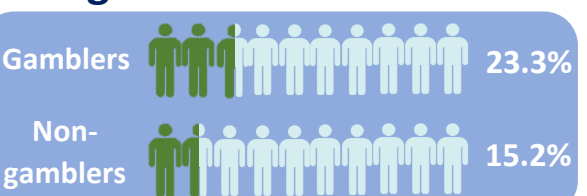
1.6 times more likely to report binge drinking

All figures presented on this page are based on sample data. Significance difference between groups: *p<0.05 **p<0.01 ***p<0.001

Executive summary

The Isle of Man Gambling survey 2017 (IoM 2017) was conducted using primarily an online survey, with a paper version available upon request. The survey was conducted in two phases, phase 1 was an invited representative sample of the Isle of Man population (n=7,000), while phase 2 was open to all members of the public who wished to respond. Responses were collected over three weeks during October 2017. The IoM 2017 gambling survey included a range of questions for identifying, measuring and understanding gambling participation and attitudes towards gambling. The survey also included questions on health indicators and health-harming behaviours. The Public Health Institute (PHI), Liverpool John Moores University were commissioned to analyse the data from the survey and produce a report presenting the findings.

Aims and objectives

This report presents findings[1] on:

- The prevalence of types of gambling activities on the Isle of Man, in addition to comparisons to both Great Britain (2015) and baseline IoM (2012) survey rates;
- The relationship between socio-demographics and gambling;
- The relationship between health indicators, health harming behaviours and gambling;
- Attitudes towards gambling, and their relationship with gambling prevalence and socio-demographics;

- Prevalence of individuals affected by family gambling or providing support to someone affected by gambling and their relationship with gambling prevalence and socio-demographics;
- The prevalence and behaviours of problem gamblers and those at-risk of developing gambling problems;
- The sociodemographic profile of at-risk and problem gamblers; and,
- The relationship between health indicators, health-harming behaviours and problem and at-risk gamblers.

Gambling participation

- Over three quarters (75.9%) of adults have participated in gambling in the past 12 months.
- Participation in National Lottery draws had the highest prevalence of all individual gambling activities, with over half (56.9%) of adults taking part in the past 12 months.
- Significantly less adults participated in any gambling activity in the past 12 months in the IoM 2017 survey compared to the IoM 2012[2] survey (76% v. 78%; p<0.05).
- Significantly more adults participated in any gambling activity in the past 12 months in the IoM 2017 survey compared to the GBGB 2015[3] survey (76% v. 63%; p<0.001).

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[1] All figures given in the report are sample data weighted by age and gender to align with the population of the Isle of Man, unless otherwise stated.
[2] Isle of Man gambling prevalence survey (2012) [8].
[3] Gambling Behaviour in Great Britain (2015) [1].

Gambling methods, location and frequency

- A higher proportion of individuals gambled in person than online on: National Lottery draws; other lotteries; bingo; casino table games; poker, dog races, virtual dog or horse races, and other forms of gambling.
- Gambling online was more prevalent than gambling in person amongst individuals who gambled on: football pools; horse races; football; tennis; other sports; other events; and, spread-betting.
- Over half of those who participated online in the National Lottery draws (54.3%) or football pools (58.5%) did so at least once a week.
- All forms of online gambling were undertaken at home by the majority of adults.

Gambling prevalence and socio-demographics

- In general a higher proportion of males than females participated in each gambling activity grouping[4]. In sample (unweighted) analysis there was a significant association between gender and participation in any gambling (excluding National Lottery draws only).
- The prevalence of participation of any form of gambling (excluding National Lottery draws only) decreased as age group increased, from 81.6% amongst 18-24 year olds to 46.6% amongst those aged 65+ years. In sample (unweighted) analysis age was significantly associated with participation in any form of gambling.
- Overall, a higher proportion of white adults than individuals of other ethnicities participated in at least one form of gambling in the past 12 months (75.9% v. 64.7%). However, in sample (unweighted) analysis there was no significant association between ethnicity and any gambling activity.
- A higher proportion of adults in a relationship participated in at least one gambling activity in the past 12 months compared to single adults (76.6% v. 74.4%). However, this relationship was not significant in sample (unweighted analysis).
- Across income levels, adults reporting income of £20,000-£79,000 (mid-income) had the highest level of any gambling participation in the past 12 months (78.1% v. low 70.1%, high 76.1%). In sample (unweighted) analysis there was a significant association between income level and participation in any form of gambling.
- Overall, there was a higher prevalence of all gambling activity groupings amongst adults that did not own their own home compared to those who did. In sample (unweighted) analysis there was a significant relationship between home ownership and any gambling participation.
- Overall there was a higher prevalence of all gambling activity groupings amongst adults who had qualifications

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[4] Activity groupings included: lotteries and related products; machines/games; betting activities; any other gambling; any gambling; any gambling (excluding National Lottery draws only); any online gambling (excluding National Lottery draws).

compared to those who did not and were employed compared to those who were not. In sample (unweighted) analysis there was a significant association between qualification level and participation in any form of gambling (excluding National Lottery draws only). In sample analysis there was also a significant association between employment status and participation in any form of gambling in the past 12 months.

Gambling and health indicators

In sample unweighted analysis:

- There was no significant difference in the prevalence of poor health amongst those who reported participating in at least one type of gambling activity in the past 12 months and those who had not (13.6% v. 12.9%; NS). After controlling for socio-demographics the odds of having poor health were 1.5 times higher amongst those who reported gambling than those who did not;

- The prevalence of being classed as overweight or obese was significantly higher amongst those who reported at least one form of gambling in the past 12 months compared to those who did not (69.0% v. 62.9%; p<0.05). After controlling for socio-demographics the odds of being overweight or obese were 1.3 times higher amongst those who reported gambling compared to those who did not;

- There was no significant association between any form of gambling participation in the past 12 months and low mental wellbeing. After controlling for socio-demographics there was also no significant association;

- There was no significant association between any form of gambling participation and low life satisfaction. This association was also not significant after controlling for socio-demographics;

- There was no significant association between any form of gambling participation and low happiness. After controlling for socio-demographics there was also no significant association;

- There was no significant association between any form of gambling and being highly anxious. This association was also not significant after controlling for socio-demographics;

- There was no significant association between any gambling participation and feeling life is unworthwhile. However, after controlling for socio-demographics, the odds of feeling life is unworthwhile was 1.5 times higher amongst those who participated in any gambling activity compared to those who did not.

Gambling and health harming behaviours

In sample unweighted analysis:

- There was no significant association between any form of gambling participation and low physical activity. This association was also not significant after controlling for socio-demographics.

- The prevalence of poor diet differed significantly between those who reported participating in any gambling

activity compared to those who had not (8.0% v. 3.8%; p<0.01). After controlling for socio-demographics the odds of having a poor diet were 1.8 times higher for those who participated in gambling compared to those who did not.

- The prevalence of tobacco smoking was significantly higher amongst those who participated in at least form of gambling in the past 12 months compared to those who had not (9.2% v. 5.4%; p<0.01) After controlling for socio-demographics the odds of currently smoking tobacco was 1.7

times higher for those who participated in gambling compared to those who did not.

- The prevalence of high risk and binge drinking was significantly higher amongst those who reported participating in any gambling activity compared to those who had not (high risk: 33.8% v. 25.5%; p<0.01; binge: 23.3% v. 15.2%; p<0.01). After controlling for socio-demographics the odds of high risk drinking or binge drinking were both 1.6 times higher for those who participated in gambling compared to those who did not.

Problem and at-risk gambling

- 8.5% of adults were classes as at-risk gamblers (scoring 1-7 on the PGSI).
- 0.8% of adults were classed as problem gamblers (using either DSM-IV or the PGSI).
- Using the DSM-IV screen, there was a significantly higher prevalence of problem gamblers in the IoM 2017 sample compared to the IoM 2012[2].
- Using the PGSI screen, there was a significantly higher prevalence of at-risk and problem gamblers in the IoM 2017 sample than the GBGB 2015[3] sample equivalent.
- The highest levels of at-risk gambling was amongst males aged 18-24 years.
- The highest levels of problem gambling was amongst males aged 35-44 years.

- In sample (unweighted) analysis there was a significant difference between gambler classification and prevalence of participation in any form of gambling.
- Using both the PGSI and DSM-IV screens, in general there was an incremental increase in the prevalence of poor health indicators and health harming behaviours with an increase in the severity of gambling problems.
- In sample (unweighted) analysis there was significant differences between gambling classification and poor general health, low mental wellbeing, feeling life is unworthwhile, low happiness, low life satisfaction poor diet, smoking tobacco, binge drinking and higher risk drinking.

Attitudes towards gambling and significant others' gambling

- Overall, the majority (77.9%) of adults had a negative towards gambling.
- Males were more likely than females to have a positive attitude toward gambling and there was typically a higher prevalence of a positive attitude amongst younger age groups, decreasing as age increased.
- In sample (unweighted) analysis, across all categories of gambling activity, a higher proportion of those engaged in the activity had a positive attitude towards gambling.
- A small minority (3.0%) of adults reported having been affected by someone in their family gambling in the past 12 months.
- In sample (unweighted) analysis, having been affected by a family members' gambling varied significantly by age group and home ownership.
- In sample (unweighted) analysis, a higher proportion of those who reported any gambling or any online gambling (excluding National Lottery draws) reported being affect by a family member's gambling.
- Less than one in ten (7.6%) of adults had advised any family members, friends or acquaintances to gamble less in the past 12 months.
- In sample (unweighted) analysis, significant differences in provision of gambling advice were found between age groups, employment status and home ownership.
- In sample (unweighted) analysis, a higher proportion of those who reported any gambling or any online gambling (excluding National Lottery draws) had advised a significant other to gamble less in the past 12 months.

1. Introduction

In the United Kingdom (UK), the prevalence of gambling (including problem gambling) has remained at a stable level over the past five years, with the majority of people gambling at least once in the past 12 months [1]. With the development of gambling apps for mobile devices, opportunities to gamble have expanded from traditional specialist establishments on the high street, to the work place, on public transport, in licensed premises, at sports events and even in the home. While gambling can be an enjoyable pastime for those who can keep within affordable limits, gambling can also be problematic, affecting some individuals' ability to live and work.

There are increasing calls to recognise gambling as a public health issue. Financial and marital problems are common amongst problem gamblers, and individuals may even commit crimes such as theft and fraud to either fund their behaviour or cope with the consequences of problem gambling [2]. Further, problem gambling is associated with poor health and wellbeing [3]. Although problem gambling is itself listed in the Diagnostic and Statistical Manual (DSM-V [4]) as a distinct disorder, it often co-occurs with other mental disorders, such as depression [5]. Problem gambling is also associated with a number of other health harming behaviours, such as alcohol misuse, smoking, poor diet and lack of exercise [6, 7].

In 2012, the first Isle of Man gambling prevalence survey was undertaken to measure the prevalence of participation in gambling activities and problem gambling, attitudes towards gambling, and gambling by significant others [IoM 2012; [8]]. Overall, the majority of the sample (78%) had participated in at least one form of gambling activity in the prior 12 months, while less than 1% of the sample were classified as problem gamblers. Almost 10% of the population however, stated that a spouse or partner, parent, child or close relative had a gambling problem, with a similar proportion of individuals stating they had advised a significant other to gamble less. Attitudes towards gambling on the Isle of Man were generally negative overall.

While the IoM 2012 survey provides an overview of the prevalence and characteristics of gambling on the island, it does not include information on the association between gambling and health. To inform the development, implementation and monitoring of prevention activity, the Isle of Man Public Health Directorate implemented a population gambling and health survey in November 2017. The Public Health Institute (PHI), Liverpool John Moores University were commissioned to analyse the data from the survey and produce a report presenting the findings.

Objectives

The main aim of the study was to examine gambling behaviour in the Isle of Man population in order to be able to:

- Identify and compare the prevalence of types of gambling activities on the Isle of Man to both Great Britain (2015) and baseline IoM (2012) survey rates;
- Explore the relationship between socio-demographics and gambling;
- Explore the relationship between health indicators, health harming behaviours and gambling;
- Explore attitudes towards gambling, and their relationship with gambling prevalence and socio-demographics;
- Identify prevalence of individuals affected by family gambling or providing support to someone affected by gambling and their relationship with gambling prevalence and socio-demographics;
- Identify the prevalence and behaviours of problem gamblers and those at-risk of developing gambling problems;
- Explore the sociodemographic profile of at-risk and problem gamblers; and,
- Explore the relationship between health indicators, health-harming behaviours and problem and at-risk gamblers.

2. Methods

The Isle of Man Gambling survey 2017 (IoM 2017) was conducted using primarily an online survey, with a paper version available upon request. The survey was conducted in two phases, phase 1 was an invited representative sample of the Isle of Man population (n=7,000), while phase 2 was open to all members of the public who wished to respond. Responses were collected over three weeks during October 2017.

2.1 Questionnaire design

The IoM 2017 gambling survey included a range of questions for identifying, measuring and understanding gambling participation and attitudes towards gambling. It included two validated instruments to identify and measure at-risk and problem gambling; the DSM-IV and the Problem Gambling Severity Index. The DSM-IV is primarily a clinical diagnostic tool but was included to enable comparisons with the IoM 2012 survey and the Gambling Behaviour in Great Britain 2015 (GBGB 2015) survey [1, 8]. The PGSI was also used in line with other previous approaches to measuring gambling problems in UK populations [1]. The questionnaire also recorded basic demographic information on participants including: gender, age, ethnicity, relationship status, income level, educational attainment, employment and housing status. Questions on health indicators and health-harming behaviours were based on a core subset of health and lifestyle questions from the Isle of Man Health and Lifestyle Survey 2016 [9].

Diagnostic and Statistical Manual of the American Psychiatric Association (DSM-IV)

One of the screens used to identify the prevalence of problem gambling in the IoM 2017 survey was initially developed for the British Gambling Prevalence Survey 1999 [9]. Questions were designed to capture the prevalence of problem gambling in a sample population and were adapted from the clinical diagnostic questions designed to identify pathological gambling in the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM-IV) [4]. The DSM-IV is designed to identify pathological gambling and consists of ten statements, with four response options, ranging from never to very often. The total score ranges from zero to 10. A diagnosis of pathological gambling is given when an individual meets five out of the 10 criteria. However, this cut-off is not generally used in large-scale epidemiological surveys as pathological gamblers would be statistically insignificant in the population and therefore difficult to analyse. The diagnosis of problem gambler is instead used. An individual is classified as a problem gambler if they meet three out of the 10 DSM-IV criteria. The table below provides the items and the response for each item, which were coded as positive.

Table i: DSM-IV items and scoring

Item	Responses coded as positive
Chasing losses	Every time I lost/Most of the time I lost
A preoccupation with gambling	Fairly often/very often
A need to gamble with increasing amounts of money	Fairly often/very often
Being restless or irritable when trying to stop gambling	Fairly often/very often
Gambling as escapism	Fairly often/very often
Lying to people to conceal the extent of gambling	Fairly often/very often
Having tried but failed to control/cut back/stop gambling	Fairly often/very often
Having committed a crime to finance gambling	Occasionally/fairly often/very often
Having risked or lost a relationship/job/educational/work opportunity because of gambling	Occasionally/fairly often/very often
Having asked others to provide money because of a financial crisis caused by gambling	Occasionally/fairly often/very often

Problem Gambling Severity Index (PGSI)

The second screen used to measure problem gambling in the IoM 2017 survey is the Problem Gambling Severity Index (PGSI [10]). The PGSI consists of nine items, with four response codes: never (scored 0); occasionally (scored 1); fairly often (scored 2); and, very often (scored 3)[5]. The total score on the PGSI ranges from 0 to 27. Table ii shows the four classification categories and their cut-off scores. For reporting purposes low risk and moderate risk classifications are collapsed to form the 'at-risk' classification (scores 1-7).

Table ii: PGSI classification and scoring

PGSI classification	PGSI score
Non-problem gambler	0
Low risk gambler	1-2
Moderate risk gambler	3-7
Problem gambler	8+

Attitudes Towards Gambling Scale (ATGS-8)

Perceptions of gambling are measured using the Attitudes Towards Gambling Scale (ATGS-8). The ATGS-8 consists of eight statements, each expressing an attitude towards gambling, with five response options, scored on a Likert scale, from strongly agree to strongly disagree. For items phrased in a negative way towards gambling, response codes were scored 1 for strongly agree, 2 for agree, 3 for neither agree nor disagree, 4 for disagree, and 5 for strongly disagree. The scoring is reversed for those statements expressing a positive attitude towards gambling, from a score of 5 for strongly agree through to a score of 1 for strongly disagree. The total score ranges from 8 to 40, with a score of 24 representing an overall neutral opinion towards gambling. Scores above 24 are considered a more positive overall attitude towards gambling, while scores below 24 represent a negative perception of gambling.

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[5] Response codes differ in wording from previous surveys using the PGSI (e.g. GBGB 2015 survey) which use never, sometimes, most of time and almost always. As both are on a four point Likert scale, response codes in the IoM 2017 survey are scored in the same way.

EQ-5D

The EQ-5D is a measure of health status developed by the EuroQol Group which provides a simple generic measure of current general health [11]. The EQ VAS measure was used in the current report to determine the prevalence of poor general health. The EQ VAS is a measure of the respondents' self-rated health on a vertical visual scale, where the end points are labelled 'the best health you can imagine' and the 'worst health you can imagine'. Scores were dichotomised to indicate poor general health as >1 standard deviation (17.5) below the mean (79.3) thus poor general health was operationalised as scores <62.

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) is used as a measurement of mental wellbeing in adults in the UK. The WEMWBS consists of 14 questions about an individual's current mental wellbeing, with five response options, including 'none of the time' (scored 1), 'rarely' (scored 2), 'some of the time' (scored 3), 'often' (scored 4) and 'all of the time' (scored 5). The total score on the WEMWBS ranges from 14 to 70. For the purposes of this report scores have been dichotomised, with low mental wellbeing defined as scores of 40 or less, in line with previous research [12].

The Alcohol Use Disorder Identification Tool (AUDIT-C)

The Alcohol Use Disorder Identification Tool (AUDIT-C) is used as a brief screening test for heavy drinking. The AUDIT-C consists of three items about an individual's alcohol consumption (Table iii). The total score on the AUDIT-C ranges from zero to 12, with a score of five or more indicating increasing or higher risk drinking. The IoM 2017 survey did not include how many units an individual drank on a typical day, but asked respondents what they had drank on each day in the last week and a second question on whether the last week was typical of what they normally drank. An average number of units per day was calculated from the units reported for each day last week. Respondents who reported that the number of units they drank in the last week was not typical were excluded from the analysis.

Table iii: Audit-C questions and scoring

Questions	Scoring system				
	0	1	2	3	4
How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times per month	2-3 times per week	4+ times per week
How many units do you drink on a typical day when you are drinking?	0-2	3-4	5-6	7-9	10+
How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year	Never	Less than monthly	Monthly	Weekly	Daily or almost daily

Other measures

Life satisfaction, happiness, feeling life is unworthwhile and feeling highly anxious were measured on a scale of 1-10. Life satisfaction was measured using the standard question: *overall, how satisfied are you with your life nowadays? (1 being not at all satisfied and 10 being completely satisfied).* Overall ratings were dichotomised, with low scores as >1 SD (2.0) below the mean (6.9) thus low life satisfaction was operationalised as scores <5.

Low happiness was measured using the standard question: *overall, how happy did you feel yesterday? (1 being not at all happy and 10 being completely happy).* Overall ratings were dichotomised, with low scores as >1 SD (2.2) below the mean (6.8) thus low happiness was operationalised as scores <5.

Being highly anxious was measured using the standard question: *overall, how anxious did you feel yesterday? (1 being not at all anxious and 10 being completely anxious).* Overall ratings were dichotomised, with high scores as >1 SD (2.6) above the mean (4.1) thus being highly anxious was operationalised as scores >6.

Feeling life was unworthwhile was measured using the standard question: *overall, to what extent do you feel the things you do in your life are worthwhile? (1 being not at all worthwhile and 10 being completely worthwhile).* Overall ratings were dichotomised, with low scores as >1 SD (2.1) below the mean (7.4) thus being highly anxious was operationalised as scores <6.

2.2 Sample design

The Isle of Man Gambling Survey 2017 was conducted in two phases, phase 1 was an invited representative sample of the islands population and phase 2 was open access to all members of the public.

For phase 1, the Cabinet office of the Isle of Man Government holds a property database of all known addresses on the

island which was updated after the interim census in 2016. This database was shared with the Public Health Directorate. It should be noted that no information was shared about who might live at a particular address, as no names of occupiers are contained within the property database. It was cleaned by the Public Health Directorate to remove non-residential

addresses and nursing or residential homes. It was decided that 7,000 addresses would be chosen from this database as had been for the previous lifestyle survey, with the assumption of obtaining similar response rate of approximately 25%.The addresses were split into 3-digit postcode areas and proportionally chosen based on census data of population numbers for those areas. Within these postcode areas the addresses were chosen using a random sampling method [6]. Within the invitation letter, another level of randomisation was added by requesting that it should be the person resident at the property whose birthday was next that answered the questionnaire.

For phase 2, the questionnaire was promoted as 'open access' through media channels and anyone who wished to do so could complete the questionnaire.

2.3 Survey fieldwork and response rate

Isle of Man Post Office were engaged to provide printing and distribution of letters. Survey invitation letters were posted to households, addressed to 'the occupier' at the beginning of the survey period. Surveys could be completed online or by self-completion of a paper copy (obtained from one of the collection points and returned in the pre-paid envelope to Public Health). Snap Surveys was chosen as the survey tool as it is held securely on a central Government Technology Service (GTS) server. Online survey responses were collated in batches every few days. This ensured that should the server fail at any point not all responses would be lost. The numbers of responses are detailed in Table iv. As Phase 1 was an invited sample we are able to calculate that the response rate for this phase was 16.2% and represents 1.7% of the adult population of the Isle of Man [13]. In total 2,303 responses were received which equates to 3.4% of the adult population.

Table iv: Number of survey responses for each phase and format

Type of response	Number returned
Phase 1 – online	1035
Phase 1 – paper	96
Total phase 1	1131
Phase 2 – online	1129
Phase 2 – paper	43
Total phase 2	1172
Total responses	**2303**

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[6] Applying a random number to each record with Microsoft Excel (using RAND function) and sorting twice to give a 'double shuffle' effect.

2.4 Data analyses

Data from online surveys was transferred to the Public Health Institute (via a secure SharePoint) in Excel spreadsheets and transferred to the Statistical Package for Social Science (SPSS) v22 for data cleaning, recoding and analyses. Scanned copies of completed paper surveys were transferred to the Public Health Institute (via a secure SharePoint) and entered directly into SPSS. Analyses presented in the report were undertaken using frequencies and cross-tabulations to examine findings by socio-demographic and other factors. Binary logistic regression techniques (using the backward conditional method) were used to examine the association between participation in any gambling activity in the past 12 months, socio-demographics[7] and outcome variables (health indicators and health harming behaviours).

2.5 Data weighting

The characteristics of the participants who completed the survey did not correspond to the characteristics of the Isle of Man population. To account for these differences it was necessary to weight the sample by age and gender to align it with the Isle of Man population[8]. The IoM 2017 weights were based on results from the Isle of Man census 2016 [13]. The demographic information used from this Census is listed below. All figures given in the report are based on weighted data, unless otherwise stated. Full data tables, including sample level and weighted data tables are available in the Annex.

Isle of Man Census information 2016
Resident population: 83,314
Number of residents over the age of 18: 67,100
Age (years) and gender breakdown:

	18-24	25-34	35-44	45-54	55-64	65+	Total
Male	3225	4279	5086	6614	5501	8063	32768
Female	3118	4553	5399	6564	5556	9142	34332
Total	6343	8832	10485	13178	11057	17205	67100

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[7] Gender, age group, ethnicity, relationship status, income level, qualification level, employment status, home ownership.

[8] The population may have differed from the sample on more than these two characteristics.

2.6 Reporting conventions

The following caveats and conventions should be considered when interpreting the findings in this report.

- The data is based on valid responses, with non-responses excluded from the reported figure, therefore bases may vary between analyses.
- Data should be interpreted with caution due to the small base sizes involved for some activities and outcome measures. Sample base sizes can be found in the annex.
- Rows may not sum to 100% due to rounding.
- All figures presented in the main body of the report are weighted data, unless otherwise stated.

Where significant differences are reported in bivariate and multivariate analyses, these are based on unweighted data[9]. Full data tables of weighted and unweighted data are presented in the annex accompanying this report.

