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GAMBLING RESEARCH



2019 ACT Gambling Survey

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Acknowledgments

This report was funded by the ACT Gambling and Racing Commission. The Centre for Gambling Research is also funded by the ACT Gambling and Racing Commission. The report does not necessarily represent the views of the ACT Gambling and Racing Commission and cannot be taken in any way as expressions of ACT Government policy.

The authors would like to acknowledge the members of the Survey Working Group and the advisory group that provided initial input into the design and content of the survey.

Acronyms

| | |
|--------|--|
| ACT | Australian Capital Territory |
| ANU | Australian National University |
| ATGS-8 | 8-item Attitudes Towards Gambling Scale |
| ATM | automatic teller machine |
| CGR | Centre for Gambling Research |
| DW | disability weight |
| EFTPOS | electronic funds transfer at point of sale |
| EGM | electronic gaming machine |
| LOTE | language other than English |
| PGSI | Problem Gambling Severity Index |
| RDD | random digit dialling |
| SA3 | Statistical Area 3 (Australian Standard Geographic Classification) |
| SGHS | Short Gambling Harm Screen |
| YLD | years lost to disability |

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Executive summary

Background

The Australian National University (ANU) Centre for Gambling Research (CGR) was funded by the Australian Capital Territory (ACT) Gambling and Racing Commission to conduct the 2019 ACT Gambling Survey.

The overarching objective of the 2019 ACT Gambling Survey is to assist monitoring by the ACT Gambling and Racing Commission of the social and economic impacts of gambling in the ACT. The survey design allows comparison with data collected in the 2009 and 2014 ACT prevalence studies. It also allows new trends in gambling behaviour, such as online gambling, to be measured, and provides data on topics of particular current interest. The ANU CGR partnered with the Social Research Centre to conduct the survey. The Social Research Centre was responsible for data collection, using computer-assisted telephone interviewing. The ANU CGR analysed the data and drafted this report.

The 2019 survey saw 10 000 ACT adult residents interviewed over a 6-week period (April–May 2019). Participants provided detailed information on their gambling participation, expenditure and harm (including harm from significant others' gambling) during the past 12 months. Select groups of participants were asked about attitudes towards gambling, help-seeking behaviour, physical and mental wellbeing, financial hardship, and online expenditure.

Gambling participation

The survey found that 60% of adults in the ACT participated in at least one form of gambling during the past 12 months. The most common gambling activity reported in the ACT was buying lottery tickets. The survey found that 44% of the adult population bought at least one lottery

ticket for themselves in the past 12 months. Just over 20% of the ACT population bought instant scratch tickets during the past 12 months.

One in five people had used electronic gaming machines (EGMs) in the past 12 months (20%). A smaller proportion of the population reported betting on horse or greyhound races in the past 12 months (14%), followed by sports betting (10%).

Overall, males born in Australia aged 18–44 are significantly more likely than any other demographic group to participate in the following gambling activities: EGMs, Keno, horse and greyhound races betting, sports betting, and informal and casino table games.

In the ACT, 64% of males participated in at least one form of gambling, which was significantly higher than the rate of females participating in gambling (56%).¹ Individuals between the ages of 45 and 59 years had the highest rate of gambling participation (64%) of any age category, and people born outside Australia were significantly less likely to participate in gambling than people born in Australia. Respondents with education up to year 12 were 39% more likely to gamble than people with a postgraduate degree.

Gambling frequency

All survey participants who indicated that they participated in a gambling activity in the past 12 months were also asked how frequently they engaged in those activities. Gambling frequency was categorised as never, low frequency (occasionally – less than once per month), medium frequency (monthly – 1–3 times per month) and high frequency (weekly – 4+ times per month).²

One-third (33%) of the ACT adult population were low-frequency gamblers (gambling less

than 11 times in the previous year). More than one-quarter (27%) of the ACT population were medium- or high-frequency gamblers (gambling more than 12 times during the past 12 months). This translates to about 105 000 low-frequency ACT gamblers and 87 000 medium- and high-frequency gamblers in the ACT.

Females were more likely to be lower-frequency gamblers than males, while males were significantly more likely to be medium- or high-frequency gamblers. Male high-frequency gamblers were more likely to be under the age of 30.

The results show that, on average, ACT residents participate in the lottery most frequently (8.4 times per year), followed by betting on horse races and greyhounds (4.8 times), sports and special events betting (2.9 times), EGMs (2.3 times) and instant scratch tickets (1.8 times). Other activities are marginal activities, with the average person more likely to not participate.

Gambling expenditure and losses

Expenditure on all forms of gambling has declined in per capita terms since the last ACT survey in 2014, with the exception of expenditure at Casino Canberra, which increased by 47.7% since 2014–15. Overall, from 2015–16 to 2016–17, the ACT saw a small increase in per capita expenditure of 0.6%, which is largely a reflection of the increase at the casino.

On average, each ACT resident who gambled in the past 12 months lost \$699. Males who gambled in the ACT had average losses that were 2.5 times those of females. It is also worth noting that divorced people incurred average total losses 3 times the rate of people who were married. Further, divorced people who gambled online incurred average total losses at double the rate of married people who gambled online.

Prevalence of problem gambling

The prevalence of at-risk and problem gambling in the ACT was assessed using the Problem Gambling Severity Index (PGSI) (at-risk gambling: PGSI > 0; problem gambling: PGSI > 7).

Overall, 10% of the ACT adult population reported at least one symptom on the PGSI. This equates to approximately 34 000 ACT adults classified as at-risk or problem gamblers; 7% (approximately 23 000 people) were classified as low-risk gamblers, 2.5% (approximately 8000 people) as moderate-risk gamblers, and 0.8% (approximately 3000 people) as problem gamblers.

The 49% of the ACT population who did not score on the PGSI are classified as non-problem gamblers.

The analysis found that males in the ACT were 3 times more likely than females to be problem gamblers using the PGSI (1.2% compared with 0.4%). Respondents over the age of 60 were less likely than the general population to be problem gamblers using the PGSI (0.4% compared with 0.8%).

Further, males under the age of 30 were significantly more likely than females to be at-risk gamblers (PGSI > 0). Males under the age of 30 who do not have a university education (21.1% of male gamblers) were more likely to be at-risk gamblers (PGSI > 0) than any other group.

Strong associations exist between particular gambling activities and increased levels of risk on the PGSI. This includes casino table games (41% at risk; PGSI > 0), sports betting (39%), informal games (34%) and EGMs (31%).

The analysis also found that EGM participation predicts problem gambling (PGSI > 7) in a multivariate analysis more reliably than participation in any other type of gambling activity or sociodemographic characteristic. Further to this, significant associations were found between time spent gambling on EGMs and at-risk gambling (PGSI > 0). Nearly two-thirds of gamblers who used EGMs in the ACT for 1 hour or more were at risk (PGSI > 0). However, people who spent less than 10 minutes using EGMs were at significantly reduced risk. EGM gamblers under the age of 45 who normally spent 30 minutes or more at a machine were found to be at risk (PGSI > 0) at twice the rate of people over 45.

Gambling harm

The 2019 ACT Gambling Survey implemented the Short Gambling Harm Screen (SGHS) for the first time in the ACT. Distinct from the PGSI, the SGHS was developed to measure the harm experienced by gamblers directly. It is adapted from a 72-item scale compiling a more comprehensive list of gambling-related harm. The validated scale asks 10 questions about respondents' experiences of gambling harm in the past 12 months.

As defined by the SGHS, it is estimated 10% of ACT adults (approximately 31 000 people) experienced at least one harm from gambling in the past 12 months. However, of all gamblers in the ACT, 16% experienced at least one harm in the past 12 months. The most common harms reported in the SGHS were item 1 (reduction of available spending money: 5.6%) and item 2 (reduction of savings: 4%).

Key findings were that males in the ACT reported gambling harm at twice the rate of females, and people aged under 30 were significantly more likely than those aged over 30 to report harms.

In total, 27.1% of high-frequency gamblers experienced one or more gambling harms. The rate was significantly lower for medium-frequency gamblers and low-frequency gamblers. Male high-frequency gamblers were significantly more likely to report one or more harms (31.2%) than females (19.5%). A similar relationship is evident in the age of respondents. High-frequency gamblers under the age of 45 were significantly more likely to report one or more harms (43.5%) than those over the age of 45 (18.0%). Of high-frequency EGM gamblers under the age of 45, 70.9% experienced harm from gambling (twice the rate of people aged over 45).

Significant predictors of the number of gambling harms in a multivariate analysis were participation in EGM gambling, sports and special events betting, informal games, and online casino and poker games.

Burden of gambling harm

The World Health Organization Global Burden of Disease Framework is widely used to assess

the impact of medical conditions on populations across the world. It allows a quantifiable comparison of medical problems in a population, enabling governments to effectively allocate resources to reduce harm. For chronic nonfatal illnesses, the framework incorporates two concepts to measure the burden of disease across a population: the disability weight, and years lost to disability.

In terms of disability weights, low-risk gambling is comparable to a moderate anxiety disorder, moderate-risk gambling to moderate alcohol dependence, and problem gambling to moderate major depressive disorder or severe amphetamine dependence. While problem gamblers (using the PGSI) are disproportionate in the amount of harm they experience (i.e. their disability weights are higher), low- to moderate-risk gamblers experience more than 80% of the gambling-related harm at the general population level.

Using the SGHS, 50% of the total harm experienced by gamblers in the ACT was experienced by people who reported two or fewer harms. Using weighted estimation of the proportion of ACT adults reporting each level on the SGHS, gambling-associated years lost to disability in the ACT was 7583.3 years per year – approximately equal to a 2.3% reduction in quality of life across the ACT adult population.

When looking at the distribution of harm across ACT regions, the analysis found that most gambling-related harm occurred in the regions of Belconnen (26.7%), Tuggeranong (22.6%) and Gungahlin (19.7%). Taken together, residents of these town centres accounted for 69% of the harms in the ACT. This is likely due to concentration in population and concentrations in EGMs.

Trends in gambling in the ACT: 2009–19

Landline data were combined from the three most recent surveys (2009, 2014 and 2019) to provide potential insights on trends in gambling participation and the prevalence of gambling problems in the ACT. Changes to the survey design (incorporating a mobile sample frame) have improved representation of the ACT adult

population in the 2019 survey but complicated direct comparison with previous ACT surveys. By homogenising the weighting procedure and using only landline responses from the 2019 survey, changes over time were estimated.

Gambling participation was measured using consistent weights across samples, and further analysis was conducted excluding lottery and instant scratch tickets. The analysis found that, from 2014 to 2019, there was no statistically significant difference in gambling participation in the ACT.

When looking at the prevalence of self-reported gambling problems, findings suggest that, between 2014 and 2019, there is no statistically significant difference. Similarly, there was no statistically significant change in lifetime prevalence of gambling problems, nor were there statistically significant changes for any of the PGSI categories, in the ACT from 2009 to 2019.

Gambling online

With significant advances in technology occurring at rapid rates, one of the objectives of the 2019 ACT Gambling Survey was to understand the mode with which people gamble in the ACT, with specific attention to levels of participation in gambling activities online.

The analysis defined online gambling as participation in gambling on the internet – on a computer, mobile phone, interactive television or other device. Offline gambling is defined as land-based gambling – at a venue, outlet (e.g. EGMs, TAB, newsagent) or racetrack.

The survey estimates that, in total, 20.9% of ACT adults (68 000 people) gambled online in the past 12 months. The research also found that males were almost twice as likely to have gambled online (27.2%) as females (14.9%). This equates to more than one in four adult males in the ACT. Unsurprisingly, people aged under 45 in the ACT were more likely to gamble online than those aged 45 or above.

When looking at the types of gambling activities people participated in online, the survey found that 79.5% of people who bet on sports and special events had gambled online in the past

12 months, followed by 50.7% of those who bet on horse and greyhound racing, and 30.4% of lottery gamblers. In absolute terms, the largest portion of online gambling in the ACT is the lottery, with 13.3% of the adult population participating online.

The association between gambling modes (online only/offline only/both online and offline) and gambling frequency, problem gambling (PGSI) and gambling harm were tested to gain insights into online gambling behaviour in the ACT. The analysis of online gambling compared with traditional land-based gambling suggests that gambling exclusively online does not appear to be a predictor of frequent, problem or harmful gambling.

Finally, questions were asked in the survey for the first time on a range of online games and purchasing activities. The survey found that, for all online activities addressed (i.e. computer games, online auctions, in-app purchases, features, subscriptions, investment trading, fantasy sports), males were significantly more likely to take part than females. People classified as at-risk or problem gamblers (using the PGSI) were 3 times more likely to purchase loot boxes and engage in fantasy sports than the rest of the ACT population.

Attitudes to gambling

A detailed exploration of attitudes towards gambling in the ACT was conducted as part of the survey. The analysis found that the overall ACT adult population holds a predominantly negative attitude towards gambling, with no single subpopulation reporting net positive attitudes. EGMs were the most negatively viewed form of gambling, with 64% of ACT adults agreeing that they do more harm than good for the community. Attitudes towards gambling online on mobile apps were very negative, with nearly three-quarters of respondents suggesting that it does more harm than good.

The survey found strong support in the ACT adult population for a pre-commitment scheme, with 71% of people surveyed in favour (compared with 13% disagreeing and 16% neither agreeing nor disagreeing).

ACT adults were asked about attitudes towards withdrawal limits at ATMs (current limit: \$200) and EFTPOS machines (current limit: \$250). Of respondents, 46.1% believed that the ATM limit should be changed, while 48.6% believed that the EFTPOS limit should be changed. Of those supporting changes to the limits, the mean responses for the new limits were \$136 (ATM) and \$147 (EFTPOS).

Nearly half (49%) of the ACT adult population believed that the maximum bet on EGMs should be changed. For those who believed the limit should be changed, the average suggested limit was \$6.92. The suggested limit changes were not significantly different between gamblers and non-gamblers, nor between EGM gamblers and non-EGM gamblers.

The survey also asked residents about their knowledge of the self-exclusion program in the ACT. Only 33% of the ACT adult population had heard of the ACT self-exclusion program, and less than half of EGM gamblers had heard of the program (48%).

Relational impacts and harms

The survey found that 5% of the ACT adult population had been personally affected by family members' or friends' gambling, equivalent to approximately 17 000 adults. Females were more likely than males to be affected by someone else's gambling (58%), and the most common relationship between a gambler and affected other was a friend (25%), followed by a spouse (19%).

Gambling was reported as placing significant strain on relationships. Emotional impacts of others' gambling were common, with more than 50% reporting arguments, breakdown in communication, less quality time, feelings of anger, reduction of trust, and stress or anxiety. In the ACT, 15% of people affected by others' gambling wanted support in the past 12 months; however, 14% did not know where they would go to seek information or help. Interestingly, one in four people in the ACT who had been affected by others' gambling had never talked about gambling issues with the person who had

affected them most, highlighting the challenges and stigma around gambling problems.

Information and help seeking

In the ACT, 2% of gamblers had ever sought help for their gambling in the past 12 months. Of people who had reported problems with gambling in their lifetime, 24% reported seeking help for their gambling. Only 6% of gamblers who reported one or more harms in the past 12 months had sought help. Of those who had sought help, the most common form of help seeking was talking to family or friends, followed by self-help strategies. However, those who reported lifetime problems with gambling typically did not rely on just one source of help. The average number of help activities tried was eight, and no respondents had tried only one or two types of help.

When ACT adults were asked where they would seek help or information for gambling issues, the most commonly endorsed responses were internet search (50%), a gambling helpline (15%), other family or friends (12%) and Gamblers Anonymous (9%). People reporting one or more gambling harms (SGHS) were more likely to cite leaflets from venues (4%), a gambling helpline (23%), other family or friends (17%), and clubs or venues (12%).

Approximately 1 in 10 gamblers experiencing harm did not know where to look for gambling help. Those aged 60 and above were more likely to report not knowing where to find gambling help information (19%), as were respondents born outside Australia (20%).

The survey found that the most common motivations for seeking help were cutting back or stopping gambling (90%), feeling depressed or sad (72%), feelings of stress or anxiety (69%), and financial issues (61%).

Wellbeing and lifestyle

The survey found a marked decline in quality of life (as measured by the EUROHIS scale) as the levels on the PGSI and the SGHS increased. People in the ACT who do not experience harm

from gambling experience significantly higher self-reported quality of life and significantly reduced levels of psychological distress than people reporting some level of harm.

Analysis also revealed a very strong positive association in the ACT between high consumption of alcohol and at-risk and problem gambling for males, but not for females.

A clear overlap between attitudes to financial risk and at-risk gambling behaviour exists in the ACT. At-risk and problem gamblers take 'average risks, expecting average returns' at significantly higher rates than the rest of the ACT population.

Conclusions

The ACT Gambling Survey presents a picture of a community that is highly engaged in gambling activity (60% of the ACT population gambled in the past 12 months). However, this results in a substantial level of harm (14% of ACT residents).³

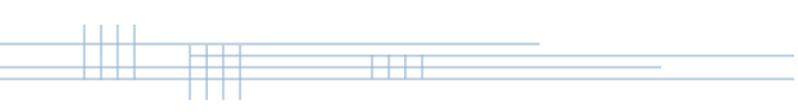
The most striking findings of the survey relate to the impacts of gambling on men. Men in the ACT, particularly young men (under 45 years old), are disproportionately engaged in gambling activity and, as a result, experience harms at significantly greater rates than women. Males in the ACT are classified as at-risk or problem gamblers at twice the rate of females and classified as problem gamblers (PGSI) at 3 times the rate. Unsurprisingly, given the above findings, males under the age of 45 with no degree have a 1 in 5 predicted probability of being at-risk or problem gamblers in the ACT. Despite the reported harm and financial losses from gambling, only 2% of males who gamble ever reported seeking help. These findings require a level of reflection as a community, particularly with respect to acceptable levels and standards of gambling advertising, gambling product availability and gambling regulation in the ACT. The findings provide evidence that targeted harm minimisation and prevention strategies are clearly needed.

The findings of the report show a generational shift in gambling towards an online gambling environment. The previous survey, in 2014, found that 8% of people in the ACT had gambled on the internet, whereas the current survey found

21%. It is of concern that the survey found that people gambling mostly online in the ACT are experiencing significantly more harm than those who gamble mostly offline. This is a trend that will need careful monitoring in the future.

Despite the increased participation in online gambling and harm, it is important to note that EGM participation predicts problem gambling (PGSI) in the ACT more reliably than participation in any other type of gambling activity. One in five people in the ACT use EGMs, and nearly one-third of these people are at-risk or problem gamblers. Reflecting community dissatisfaction with EGMs (64% stating that they do more harm than good), nearly half of the ACT adult population believed that the maximum EGM bet (\$10) should be changed, and the suggested average response was a reduction in the maximum to \$6.92.

This survey builds a strong foundation for future research and gambling studies in the ACT. Improved coverage of the population, primarily through increases in sample size and the inclusion of mobile phone respondents, has enabled more accurate estimates of gambling impacts in the ACT and will allow improved time-series comparison in future surveys.



1 Introduction

The Australian National University (ANU) Centre for Gambling Research (CGR) was commissioned by the Australian Capital Territory (ACT) Gambling and Racing Commission to conduct the 2019 ACT Gambling Survey. The ANU CGR partnered with the Social Research Centre to conduct the survey.

The overarching objective of the 2019 ACT Gambling Survey was to assist monitoring by the ACT Gambling and Racing Commission of the social and economic impacts of gambling in the ACT. The commission conducts the survey every 5 years.

1.1 Previous surveys on gambling in the ACT

The first comprehensive survey of gambling and gambling harm in the ACT was undertaken in 2001 (McMillen et al. 2001). Subsequent surveys were conducted in 2009 (Davidson & Rodgers 2010) and 2014 (Davidson et al. 2015). All three surveys were conducted using landline telephone interviewing. The 2001 and 2009 surveys had a sample of 5500 ACT residents (with more than 2000 of these individuals completing a more detailed interview schedule). The 2014 Survey on Gambling, Health and Wellbeing in the ACT used landline random digit dialling (RDD) to contact 7086 ACT residents, of whom approximately 2000 were selected to complete more detailed interviews.

The 2019 survey is built on the previous surveys conducted in 2009 (Davidson & Rodgers 2010) and 2014 (Davidson et al. 2015). To provide a starting point for this report, a brief summary of the main findings from the 2014 survey is included in Box 1.

1.2 The 2019 ACT Gambling Survey

The 2019 ACT Gambling Survey reflects the use of best-practice survey design that measures variation across the ACT population, while incorporating advances in gambling questionnaire design and content. The survey has a particular focus on understanding harms from gambling in the ACT community.

1.2.1 Project governance

As part of the establishment phase of the project, an ACT Gambling Survey Advisory Group was formed. This group, with representation from the ACT Gambling and Racing Commission and the ANU, as well as ACT professionals with policy and practical expertise and knowledge of gambling in the ACT, advised on aspects of the project as it was conducted. A Survey Working Group was also established. This consisted of representatives from the commission and the ANU, and leading academics with expertise in gambling research from around Australia. It provided advice on the design of the questionnaire, with the aim of constructing a questionnaire that could be considered best practice in Australia.

1.2.2 Project ethics

This research was conducted in accordance with the National Statement on Ethical Conduct in Human Research 2007. The research was approved by the ANU Human Research Ethics Committee (protocol 2018/802).

Box 1 Main findings from the 2014 ACT Prevalence Survey

- Around 55% of adults gambled at least once in the last 12 months.
- 20% of adults used electronic gaming machines (EGMs) at least once in the past year, and 8% of adults reported gambling using the internet.
- Using the Problem Gambling Severity Index (PGSI), the prevalence of problem gambling among ACT adults was 0.4%.
- 5.4% of gamblers experienced some level of gambling problem in the ACT, with 1.5% being classified as moderate-risk or problem gamblers.
- Moderate-risk or problem gamblers participated in an average of four activities; most (76%) reported using EGMs, followed by lotteries (71%).
- Males who were under 60 years of age, less well educated, never married or separated/divorced were more likely to be at-risk gamblers (PGSI).
- 38% of people reporting gambling harm reported experiencing emotional issues such as stress, anxiety or depression. Smoking and alcohol consumption were also strongly related to gambling frequency and at-risk gambling.
- 16% of ACT adults reported having had at least one close family member with a gambling problem in their lifetime, 5% in the past 12 months.
- At-risk and problem gamblers do not seek help or intervention (i.e. counselling support) for their gambling problems.

Source: Davidson et al. (2015)

1.2.3 Key changes from 2014 to 2019 survey design

Three key changes in survey design from the 2014 to the 2019 survey have the potential to affect the extent to which conclusions can be drawn from comparisons over time:

- The 2019 survey moved to a dual-frame sample (70:30 mobile/landline), meaning that mobile phone numbers were used to reach participants.
- The sample size was significantly increased (10 000 participants) with the intention of having greater statistical power in the results.
- Interviews were conducted in languages other than English (LOTE) in 2019 to ensure that the survey did not miss participants who did not speak English.

1.3 Key objectives of the 2019 survey

The specific objectives of the 2019 ACT Gambling Survey were to:

- investigate gambling harm among people who gamble as well as those who meet PGSI criteria for problem gambling
- improve understanding of gambling harm among people around gamblers (affected others)
- investigate gambling participation, including frequency, expenditure and session duration (where relevant), by activity
- investigate the extent of gambling harm associated with gambling participation and products
- clearly distinguish type of activity from modality of gambling (where feasible)
- estimate the prevalence of problem gambling using the PGSI

- enable comparison with previous surveys (where relevant and feasible) – specifically, monitoring any changes in (i) the composition of gambling and (ii) problem gambling over time
- determine socioeconomic aspects associated with gambling participation and harms
- investigate health and wellbeing across all levels of gambling participation and harms, including non-gamblers
- describe help seeking for gambling-related harm in the general population, both in the past year and across the lifetime.

1.4 Structure of the report

The following chapters present findings across the major areas of interest covered in the 2019 survey. The report describes gambling participation, gambling frequency, gambling expenditure, PGSI prevalence, gambling harms, trends through time, attitudes towards gambling, help seeking, relational harms, and lifestyle and wellbeing.

2 Survey methodology

The 2019 ACT Gambling Survey was conducted via computer-assisted telephone interviewing with residents of the ACT aged 18 years and over. Table 1 summarises key statistics for the survey.