- Findings represent an association only and do not imply causation in any direction.
- Weighting strategies differ across the current IoM 2017 report, the IoM 2012 survey and the GBGB 2015 report, thus differences between prevalence figures should be interpreted with this in mind.

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[9] With the exception of the bivariate comparisons with the 2015 GBGB and 2012 IoM gambling surveys which was done with weighted data to match the weighted data reported in both surveys.

3. Findings

3.1   Gambling participation

75.9% of adults have participated in gambling in the past 12 months

56.9% participated in the National Lottery draws

18.5% gambled online

This section includes findings on the prevalence and characteristics of gambling participation in the year ending November 2017. It also compares the prevalence of each gambling activity in 2017 to prevalence rates from the IoM 2012 gambling survey [8] and the GBGB 2015 [1] survey.

3.1.1 Overall gambling prevalence (past 12 months)

Overall, three quarters (75.9%) of adults had participated in one or more gambling activities in the past 12 months. Almost one fifth of all adults (18.5%) reported gambling online in the past 12 months. Participation in National Lottery draws had the highest prevalence of all individual gambling activities, with over half of adults (56.9%) reporting taking part in the past 12 months. When individuals who participated in the National Lottery draws only were excluded, the prevalence of participation in at least one form of gambling was 61.0% (Table 1).

The next most popular activities were: other lotteries (34.1%); scratch cards (29.3%); online gambling on slots, casino or bingo games (11.3%); and online betting with a bookmaker (10.2%). The prevalence of participation in all other forms of gambling activities in the past 12 months was less than 10% (Table 1).

Table 1: Participation in gambling activities in the past 12 months

	%
Lotteries and related products	70.3
National Lottery draws	56.9
Scratch cards	29.3
Other lotteries	34.1
Machines/games	18.4
Football pools	1.3
Bingo (not online)[1]	6.2
Slot machines	6.9
Online slots or instant win	2.5
Machines in a bookmakers	2.6
Casino table games (not online)[1]	3.4
Poker played in pubs or clubs	0.8
Online gambling on slots, casino or bingo games	11.3
Betting activities	22.1
Online betting with a bookmaker	10.3
Horse races (not online)[1]	7.0
Dog races (not online)[1]	0.5
Virtual dog or horse races	1.1
Football	5.7
Tennis	1.4
Sports events (not online)[1]	1.3
Other events (not online)[1]	0.3
Spread-betting	0.7
Private betting	7.4
Any other gambling	2.6
Summary	
Any gambling activity	75.9
Any gambling (excluding National Lottery draws only)[2]	61.0
Any online gambling (excluding National Lottery draws)	18.5
No gambling in past 12 months	24.1

[1]Excludes gamblers who gambled online only.
[2]Excludes gamblers who only participated in the National Lottery draws and not in any other gambling activities.

3.1.2 Gambling prevalence: comparisons with 2015 GBGB and 2012 Isle of Man gambling surveys

This section presents comparisons of the prevalence of each gambling activity from the current IoM 2017 gambling survey with the IoM 2012 survey [8] and combined findings for Great Britain from England, Scotland and Wales surveys for the year 2015 (GBGB 2015; [1]). Sampling, weighting and survey items differed slightly across surveys, thus findings below should be interpreted with caution.

Comparison with IOM 2012

Overall, significantly less adults reported participating in any gambling activity in the past 12 months in the IoM 2017 survey compared to the IoM 2012 survey (76% v. 78%; p<0.05). In general, there was a significantly lower prevalence of participation in most gambling activities amongst IoM 2017 adults compared to IoM 2012 adults (Table 2). However, compared to IoM 2012 adults, significantly more IoM 2017 adults reported participating in other lotteries (34% v. 19%; p<0.001); online gambling on slots, casino or bingo games (11% v. 7%; p<0.001); and, online betting with a bookmaker (10% v. 8%; p<0.05). When data was weighted in the same way as IoM 2012 (i.e. by gender only) all associations remained significant except for online betting with a bookmaker.

Comparison with GBGB 2015

Overall, there were significantly more adults participating in any gambling activity in the past 12 months in the IoM 2017 survey compared to the GBGB 2015 survey (76% v. 63%; p<0.001). When individuals who participated in the National Lottery only were excluded, the prevalence of participation in at least one form of gambling was significantly higher amongst IoM 2017 adults than GBGB 2015 adults (61% v. 45%; p<0.001). Further, there was also a significantly higher prevalence of online gambling amongst IoM 2017 adults compared to GBGB 2015 adults (19% v. 10%; p<0.001). Amongst IoM 2017 adults there was also a significantly higher prevalence of participation in: National Lottery draws (57% v. 46%; p<0.001); scratch cards (29% v. 23%; p<0.001); other lotteries (34% v. 15%; p<0.001); online gambling on slots, casino or bingo games (11% v. 4%; p<0.001); online betting with a bookmaker (10% v. 7%; p<0.001); and private betting (7% v. 5%; p<0.001) compared to GBGB 2015 adults. However, there was a significantly lower prevalence amongst IoM 2017 adults participating in: football pools (1% v. 3%; p<0.001); horse races (7% v. 11%; p<0.001); dog races (1% v. 3%; p<0.001); sports events (1% v. 5%; p<0.001) and, other events (0% v. 2%; p<0.001).

Table 2: Comparison of IoM 2017 gambling prevalence to IoM 2012 and GBGB 2015[1]

	IoM 2017	IoM 2012		GBGB 2015	
	%	%	Sig.	%	Sig.
Lotteries and related products					
National Lottery draws	57	69	<0.001	46	<0.001
Scratch cards	29	32	<0.05	23	<0.001
Other lotteries	34	19	<0.001	15	<0.001
Machines/games					
Football pools	1	4	<0.001	3	<0.001
Bingo (not online)	6	9	<0.001	6	NS
Slot machines	7	12	<0.001	7	NS
Machines in a bookmakers	3	4	<0.001	3	NS
Casino table games (not online)	3	11	<0.001	4	NS
Poker played in pubs or clubs	1	2	<0.001	1	NS
Online gambling on slots, casino or bingo games	11	7	<0.001	4	<0.001
Betting activities					
Online betting with a bookmaker	10	8	<0.05	7	<0.001
Horse races (not online)	7	15	<0.001	11	<0.001
Dog races (not online)	1	1	<0.05	3	<0.001
Sports events (not online)	1	5	<0.001	5	<0.001
Other events (not online)	0	1	<0.01	2	<0.001
Spread-betting	1	1	NS	1	NS
Private betting	7	10	<0.001	5	<0.001
Any other gambling	3	3	NS	2	NS
Summary					
Any gambling activity	76	78	<0.05	63	<0.001
Any gambling (excluding National Lottery draws only)	61	Not available		45	<0.001
Any online gambling (excluding National Lottery draws)	19	Not available		10	<0.001

[1]Sampling, weighting and survey items differed slightly across surveys, thus findings should be interpreted with caution. Sig. = significant level. NS = not significantly different at the 95% confidence level.

3.1.3 Gambling methods

For each individual gambling activity, adults were asked to indicate whether they had participated in that activity online, in person only or both in person and online[10]. Figure 1 shows the overall prevalence of participation in each activity, and of those who had participated the prevalence of each method. A higher proportion of individuals gambled in person than online on: National Lottery draws; other lotteries; bingo; casino table games; poker; dog races; virtual dog or horse races; and other forms of gambling. Gambling online was more prevalent than gambling in person amongst individuals who gambled on: football pools; horse races; football; tennis; other sports; other events; and, spread-betting.

Figure 1: Methods of gambling for each gambling activity

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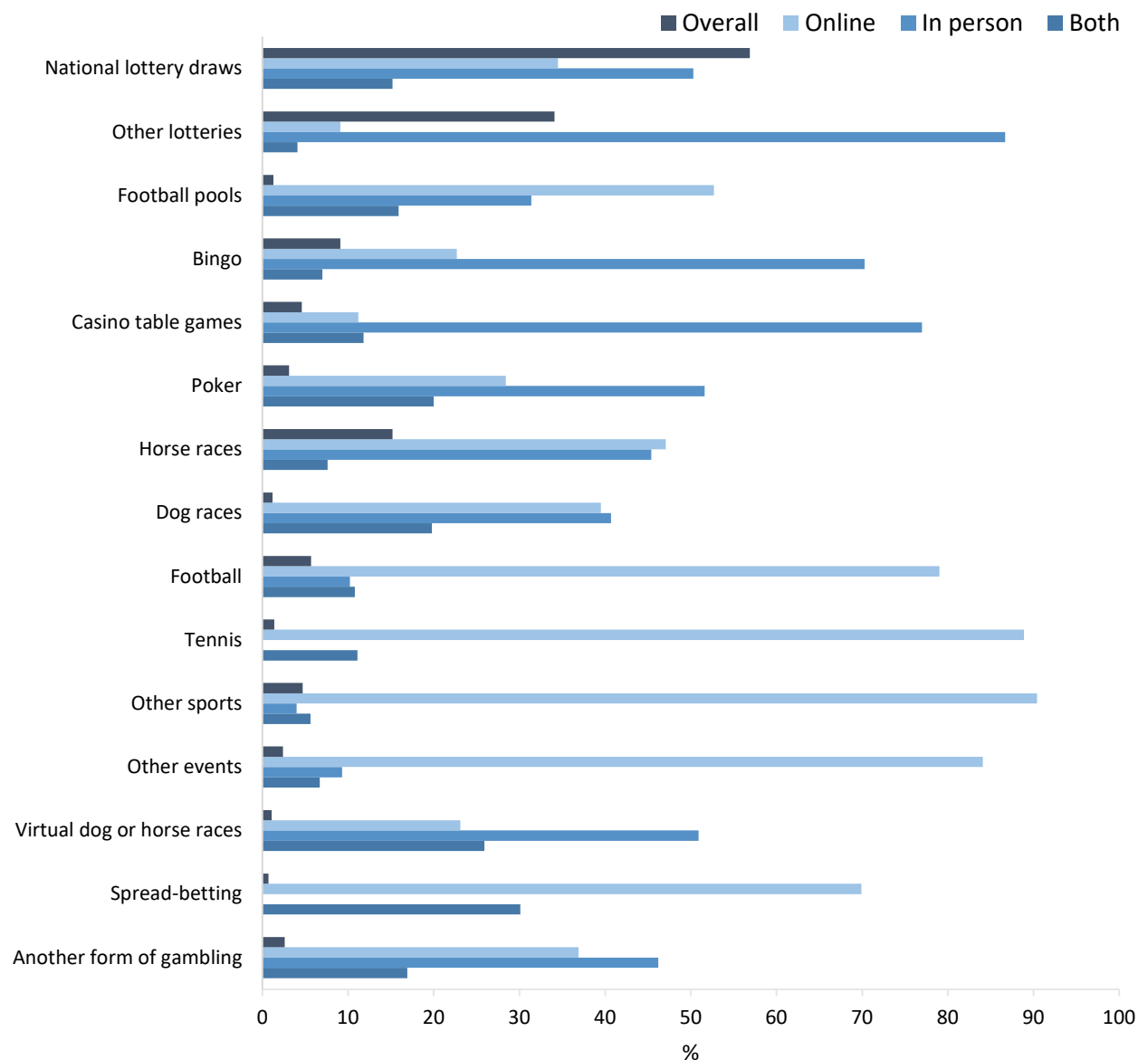
[10] Bivariate analysis of gambling methods was not undertaken due to small base sizes.

3.1.4 Online gambling behaviour

Online gambling frequency

For each individual gambling activity undertaken online, adults were asked how often they participated in the activity. Figure 2 shows the frequency of online gambling for each gambling activity. Over half of those who participated online in the National Lottery draws (54.3%) or football pools (58.5%) did so at least once a week. One in five of those who participated online in poker (21.8%) or football bets (21.3%) did so at least once a week.

Figure 2: Frequency of gambling for each online gambling activity
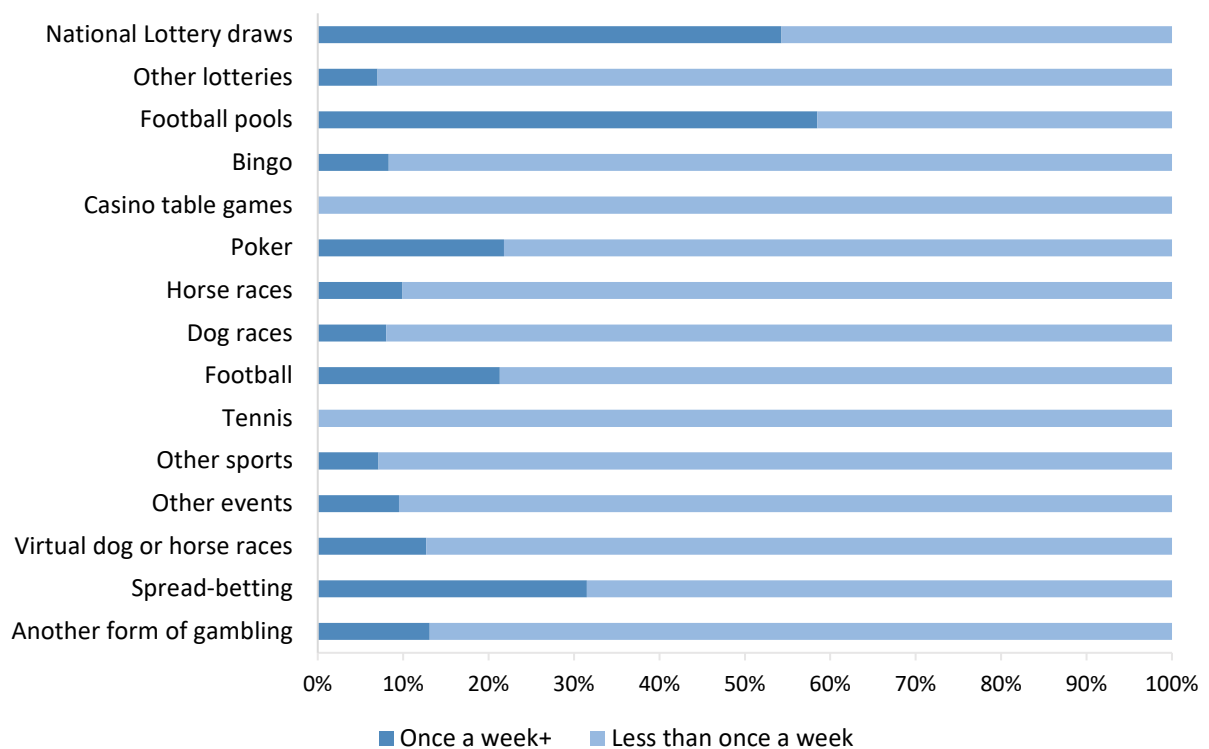
Location of online gambling participation

For each gambling activity undertaken online, adults were asked the location where they typically gambled online. Figure 3 shows the location of online gambling for each gambling activity. All forms of online gambling were undertaken at home by the majority of adults.

Figure 3: Location of gambling for each online gambling activity

Legend: At home ■ While commuting/travelling ■ At work ■ At a sports venue ■ At a pub or club ■ Other
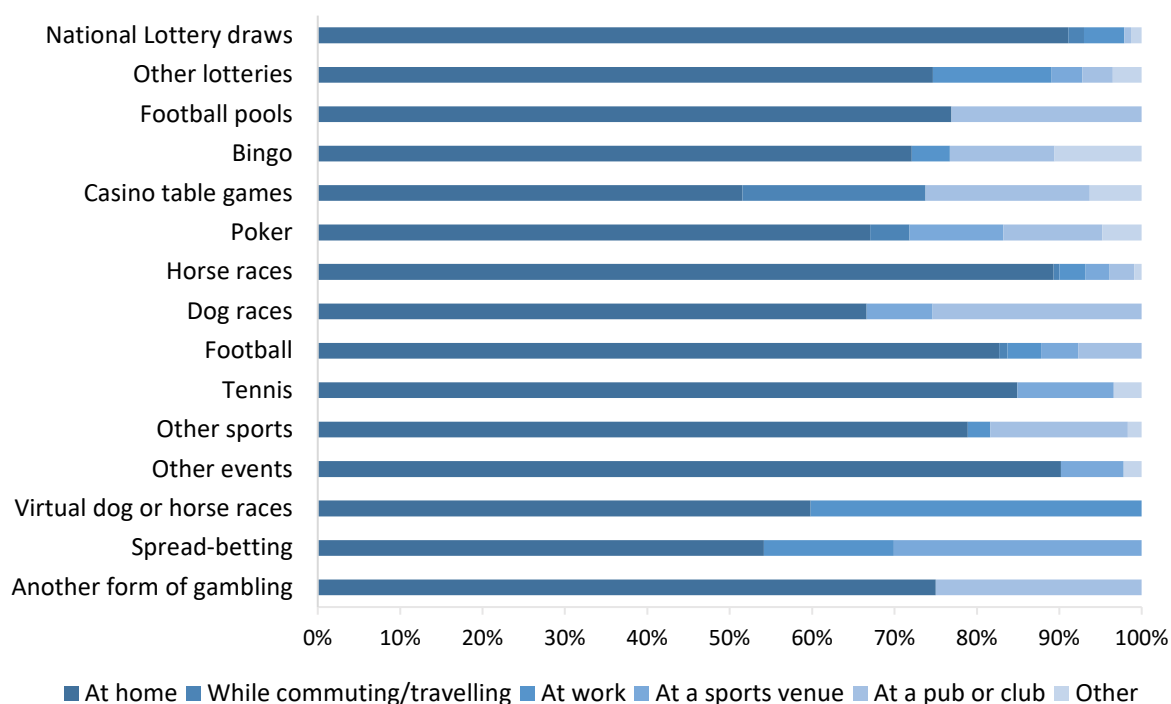
3.1.5 Gambling prevalence and socio-demographics

Gender and age group

In general, a higher proportion of males than females participated in each gambling activity grouping (Figure 4). A higher proportion of males than females participated in at least one form of gambling activity in the past 12 months (77.0% v. 74.8%). When individuals who participated in the National Lottery only were excluded, more females than males participated in at least one form of gambling (61.5% v. 60.4%). A higher proportion of males than females also participated in online gambling (20.3% v. 16.6%). More males than females also participated in: poker played in pubs or clubs (1.5% v. 0.2%); online betting with a bookmaker (13.6% v. 6.8%); and, spread-betting (1.3% v. 0.1%). However, there was a higher proportion of females compared to males participating in: online gambling on slots, casino or bingo games (11.4% v. 11.2%); scratch cards (32.3% v. 26.3%) and bingo (9.0% v. 3.4%). In sample (unweighted) analyses there was a significant association between gender and participation in: any gambling (excluding National Lottery draws only); scratch cards; bingo (not online); poker played in pubs or clubs; online gambling on slots, casino or bingo games; online betting with a bookmaker and, spread-betting.

Over three-quarters of those aged under 65 years had participated in any form of gambling activity in the past 12 months, with the highest prevalence amongst 18-24 year olds (85.5%) (Figure 5). The prevalence of participation in any gambling excluding the National Lottery draws decreased as age group increased, from 81.6% amongst 18-24 year olds to 46.6% amongst those aged 65+ years. This

incremental decrease in prevalence as age group increased was also characteristic of participation in betting activities and machines/games. The highest prevalence of participation in lotteries and related products was amongst the 35-44 year old age group (76.4%) with the lowest prevalence amongst 18-24 year olds (70.0%) and 65+ year olds (59.3%). The highest prevalence of online gambling was amongst the 25-34 year old age group (39.1%), with 18-24 years having the second highest prevalence (27.5%), and a decrease in prevalence in the other age groups. In sample (unweighted) analyses

there was a significant association between age and participation in: any gambling; any gambling (excluding National Lottery draws only); any online gambling; lotteries and related products; National Lottery draws; scratch cards; machines/games; bingo (not online); slot machines; machines in a bookmakers; casino table games (not online); online gambling on slots, casino or bingo games; betting activities; online betting with a bookmaker; horse races (not online); dog races (not online); and, private betting.

Figure 4: Prevalence of gambling activity groupings by gender
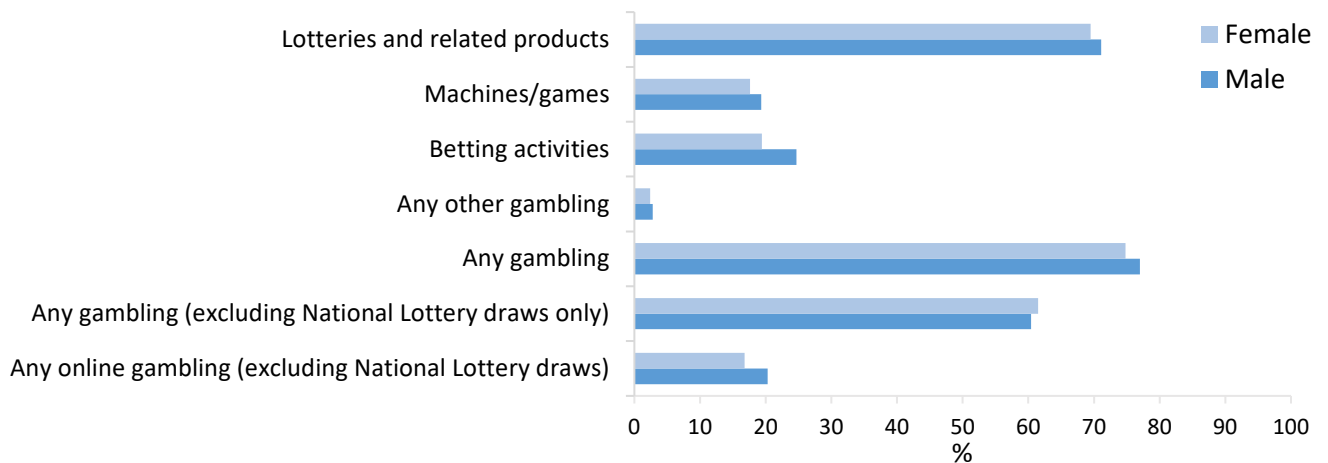
Figure 5: Prevalence of gambling activity groupings by age group (years)
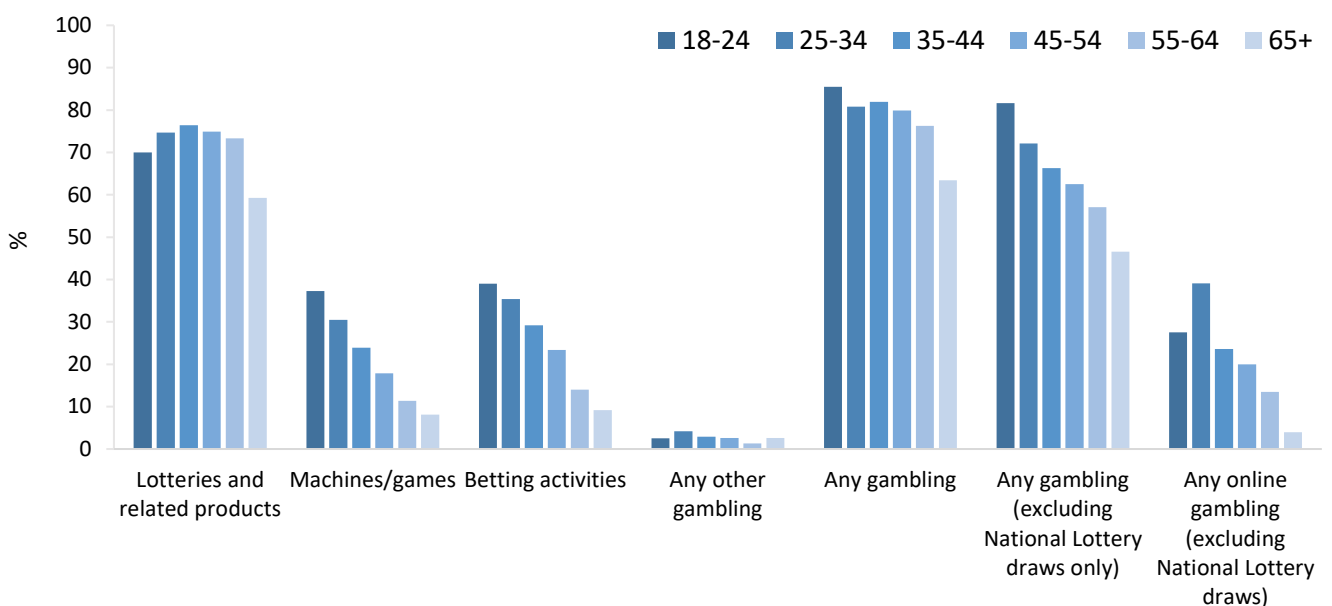
Ethnicity

Overall, a higher proportion of white adults than individuals of other ethnicities participated in at least one form of gambling activity in the past 12 months (75.9% v. 64.7%). With the exception of betting activities and other forms of gambling, a higher proportion of individuals of white ethnicity participated in all other gambling activity groupings than individuals of other ethnicities (Figure 6). In sample (unweighted) analyses there was a no significant association between ethnicity and participation in any gambling activity.