The survey was conducted from 1 April to 24 May 2019. The total achieved sample size was 10 000. A dual-frame sample design was used consisting of RDD landline telephone numbers and listed mobile phone numbers.⁴ Thirty per cent of interviews were conducted using landline phone numbers, and 70% were conducted using mobile numbers. The response rate for the survey overall was 16.3%.

2.1 Sample design

The target sample size for the 2019 survey was 10 000 interviews. To ensure a spread of interviews across the designated geographical area, the sample design involved setting proportional-to-population targets within seven geographical areas in the ACT based on Statistical Area 3 (SA3) regions, using the Australian Standard Geographic Classification.⁵ These targets were not treated as firm quotas.

Table 1 Sample profile statistics

| Item | Sample frame | | |
|---------------------------------|--------------|----------|--------|
| | Total | Landline | Mobile |
| Interviews completed | 10 000 | 3 000 | 7 000 |
| Response rate (%) | 16.3 | 15.6 | 18.7 |
| Average interview length (mins) | 12.6 | 11.6 | 13.0 |
| Start date | 1 April 2019 | | |
| Finish date | 24 May 2019 | | |

Notes: Response rate provided is the cumulative response rate (i.e. the ratio of completed interviews to the total sample generated). Many surveys report a cooperation rate, which is the sum of completed interviews and refusals over the sample generated.

Final allocations were based on the postcode/ location information provided by respondents at the start of the survey.

The total number of target interviews per geographical stratum was calculated based on the proportion of the adult population resident in the postcode, relative to the total population of the geographical stratum and the ACT. A master mapping of postcode and locality to seven SA3 geographical strata was created to allow accurate allocation to the correct strata.

2.2 Respondent selection

The in-scope population for the survey was the non-institutionalised resident population of the ACT. Individuals not included in the study included:

- residents of institutional premises (e.g. prisons, nursing homes) and military bases
- people who indicated that they were incapable of undertaking the interview because of a physical or health condition (including being too old/frail)
- people apparently under the influence of drugs or alcohol
- households with no person aged 18 years or over in residence
- mobile phone sample members where the mobile phone number called was primarily for business use.

For the landline sample, the 'last birthday' method was used to select the person 18 years or older in the household to be interviewed, where more than one eligible person was resident. For the mobile phone sample, the person eligible to be interviewed was the in-scope phone answerer.

2.3 Sample generation

The commercial sample provider, SamplePages, provided both the landline and mobile phone samples. RDD landline numbers are generated by SamplePages using a list-assisted methodology. Listed mobile numbers were selected at random from SamplePages's list of mobile numbers, verified as belonging to residents of in-scope postcodes. These numbers are sourced from a composite phone database built by contributors from different organisations, including charities, telemarketing companies and other business entities.

2.4 The questionnaire

The 2019 ACT Gambling Survey questionnaire used the 2014 questionnaire as a starting point. Some additional sections and questions were included for the first time, as well as some minor updates to existing questions. The questions asked of each respondent varied according to the respondent's gambling status and the gambling activities they engaged in. Later sections addressed gambling problems, harms and help seeking.

Further, a subselection for a longer form of questionnaire was undertaken. Respondents who were found to have 'some problem gambling' on the PGSI plus 15% of all other respondents were selected to respond to two additional sections: 'Health and wellbeing' and 'Attitudes'. Within the former section, half of all participants were asked

the Quality of Life scale, and the remaining were asked the Kessler 6 scale.

Support details were offered to any respondents who indicated that they wanted help with gambling-related issues. All respondents were offered contact details for the ANU Ethics Committee should they have concerns or complaints about the conduct of the research.

2.5 Sample utilisation

In total, 288 728 calls were placed, equating to an interview every 28.9 calls (62.4 calls per interview for landline numbers; 14.5 calls per interview for mobile numbers) (Table 2). The average number of calls made to each sample record was 4.0 (4.9 calls per sample record for the landline frame; 2.9 calls per record for the mobile frame).

2.6 Response rate

The Social Research Centre's reported overall response rate (RR3) for the survey was 16.3%, with a response rate of 15.6% for the landline frame and 18.7% for the mobile frame.

The cooperation rates for the survey (interviews/interviews + refusals) are more typically reported as the 'response rate' for Australian surveys. The overall cooperation rate was 41.7%, with a large variation between the landline frame (83.8%) and the mobile frame (34.4%).

Table 2 Sample utilisation

| Sample | Total | Landline | Mobile |
|--|---------|----------|---------|
| All call attempts | 288 728 | 187 172 | 101 556 |
| Total sample generated and attempted | 84 088 | 38 406 | 45 682 |
| Sample initiated by telephone | 72 879 | 38 406 | 34 473 |
| Interviews completed | 10 000 | 000 | 7000 |
| Average calls per interview | 28.9 | 62.4 | 14.5 |
| Average calls per sample record | 4.0 | 4.9 | 2.9 |
| Average sample records called per interview | 7.3 | 12.8 | 4.9 |
| Average sample records initiated per interview | 8.4 | 12.8 | 6.5 |

2.7 Interviewing in languages other than English

Table 3 details the number of identified LOTE records. Sample yield (proportion of interviews achieved from identified LOTE records) was highest for Greek (47.4%), Vietnamese (41.2%) and Mandarin (26.3%) speakers.

2.8 Allocation to geographical strata

The final distribution of interviews across the seven geographic strata is provided in Table 4.

2.9 Achieved sample profile

Table 5 shows the achieved sample profile of interviews across sample types. The mobile sample improves the representation of people in younger age groups, employed persons and respondents who gambled in the past 12 months, including gambling online. The mobile sample also has a higher representation of respondents with some problem gambling. The landline sample has a stronger representation of older people, along with measures associated with being older (labour force status). The weighting strategy (detailed below) seeks to address any imbalances in sociodemographic profile.

Table 4 Geographic distribution of final sample

| Geographic stratum | Total (n) | Landline (n) | Mobile (n) |
|--------------------|-----------|--------------|------------|
| Total | 10 000 | 3 000 | 7 000 |
| Belconnen | 2 660 | 763 | 1 897 |
| Gungahlin | 1 640 | 433 | 1 207 |
| North Canberra | 1 333 | 401 | 932 |
| South Canberra | 731 | 234 | 497 |
| Tuggeranong | 2 031 | 650 | 1 381 |
| Weston Creek | 772 | 230 | 542 |
| Woden Valley | 833 | 289 | 544 |

2.10 Participation and PGSI by sample profile, unweighted

Previous analysis of differences between mobile and landline samples in a dual-frame landline gambling survey (Dowling et al. 2016) found moderate but significant differences in gambling behaviour between those who responded through mobile and those responding by landline. Dowling et al. (2016) found that mobile respondents reported higher participation in horse or greyhound racing, casino table games and sporting events betting, and were more likely to endorse PGSI items. Similarly, this study found significant differences in the landline and mobile respondents in terms of gambling behaviour and PGSI classification (Table 6).

Table 3 Interviewing in languages other than English

| Frame | Identified | | Achieved | |
|------------|------------|-----------|-----------|------------------|
| | Total (n) | Total (%) | Total (n) | Sample yield (%) |
| Total | 109 | 100.0 | 29 | 26.6 |
| Greek | 19 | 17.4 | 9 | 47.4 |
| Arabic | 17 | 15.6 | 2 | 11.8 |
| Mandarin | 38 | 34.9 | 10 | 26.3 |
| Vietnamese | 17 | 15.6 | 7 | 41.2 |
| Croatian | 15 | 13.8 | 1 | 6.7 |
| Serbian | 3 | 2.8 | 0 | 0.0 |

Table 5 Sociodemographic indicators, by sample profile

| Characteristics | Total (%) | Landline (%) | Mobile (%) | ACT population target (%) |
|------------------------------|-----------|--------------|------------|---------------------------|
| Total | 10 000 | 3000 | 7000 | 327 259 |
| Gender | | | | |
| Male | 46.4 | 42.2 | 48.2* | 48.3 |
| Female | 53.4 | 57.4 | 51.6* | 51.1 |
| Age | | | | |
| 18–24 | 4.2 | 2.4 | 4.9* | 14.1 |
| 25–34 | 13.8 | 1.9 | 18.9* | 21.5 |
| 35–44 | 18.8 | 5.0 | 24.7* | 18.9 |
| 45–54 | 19.2 | 13.7 | 21.6* | 16.1 |
| 55–64 | 18.4 | 21.6 | 17.0* | 13.1 |
| 65+ | 25.7 | 55.4 | 12.9* | 16.4 |
| Marital status | | | | |
| Married | 57.4 | 58.1 | 57.0 | ^ |
| De facto/in a relationship | 12.1 | 6.3 | 14.6* | ^ |
| Separated and single | 3.1 | 1.7 | 3.6* | ^ |
| Divorced and single | 6.7 | 7.9 | 6.1* | ^ |
| Widowed and single | 5.2 | 12.4 | 2.1* | ^ |
| Single | 15.2 | 12.9 | 16.2* | ^ |
| Born in Australia | | | | |
| Yes | 73.8 | 73.7 | 73.9 | 66.8 |
| Education | | | | |
| University | 54.6 | 49.6 | 56.7* | 40.5 |
| TAFE certificate or diploma | 21.5 | 19.5 | 22.4* | ^ |
| Completed year 12 | 13.9 | 15.2 | 13.4* | ^ |
| Completed year 11 | 1.1 | 1.3 | 1.0 | ^ |
| Completed year 10 | 4.5 | 6.5 | 3.7* | ^ |
| Completed years 7–9 | 1.2 | 2.1 | 0.9* | ^ |
| Completed primary school | 0.2 | 0.6 | 0.1* | ^ |
| Other | 2.3 | 3.8 | 1.6* | ^ |
| Work status | | | | |
| Employed full-time | 50.9 | 24.8 | 62.1* | ^ |
| Employed part-time or casual | 16.7 | 13.2 | 18.1* | ^ |
| Unemployed, looking for work | 1.7 | 1.2 | 1.9* | ^ |
| Not in the paid labour force | 30.2 | 60.0 | 17.4* | ^ |

* = significant difference from landline sample; ^ = not used to benchmark target ACT population

Table 6 Unweighted estimates of gambling participation and PGSI, by sample profile

| Unweighted sample characteristics | Total (%) (n = 10 000) | Landline (%) (n = 3000) | Mobile (%) (n = 7000) |
|---|---------------------------|----------------------------|--------------------------|
| Gambling status | | | |
| Participated in gambling in the past 12 months | 58.9 | 52.3 | 61.7* |
| Online gambler | | | |
| Participated in online gambling in the past 12 months | 17.6 | 9.5 | 21.0* |
| PGSI category | | | |
| Non-gambling | 41.3 | 47.9 | 38.4* |
| Non-problem gambling | 50.6 | 46.6 | 52.3* |
| Low-risk gambling | 5.7 | 4.2 | 6.4* |
| Moderate-risk gambling | 1.8 | 1.1 | 2.1* |
| Problem gambling | 0.7 | 0.3 | 0.8* |

* = significant at the 5% level; PGSI = Problem Gambling Severity Index

Using unweighted survey data, mobile respondents were 18% more likely to participate in gambling and 221% more likely to have gambled online. Further, we found that mobile respondents were almost twice as likely to be classified as moderate-risk or problem gamblers and 52% more likely to be classified as low-risk gamblers than landline respondents. These large differences in the mobile and landline sample are largely due to the differences in population coverage between sample frames. However, a weighted multiple regression predicting mobile sample frame membership revealed that PGSI category predicted mobile phone response (compared with landline response), suggesting that gambling behaviour differs between sample frames even when controlling for relevant sociodemographic indicators. The differences between the landline and mobile samples presented above justifies the use of a dual-frame sample, both for the 2019 survey and for future ACT surveys.

2.11 Weighting

To ensure that estimates are representative of the target population, the design weights were adjusted so that they match external benchmarks of key observed parameters that are likely to be correlated with the survey outcomes and the

likelihood of response. For this survey, these characteristics were age group cross-classified by highest education, country of birth, gender, location (based on SA3), telephone status and volunteer status.

The method for calibrating the design weights was generalised regression weighting, which used nonlinear optimisation to minimise the distance between the design and calibrated weights, subject to the weights meeting the benchmarks (Deville et al. 1993, Vanderhoeft 2001).