Figure 6: Prevalence of gambling activity groupings by ethnicity
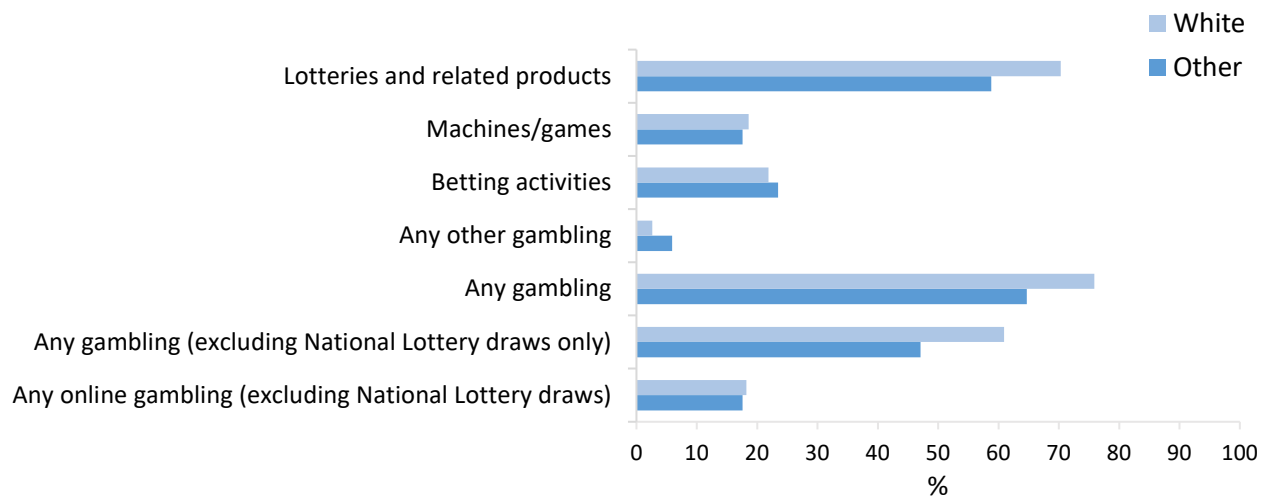
Relationship status

Overall, a higher proportion of adults in a relationship participated in at least one form of gambling activity in the past 12 months than single adults (76.6% v. 74.4%). When individuals who participated in the National Lottery only were excluded, slightly more single adults participated in at least one form of gambling (61.0% v. 60.7%) than adults in a relationship. A higher proportion of single adults participated in betting activities and machines/games than adults in a relationship (Figure 7). In sample (unweighted) analyses there was a significant association between relationship status and participation in: lotteries and related products; National Lottery draws; other lotteries; and, dog races (not online).

Figure 7: Prevalence of gambling activity groupings by relationship status
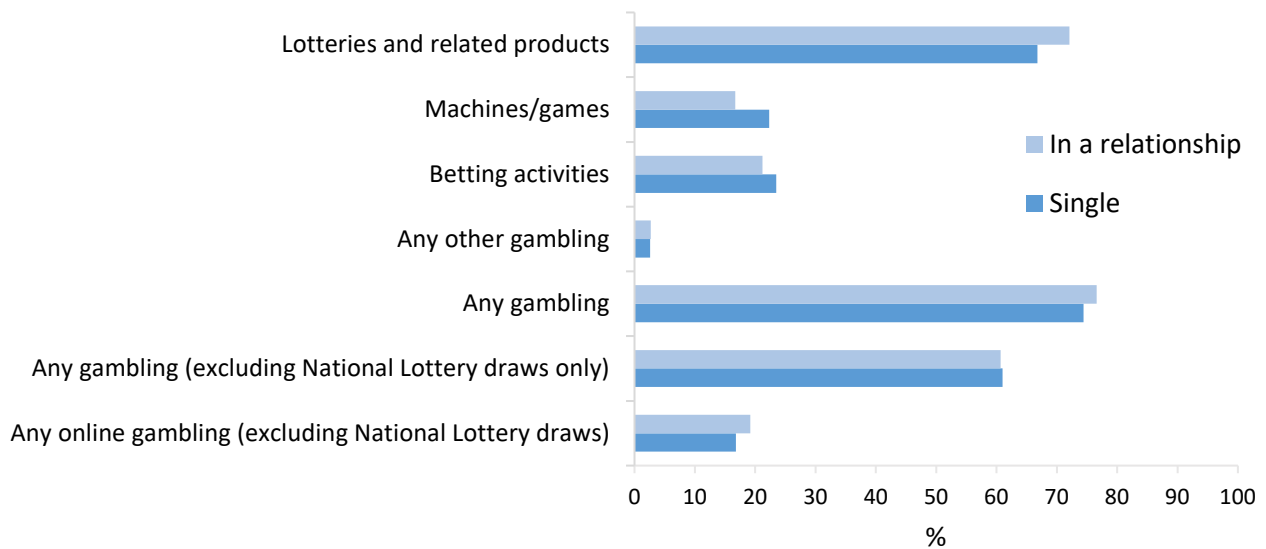
Income level and home ownership

Across income levels, adults reporting an income of £20,000-£79,000 (mid income) had the highest level of any gambling participation in the past 12 months (78.1% v. low 70.1%, high 76.1%). A similar pattern was found for participation in any gambling excluding National Lottery draws, and lotteries and related products. Prevalence of betting activities and online gambling (excluding National Lottery draws) increased with each increase in income category, whilst participation in machines/games decreased with each increase in income category (Figure 8). In sample (unweighted) analyses there was a significant association between income level and participation in: any gambling; any gambling (excluding National Lottery draws only); any online gambling; lotteries and related products; National Lottery draws; scratch cards; other lotteries;

betting activities; online betting with a bookmaker; horse races (not online); and, private betting.

Overall, there was a higher prevalence of all gambling activity groupings amongst adults that did not own their home compared to those who did (Figure 9). In sample (unweighted) analyses there was a significant association between home ownership and participation in: any gambling; any gambling (excluding National Lottery draws only); any online gambling; scratch cards; other lotteries; machines/games; bingo (not online); slot machines; machines in a bookmakers; online gambling on slots, casino or bingo games; betting activities; and, online betting with a bookmaker.

Figure 8: Prevalence of gambling activity groupings by income level
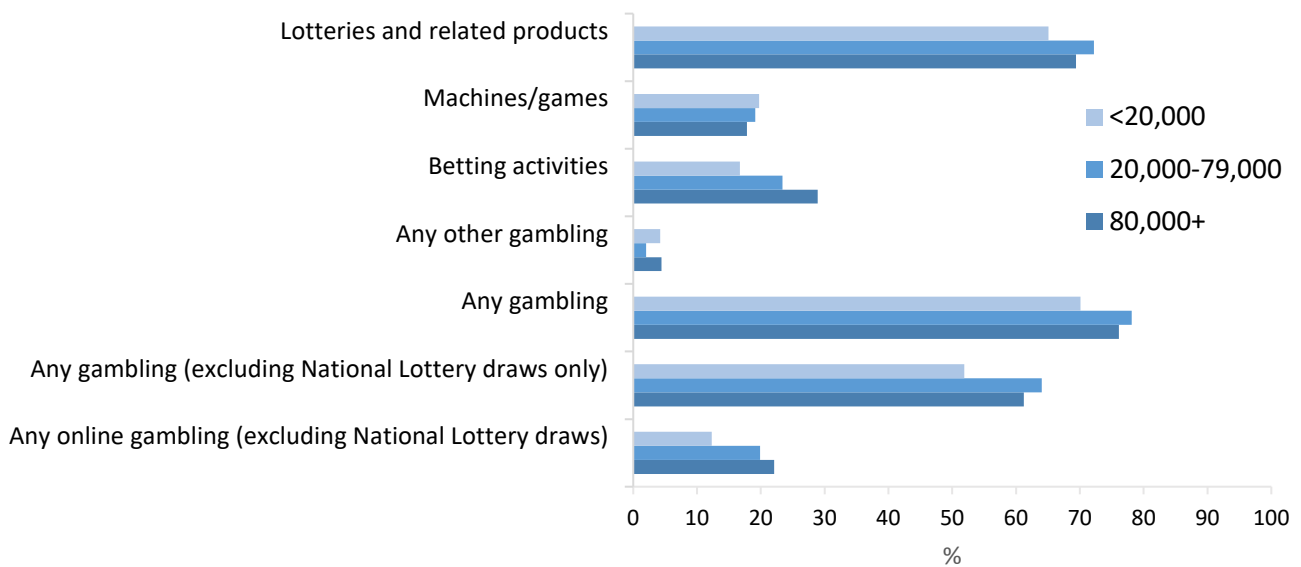
Figure 9: Prevalence of gambling activity groupings by home ownership
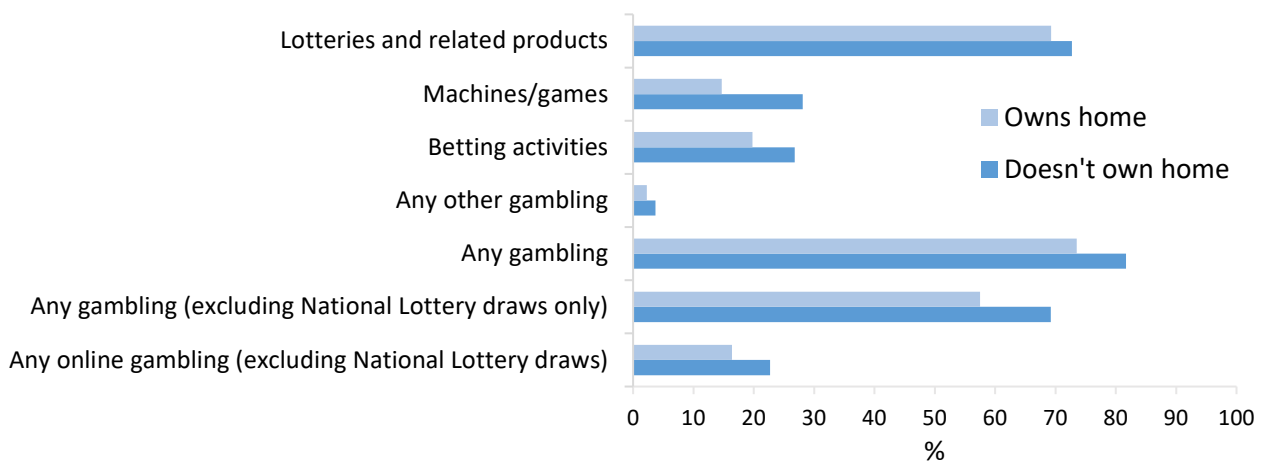
Qualification level and employment status

Overall, there was a higher prevalence of all gambling activity groupings amongst adults who had qualifications compared to those who did not (Figure 10), and were employed compared to those who were unemployed (Figure 11). In sample (unweighted) analyses there was a significant association between qualification level and participation in: any gambling (excluding National Lottery draws only); and betting activities. In sample analysis there was also a significant association between employment status and participation in: any gambling; any gambling (excluding National Lottery draws only); any online gambling; lotteries and related products; National Lottery draws; scratch cards; machines/games; bingo (not online); slot machines; machines in a bookmakers; casino table games (not online); online gambling on slots, casino or bingo games; betting activities; online betting with a bookmaker; horse races (not online); and, private betting .

Figure 10: Prevalence of gambling activity groupings by qualification level
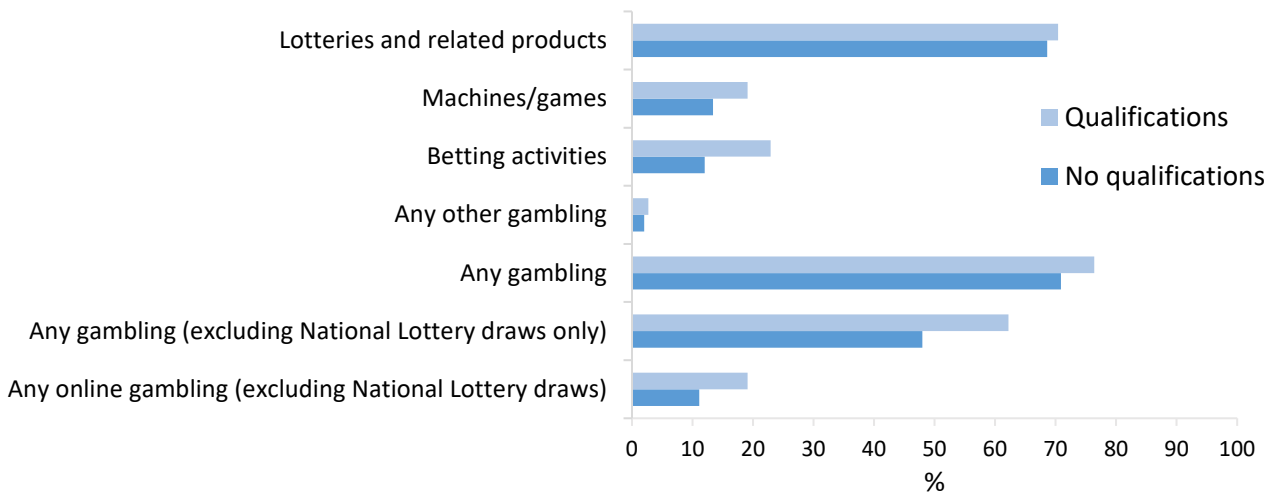
Figure 11: Prevalence of gambling activity groupings by employment status
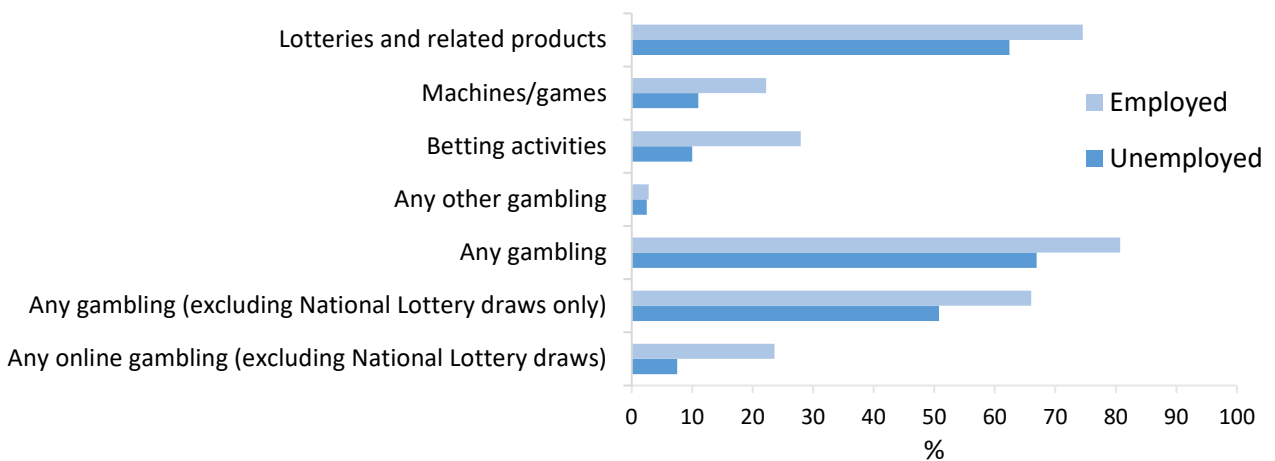
3.2 Gambling, health indicators and health harming behaviours

This section examines the relationship between gambling participation in the past 12 months and indicators of poor health and health harming behaviours. The following sections highlight the prevalence of the health indicator or health harming behaviour, their relationship to each gambling activity (weighted and unweighted), and results from logistic regression analysis showing adjusted odds after controlling for socio-demographics.

Health indicators include:

Poor general health

Low mental wellbeing

Low life satisfaction

Highly anxious

Feeling life is unworthwhile
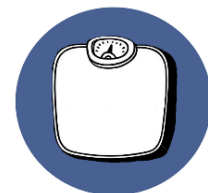
Overweight and obese

Low happiness

Health harming behaviours include:

Poor diet

Low physical exercise

Binge drinking

High risk drinking

Smoking tobacco

Poor general health

Scores <62 on the self-reported health measure of the EQ-5D-5L.

14.0% of all adults reported poor general health

The prevalence of poor health does not differ across most types of gambling activities, or between participation in individual gambling activities, except for poker (played in pubs/clubs), dog races, sports events (not online), other events (not online) and spread betting (Figure 12).

Figure 12: Prevalence of poor general health by gambling activity participation
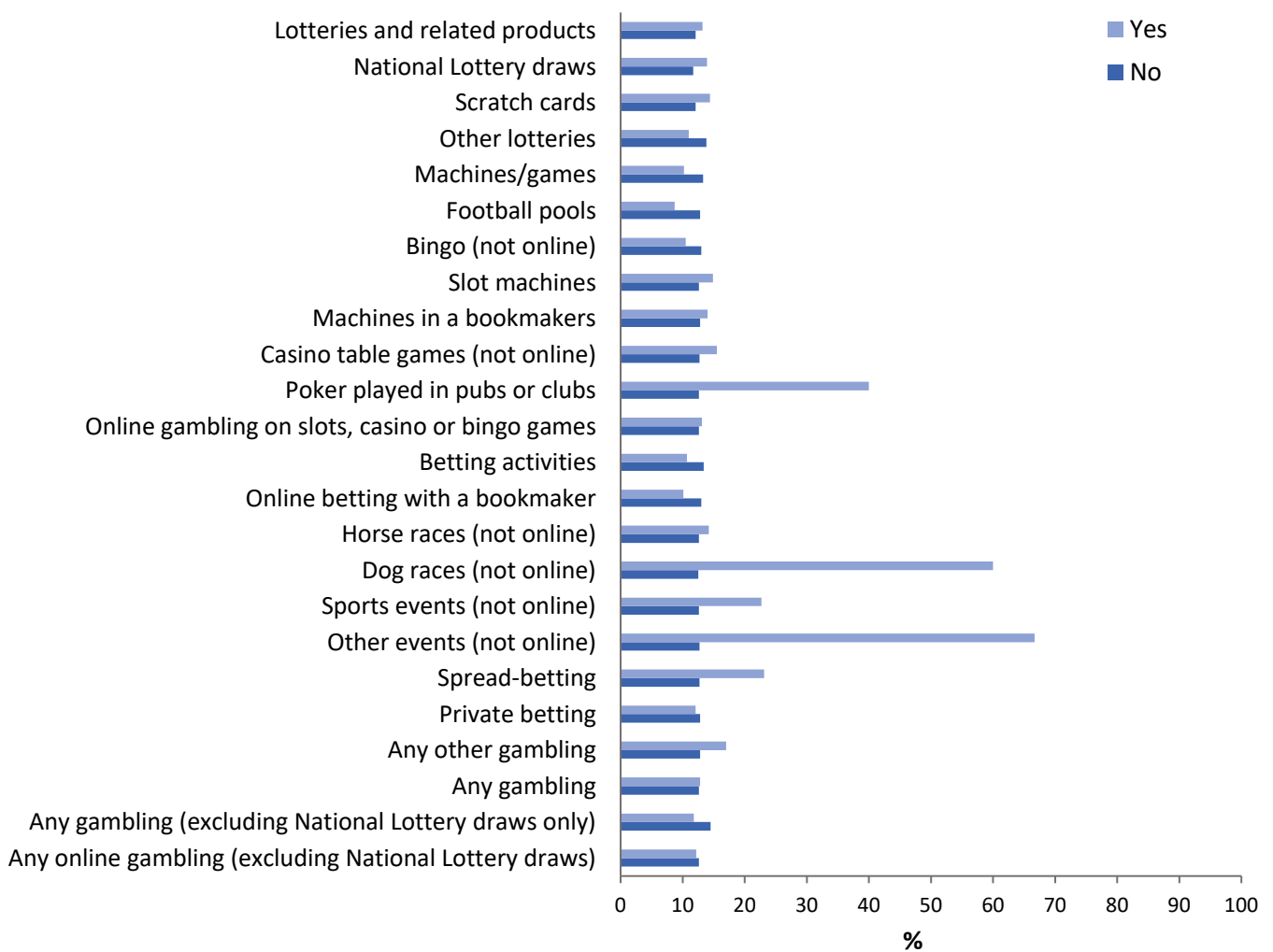
There was no significant difference in the prevalence of poor general health amongst those who reported participating in at least one type of gambling activity in the past 12 months and those who had not (13.6% v. 12.9%; NS; Figure 13). After controlling for socio-demographics the odds of having poor health were 1.5 times higher amongst those who reported gambling than those who did not gamble. Poor health was also significantly related to income level, employment status and home ownership.

Figure 13: Poor general health: prevalence and adjusted odds ratio (AOR) by any gambling participation
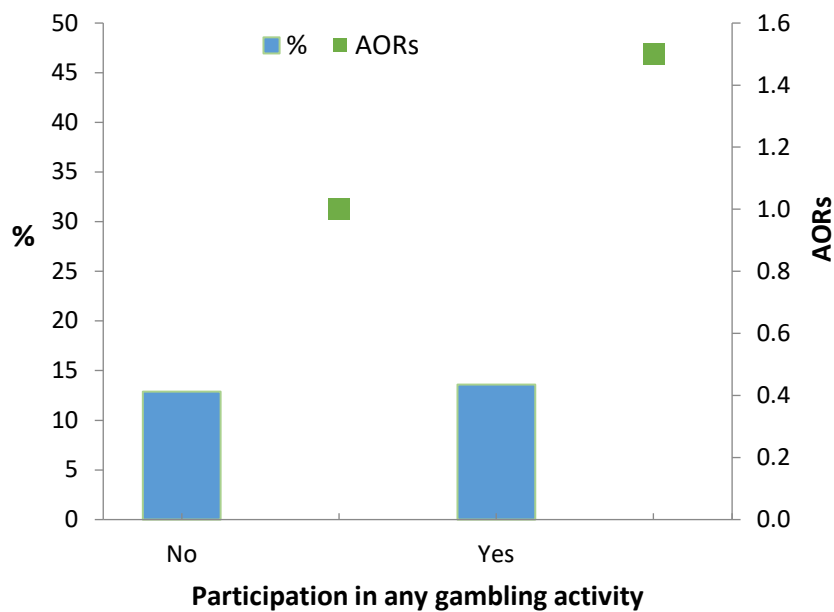
Compared to individuals who did not report participation, respondents who reported betting on dog races were significantly more likely to report poor general health (50.0%; no participation, 13.3%; p<0.05).

Overweight or obese
Body Mass Index (BMI) of 25 or more

65.6% of all adults were classified as being overweight or obese

Across most gambling activities, the prevalence of being classified as overweight or obese was generally higher amongst those who reported gambling compared to those who did not. This was with the exception of: football pools; casino table games (not online); poker (played in pubs and clubs); betting activities; online betting with a bookmaker; sports events (not online); other events (not online); private betting; and any online gambling (excluding National Lottery draws) (Figure 14).