Large differences in weights may lead to large variances in survey estimates; limiting these variations improves the precision of the estimates. The use of weighting constraints aims to reduce the variance at the same time as limiting increases in the bias. The method applied is incorporated directly in the calibration process and aims to limit the extent to which each person's final weight varies from the design weight.

All respondents completed the short-form survey, but a subset of respondents were administered a longer form of the questionnaire, based on their responses. Since the subset was not a simple random sample of all respondents, it was necessary to calculate a separate weight for the long-form respondents. This was done to ensure

that estimates made for these respondents were representative of the in-scope population, as well as being consistent with estimates made for all respondents. To achieve this, the same benchmarks described above were used, as well as an additional benchmark based on gambler type.

3 Gambling participation in the ACT

The 2019 ACT Gambling Survey examined gambling participation in the adult population during the past 12 months. This analysis includes:

- participation in gambling in the past 12 months
- sociodemographic characteristics of those who participated in gambling during the past 12 months
- gender differences in the sociodemographic makeup of gamblers
- participation in different types of gambling activity during the past 12 months
- sociodemographic differences in participation by activity
- the co-occurrence and diversity of gambling participation by gambling activity
- participation in online gambling by sociodemographic indicator and activity.

Overall, the survey found that 60.1% of adults in the ACT participated in at least one form of gambling during the past 12 months,⁶ equivalent to approximately 200 000 individuals.

3.1 Gambling participation by sociodemographic indicator

The survey found associations between sociodemographic groups and gambling participation.⁷ Participation differed by gender, with significantly more males (64.4%) than females (55.7%) participating in at least one form of gambling during the past 12 months.

Individuals between the ages of 45 and 59 were most likely to participate in some form of gambling (64.4%). Those born outside Australia were significantly less likely than the general population to participate in gambling activities (52.4%, compared with 63.7%).

Respondents with education up to year 12 and trade certificates or diplomas were more likely to

gamble (67.7% and 64.7%, respectively), whereas those with a bachelor or postgraduate degree were less likely to participate in gambling activity (53.9% and 48.2%, respectively).

The association between relationship status and gambling participation was more complex. Married people gambled at the same level as the general population (60.1%). Those in de facto relationships were more likely to gamble (65.7%), whereas single and widowed people gambled slightly less than the general population (55.7% and 52.4%, respectively).

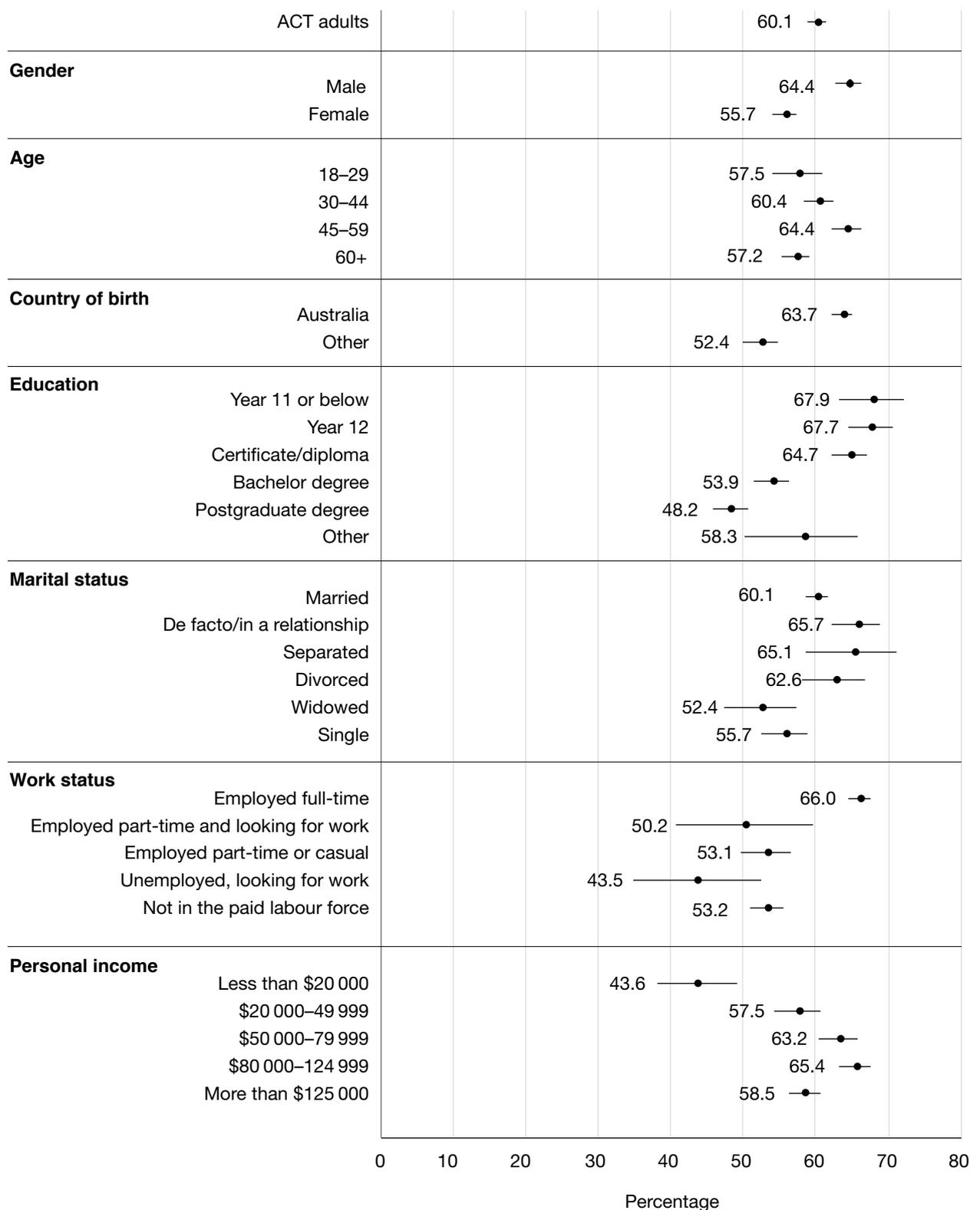
Individuals engaged in full-time employment (66.0%) were more likely to engage in gambling activities in the past 12 months than those in other forms of employment or unemployment. Those employed part-time, unemployed or out of the labour force were significantly less likely than the general population to participate in gambling (53.1%, 43.5% and 53.2%, respectively).

Figure 1 indicates a curvilinear relationship between personal income and gambling participation. Those earning less than \$20 000 per year were the least likely income bracket to gamble (43.6%); the rate rose sequentially to 65.4% for those earning between \$80 000 and \$124 999.

3.2 Gender of gamblers

As participation in gambling in the past 12 months differed significantly by gender (males 64.4%; females 55.7%), further analysis was conducted to look at the sociodemographic characteristics of gamblers in the ACT by gender. Despite population-level gender differences, there were few significant sociodemographic differences between male and female gamblers in the ACT. Male gamblers were more likely to be born overseas (29.7%) than female gamblers (25.9%). Female gamblers were more likely to be divorced

Figure 1 Gambling participation, by sociodemographic indicator



(female 7.2%; male 3.4%) or widowed (female 4.5%; male 1.7%). Female gamblers were more likely to earn below \$80 000, while male gamblers were significantly more likely to earn \$125 000 or above.

3.3 Gambling participation by gambling activity

Table 7 shows the proportion of the population who reported gambling in the past year on each type of activity in the ACT. The activities are listed in order from the least common to the most common. The most common gambling activity reported in the ACT was buying lottery tickets (43.8% of the population), closely followed by raffles (42.6%). Just over 20% of the ACT population bought instant scratch tickets during the past 12 months. One in five (19.7%) people had used electronic gaming machines (EGMs) in the past year. A smaller proportion of the population reported betting on horse or greyhound races in the past year (14.3%), followed by sports betting (9.7%). Approximately 5% of the population participated in casino table games or Keno in the past 12 months.

Table 7 Gambling participation, by activity

| Activity | Percentage of adult population |
|----------------------------------|--------------------------------|
| Online pokies and casino games | 0.8 |
| Bingo | 2.2 |
| Informal games | 3.0 |
| Keno | 4.6 |
| Casino table games | 5.8 |
| Sports and special event betting | 9.7 |
| Horse and greyhound racing | 14.3 |
| EGMs | 19.7 |
| Instant scratch tickets | 21.1 |
| Raffle | 42.6 |
| Lottery | 43.8 |

EGM = electronic gaming machine

3.4 Participation in activities by sociodemographic indicator

Table 8 shows the sociodemographic makeup of gamblers overall, and by specific gambling activity. Tests for statistical differences between gamblers and non-gamblers in an activity by sociodemographic group were made using weight-corrected Pearson's chi-squared tests. This allows us to show how gamblers in specific activities are distinct from the general gambling population. In each case, the reference category is those who did not gamble in a given activity.

Individuals using EGMs were more likely to be male (58.7%), born in Australia (81.8%) and skew demographically young (below 30 years) compared with gamblers who did not use EGMs. They were more likely to be single (29.9%), less likely to be married (38.6%) and more likely to be in a de facto relationship (21.3%) than those who did not gamble on EGMs. EGM gamblers were less likely to have a postgraduate degree (6.8%) or bachelor degree (15.7%) and were less likely to earn more than \$125 000 (14.0%).

Individuals who bet on horse and greyhound races were more likely to be male (64.1%), to be below the age of 30 (25.7%), to be born in Australia (82.6%), and to earn more than \$125 000 (21.1%) than those who do not bet on races. They were less likely to hold a postgraduate degree (11.5%) and less likely to be married (46.3%).

People who buy instant scratch tickets were more likely to be female (57.1%), more likely to have education at the trade certification level (32%), less likely to be married (46.7%), less likely to be full-time employed (59.7%) and less likely to earn more than \$125 000 (13.9%) than those who do not buy instant scratch tickets.

Those who bet on sports and special events were more likely to be male (80.2%), more likely to be below the age of 45 (80.7%), more likely to be born in Australia (77.1%), more likely to be single (30.3%), more likely to be employed full-time (78.0%) and more likely to earn over \$125 000 (22.5%) than those who do not bet on sports and special events.