Figure 14: Prevalence of being overweight or obese by gambling activity participation
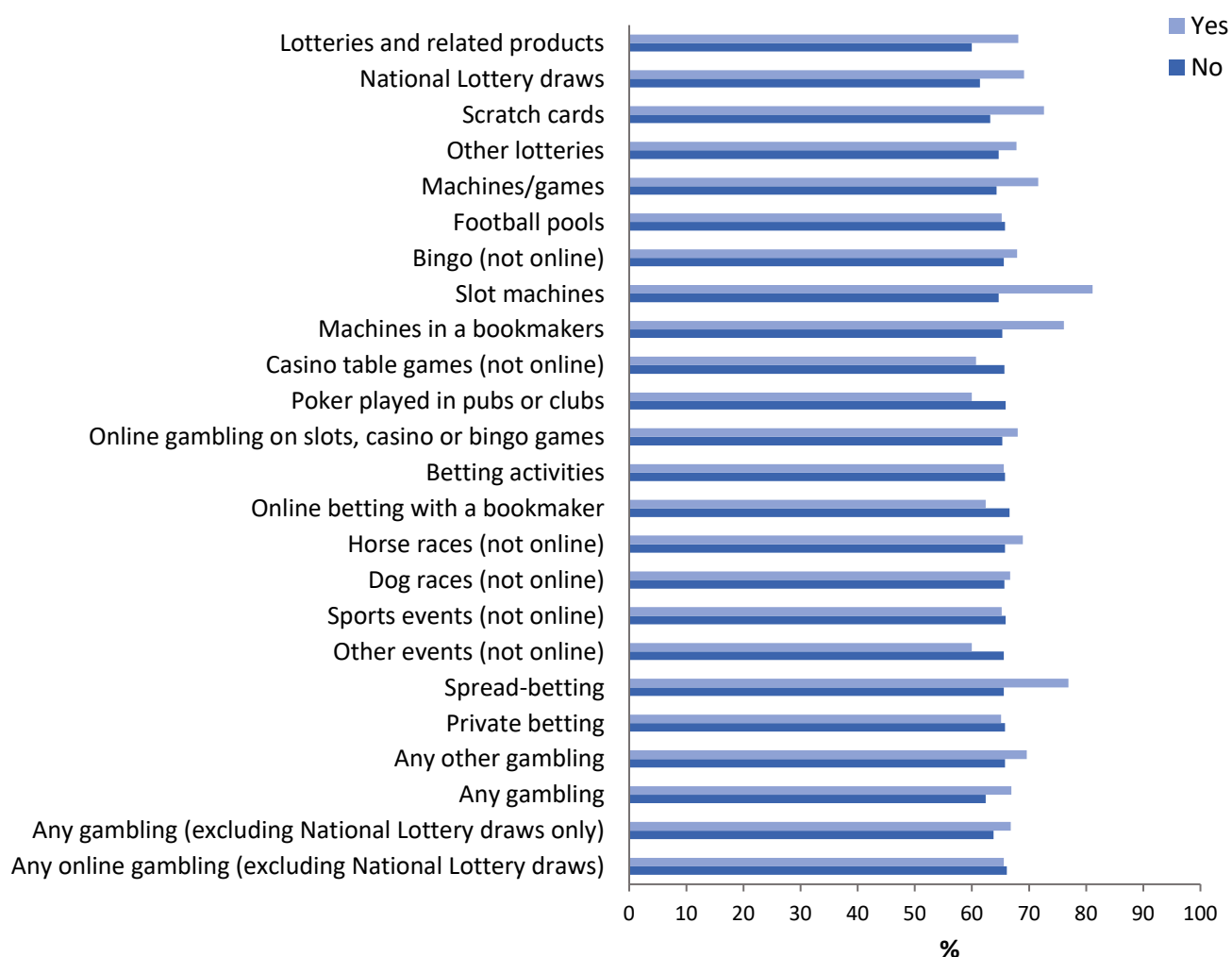
The prevalence of being classed as overweight or obese was significantly higher amongst those who reported participating in at least one type of gambling activity in the past 12 months compared to those who had not (69.0% v. 62.9%; p<0.05; Figure 15). After controlling for socio-demographics the odds of being overweight or obese were 1.3 times higher amongst those who reported gambling than those who did not gamble. Being overweight or obese was also significantly related to gender, age and home ownership.

Figure 15: Overweight or obese: prevalence and adjusted odds ratio (AOR) by any gambling participation
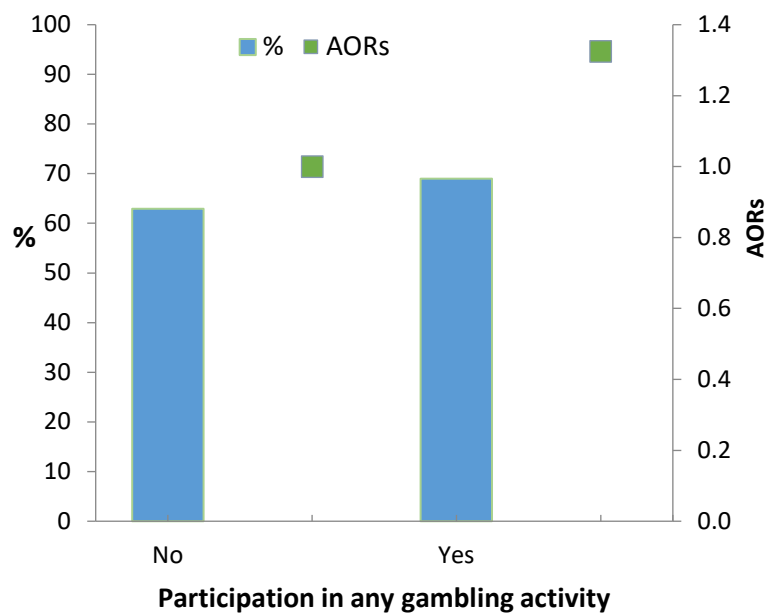
Respondents who reported participating in any form of gambling, excluding those who had participated in the National Lottery only, were significantly more likely to be overweight or obese compared to those who had not participated (69.7% v. 64.0%; p<0.05). There was also a significantly higher prevalence of overweight or obese individuals amongst respondents who participated in: lottery and related products (69.3% v. 62.6%; p<0.01); National Lottery draws (70.4% v. 63.2%; p<0.01); scratch cards (73.9% v. 65.1%; p<0.001); machines/games (75.0% v. 65.9%; p<0.01); bingo (76.6% v. 66.6%; p<0.05); or, slot machines (77.7% v. 66.6%; <0.05) compared to those who did not engage in each of these gambling activities.

17.9% of adults reported low mental wellbeing

The proportion of adults reporting low mental wellbeing varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 16). For instance, a much higher proportion of those who participated in dog races or other events (not online) reported low mental wellbeing compared to those who did not participate. Proportions were also much higher than all other gambling activities.

Figure 16: Prevalence of low mental wellbeing by gambling activity participation
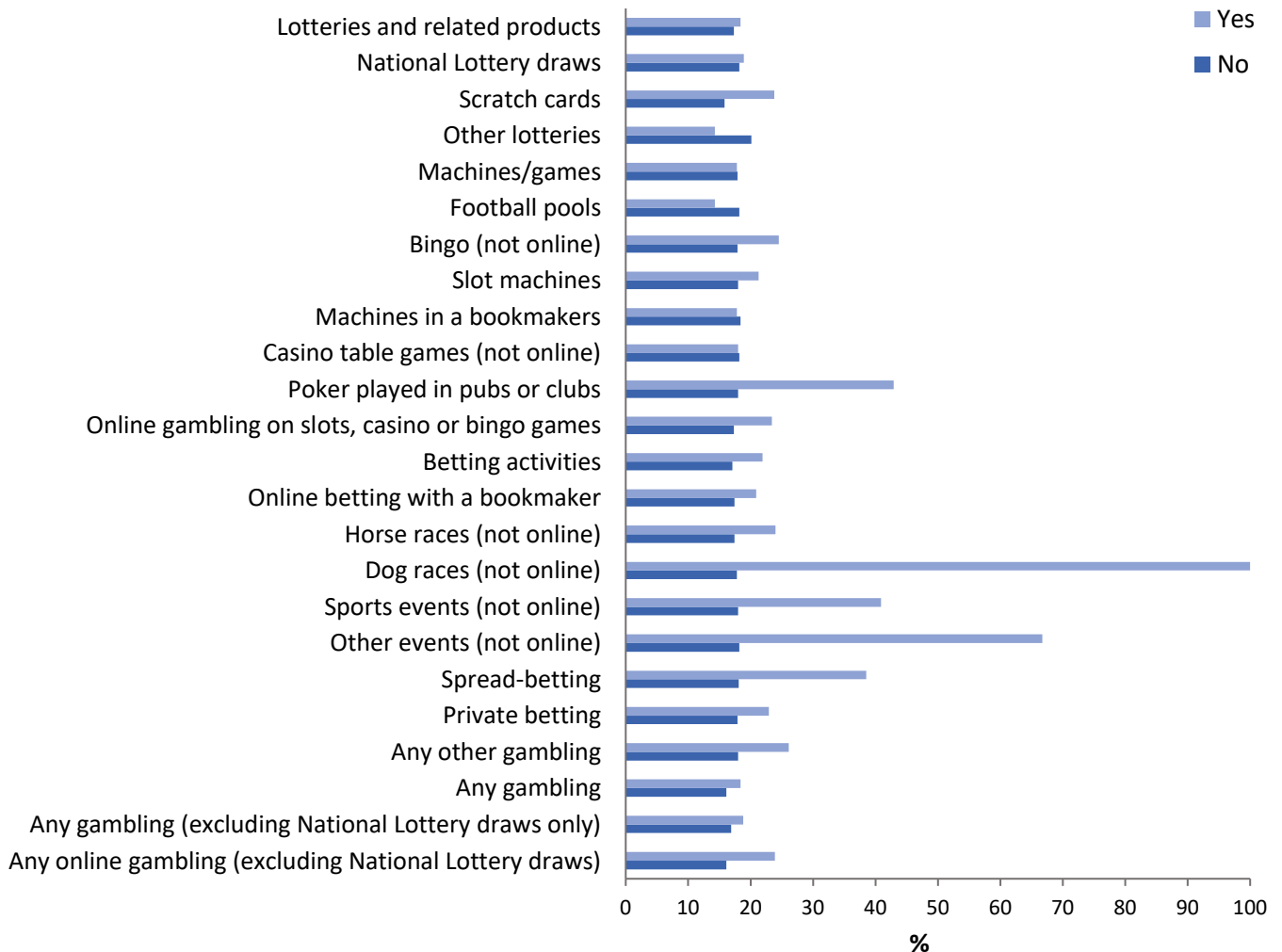
There was no significant difference in the prevalence of low mental wellbeing amongst those who reported participating in at least one type of gambling activity in the past 12 months and those who did not (17.0% v. 15.0%; NS; Figure 17). After controlling for socio-demographics there was also no significant association between participation in any gambling activity and low mental wellbeing. Low mental wellbeing was significantly related to age, income level, relationship status, and home ownership.

Figure 17: Low mental wellbeing: prevalence by any gambling participation
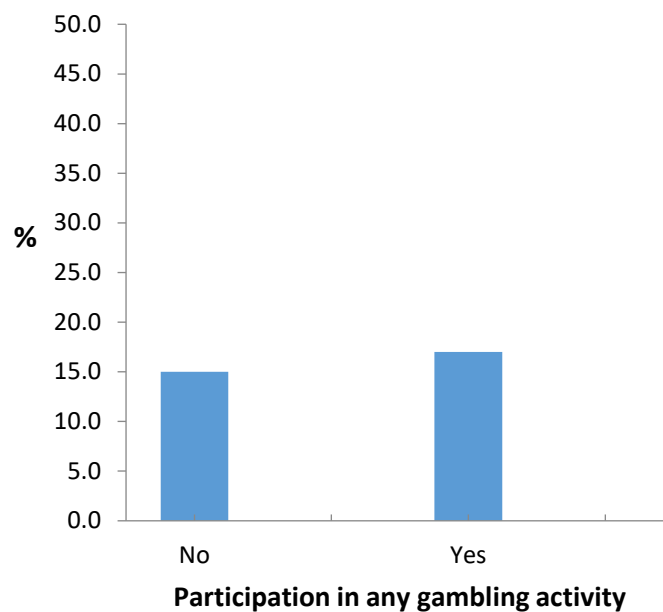
There was a significantly higher prevalence of individuals with low mental wellbeing amongst respondents who participated in: scratch cards (20.4% v. 15.4%; $p<0.05$); bingo (24.8% v. 16.3%; $p<0.05$); dog races (100.0% v. 16.5%; $p<0.001$); or, sports events (40.0% v. 16.5%; $p<0.01$) compared to those who did not engage in each of these gambling activities. However, low mental wellbeing was significantly more prevalent amongst those who did not report participation in other lotteries, than those who did (18.5% v. 13.4%; <0.01).

Low life satisfaction
Scores <6 (see Methods).

19.3% of adults reported low life satisfaction

The proportion of adults reporting low life satisfaction varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 18). For instance, a much higher proportion of those who participated in other events (not online) reported low life satisfaction compared to those who did not participate. The proportion was also higher than all other gambling activities.

Figure 18: Prevalence of low life satisfaction by gambling activity participation
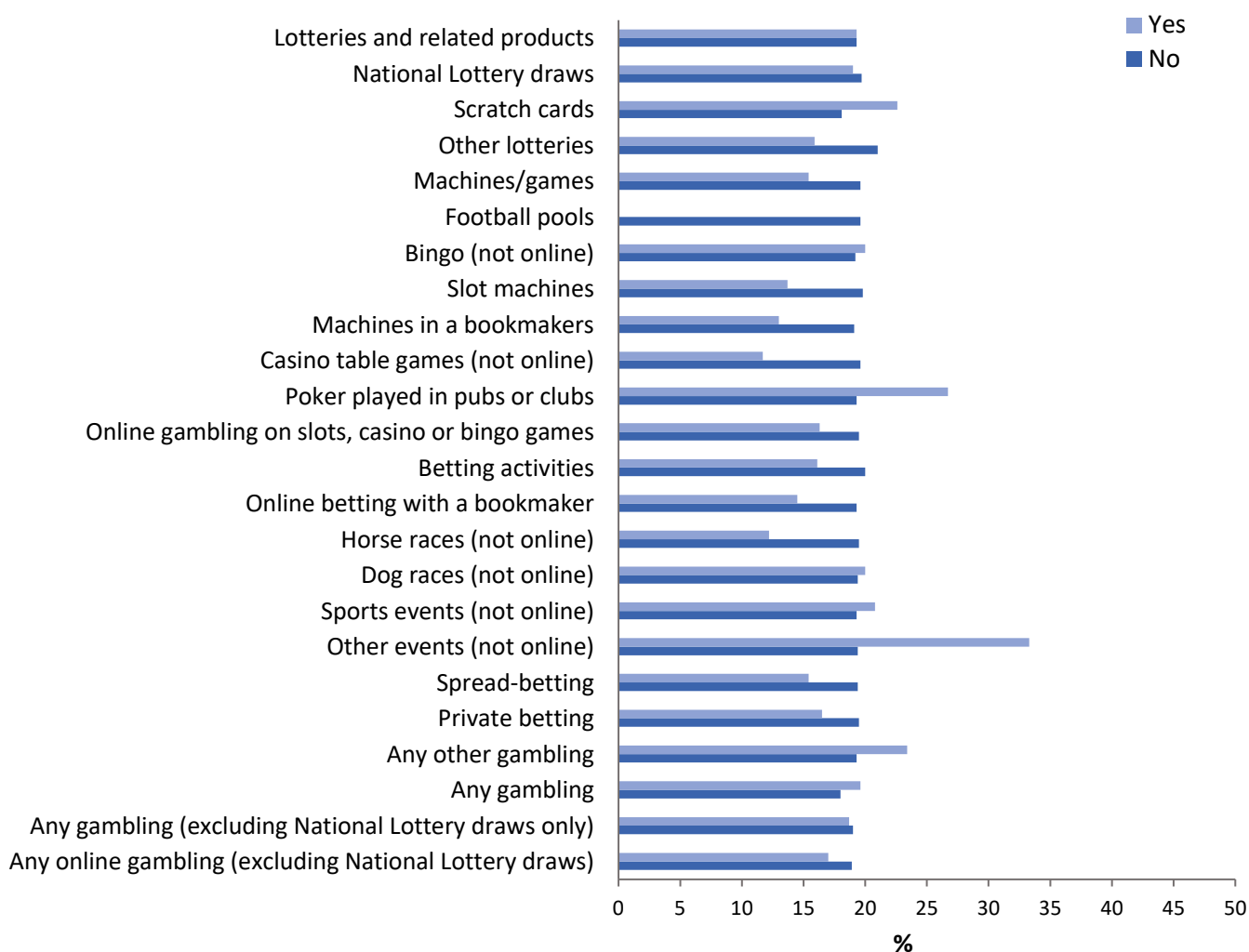
Sample (unweighted) data analyses

There was no significant difference in the prevalence of low life satisfaction amongst those who reported participating in at least one type of gambling activity in the past 12 months and those who did not (18.4% v. 17.7%; NS; Figure 19). After controlling for socio-demographics there was also no significant association between participation in any gambling activity and low life satisfaction. Low life satisfaction was significantly related to age, income level, relationship status, employment status and home ownership.

Figure 19: Low life satisfaction: prevalence by any gambling participation
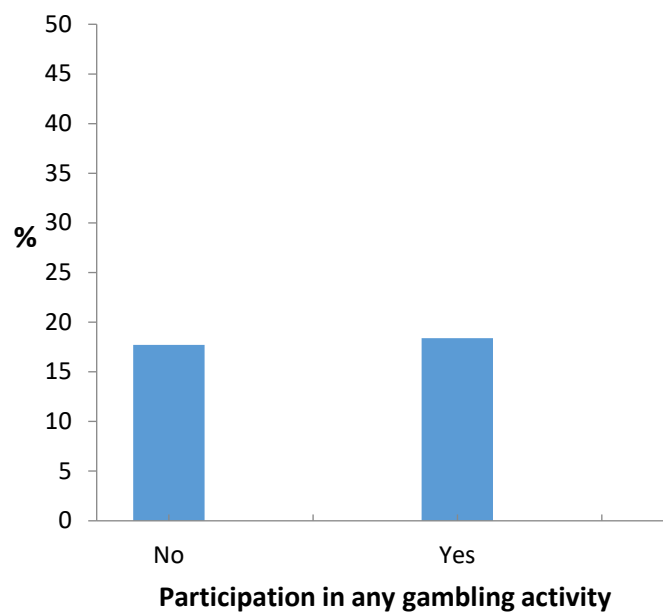
Low life satisfaction was significantly more prevalent amongst those who did not report participation in: other lotteries (19.8% v. 15.5%; p<0.05); betting activities (19.4% v. 12.6%; p<0.01); online betting with a bookmaker (18.7% v. 10.6%; p<0.05); horse races (18.8% v. 8.7%; p<0.01) than those who.

Low happiness

Scores <6 (see Methods).

22.4% of adults reported low happiness

The proportion of adults reporting low happiness varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 20). For instance, a much higher proportion of those who participated in poker (played in pubs or clubs) or other events (not online) reported low happiness compared to those who did not participate. The proportions were also much higher than all other gambling activities.

Figure 20: Prevalence of low happiness by gambling activity participation
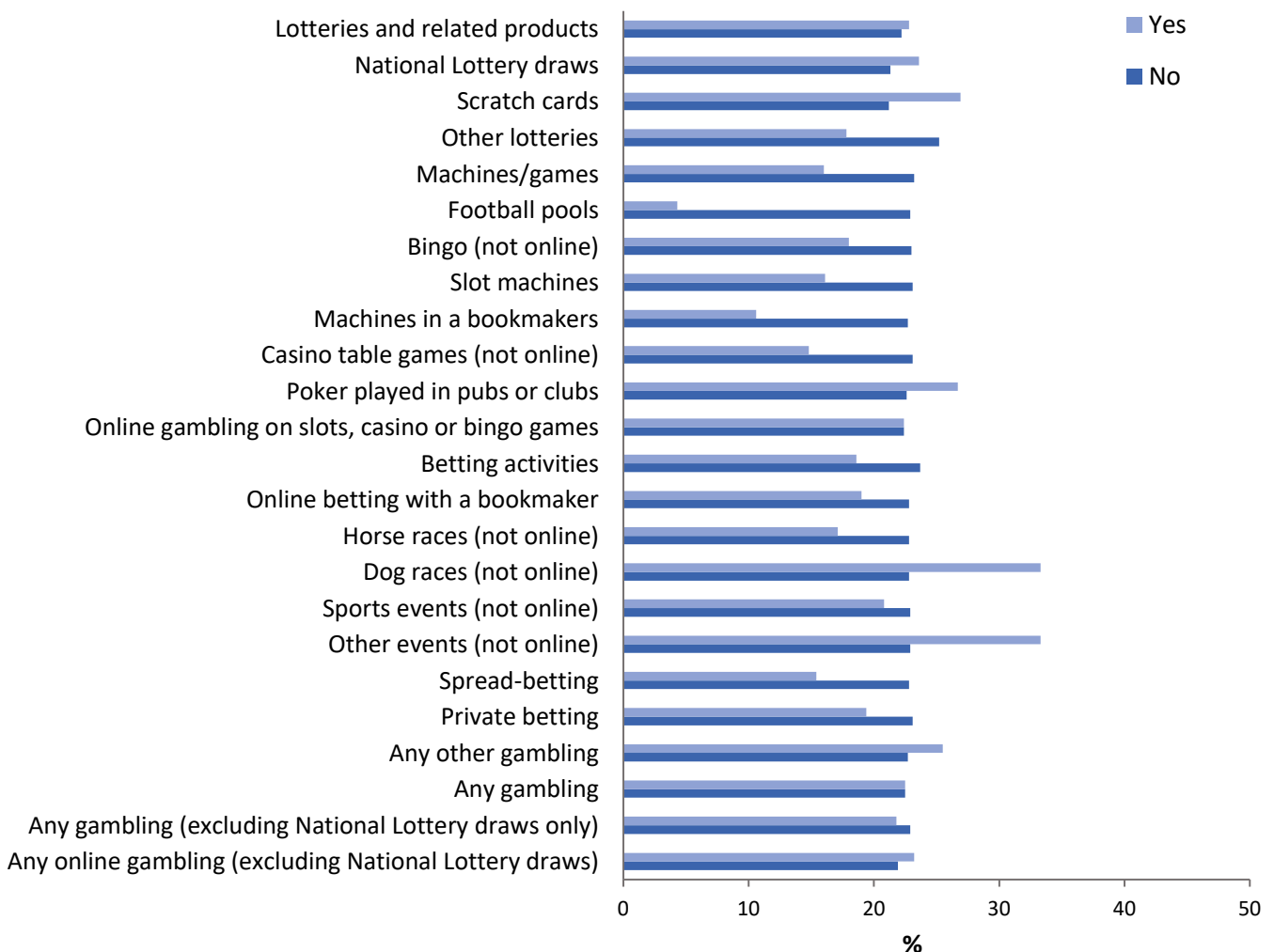
There was no significant difference in the prevalence of low happiness amongst those who reported participating in at least one type of gambling activity in the past 12 months and those who did not (21.8% v. 21.7%; NS; Figure 21). After controlling for socio-demographics there was also no significant association between participation in any gambling activity and low happiness. Low happiness was significantly related to age, income level, relationship status and home ownership.

Figure 21: Low happiness: prevalence by any gambling participation
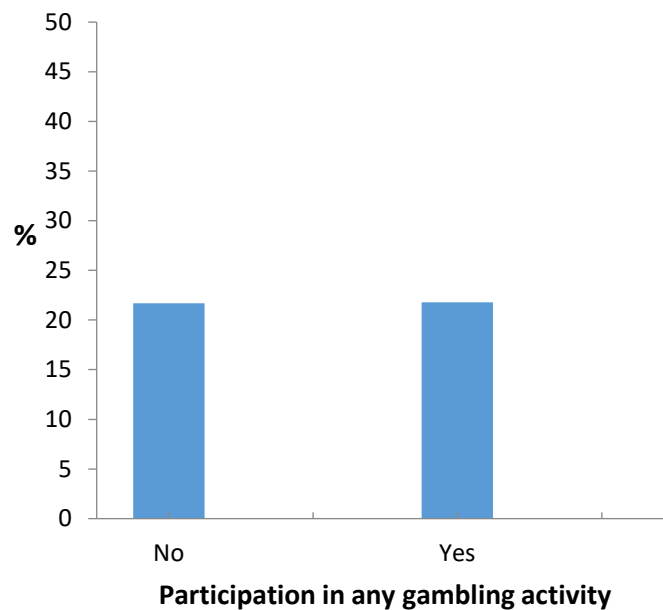
There was a significantly higher prevalence of individuals with low life happiness amongst respondents who played scratch cards compared to those who did not (26.1% v. 20.3%; p<0.01). However, low happiness was significantly more prevalent amongst those who did not report participation in: other lotteries (23.9% v. 17.8%; p<0.01); betting activities (23.2% v. 15.9%; p<0.01); horse races (22.3% v. 12.2%; p<0.05), than those who did.

Highly anxious

Scores >6 (see Methods).

22.5% of adults reported being highly anxious

The proportion of adults reporting being highly anxious varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 22). For instance, a much higher proportion of those who participated in bingo (not online), dog races and other events (not online) reported being highly anxious compared to those who did not participate.

**Figure 22: Prevalence of high anxiety by gambling activity participation**
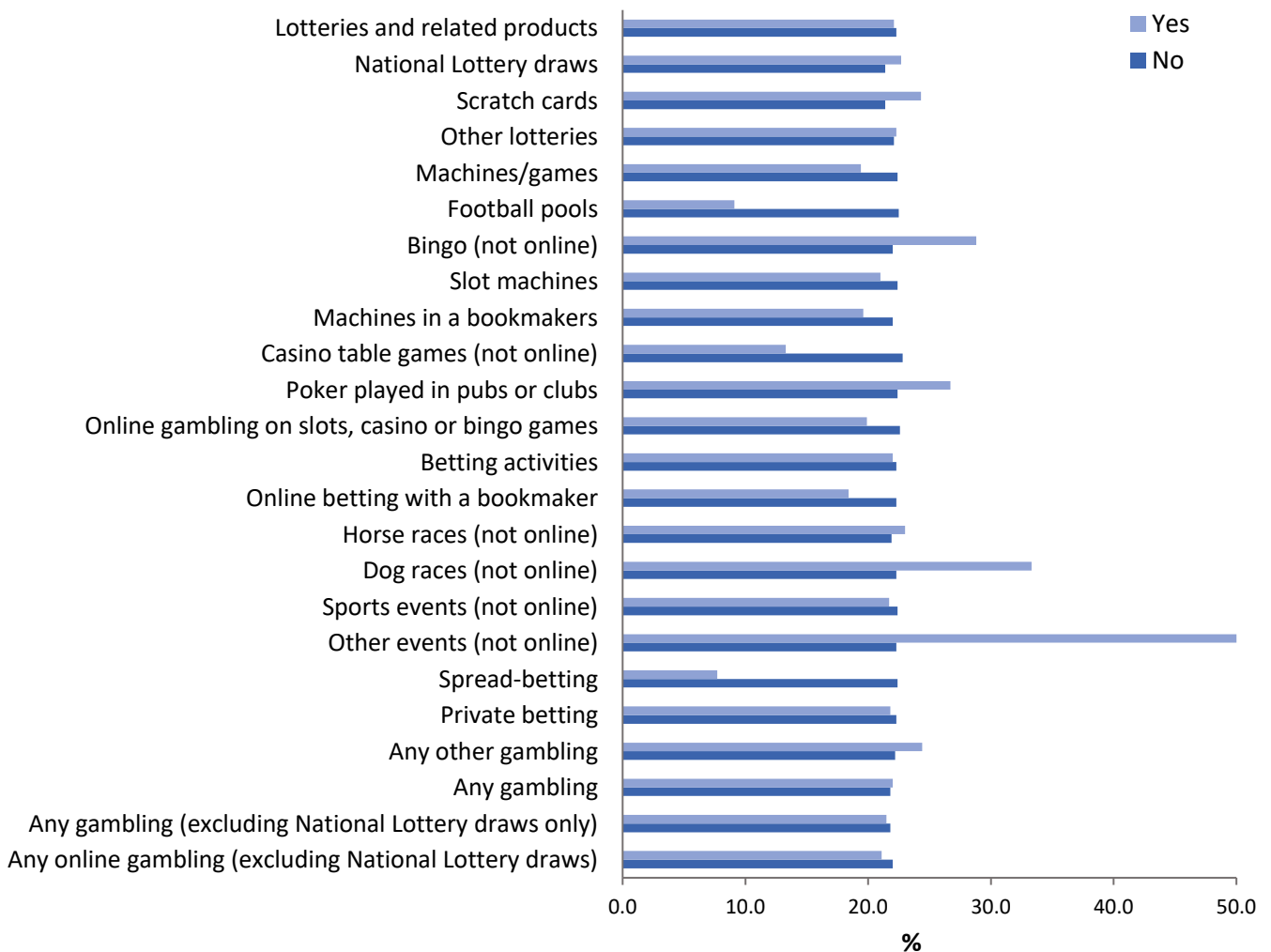
Sample (unweighted) data analyses

There was no significant difference in the prevalence of a high level of anxiety amongst those who reported participating in at least one type of gambling activity in the past 12 months and those who did not (22.3% v. 20.2%; NS; Figure 23). After controlling for socio-demographics there was also no significant association between participation in any gambling activity and being highly anxious. High anxiety was significantly related to gender, ethnicity, age, qualification level, and home ownership.

Figure 23: Highly anxious: prevalence by any gambling participation
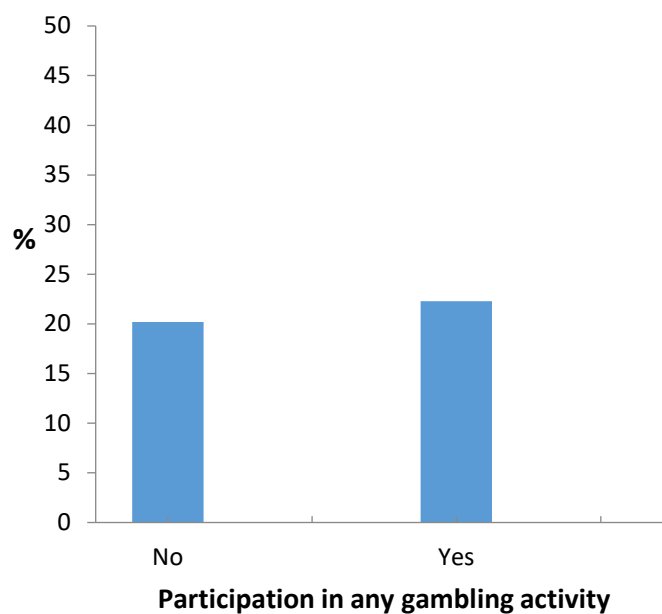
There was no significant difference between any form of gambling activities and the prevalence of individuals being highly anxious.

Life unworthwhile

Scores <6 (see Methods).

19.2% of adults reported feeling that their life was unworthwhile

The proportion of adults reporting feeling that their life was unworthwhile varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 24). For instance, a much higher proportion of those who participated in dog races (not online) and casino table games (not online) reported feeling that their life was unworthwhile compared to those who did not participate.

Figure 24: Prevalence of feeling life is unworthwhile by gambling activity participation
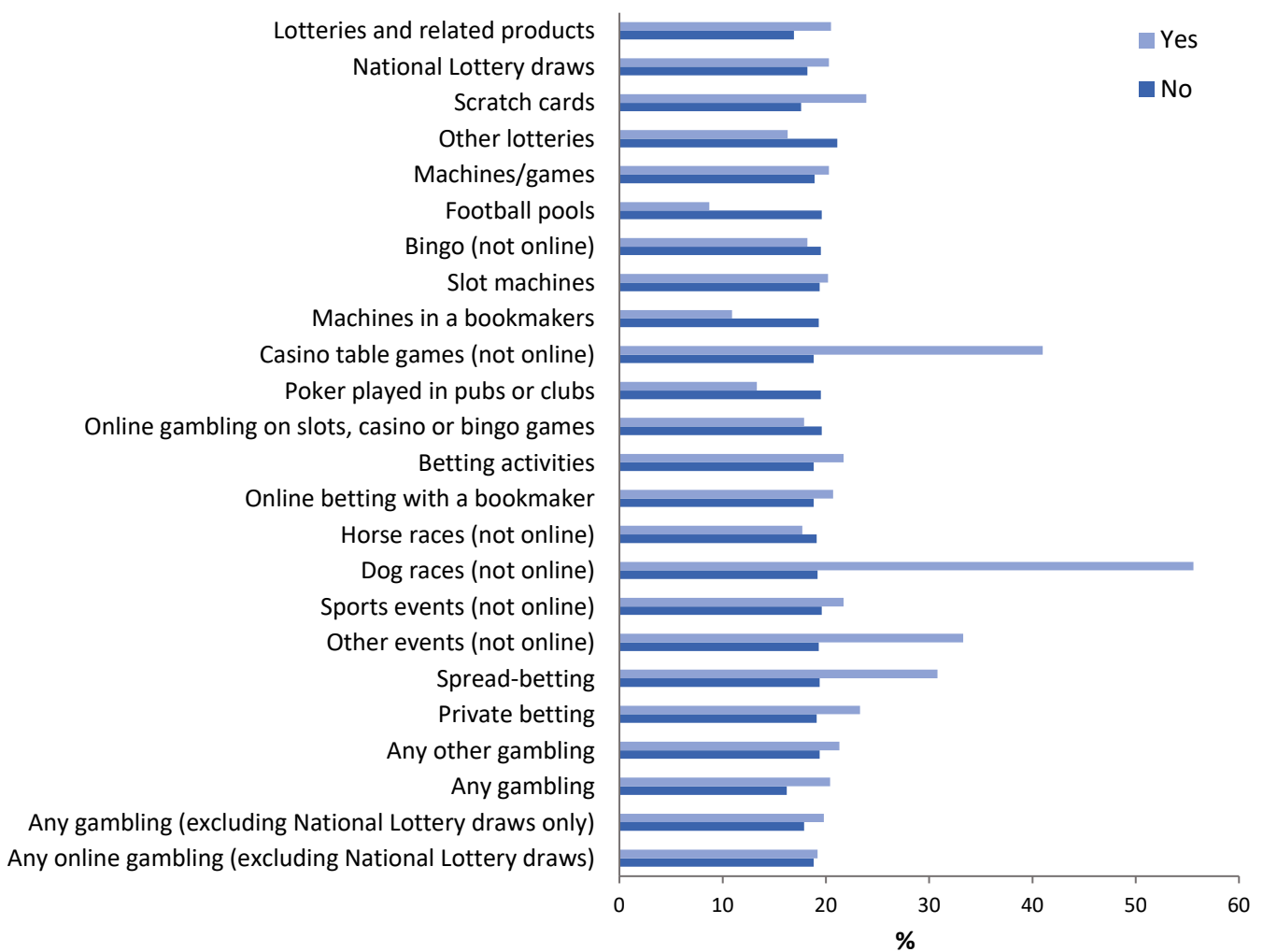
There was no significant difference in the prevalence of feeling life is unworthwhile amongst those who reported participating in at least one type of gambling activity in the past 12 months and those who did not (18.4% v. 15.2%; NS; Figure 25). After controlling for socio-demographics the odds of feeling life is unworthwhile was 1.5 times higher amongst those who participated in any gambling activity compared to those who did not gamble. Feeling life is unworthwhile was also significantly related to relationship status, income level and home ownership.

Figure 25: Feeling life is unworthwhile: prevalence and adjusted odds ratio (AOR) by any gambling participation
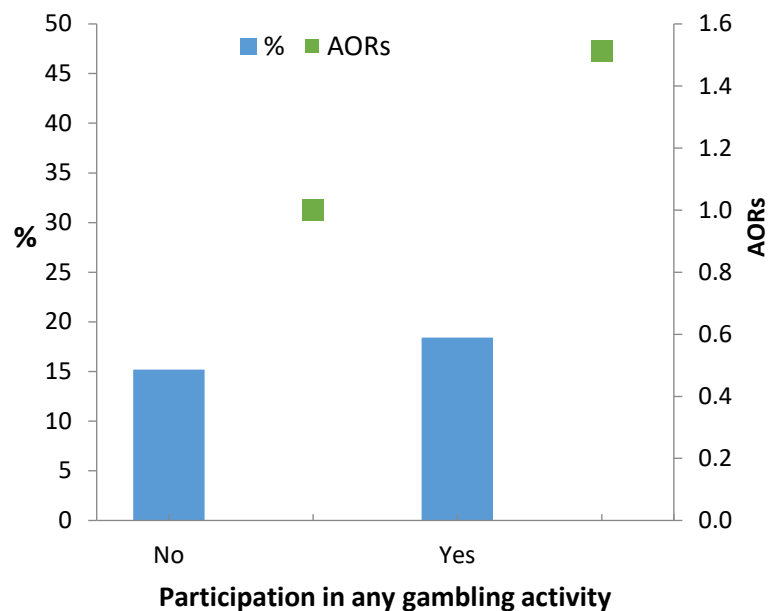
There was a significantly higher prevalence of individuals who reported feeling life is unworthwhile amongst respondents who played the National Lottery draws (19.4% v. 15.3%; p<0.05); scratch cards (20.7% v. 16.5%; p<0.05); and casino table games (32.6% v. 17.3%; p<0.05) compared to those who did not. However, feeling life is unworthwhile was significantly more prevalent amongst those who did not report participation in other lotteries than those who did (18.9% v. 15.1%; p<0.05).
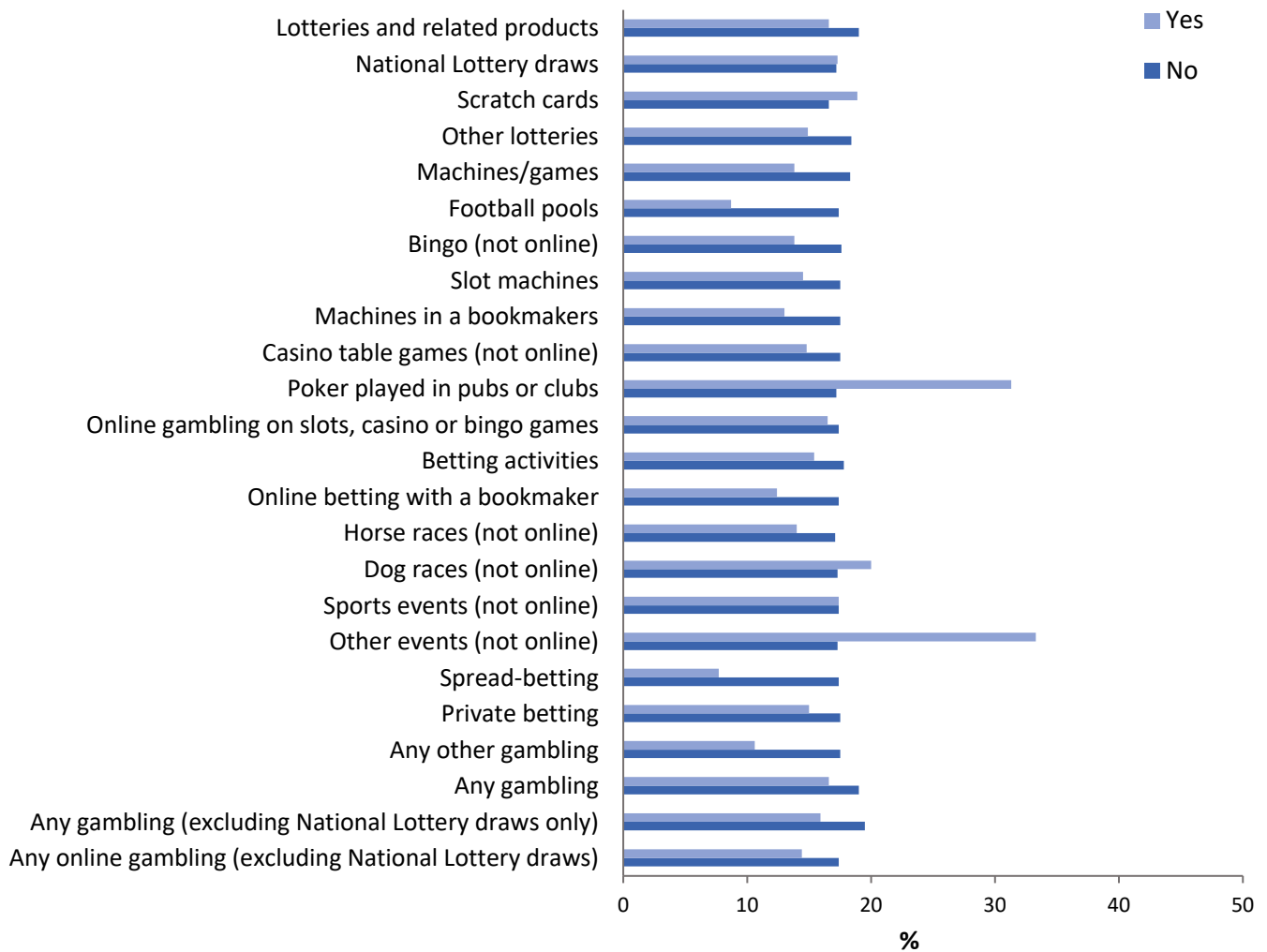
Low physical activity

Taking part in less than 150 minutes of physical activity (e.g. walking quickly, cycling, sports or exercise) in the past week.

17.5% of adults reported low physical activity

The proportion of adults reporting low physical activity varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 26). For instance, a much higher proportion of those who participated in other events (not online) reported low physical activity compared to those who did not participate (the largest proportion across all gambling activities).

Figure 26: Prevalence of low physical activity by gambling activity participation

There was no significant difference in the prevalence of low physical activity between those who reported participating in at least one type of gambling activity in the past 12 months and those who had not (18.0% v. 18.7%; NS; Figure 27). After controlling for socio-demographics there was also no significant association between participation in any gambling activity and low physical activity. Low physical activity was significantly related to gender and income level.

Figure 27: Low physical activity: prevalence by any gambling participation
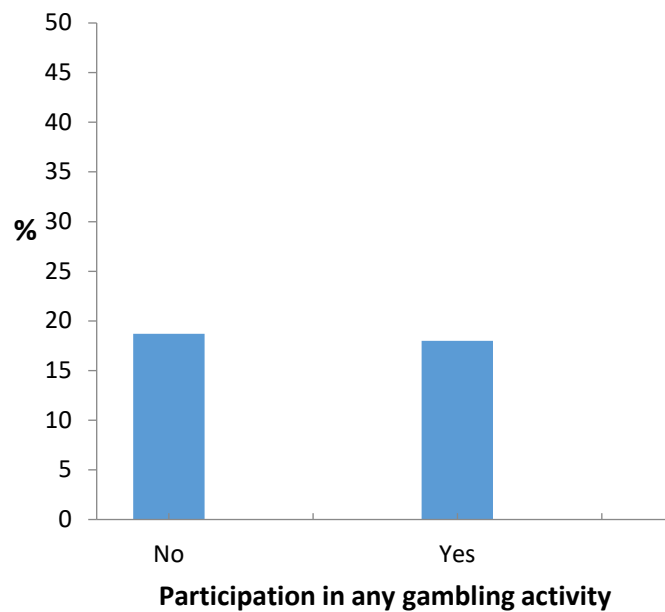
There was no significant difference between any form of gambling activities and low physical activity.
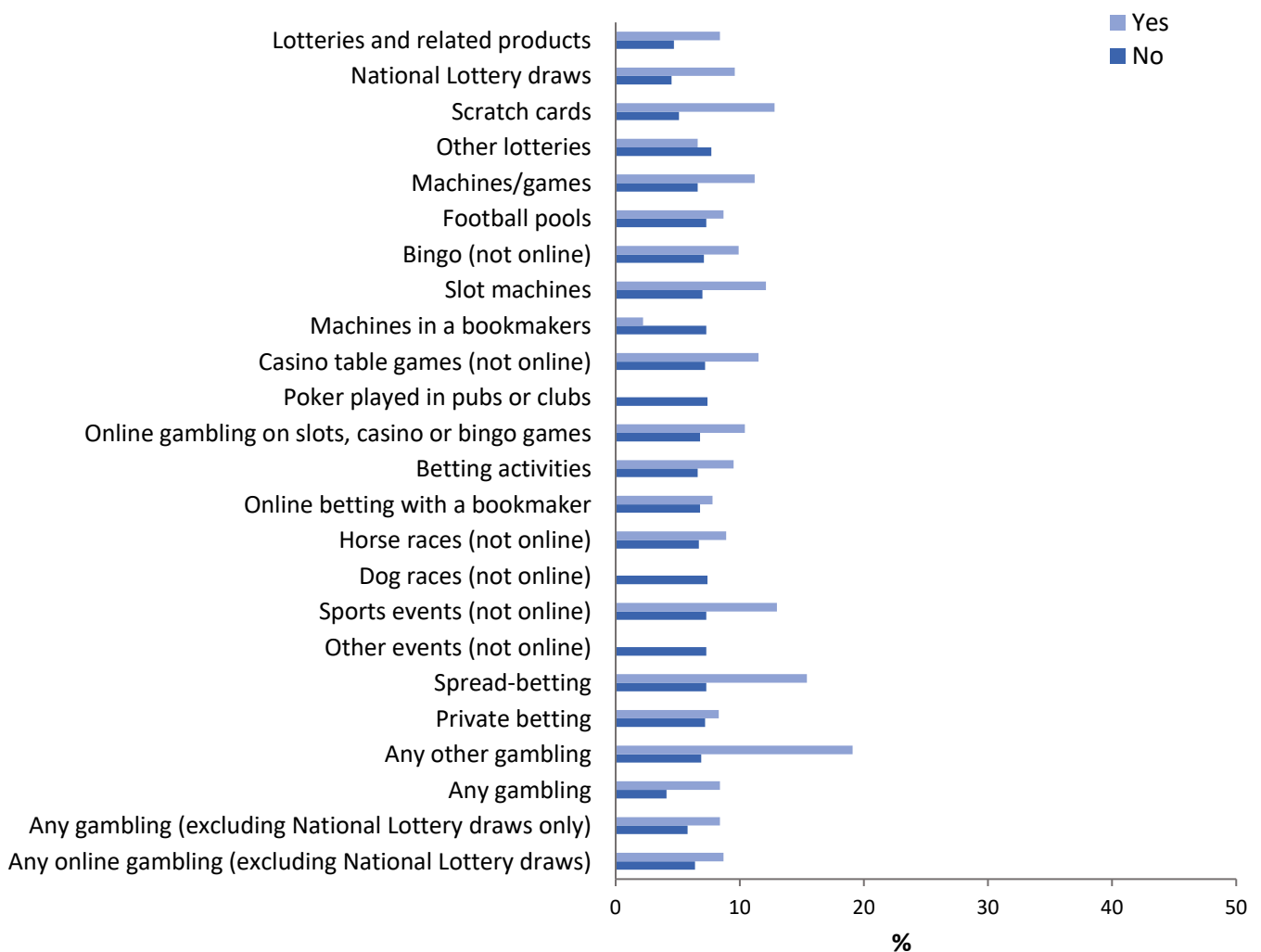
Poor diet

Eating less than two portions of fruit and vegetables (excluding potatoes) a day.

7.0% of adults had a poor diet

The proportion of adults reporting a poor diet varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 28). For instance, a much higher proportion of those who participated in any other form of gambling reported having a poor diet compared to those who did not participate (the largest proportion across all gambling activities).

**Figure 28: Prevalence of poor diet by gambling activity participation**

The prevalence of poor diet differed significantly between those who reported participating in at least one type of gambling activity in the past 12 months compared to those who had not (8.0% v. 3.8%; p<0.01; Figure 29). After controlling for socio-demographics the odds of having a poor diet were 1.8 times higher amongst those who participated in any gambling activity compared to those who did not gamble. Poor diet was also significantly related to age, relationship status, and income level.