Table 8 Sociodemographic indicators, by selected gambling activity

| Indicator | All gamblers (%) | EGMs (%) | Horses and greyhounds (%) | Instant scratch tickets (%) | Lottery (%) | Keno (%) | Casino table games (%) | Bingo (%) | Sports and special events (%) | Informal games (%) |
|------------------------------|------------------|----------|---------------------------|-----------------------------|-------------|----------|------------------------|-----------|-------------------------------|--------------------|
| Gender | | | | | | | | | | |
| Male | 53.3 | 58.7 | 64.1 | 42.9 | 52.2 | 57.9 | 77.4 | 22.0 | 80.2 | 80.8 |
| Female | 46.7 | 41.3 | 35.9 | 57.1 | 47.8 | 42.1 | 22.6 | 78.0 | 19.8 | 19.2 |
| Age | | | | | | | | | | |
| 18–29 | 23.0 | 32.4 | 25.7 | 25.1 | 13.9 | 25.8 | 46.9 | 30.1 | 42.4 | 43.1 |
| 30–44 | 32.7 | 31.6 | 35.0 | 33.8 | 34.6 | 33.5 | 36.9 | 31.3 | 38.3 | 37.4 |
| 45–59 | 24.6 | 19.6 | 23.0 | 22.4 | 29.3 | 26.8 | 13.0 | 19.7 | 13.9 | 13.6 |
| 60+ | 19.7 | 16.4 | 16.3 | 18.7 | 22.2 | 13.8 | 3.2 | 18.9 | 5.3 | 5.9 |
| Birthplace | | | | | | | | | | |
| Australia | 72.1 | 81.8 | 82.6 | 77.3 | 69.5 | 85.5 | 81.1 | 76.0 | 77.1 | 77.7 |
| Other | 27.9 | 18.2 | 17.4 | 22.7 | 30.5 | 14.5 | 18.9 | 24.0 | 22.9 | 22.3 |
| Education | | | | | | | | | | |
| Year 11 or below | 9.0 | 13.1 | 9.4 | 9.8 | 9.9 | 14.5 | 6.2 | 10.0 | 6.6 | 7.1 |
| Year 12 | 25.2 | 31.3 | 28.0 | 24.9 | 22.1 | 22.9 | 36.7 | 40.1 | 29.8 | 34.0 |
| Certificate/diploma | 29.0 | 32.3 | 29.2 | 32.0 | 30.8 | 36.4 | 24.8 | 21.5 | 27.8 | 23.5 |
| Bachelor degree | 20.7 | 15.7 | 20.8 | 19.5 | 20.4 | 18.9 | 20.8 | 18.1 | 22.0 | 21.8 |
| Post-graduate degree | 14.8 | 6.8 | 11.5 | 12.7 | 15.4 | 6.6 | 11.0 | 10.0 | 12.7 | 13.5 |
| Marital status | | | | | | | | | | |
| Married | 49.4 | 38.6 | 46.3 | 46.7 | 54.8 | 45.1 | 32.5 | 41.1 | 38.9 | 36.6 |
| De facto/in a relationship | 17.7 | 21.3 | 21.1 | 19.2 | 15.8 | 22.5 | 22.9 | 13.8 | 25.0 | 19.6 |
| Separated | 2.7 | 2.4 | 2.3 | 2.3 | 3.1 | 2.5 | 1.6 | 2.3 | 1.8 | 2.4 |
| Divorced | 5.2 | 5.1 | 4.2 | 5.0 | 5.9 | 5.6 | 2.3 | 5.6 | 3.3 | 2.3 |
| Widowed | 3.0 | 2.6 | 2.3 | 2.9 | 3.3 | 1.1 | 0.5 | 3.3 | 0.5 | 0.8 |
| Single | 21.9 | 29.9 | 23.6 | 23.8 | 17.0 | 22.5 | 39.7 | 33.9 | 30.3 | 37.9 |
| Work status | | | | | | | | | | |
| Employed full-time | 62.8 | 63.7 | 68.5 | 59.7 | 65.1 | 73.4 | 75.3 | 61.2 | 78.0 | 66.7 |
| Employed part-time or casual | 17.3 | 17.0 | 14.9 | 20.4 | 15.1 | 12.4 | 17.8 | 12.4 | 13.9 | 19.1 |

continued

Table 8 *continued*

| Indicator | All gamblers (%) | EGMs (%) | Horses and greyhounds (%) | Instant scratch tickets (%) | Lottery (%) | Keno (%) | Casino table games (%) | Bingo (%) | Sports and special events (%) | Informal games (%) |
|------------------------------|------------------|----------|---------------------------|-----------------------------|-------------|----------|------------------------|-----------|-------------------------------|--------------------|
| Unemployed, looking for work | 2.0 | 2.6 | 1.6 | 2.0 | 1.1 | 2.1 | 1.7 | 1.7 | 1.3 | 2.0 |
| Not in the paid labour force | 17.7 | 16.5 | 14.9 | 17.8 | 18.7 | 11.6 | 4.5 | 24.8 | 6.6 | 11.4 |
| Personal income (before tax) | | | | | | | | | | |
| Less than \$20 000 | 6.6 | 6.5 | 3.5 | 7.3 | 4.6 | 4.1 | 6.3 | 12.4 | 4.5 | 14.0 |
| \$20 000–49 999 | 18.8 | 21.3 | 16.2 | 21.1 | 16.9 | 14.0 | 15.3 | 24.9 | 15.1 | 16.1 |
| \$50 000–79 999 | 25.0 | 27.8 | 26.3 | 26.0 | 23.9 | 31.7 | 22.7 | 24.1 | 24.3 | 19.5 |
| \$80 000–124 999 | 32.2 | 30.4 | 32.9 | 31.7 | 35.3 | 32.2 | 30.5 | 24.6 | 33.5 | 27.1 |
| More than \$125 000 | 17.4 | 14.0 | 21.1 | 13.9 | 19.4 | 17.9 | 25.1 | 14.0 | 22.5 | 23.2 |
| Number of observations | 5252 | 1683 | 1386 | 2072 | 4521 | 430 | 404 | 182 | 705 | 230 |

EGM = electronic gaming machine

Those engaging in informal games such as poker or mahjong were more likely to be male (80.8%), to be below the age of 45 (80.5%), to be born in Australia (77.7%) and to have highest educational attainment at year 12 (34.0%) than those who do not engage in informal gambling games.

People who engaged in casino table games were more likely to be male (77.4%), to be aged under 45 (83.8%), to have been born in Australia (81.1%), to have their highest educational attainment at year 12 (36.7%), to earn more than \$125 000 (25.1%) and to be employed full-time (75.3%) than those who do not play casino table games. In contrast, they were less likely to be married (32.5%) and less likely to hold a postgraduate degree (11.0%).

Bingo participants were more likely to be female (78.0%), to have their highest educational attainment at year 12 (40.1%), to be single (33.9%)

and to be out of the paid labour force (24.8%) than those who do not play bingo.

People purchasing lottery tickets were more likely to be married (54.8%), more likely to be full-time employed (65.1%), more likely to earn above \$80 000 (54.7%), and less likely to be between 18 and 29 years old (13.9%) than those who do not purchase lottery tickets. In contrast to other forms of gambling, those purchasing lottery tickets were more likely to be born outside Australia (30.5%).

Those engaged in Keno were more likely to be male (57.9%), less likely to be over the age of 60 (13.8%), more likely to be born in Australia (85.5%), more likely to have a highest educational attainment of certificate or diploma (36.4%) and more likely to be employed full-time (73.4%) than those who do not play Keno.

3.5 Co-occurrence of gambling activities

Gambling prevalence surveys typically divide gamblers into distinct groups by activity and analyse them as such, yet almost all gamblers participate in a variety of forms of gambling. To visualise and understand this variability in gambling behaviour at the population level, we devised two ‘co-occurrence’ data visualisations. The first (Figure 2) allows us to look at the total prevalence of two gambling activities together at the population level, while the second (Figure 3) allows us to calculate the probability that an individual gambled on one activity, given that they had already played in another. Appreciating

common patterns of gambling behaviour may improve efforts to target different forms of gambling support.

For example, although the lottery is not typically associated with high levels of gambling harm, its overall prevalence and co-occurrence with many other gambling activities may justify targeting lottery participants with harm prevention and harm reduction strategies.

In Figure 2, each cell gives the percentage of the adult population who participated in the activity of both the column and the row. For example, 3.9% of the population used EGMs and played casino table games in the past 12 months. The diagonal cells (in bold) give the overall participation

Figure 2 Co-occurrence of two gambling activities

| | EGMs | Casino table games | Online pokies and casino games | Horse and greyhound racing | Instant scratch tickets | Lottery | Keno | Bingo | Sports and special events | Informal games |
|--------------------------------|-------------|--------------------|--------------------------------|----------------------------|-------------------------|-------------|------------|------------|---------------------------|----------------|
| EGMs | 19.7 | | | | | | | | | |
| Casino table games | 3.9 | 5.8 | | | | | | | | |
| Online pokies and casino games | 0.5 | 0.2 | 0.8 | | | | | | | |
| Horse and greyhound racing | 6.7 | 2.8 | 0.3 | 14.3 | | | | | | |
| Instant scratch tickets | 8.2 | 2.1 | 0.4 | 5.2 | 21.1 | | | | | |
| Lottery | 12.8 | 3.2 | 0.5 | 9.4 | 15.3 | 43.8 | | | | |
| Keno | 3.0 | 0.9 | 0.3 | 2.2 | 2.6 | 3.4 | 4.6 | | | |
| Bingo | 1.0 | 0.2 | 0.0 | 0.5 | 0.9 | 1.3 | 0.4 | 2.2 | | |
| Sports and special events | 5.0 | 3.0 | 0.4 | 5.6 | 3.4 | 5.6 | 1.5 | 0.3 | 9.7 | |
| Informal games | 1.2 | 0.9 | 0.2 | 1.1 | 1.1 | 1.4 | 0.4 | 0.1 | 1.1 | 3.0 |

EGM = electronic gaming machine

figure for the single activity. High levels of co-occurrence are marked in red.

Figure 3 presents the likelihood (expressed in percentages) of playing one activity given that the respondent plays another.⁸ These percentages are shown horizontally – for example, the percentage of people who use EGMs who also engage in other activities is found in the EGM row, not the column. Red indicates where there is higher likelihood of gambling in one activity given another. For example, reading by row, Figure 3 indicates that 64.8% of EGM gamblers bought

lottery tickets, but were unlikely to engage with online pokies and casino games (2.4%).

3.6 Variety of gambling by participants by gambling activity

Table 9 shows the typical number of other gambling activities participated in by participants of each activity. Lottery and instant scratch ticket buyers typically engaged in fewer activities

Figure 3 Likelihood of participating in an activity given participation in another (by row)

| | EGMs | Casino table games | Online pokies and casino games | Horse and greyhound racing | Instant scratch tickets | Lottery | Keno | Bingo | Sports and special events | Informal games |
|--------------------------------|------|--------------------|--------------------------------|----------------------------|-------------------------|---------|------|-------|---------------------------|----------------|
| EGMs | | 19.8 | 2.4 | 33.8 | 41.6 | 64.8 | 15.2 | 5.2 | 25.3 | 6.1 |
| Casino table games | 67.3 | | 3.5 | 49.0 | 36.5 | 55.3 | 15.9 | 2.8 | 51.7 | 15.6 |
| Online pokies and casino games | 62.4 | 26.7 | | 40.6 | 50.0 | 65.5 | 39.0 | 2.8 | 52.9 | 22.3 |
| Horse and greyhound racing | 46.8 | 19.9 | 2.2 | | 36.3 | 65.6 | 15.2 | 3.2 | 39.0 | 7.8 |
| Instant scratch tickets | 38.9 | 10.1 | 1.8 | 24.6 | | 72.8 | 12.2 | 4.3 | 16.2 | 5.1 |
| Lottery | 29.2 | 7.3 | 1.1 | 21.4 | 35.0 | | 7.8 | 2.9 | 12.8 | 3.3 |
| Keno | 64.8 | 19.9 | 6.5 | 46.8 | 55.5 | 73.7 | | 8.6 | 32.2 | 8.7 |
| Bingo | 47.4 | 7.5 | 1.0 | 20.8 | 41.7 | 57.9 | 18.5 | | 11.9 | 6.3 |
| Sports and special events | 51.6 | 31.1 | 4.2 | 57.7 | 35.2 | 58.2 | 15.5 | 2.7 | | 11.7 |
| Informal games | 39.4 | 29.8 | 5.6 | 36.6 | 35.3 | 46.8 | 13.3 | 4.5 | 37.1 | |

EGM = electronic gaming machine

than other gamblers (two activities), while those who engaged in Keno, and online pokies and casino games were likely to participate in a range of gambling activities. In general, those who

engaged in niche or low-prevalence activities such as casino table games and Keno gambled on a greater range of activities overall.

Table 9 Typical number of other gambling activities engaged in, by gambling activity

| Gambling activity | Typical number of other gambling activities | ACT adult participation (%) |
|--------------------------------|---|-----------------------------|
| Lottery | 2 | 43.8 |
| Instant scratch tickets | 2 | 21.1 |
| EGMs | 3 | 19.7 |
| Bingo | 3 | 2.2 |
| Informal games | 3 | 3.0 |
| Horse and greyhound racing | 3 | 14.3 |
| Sports and special events | 3 | 9.7 |
| Casino table games | 3 | 5.8 |
| Keno | 4 | 4.6 |
| Online pokies and casino games | 4 | 0.8 |

EGM = electronic gaming machine

Key findings from Chapter 3

- 60% of adults in the ACT participated in at least one form of gambling during the past 12 months, equivalent to approximately 200 000 individuals.
- Participation differed by gender, with significantly more males (64%) than females (56%) participating in at least one form of gambling during the past 12 months.
- The most common gambling activity reported in the ACT was buying lottery tickets (44% of the population).
- One in five (20%) ACT adults used EGMs in the past year. A smaller proportion of the population reported betting on horse or greyhound races in the past year (14%), followed by sports betting (10%).
- EGM gamblers were more likely to be male (59%) and skew demographically young (below 30 years) compared with gamblers who do not use EGMs.
- Individuals who bet on horse and greyhound races were more likely to be male (64%) and below the age of 30 (26%) than those who do not bet on races.
- Those who bet on sports and special events were more likely to be male (80%), below the age of 45 (81%), born in Australia (77%), single (30%) and employed full-time (78%) than those who do not bet on sports and special events.

4 Gambling frequency in the ACT

All survey participants who answered that they participated in a gambling activity in the past 12 months were also asked how frequently they engaged in these activities. Combined with the initial question on gambling participation, gambling frequency was categorised as never, low frequency (occasionally, less than once per month), medium frequency (monthly, 1–3 times per month) and high frequency (weekly, 4+ times per month).⁹

4.1 Total gambling frequency by category

Table 10 gives the frequency of gambling among ACT adults. A higher proportion of people (40.4%) did not gamble at all than any of the other three categories. A further 105 000 (32.5%) of the adult population were low-frequency gamblers, 47 000 people (14.6%) were medium-frequency gamblers, and 40 000 people (12.5%) were high-frequency gamblers.

4.2 Gambling frequency by sociodemographic indicator

Table 11 and Figures 4–6 show the frequency categories of gambling in the ACT according to sociodemographic indicators.

Several significant sociodemographic associations with gambling frequency categories were found in the survey data.¹⁰ Females were more likely to be non-gamblers (44.6%, compared with 36.0% of males) and low-frequency gamblers (34.2%, compared with 30.6% of males). Males, however, were more likely to be medium-frequency gamblers (16.5%, compared with 12.8% of females) and high-frequency gamblers (16.8%, compared with 8.3% of females).

The relationship between frequency and age shifted across frequency categories. Respondents aged over 45 were significantly less likely to be low-frequency gamblers and significantly more likely to be high-frequency gamblers (Figure 4).¹¹ Further, individuals aged 60 and over were highly likely to be high-frequency gamblers.

Those outside the paid labour force were more likely than other ACT adults to be high-frequency gamblers (16.3%, compared with 12.5% of all ACT adults), while those who were in part-time or casual roles were less likely than the ACT population to be high-frequency gamblers (9.1%, compared with 12.5%) or medium-frequency gamblers (10.0%, compared with 14.6%).

People who earn less than \$20 000 a year were significantly more likely to never gamble, and nearly 3 times less likely than others in the ACT adult population to be medium-frequency gamblers. However, there is relative stability

Table 10 Gambling frequency in the ACT population

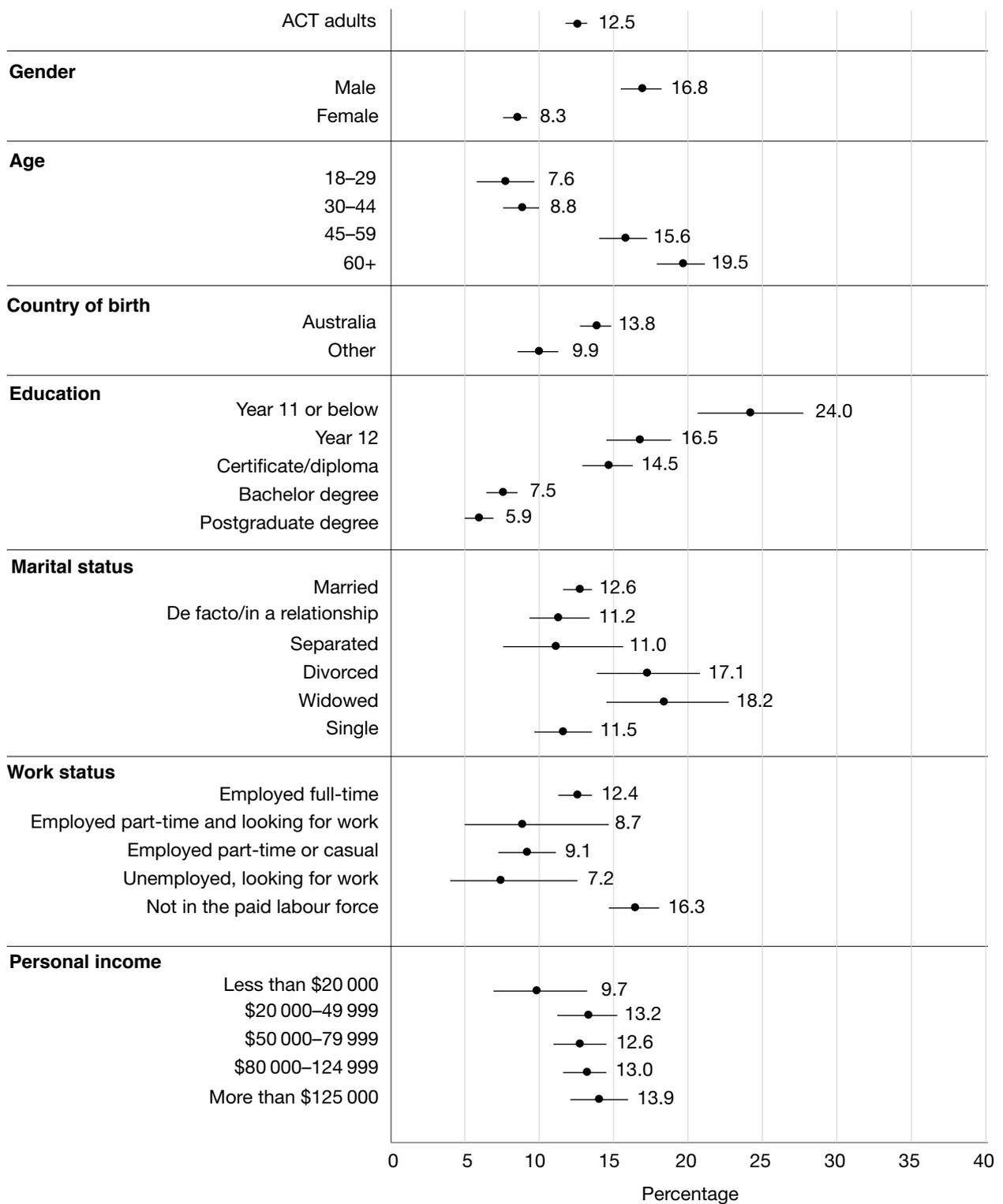
| Frequency category | Percentage | Estimated number ^a |
|--------------------|------------|-------------------------------|
| Never | 40.4 | 131 000 |
| Low frequency | 32.5 | 105 000 |
| Medium frequency | 14.6 | 47 000 |
| High frequency | 12.5 | 40 000 |

^a Figures are rounded to nearest 1000.

Table 11 Gambling frequency, by sociodemographic indicator

| Indicator | Never (%) | Low (%) | Medium (%) | High (%) |
|---|-----------|---------|------------|----------|
| ACT adults (<i>n</i> = 9882) | 40.4 | 32.5 | 14.6 | 12.5 |
| Gender (<i>n</i> = 9882) | | | | |
| Male | 36.0 | 30.6 | 16.5 | 16.8 |
| Female | 44.6 | 34.2 | 12.8 | 8.3 |
| Age (<i>n</i> = 9882) | | | | |
| 18–29 | 43.0 | 37.8 | 11.6 | 7.6 |
| 30–44 | 40.0 | 35.6 | 15.7 | 8.8 |
| 45–59 | 36.1 | 30.9 | 17.4 | 15.6 |
| 60+ | 43.0 | 24.4 | 13.2 | 19.5 |
| Country of birth (<i>n</i> = 9882) | | | | |
| Australia | 36.7 | 33.8 | 15.7 | 13.8 |
| Other | 47.9 | 29.9 | 12.3 | 9.9 |
| Education (<i>n</i> = 9820) | | | | |
| Year 11 or below | 32.4 | 24.9 | 18.7 | 24.0 |
| Year 12 | 32.6 | 35.6 | 15.2 | 16.5 |
| Certificate/diploma | 35.8 | 32.8 | 16.8 | 14.5 |
| Bachelor degree | 46.3 | 33.2 | 13.0 | 7.5 |
| Postgraduate degree | 52.0 | 31.1 | 11.1 | 5.9 |
| Other | 43.1 | 30.7 | 14.5 | 11.7 |
| Marital status (<i>n</i> = 9835) | | | | |
| Married | 40.3 | 32.5 | 14.6 | 12.6 |
| De facto/in a relationship | 34.6 | 35.9 | 18.2 | 11.2 |
| Separated | 35.4 | 36.6 | 16.9 | 11.0 |
| Divorced | 37.9 | 27.7 | 17.3 | 17.1 |
| Widowed | 47.8 | 23.0 | 10.9 | 18.2 |
| Single | 44.6 | 32.0 | 12.0 | 11.5 |
| Work status (<i>n</i> = 9837) | | | | |
| Employed full-time | 34.4 | 35.9 | 17.4 | 12.4 |
| Employed part-time and looking for work | 50.3 | 30.3 | 10.6 | 8.7 |
| Employed part-time or casual | 47.1 | 33.8 | 10.0 | 9.1 |
| Unemployed, looking for work | 56.9 | 26.6 | 9.3 | 7.2 |
| Not in the paid labour force | 47.2 | 24.0 | 12.4 | 16.3 |
| Personal Income (<i>n</i> = 8689) | | | | |
| Less than \$20 000 | 56.4 | 28.1 | 5.8 | 9.7 |
| \$20 000–49 999 | 42.8 | 31.3 | 12.7 | 13.2 |
| \$50 000–79 999 | 37.3 | 34.0 | 16.1 | 12.6 |
| \$80 000–124 999 | 35.0 | 35.0 | 17.0 | 13.0 |
| More than \$125 000 | 34.3 | 33.3 | 18.4 | 13.9 |

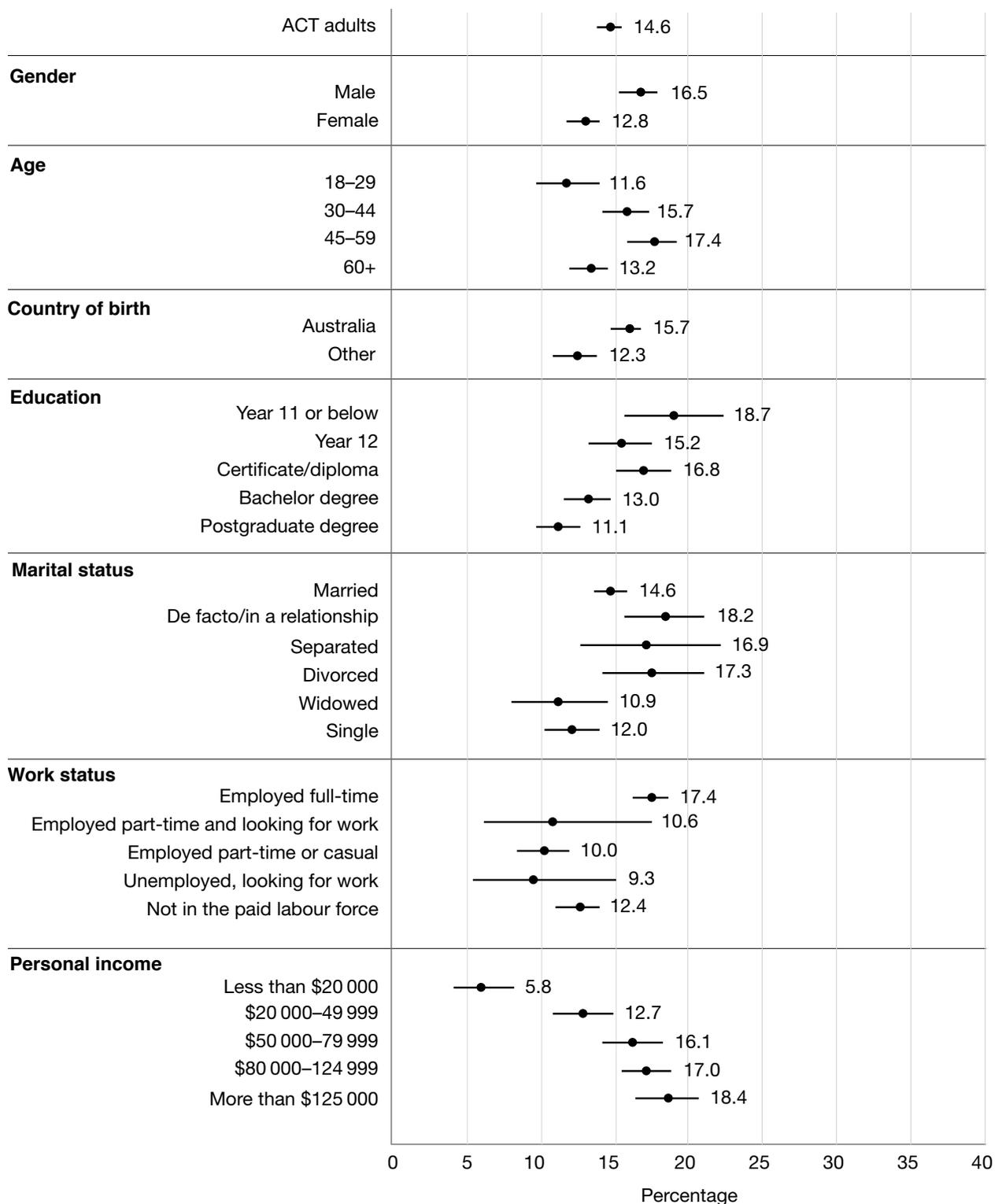
Figure 4 High-frequency gambling, by sociodemographic indicator



across all income brackets and different frequency categories when looking at incomes over \$20 000.