Figure 29: Poor diet: prevalence and adjusted odds ratio (AOR) by any gambling participation
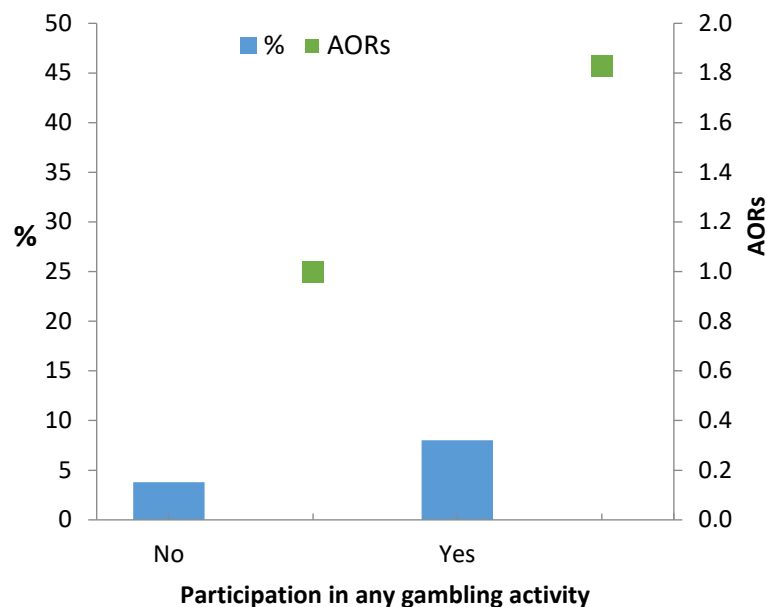
Respondents who reported participating in any form of gambling, excluding those who had participated in the National Lottery only, were significantly more likely to have a poor diet compared to those who had not participated (8.1%; no participation, 5.2%; p<0.05). Respondents who reported participating in any online gambling, were also significantly more likely to have a poor diet compared to those who did not (9.6% v. 6.2%; p<0.05). There was a significantly higher prevalence of individuals who had a poor diet amongst respondents who participated in: lotteries and related products (7.8% v. 4.7%; p<0.05); National Lottery draws (8.6% v. 4.7%; p<0.01); scratch cards (11.4% v. 5.2%; p<0.001); machines/games (13.2% v. 5.8%; p<0.001); bingo (12.7% v. 6.5%; p<0.05); slot machines (13.2% v. 6.6%; p<0.05); online gambling on slots, casino, or bingo games (11.5% v. 6.3%; p<0.05); and, any other gambling (17.8% v. 6.6%; p<0.01) compared to those who did not .
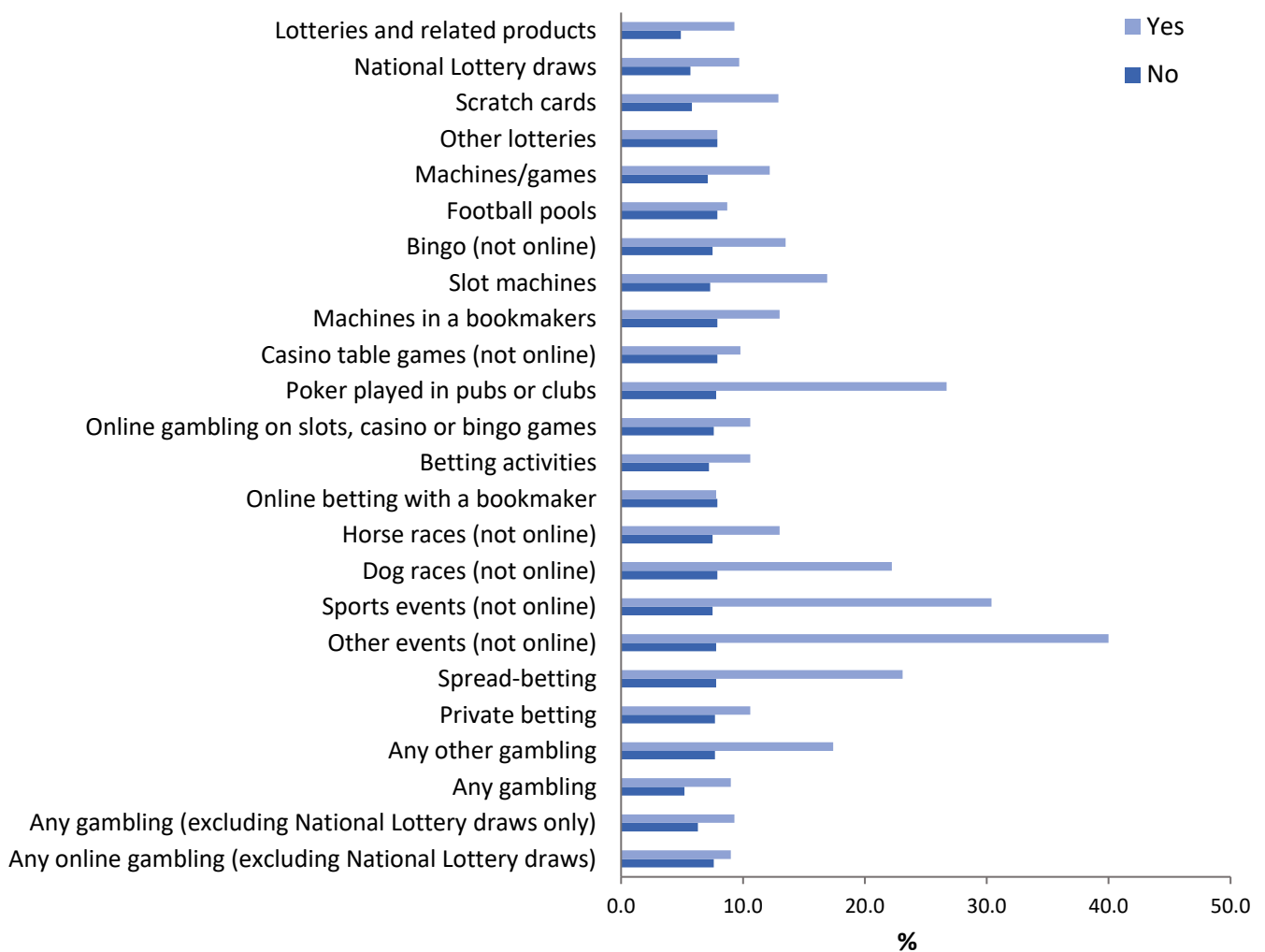
Tobacco smoking

Current smoking of tobacco on a daily basis.

8.0% of adults reported smoking tobacco

The proportion of adults reporting smoking tobacco varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 30). For instance, a much higher proportion of those who participated in other events (not online) reported smoking tobacco compared to those who did not participate (the largest proportion across all gambling activities).

**Figure 30: Prevalence of smoking tobacco by gambling activity participation**

The prevalence of tobacco smoking was significantly higher amongst those who reported participating in at least one type of gambling activity in the past 12 months compared to those who had not (9.2% v. 5.4%; p<0.01; Figure 31). After controlling for socio-demographics the odds of smoking tobacco were 1.7 times higher amongst those who participated in any gambling activity compared to those who did not gamble. Daily tobacco smoking was also significantly related to age, income level and home ownership.

Figure 31: Smoking tobacco: prevalence and adjusted odds ratio (AOR) by any gambling participation
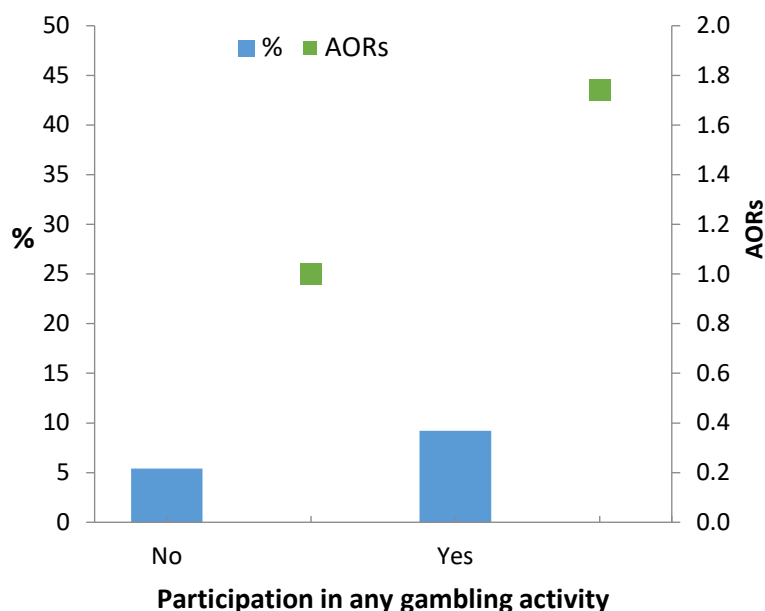
Respondents who reported participating in any form of gambling, excluding those who had participated in the National Lottery only, were significantly more likely to smoke tobacco compared to those who had not (9.6% v. 6.3%; p<0.05). There was a significantly higher prevalence of individuals who currently smoked tobacco amongst respondents who participated in: lotteries and related products (9.4% v. 5.3%; p<0.01); National Lottery draws (9.6% v. 6.1%; p<0.01); scratch cards (13.7% v. 5.9%; p<0.001); machines/games (14.6% v. 7.0%; p<0.001); slot machines (18.9% v. 7.5%; p<0.001); online gambling on slots, casino, or bingo games (13.5% v. 7.4%; p<0.01); and, sports events (33.3% v. 7.8%; p<0.001) compared to those who did not.

Alcohol use – high risk drinking

Individuals with a score of five or over on the Alcohol Use Disorder Identification Test (AUDIT-C).

31.1% of adults were classified as high risk drinkers

The proportion of adults classified as high risk drinkers varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 32). For instance, a much higher proportion of those who participated in other events (not online) were classified as high risk drinkers compared to those who did not participate. The proportion was also higher than all other gambling activities.

**Figure 32: Prevalence of high risk drinking by gambling activity participation**
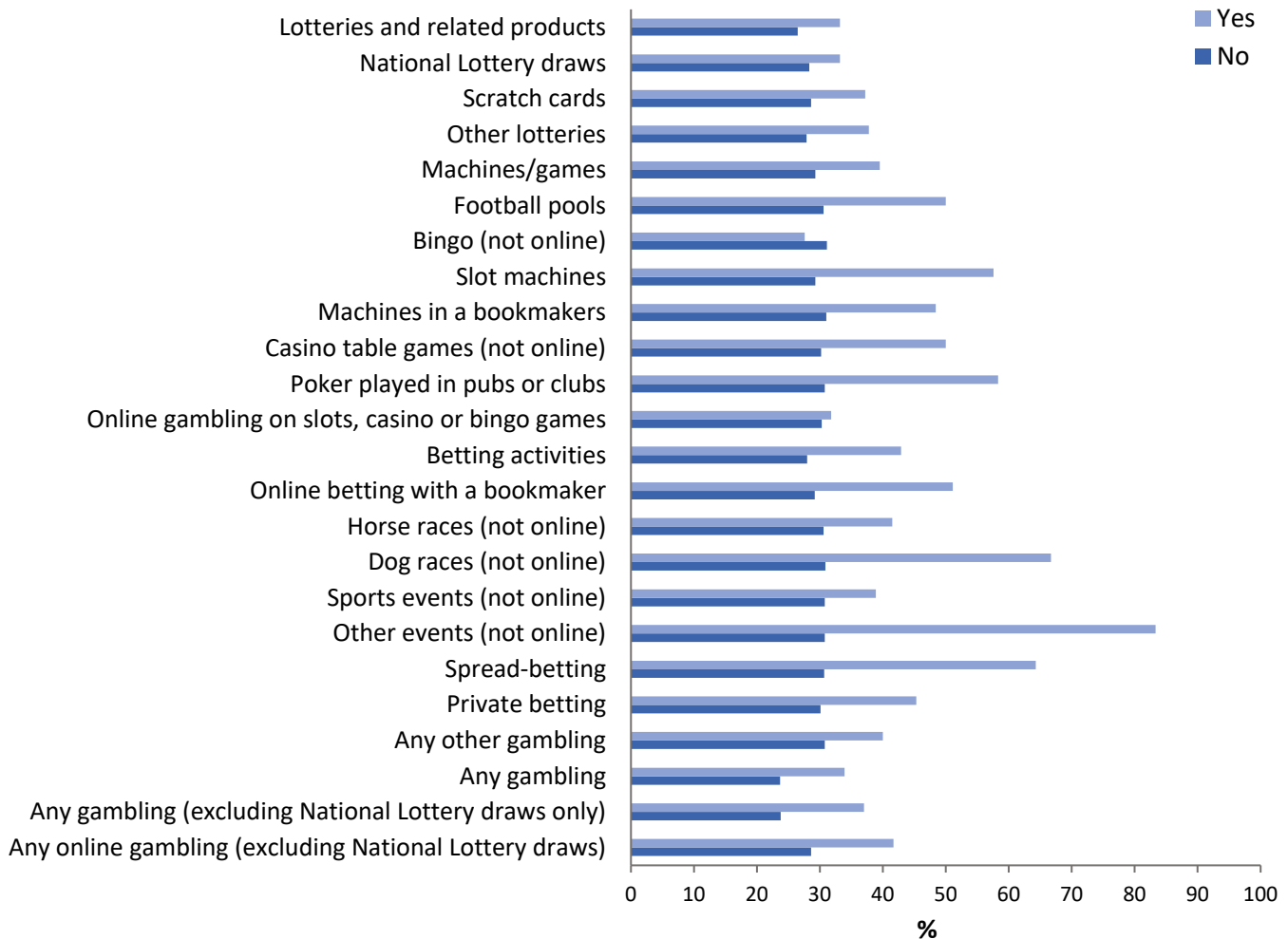
The prevalence of high risk drinking was significantly higher amongst those who reported participating in at least one type of gambling activity in the past 12 months compared to those who had not (33.8% v. 25.5%; p<0.01; Figure 33). After controlling for socio-demographics the odds of high risk drinking were 1.6 times higher amongst those who participated in any gambling activity compared to those who did not gamble. High risk drinking was also significantly related to gender, income level and home ownership.

Figure 33: High risk drinking: prevalence and adjusted odds ratio (AOR) by any gambling participation
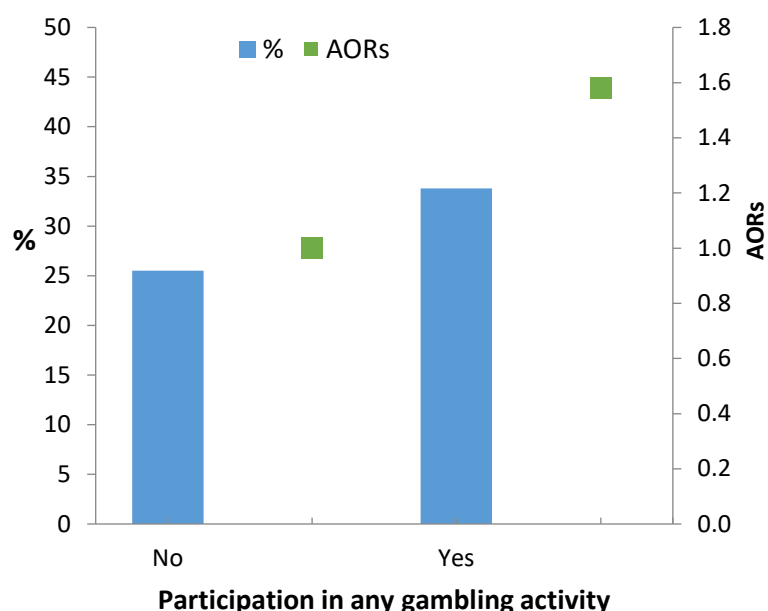
Respondents who reported participating in any form of gambling, excluding those who had participated in the National Lottery only, were significantly more likely to be high risk drinkers compared to those who had not participated (36.7% v. 24.9%; p<0.001). Respondents who reported participating in any online gambling, were also significantly more likely to be classified as high risk drinkers compared to those who did not (40.4% v. 29.3%; p<0.01). There was also a significantly higher prevalence of high risk drinkers amongst respondents who participated in: lotteries and related products (33.5% v. 26.9%; p<0.05); National Lottery draws (37.7% v. 28.1%; p<0.05); scratch cards (36.6% v. 29.6%; p<0.05); other lotteries (37.5% v. 28.6%; p<0.01); machines/games (40.4% v. 29.5%; p<0.01); slot machines (55.1% v. 30.1%; p<0.001); betting activities (43.8% v. 28.7%; p<0.001); online betting with a bookmaker (48.2% v. 30.0%; p<0.001); horse races (43.7% v. 30.7%; p<0.05); spread-betting (66.7% v. 31.1%; p<0.05) and, private betting (42.3% v. 30.9%; p<0.05) compared to those who did not.

Alcohol use – binge drinking

Drinking six or more standard alcoholic drinks in one occasion, at least once a week.

21.8% of adults were classified as binge drinkers

The proportion of adults classified as binge drinkers varied by gambling activity, and for some activities, whether the respondent engaged in the activity or not (Figure 34). For instance, a much higher proportion of those who participated in gambling on machines in bookmakers were classified as binge drinkers compared to those who did not participate. The proportion was also higher than all other gambling activities.

Figure 34: Prevalence of binge drinking by gambling activity participation
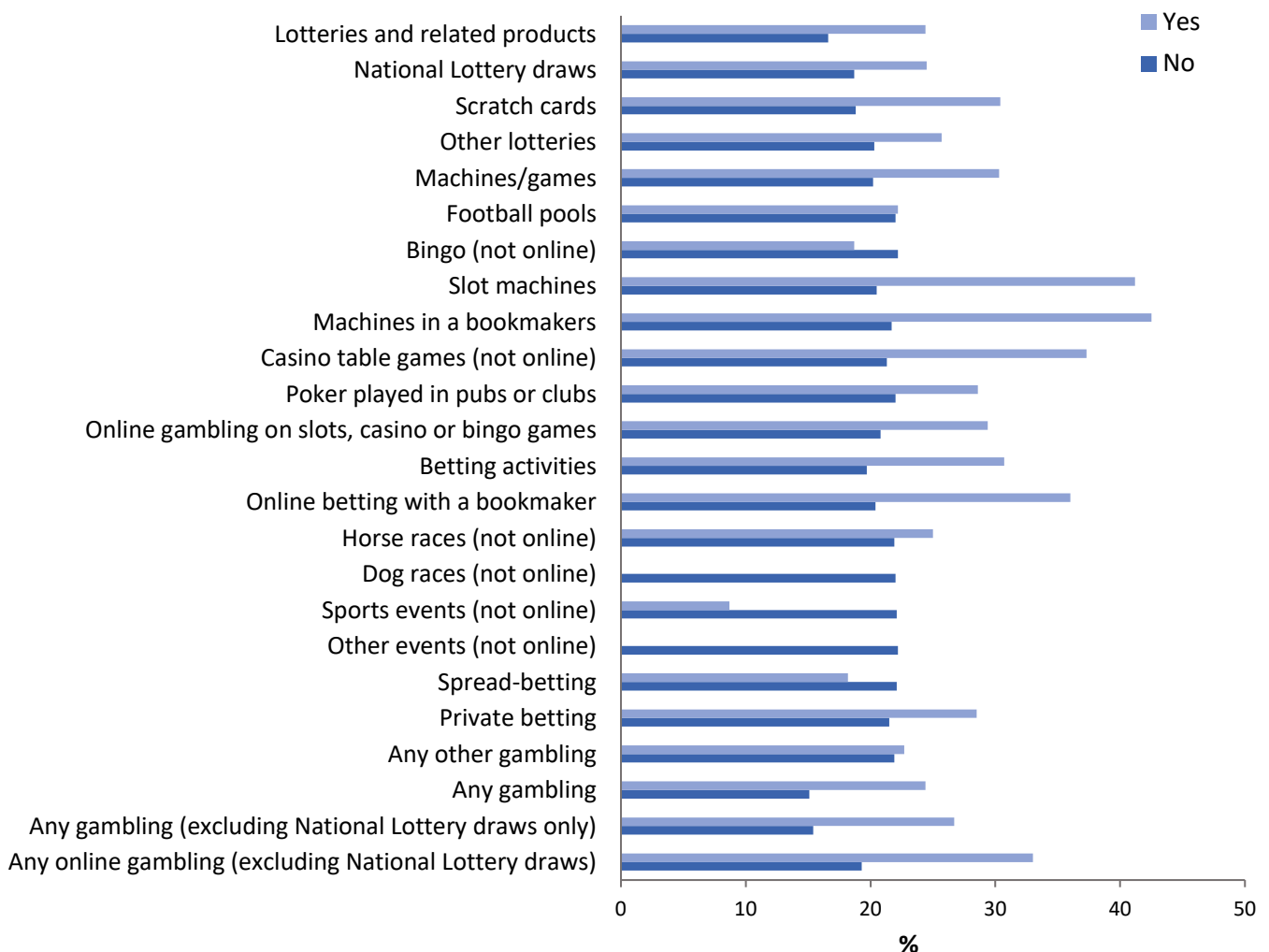
The prevalence of binge drinking was significantly higher amongst those who reported participating in at least one type of gambling activity in the past 12 months compared to those who had not (23.3% v. 15.2%; p<0.01; Figure 35). After controlling for socio-demographics the odds of binge drinking were 1.6 times higher amongst those who participated in any gambling activity compared to those who did not gamble. Binge drinking was also significantly related to gender, age and qualification level.

Figure 35: Binge drinking: prevalence and adjusted odds ratio (AOR) by any gambling participation
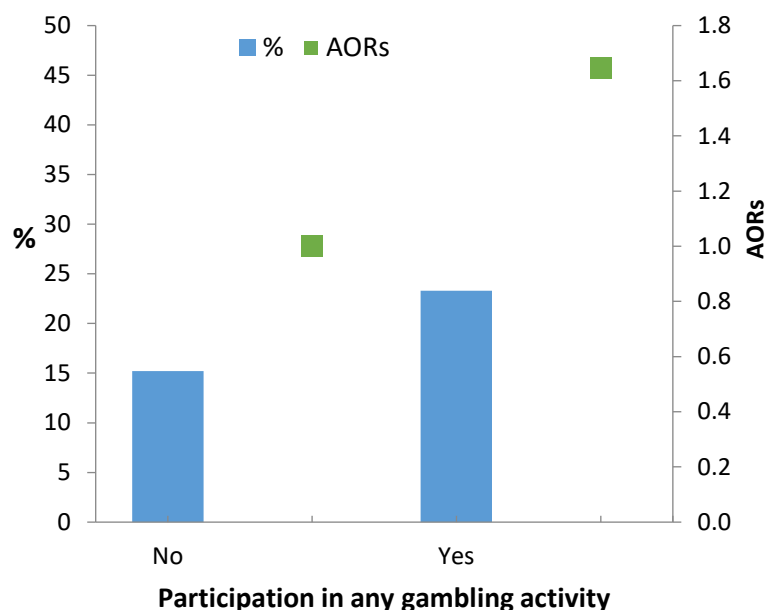
Respondents who reported participating in any form of gambling, excluding those who had participated in the National Lottery only, were significantly more likely to binge drink compared to those who had not participated (25.2% v.15.6%; p<0.001). Respondents who reported participating in any online gambling, were also significantly more likely to be binge drinkers compared to those who did not (28.9% v. 19.2%; p<0.001). There was a significantly higher prevalence of binge drinkers amongst respondents who participated in: lotteries and related products (23.5% v. 15.9%; p<0.01); National Lottery draws (24.2% v. 16.9%; <0.001); scratch cards (28.3% v. 18.6%; p<0.001); other lotteries (25.3% v. 19.0%; p<0.01); machines/games (29.5% v. 19.3%; p<0.001); slot machines (36.3% v. 20.1%; p<0.001); betting activities (28.9% v. 19.2%; p<0.001); and, online betting with a bookmaker (31.9% v. 20.2%; p<0.01) compared to those who did not.

3.3 Problem and at-risk gambling

8.5% of adults were classed as at-risk gamblers
(PGSI score 1-7)

The highest levels of at-risk gambling was amongst males aged 18-24 years

0.8% of adults were classed as problem gamblers
(measured by either DSM-IV or the PGSI)

The highest levels of problem gambling was amongst males aged 35-44 years

This section identifies the proportion of individuals on the Isle of Man whose experiences and behaviours indicate that they are at-risk of developing gambling-related problems and the proportion of individuals who are classified as problem gamblers. At-risk gamblers are those who show some signs of problematic gambling but remain below the threshold for problem gambling. Such individuals may still experience gambling related negative outcomes and may be at risk of developing further problems in the future. Problem gambling is typically defined as gambling to a degree that compromises, disrupts or damages family, personal or recreational pursuits [14]. Two different screens are used to identify the prevalence of at-risk and problem gamblers; the DSM-IV and PGSI (see methods section).

3.3.1 Prevalence of at-risk and problem gambling

On both the DSM-IV and the PGSI screens, non-problematic gamblers make up the vast majority of the general population of the Isle of Man. Overall, according to the PGSI, 8.5% of adults were classed as at-risk gamblers (PGSI score 1-7). This consisted of 7.0% of individuals who were classed as low risk gamblers (PGSI score 1 or 2) and 1.5% moderate risk gamblers (PGSI score 3-7). Less than one percent of the population (0.7%) were classed as problem gamblers on the PGSI screen (Figure 36). Similarly, according to the DSM-IV the prevalence of problem gamblers in the population was 0.6% (Figure 36). As each screen captures a slightly different range of individuals and their behaviours, it is also helpful to estimate the prevalence of problem gambling in the population according to either the DSM-IV or the PGSI. Problem gambling as measured by either the DSM-IV or the PGSI was 0.8%.

Figure 36: Prevalence of at-risk and problem gambling

PGSI
Prevalence of at-risk and problem gamblers

DSM-IV
Prevalence of problem gamblers

- Non problem gambler ■ Problem gambler
- Low risk gambler ■ Moderate risk gambler

■ Non problem gambler ■ Problem gambler
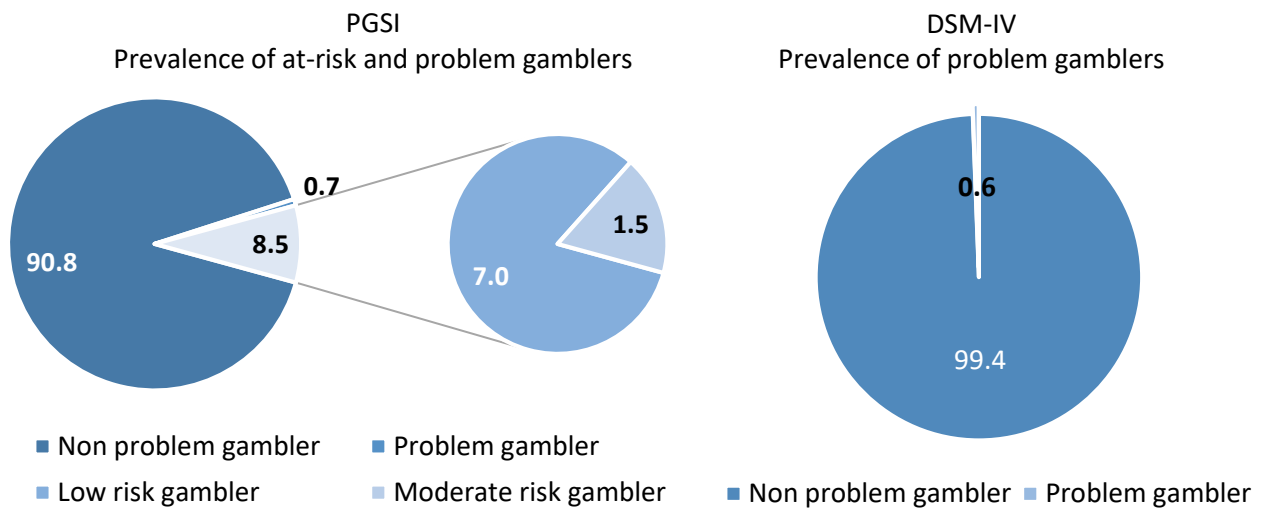
3.3.2 Prevalence of at-risk and problem gambling: comparisons with GBGB 2015 and IoM 2012

Using the DSM-IV screen, there was no significant difference in the prevalence of problem gamblers on the Isle of Man in 2017 compared to the GBGB 2015 sample equivalent (0.6% v. 0.7%; Table 3). There was a significantly higher prevalence of problem gamblers in the IoM 2017 sample compared to the IoM 2012 (0.6% v. 0.2%).

Using the PGSI screen, there was a significantly higher prevalence of at-risk

and problem gamblers in the IoM 2017 sample than the GBGB 2015 sample equivalent, with 8.5% and 0.7% of adults classified as at-risk and problem gamblers respectively, compared to 3.9% and 0.6% of adults from the GBGB 2015 survey. The PGSI screen was not used in the baseline IoM 2012 survey, thus comparisons are not available.

Table 3: Prevalence of problem gambling: comparisons with GBGB 2015 and IoM 2012 surveys

	IoM 2017	IoM 2012		GBGB 2015	
	%	%	Sig.	%	Sig.
DSM-IV					
Non-problem gambler	99.4	99.8		99.3	
Problem gambler	0.6	0.2	<0.001	0.7	NS
PGSI					
Non-problem gambler	90.8	Not available		95.5	
At-risk gambler	8.5			3.9	
Problem gambler	0.7			0.6	<0.001

3.3.3 Gambling activity prevalence by at-risk and problem gambler classification

Overall, more at-risk and problem gamblers participated in each of the groupings of gambling activities, than non-problem gamblers (Figure 37 and 38). Further, at-risk and problem gamblers were also more likely to have participated in each of the individual gambling activities than non-problem gamblers. Using the PGSI screen, in general, there was an incremental increase in the prevalence of each individual gambling activity or gambling activity grouping, with the highest prevalence amongst problem gamblers, followed by at-risk gamblers, and the lowest amongst non-problem gamblers (Figure 37).

In sample (unweighted) data analyses, using both screens, there was a significant difference between gambler classification and prevalence of participation in any form of gambling activity and any online gambling (both excluding National lottery draws); and using the PGSI screen, gambler classification and any gambling activity. Significant differences between many of the individual gambling activities and gambler classification on both screens were also observed.

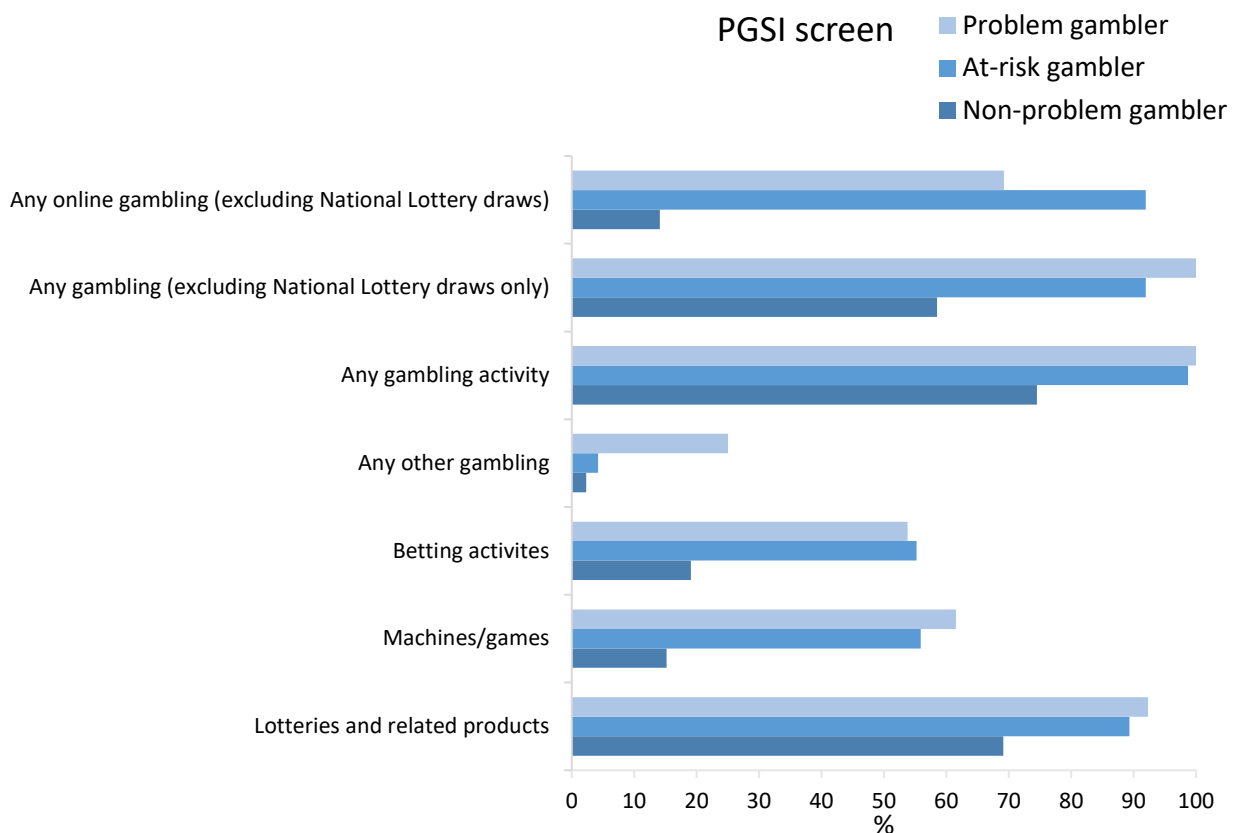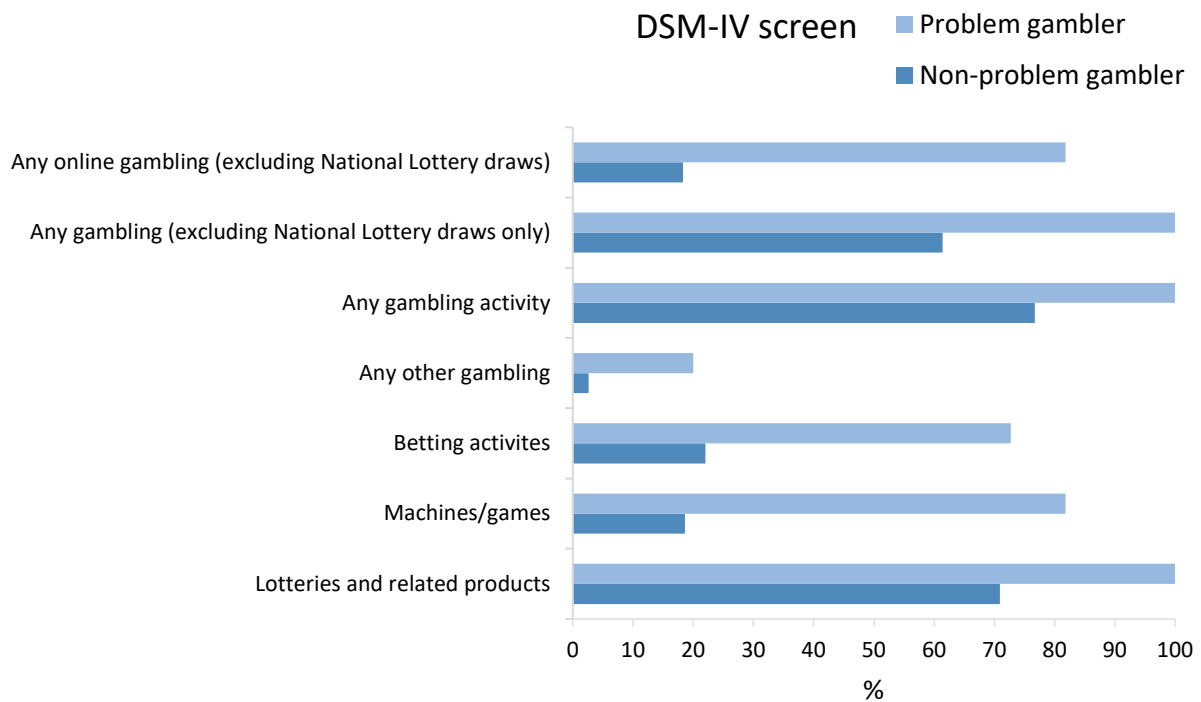**Figure 37: Prevalence of gambling activities groupings by PGSI gambler classification**

Figure 38: Prevalence of gambling activities groupings by DSM-IV gambler classification

3.3.4 At-risk and problem gambling prevalence and socio-demographics

Overall, using the PGSI screen, at-risk gambling prevalence was highest amongst 18-24 years, and decreased with each increase in age group. Similar patterns were observed for males and females separately (Figure 39). Prevalence of problem gambling varied by age group and gender however. Overall, and for males only, those aged 35-44 years had the higher prevalence of problem gambling. The highest prevalence amongst females was in those aged 18-24 years (Figure 40). Using the DSM-IV, overall, and for males only, those aged 35-44 years had the

higher prevalence of problem gambling. Amongst females, prevalence peaked in those aged 35-44 and 55-64 years of age (Figure 41).

In sample (unweighted) data analyses, using the PGSI screen, there was a significant difference between gambler classification and gender, age group and home ownership. Using the DSM-IV, there was a significant difference between gambler classification and age group, income level and home ownership.

Figure 39: PGSI at-risk gambler prevalence by age group (years) and gender
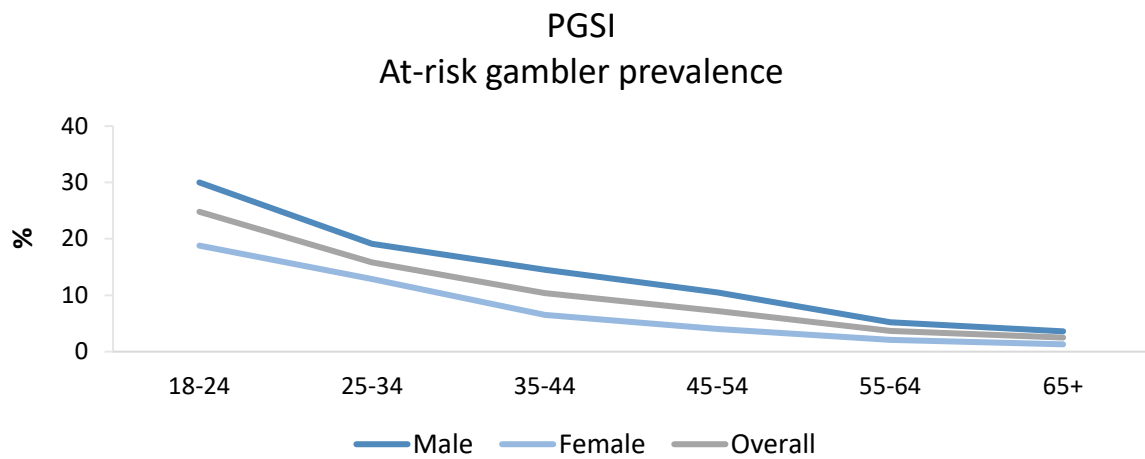
PGSI
At-risk gambler prevalence

Figure 40: PGSI problem gambler prevalence by age group (years) and gender

PGSI
Problem gambler prevalence
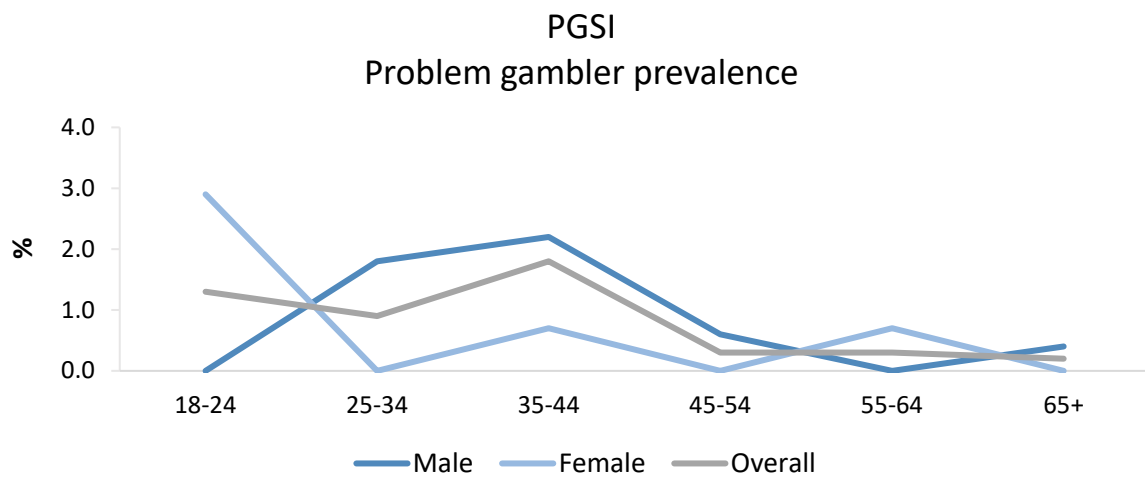
Figure 41: DSM-IV problem gambler prevalence by age group (years) and gender

DSM-IV
Problem gambler prevalence
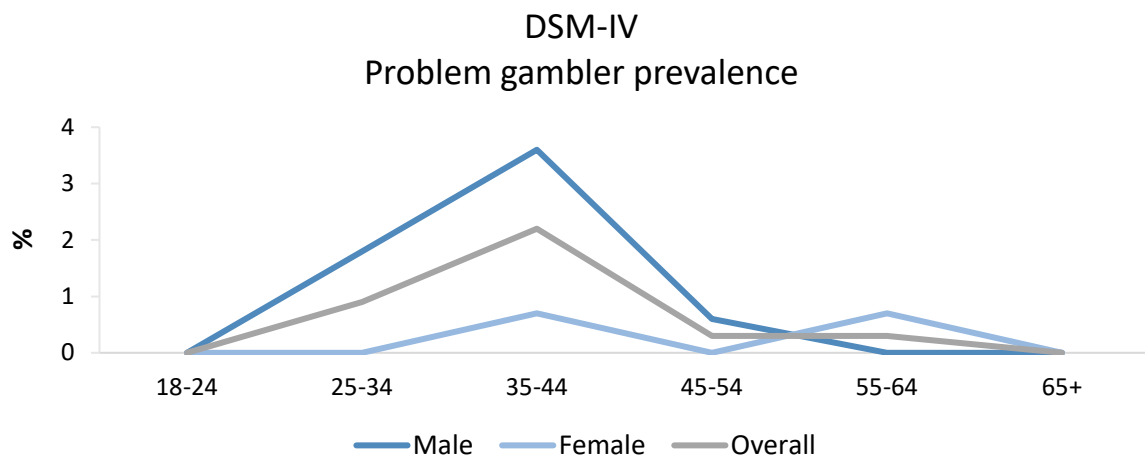
3.3.5 At-risk and problem gamblers and health indicators

Using both the PGSI and DSM-IV screens, in general there was an incremental increase in the prevalence of poor health indicators with an increase in the severity of gambling problems (Figure 42 and 43). Across both scales, being highly anxious was higher amongst non-problem gamblers, compared to at-risk/problem gamblers.

In sample (unweighted) data analyses, across both screens, significant differences were observed between gambler classification and the health indicators poor general health, low mental wellbeing and life unworthwhile. Using the PGSI screen, significant differences were observed between gambler classification and the health indicators low life satisfaction and low happiness.

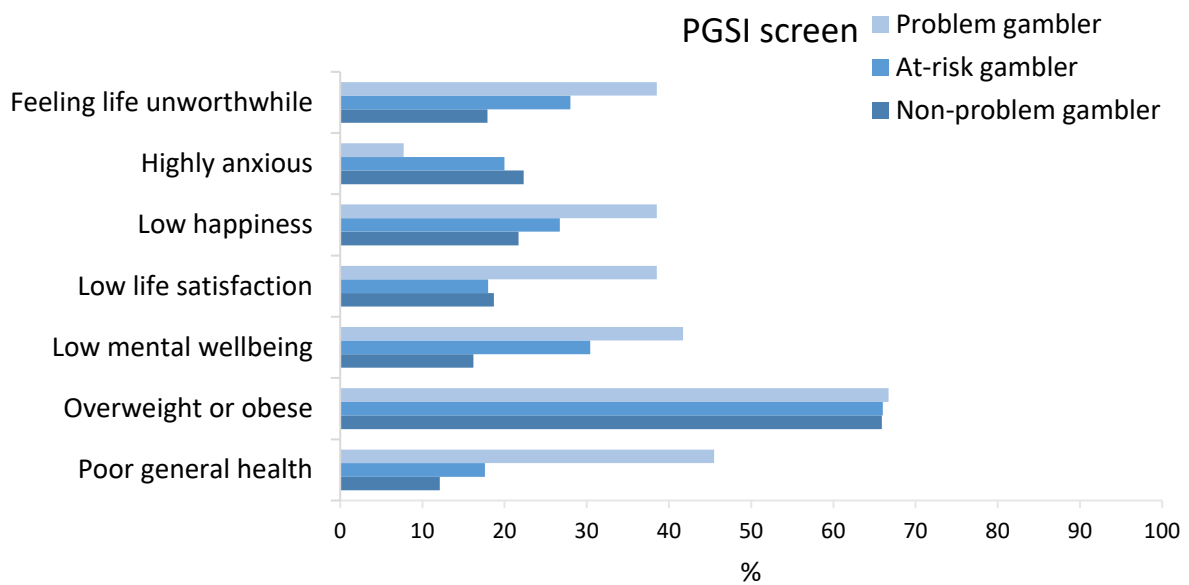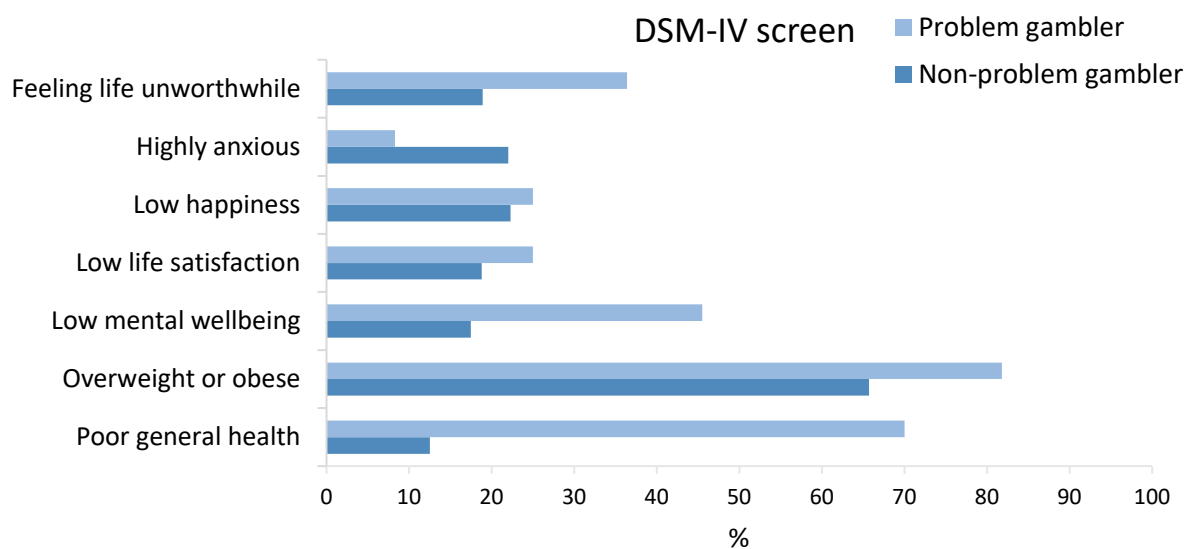**Figure 42: Prevalence of poor health indicators by PGSI gambler classification**

Figure 43: Prevalence of poor health indicators by DSM-IV gambler classification

3.3.6 At-risk and problem gamblers and health harming behaviours

Using both the PGSI and DSM-IV screens, in general there was an incremental increase in the prevalence of health harming behaviours with an increase in the severity of gambling problems (Figure 44 and 45). Using the PGSI screen, high risk and binge drinking was highest amongst at-risk gamblers, followed by problem and non-problem gamblers.

In sample (unweighted) data analyses, across both screens, significant differences were observed between gambler classification and the health harming behaviours poor diet and smoking tobacco. Using the PGSI screen, significant differences were observed between gambler classification and the health harming behaviours binge drinking and higher risk drinking.

Figure 44: Prevalence of health harming behaviours by PGSI gambler classification
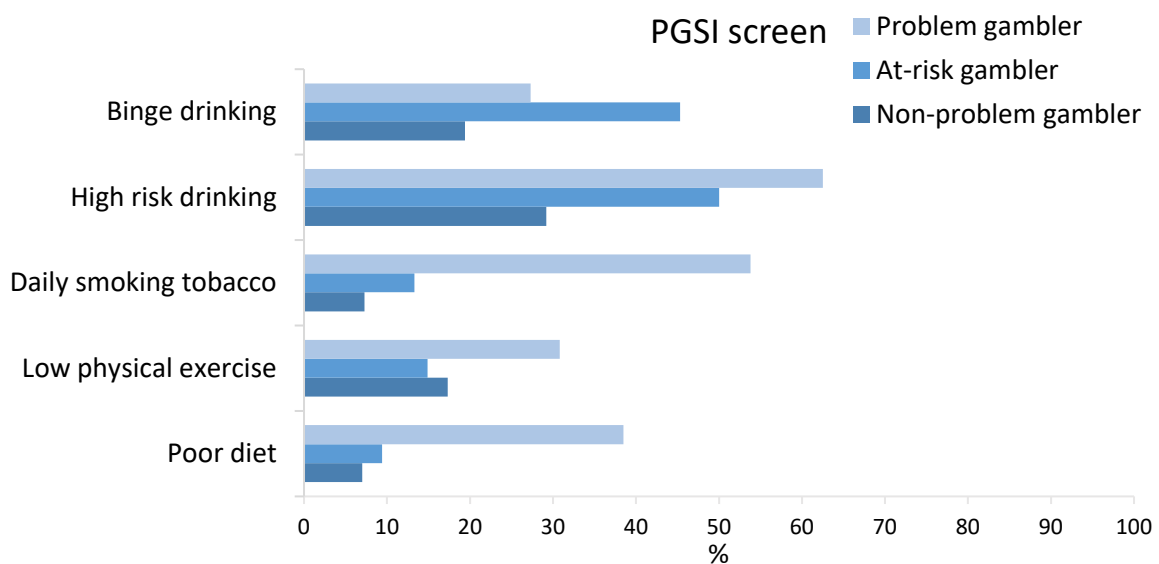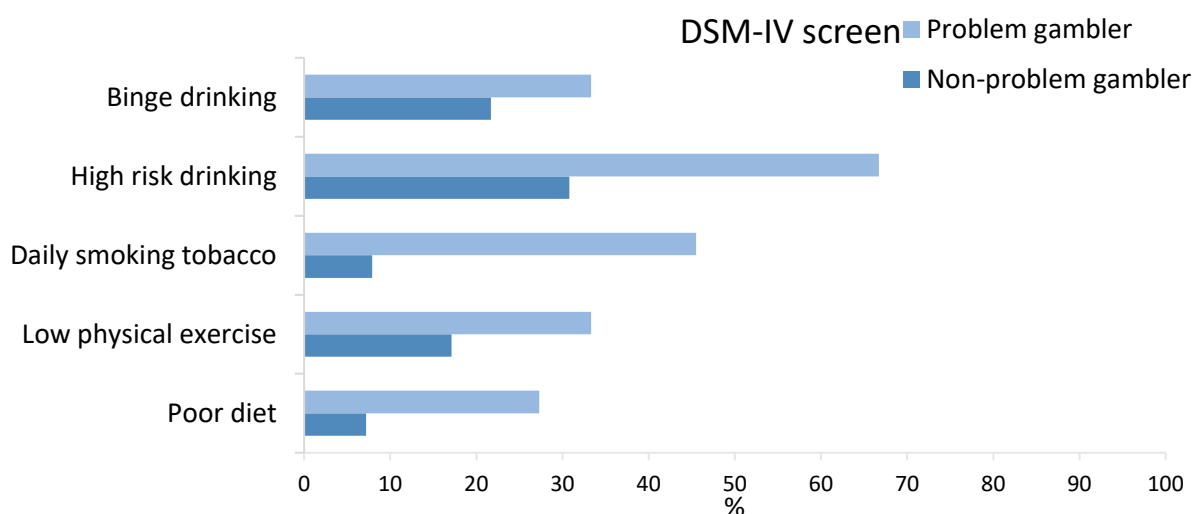

Figure 45: Prevalence of health harming behaviours by DSM-IV gambler classification

3.4 Attitudes towards gambling and significant others' gambling

This section includes findings about public attitudes and opinions towards gambling, the prevalence of individuals affected by a family members gambling, and the provision of advice about reducing gambling to a significant other.