The relationship between education and frequency is most pronounced in high-frequency gamblers (Figure 4). Those with a bachelor or postgraduate degree were significantly less likely

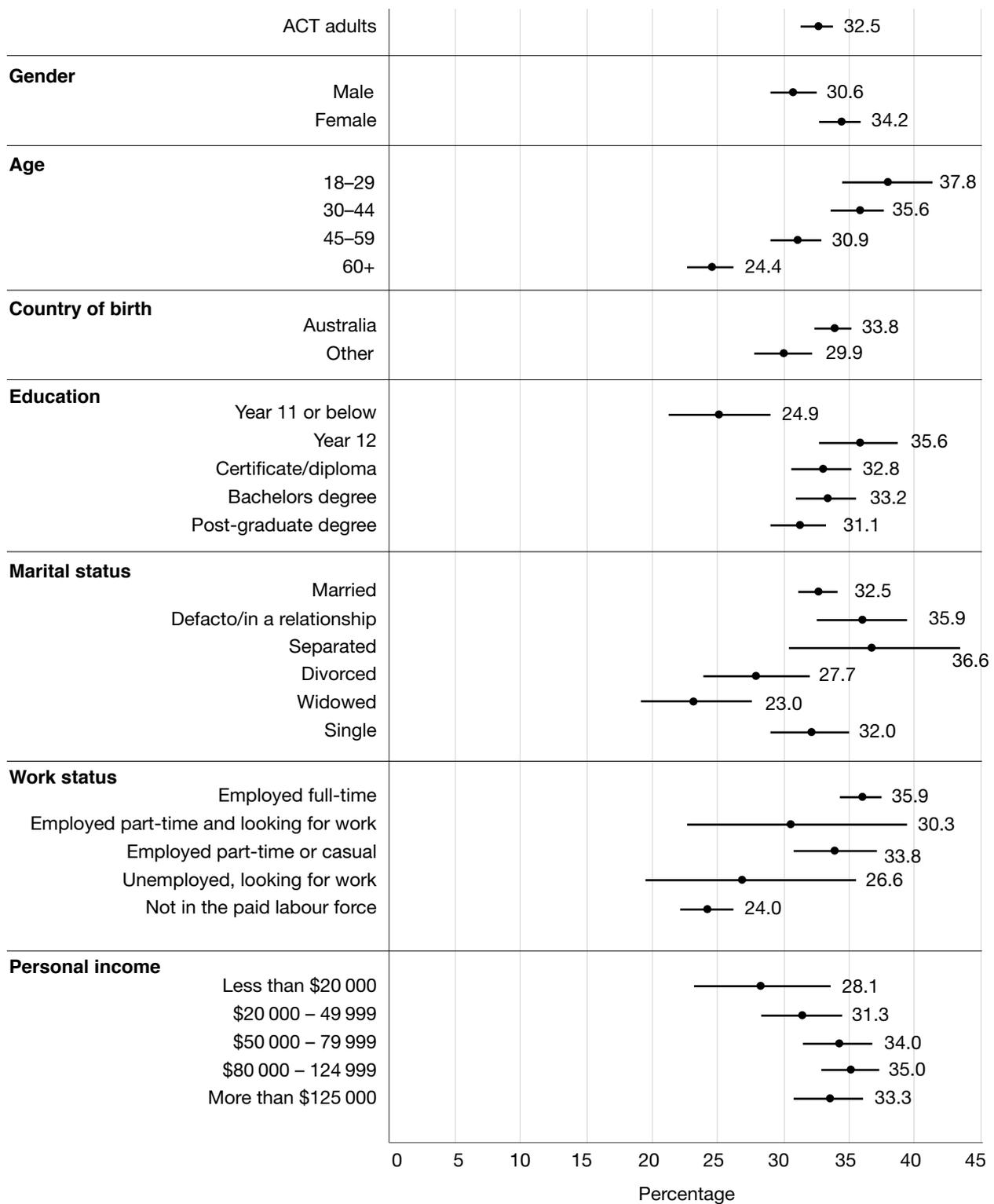
Figure 5 Medium-frequency gambling, by sociodemographic indicator



to be high-frequency gamblers (7.5% and 5.9%, respectively, compared with 12.5% of ACT adults who gambled in the past 12 months). Those with year 11 education or lower, year 12, or trade certificates and diplomas were more likely than

the general population to be high-frequency gamblers (24%, 16.5% and 14.5%, respectively, compared with 12.5% of ACT adults who gambled in the past 12 months). As with age, this relationship could be reflecting a cohort effect –

Figure 6 Low-frequency gambling, by sociodemographic indicator



that is, older people are more likely to be high-frequency gamblers and not in the paid labour force, and may also have received less education than today's younger cohort.

Those born outside Australia were significantly less likely to be gamblers of any frequency (47.9% had never gambled, compared with 36.7% of those born in Australia) and were accordingly less likely to be high-frequency gamblers (9.9%,

compared with 13.8%), medium-frequency gamblers (12.3%, compared with 15.7%) or low-frequency gamblers (29.9%, compared with 33.8%).

Married respondents were represented at approximately the same level as the general population at all frequency categories. Divorced and widowed people were more likely to be high-frequency gamblers (17.1% and 18.2%, respectively, compared with 12.5% of ACT adults), while widowed people were less likely to be low-frequency gamblers (23.0%, compared with 32.5% of ACT adults).

4.3 Gender differences in medium- and high-frequency gamblers

Further analysis was conducted on gender differences in the sociodemographic makeup of medium-frequency (Figure 7) and high-frequency (Figure 8) gamblers.

Beginning with medium-frequency gamblers,¹² the analysis found that female medium-frequency gamblers were more likely to be aged over 60 (21.2%, compared with 15.8% of males). Female medium-frequency gamblers were more likely to be widowed (4.7%, compared with 0.96% of males) and more likely to not be in a relationship (21.6%, compared with 17.2% of males). Female medium-frequency gamblers were more likely to be employed part-time or on a casual contract (18.1%, compared with 7.3% of males). Female medium-frequency gamblers were significantly more likely to have personal incomes below \$50 000; 50.3% of female medium-frequency gamblers earned \$49 000 or less, compared with 36.5% of male medium-frequency gamblers.

Male medium-frequency gamblers were significantly more likely to be married than females (53.4%, compared with 43.8% of females) and more likely to be born overseas (28.1%, compared with 23.0%). Male medium-frequency gamblers were also more likely to be employed full-time and earn more than \$125 000, which is more than double the rate of female medium-frequency gamblers.

Figure 8 shows the sociodemographic characteristics of male and female high-frequency gamblers.¹³ The analysis shows a marked difference in the age of high-frequency gamblers. Male high-frequency gamblers were 3 times more likely to be under the age of 30 (17.9%, compared with 6.8% of females). In contrast, female high-frequency gamblers were more likely to be aged 45 and over. High-frequency female gamblers were significantly more likely to have year 11 or lower education than males (23.1%, compared with 11.3%).

Male high-frequency gamblers were significantly more likely to have a full-time job (63.1%, compared with 46.3% of females) and have incomes over \$80 000. In contrast, female high-frequency gamblers were more likely to be out of the paid labour force, or working part-time or casual, and earn less than \$80 000 a year.

4.4 Average frequency by gambling activity

Figure 9 shows the average frequency of participation in gambling by gambling activity in the ACT adult population. The results show that ACT residents engage with the lottery most frequently (8.4 times per year), followed by betting on horse races and greyhounds (4.8 times), sports and special events betting (2.9 times), EGMs (2.3 times) and instant scratch tickets (1.8 times).

Table 12 provides the average 12-month frequency for participants in each type of gambling activity. For example, on average, EGM gamblers engage 12 times per year.

Notable in the results is that all distributions are highly skewed, with the median frequency far less than the mean. This is typical of cases in which a small number of people participate at disproportionately high rates. The skewness appears to be most apparent in the case of horse and greyhound racing, where the median frequency is 2 and the mean is 34.4. This is followed by sports betting (median 5, mean 31.1), consistent with a separation in the population of racing and sports bettors – that is, between those who bet once or twice per year on events such as the Melbourne Cup, and those who bet on racing on a regular basis.