3.4.1 Attitudes towards gambling

Overall, the majority of adults (77.9%) had a negative attitude towards gambling (Table 4). One in seven adults (70.6%) agreed [11] that there are too many opportunities for gambling nowadays. Approximately half of all adults agreed that gambling is dangerous for family life (56.9%) and that gambling should be discouraged (48.7%). One quarter of adults (25.4%) disagreed[12] that most people who gamble do so sensibly. Over half of all adults disagreed that gambling livens up life (48.0%) and that on balance gambling is good for society (53.9%). Less than one in five participants (14.2%) agreed however, that it would be better if gambling was banned altogether. Further, one third of adults (36.1%) agreed that people should have the right to gamble whenever they wanted.

Table 4: Attitudes towards gambling

	Strongly agree	Agree	Neither	Disagree	Strongly disagree
	%	%	%	%	%
There are too many opportunities for gambling nowadays	38.2	32.4	24.1	2.6	2.7
People should have the right to gamble whenever they want	4.3	31.8	41.9	15.6	6.4
Gambling should be discouraged	17.2	31.5	39.9	7.9	3.5
Most people who gamble do so sensibly	2.1	23.3	45.5	23.3	5.9
Gambling is dangerous for family life	20.3	36.6	32.6	6.9	3.6
On balance gambling is good for society	0.7	5.1	40.3	35.3	18.6
Gambling livens up life	0.8	6.8	44.3	30.6	17.4
It would be better if gambling was banned altogether	6.7	7.5	43.6	30.9	11.2

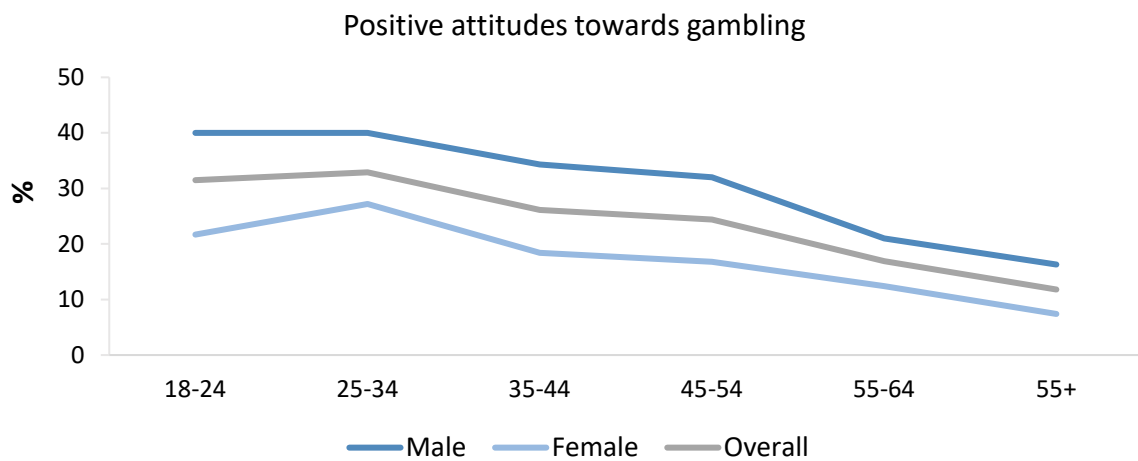|	Positive attitude (%)		Negative attitude (%)	
Overall attitude towards gambling				
	22.1		77.9	

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[11] Strongly agreed or agreed   [12] Strongly disagree or disagree

Attitudes towards gambling and socio-demographics

Overall, males were more likely to have a positive attitude towards gambling than females. Attitudes towards gambling varied by age and there was typically a higher prevalence of a positive attitude towards gambling amongst younger age groups, decreasing as age increased (Figure 46). The highest prevalence of positive attitudes towards gambling was amongst the 25-34 year old age group, with almost one third (32.9%) indicating a positive attitude towards gambling (Figure 45). In the sample (unweighted) data analyses, significant difference in gambling attitudes were found between gender, age group, income level, employment status and home ownership.

Figure 46: Prevalence of positive attitudes towards gambling by age group (years) and gender


Positive attitudes towards gambling

Attitudes towards gambling and gambling activities

In general there was a higher prevalence of positive attitudes towards gambling amongst individuals who had participated in each of the individual gambling activities (Figure 47). In the sample (unweighted) data analyses, across all categories of gambling activity, a higher proportion of those engaged in the activity had a positive attitude towards gambling. Differences were significant for all activities except for football pools, bingo (not online) and dog races (not online) and any other gambling.

Figure 47: Prevalence of positive attitudes towards gambling by gambling activity participation
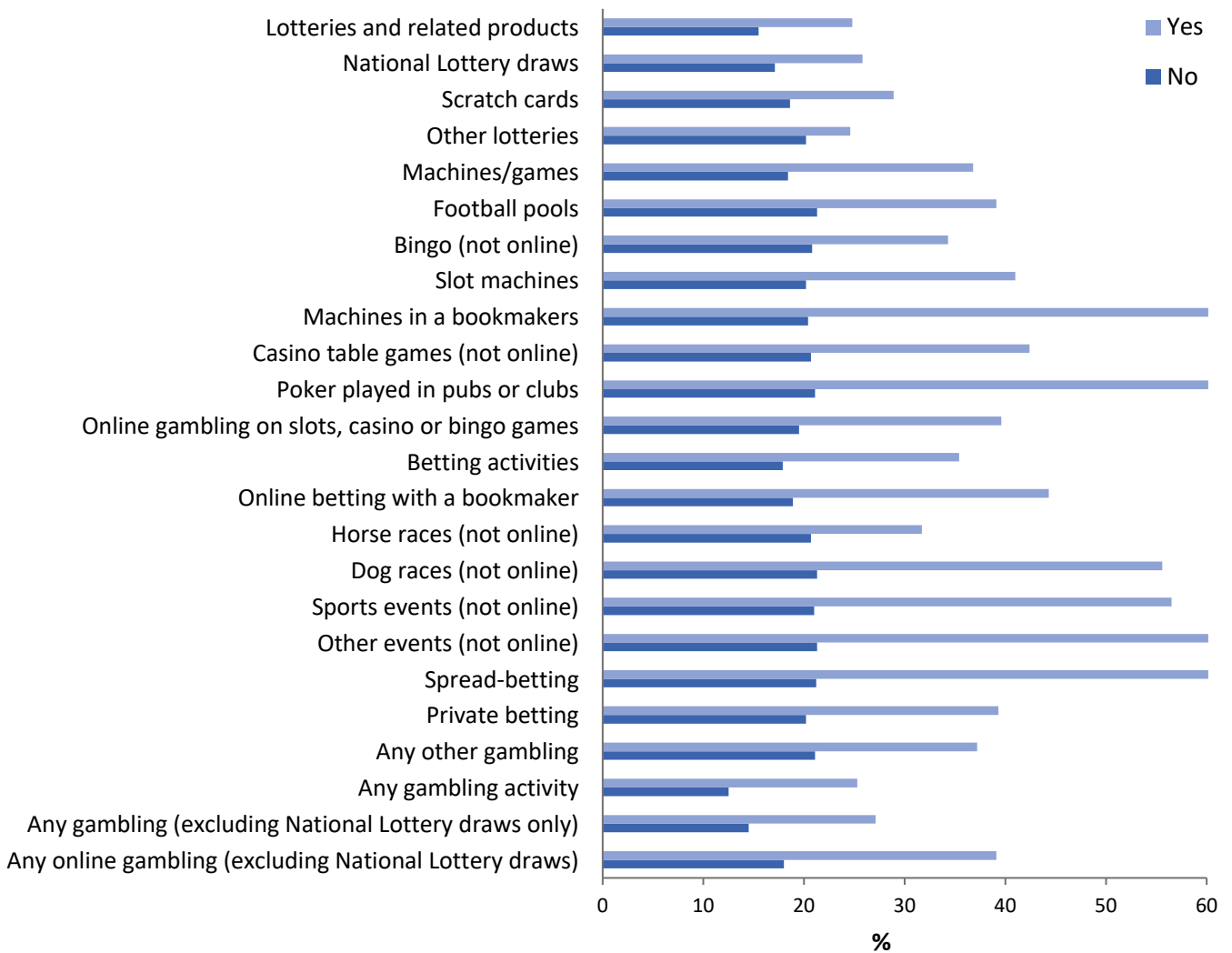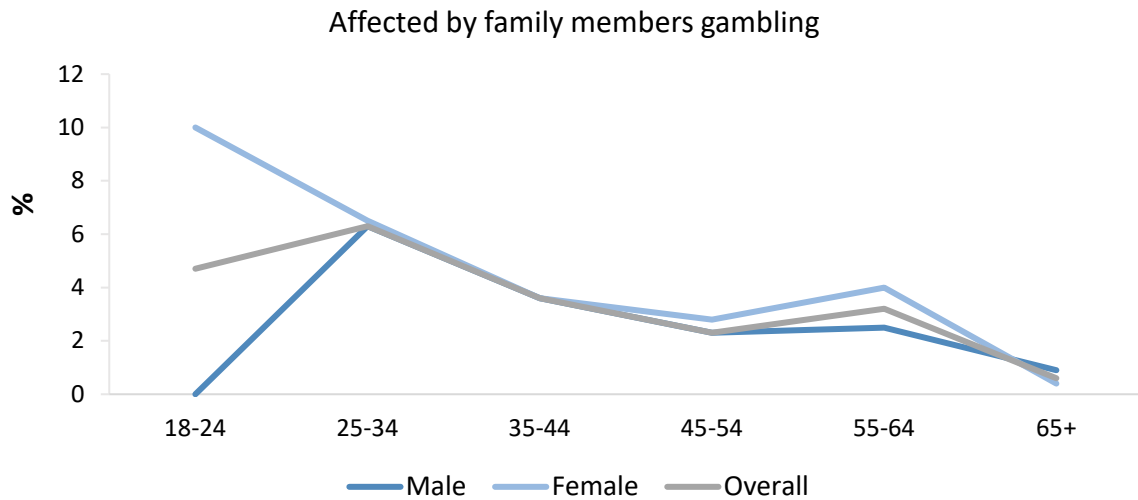

3.4.2 Family gambling

A small minority of adults (3.0%) reported having been affected by someone in their family gambling in the past 12 months.

Family gambling and socio-demographics

Overall, a higher proportion of females (3.5%) than males (2.4%) reported being affected by someone in their family's gambling in the last 12 months. Those aged 18-34 years reported the highest proportions of being affected by a family members gambling, with proportions then generally decreasing with decease in age group (Figure 48). In the sample (unweighted) data analyses, having been affected by a family members gambling varied significantly by age group and home ownership.

Figure 48: Prevalence of having been affected by a family member's gambling by age group (years) and gender


Affected by family members gambling

Family gambling and gambling activities

In general, there was a higher prevalence of having been affected by a family member's gambling amongst individuals who had participated in each of the individual gambling activities (Figure 49). In the sample (unweighted) data analyses, a significantly higher proportion of respondents who reported any gambling or any online gambling (both excluding National Lottery draws) reported being affected by a family member's gambling compared to those who did not. There was also a significantly higher prevalence of being affected by a family member's gambling amongst respondents who participated in: scratch cards; machines/games; slot machines; machines in a bookmakers; casino table games (not online); online gambling on slots, casino or bingo games; and horse races (not online) compared to those who did not.

Figure 49: Prevalence of having been affected by a family member's gambling by gambling activity participation
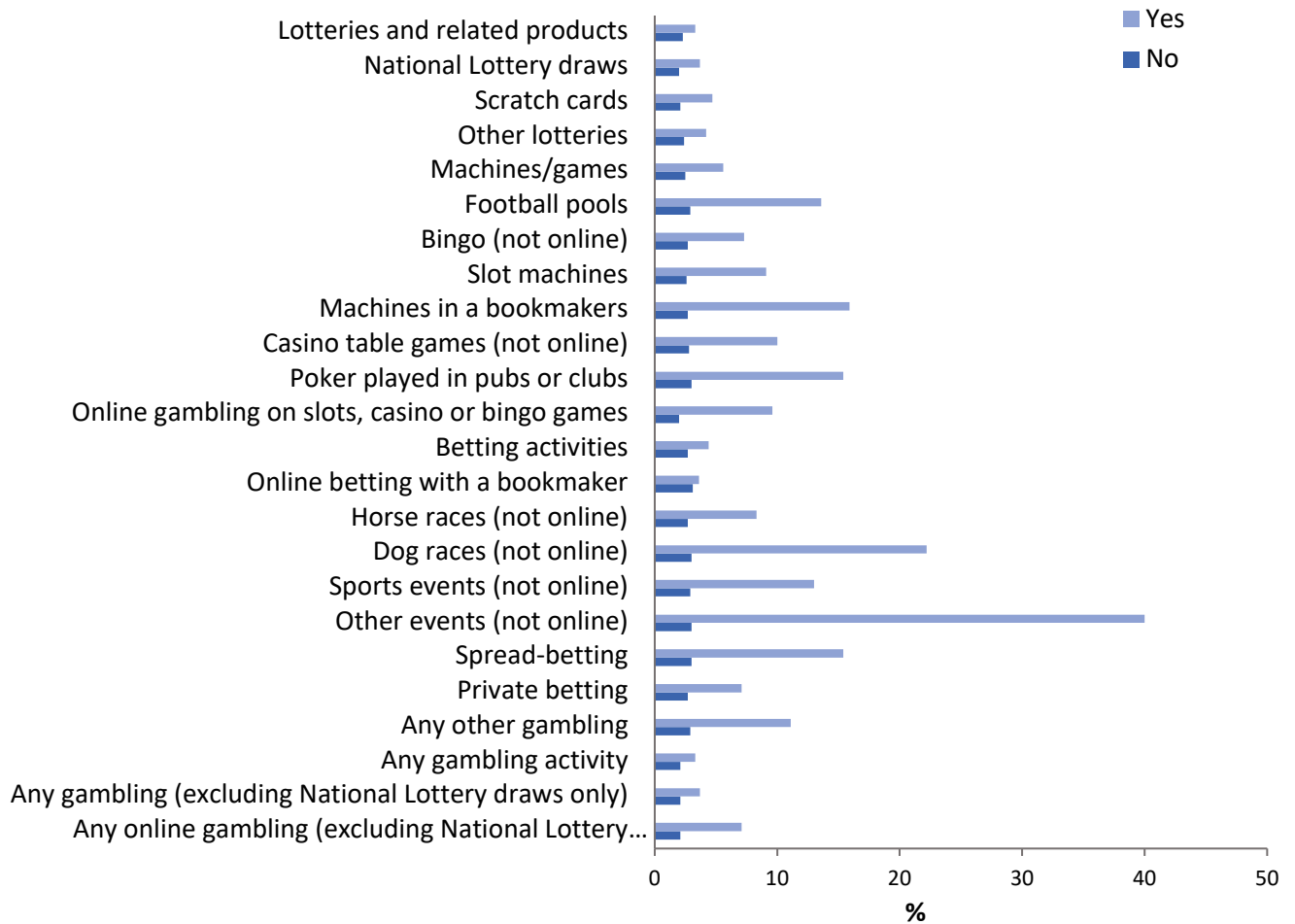
3.4.3 Gambling advice provision

Less than one in ten (7.6%) of adults had advised any family members, friends or acquaintances to gamble less in the past 12 months.

Provision of gambling advice and socio-demographics

Overall, a higher proportion of males (8.8%) than females (6.5%) had provided advice to a significant other in the past 12 months. Those aged 18-34 years reported the highest proportions of gambling advice provision, with proportions then generally decreasing with each decease in age group (Figure 50). In the sample (unweighted) data analyses, significant difference in provision of gambling advice were found between age groups, employment status and home ownership.

Figure 50: Prevalence of having been affected by a family member's gambling by age group (years) and gender


Advising significant other to gamble less
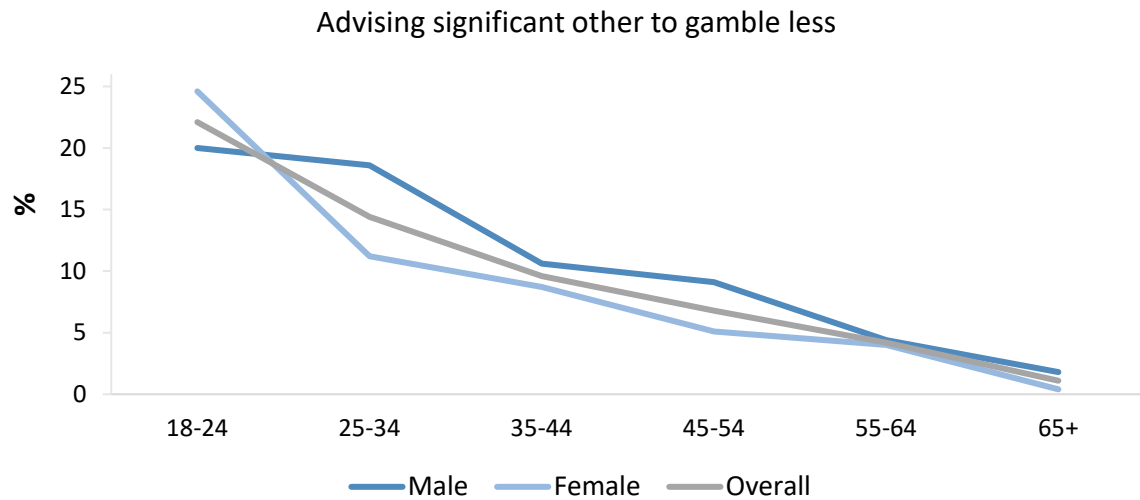
Gambling activities and gambling advice provision

In general, there was a higher prevalence of advising a significant other to gamble less amongst individuals who had participated in each of the individual gambling activities, except for lottery and related products (Figure 51). In the sample (unweighted) data analyses, a significantly higher proportion of respondents who reported any gambling or any online gambling (both excluding National Lottery draws) had advised a significant other to gamble less in the past 12 months. There was also a significantly higher prevalence of advice provision amongst respondents who participated in: scratch cards; machines/games; bingo (not online) slot machines; machines in a bookmakers; casino table games (not online); online gambling on slots, casino table games; betting activities; online betting with a bookmaker; sports events (not online) and, private betting compared to those who did not.

Figure 51: Prevalence of providing gambling advice by gambling activity participation
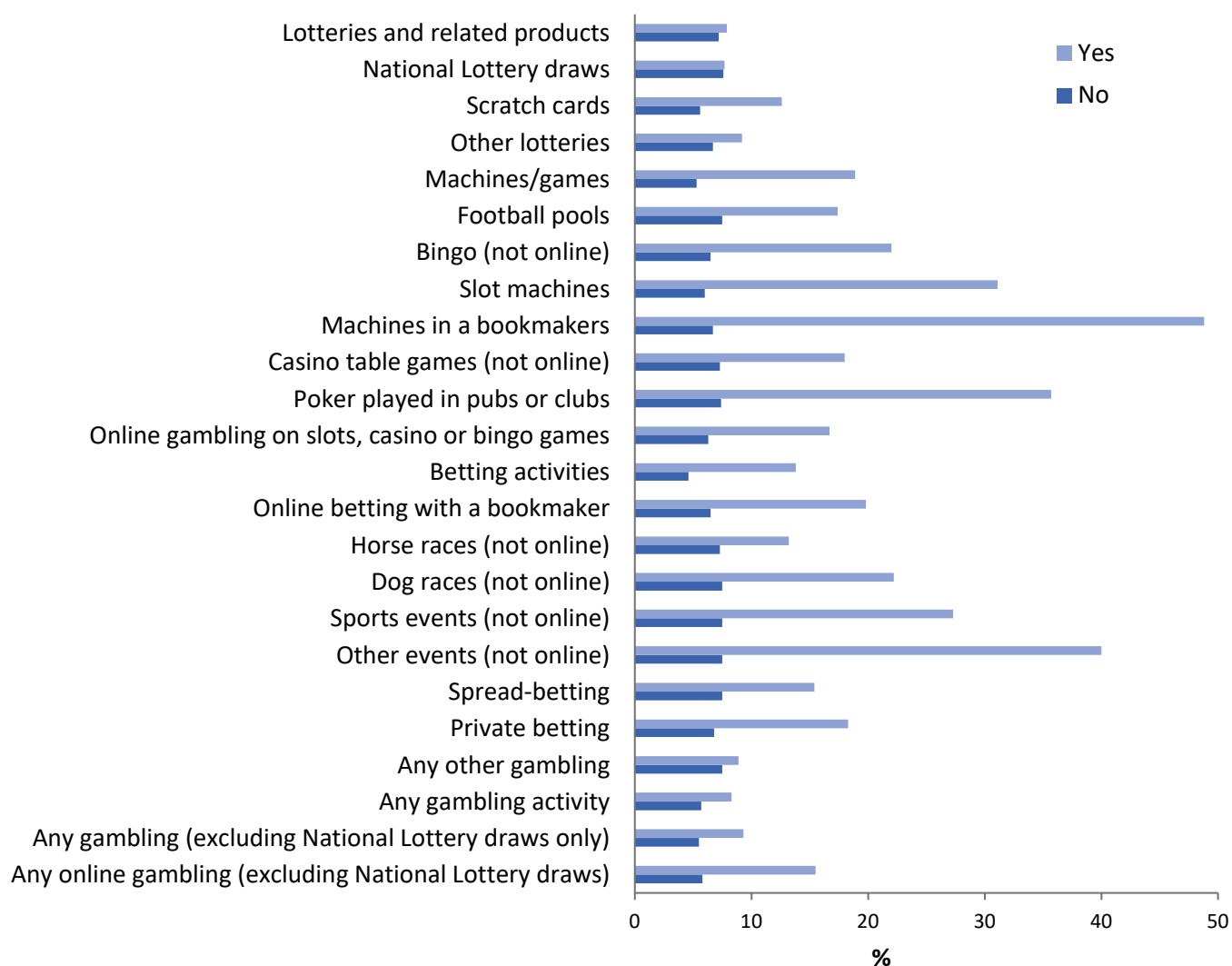
3.4.4 Association between attitudes towards gambling, family members gambling and provision of gambling advice

In sample (unweighted) data analyses, there was no significant association between attitudes towards gambling and having being affected by a family members gambling in the past 12 months (Table 5).

There was also no significant association between attitudes towards gambling and providing advice to a significant other to gamble less (Table 5).

Table 5: Bivariate relationship between family gambling, gambling advice provision and attitudes towards gambling (unweighted data)

Past 12 months:	Positive attitude (%)	Negative attitude (%)	Sig.
Affected by a family member's gambling	2.7	3.0	NS
Provided advice to a significant other to gamble less	4.7	6.1	NS

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