Figure 7 Medium-frequency gambling, by gender

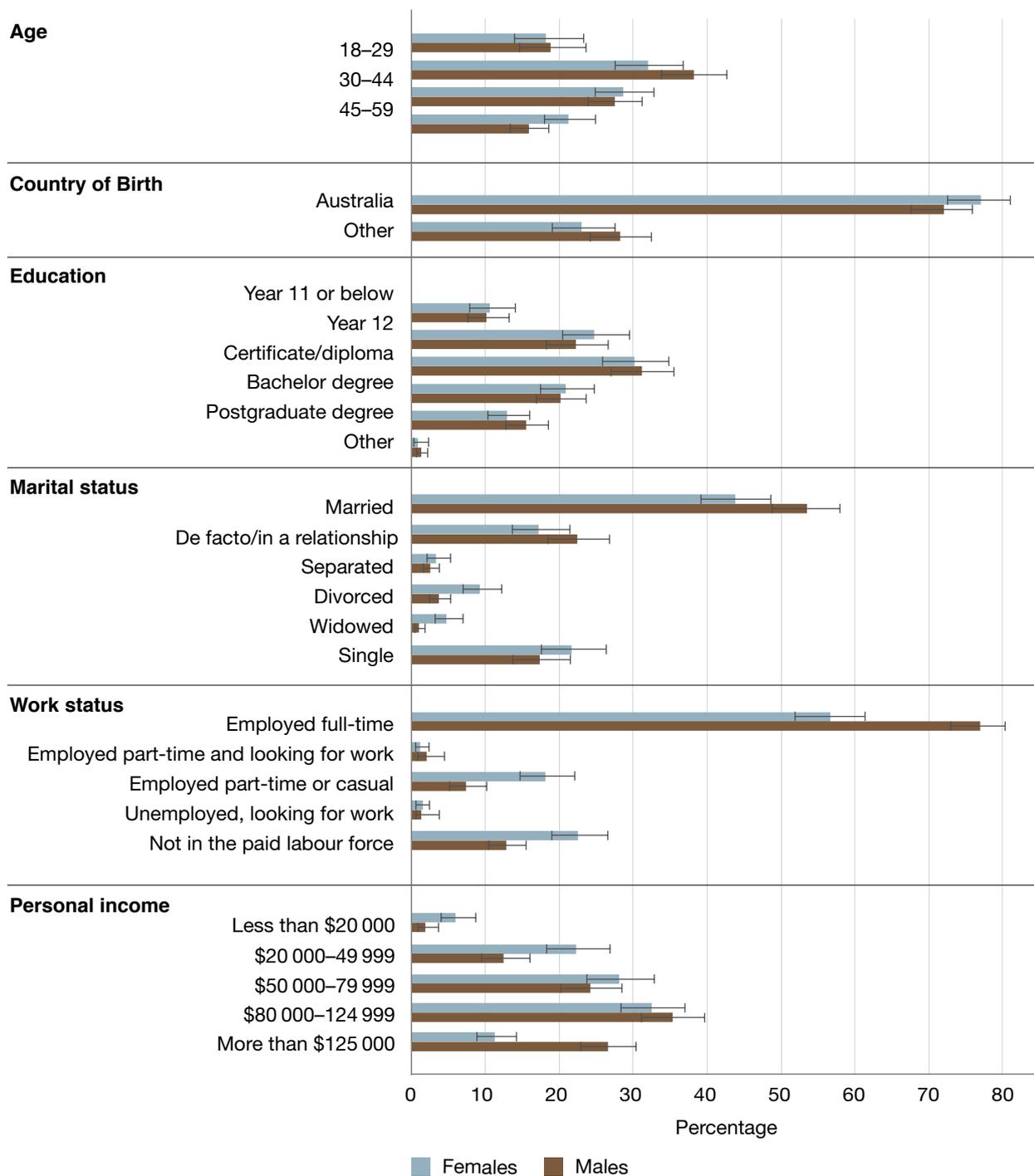


Figure 8 High-frequency gambling, by gender

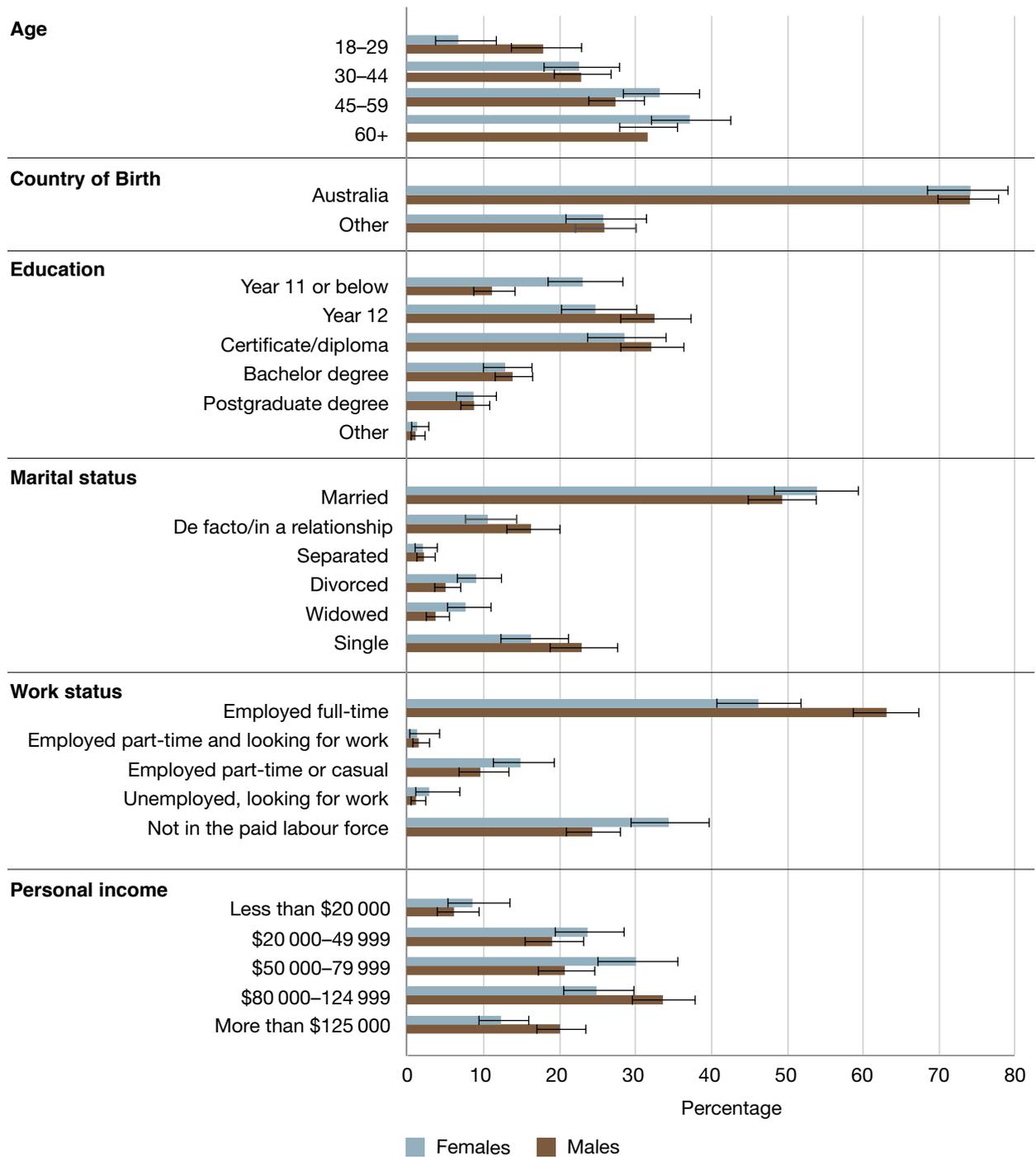
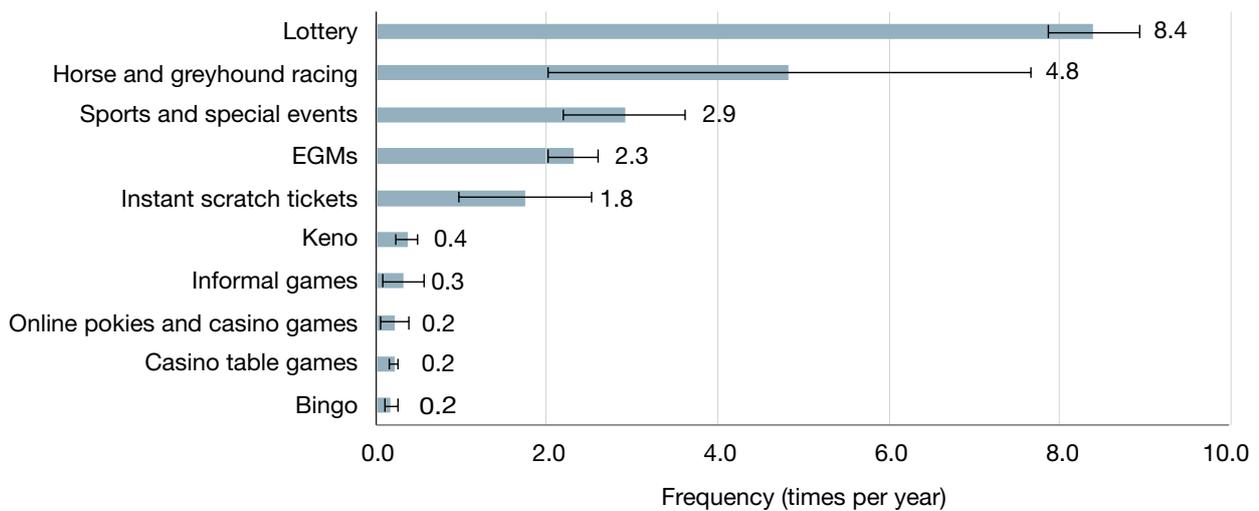


Figure 9 Frequency of gambling, by gambling activity



EGM = electronic gaming machine

Note: $n = 9882$, weighted to the ACT adult population.

Table 12 Frequency of each gambling activity

| Activity | Mean number of times per year ^a | Median |
|--------------------------------|--|--------|
| Online pokies and casino games | 37.1 | 10 |
| Horse and greyhound racing | 34.4 | 2 |
| Sports and special events | 31.1 | 5 |
| Lottery | 19.5 | 6 |
| Informal games | 12.4 | 3 |
| EGMs | 12.3 | 3 |
| Bingo | 9.5 | 2 |
| Instant scratch tickets | 8.6 | 3 |
| Keno | 8.1 | 2 |
| Casino table games | 5.5 | 2 |

EGM = electronic gaming machine

^a Figures are rounded and weighted to the ACT adult population.

Key findings from Chapter 4

- Approximately 33% (105 000 people) of the ACT adult population were low-frequency gamblers, and 27% (87 000 people) were medium- or high-frequency gamblers.
- Females were more likely to be non-gamblers and low-frequency gamblers than males. Males were significantly more likely to be medium- and high-frequency gamblers.
- Individuals under the age of 45 were more likely to be low-frequency gamblers than those aged 45 or older. This relationship is reversed for high-frequency gamblers.
- Male high-frequency gamblers were more likely to be under the age of 30 (17.9%, compared with 6.8% of females).
- The results show that, on average, ACT residents engaged with the lottery most frequently in the past 12 months (8.4 times), followed by betting on horse races and greyhounds (4.8 times), sports and special events betting (2.9 times), EGMs (2.3 times) and instant scratch tickets (1.8 times).

5 Gambling expenditure and gambling losses in the ACT

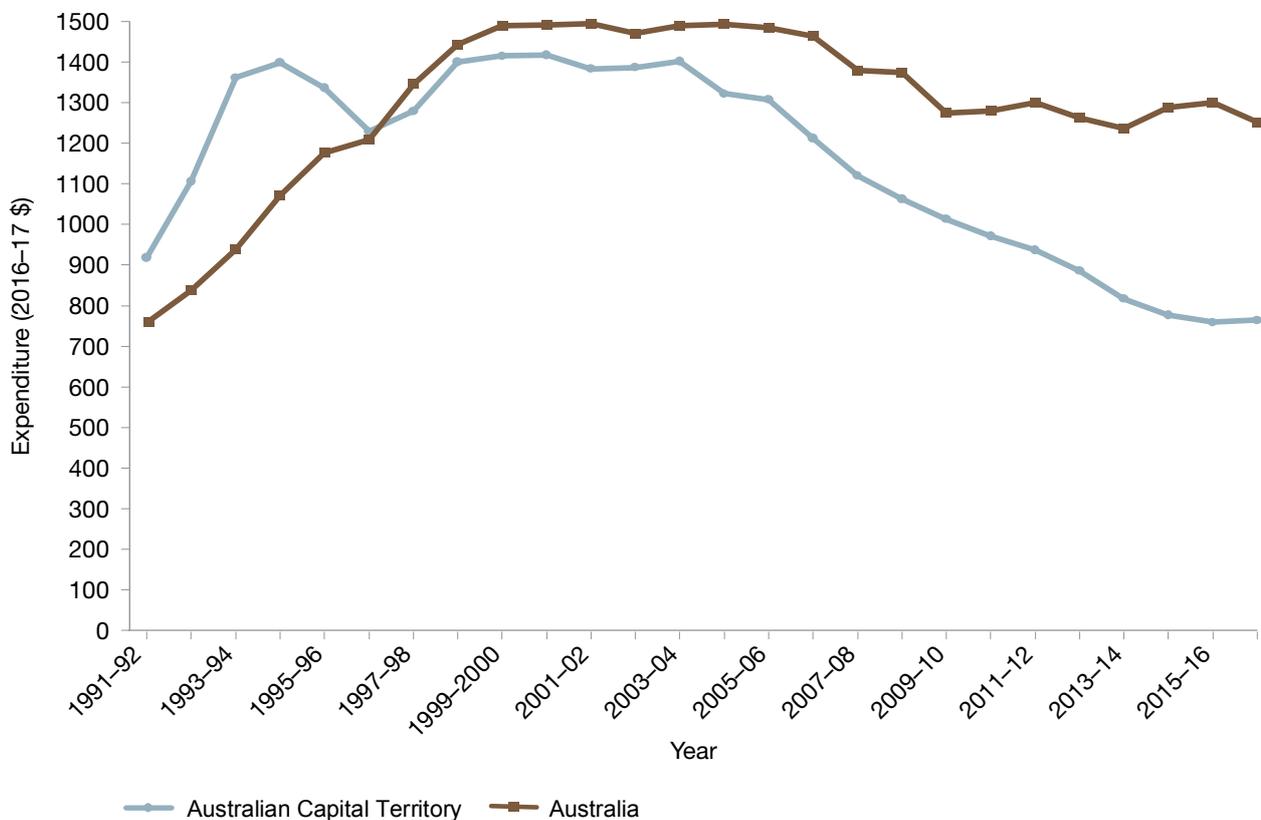
5.1 Per capita expenditure on gambling over time

Figures 10 and 11 present real per capita expenditure on gambling, as reported in *Australian gambling statistics 1991–92 to 2016–17*, prepared by the Queensland Government Statistician. These data reflect expenditure – the amount wagered less the amount won – divided by the relevant population aged 18 years and over. The data presented in *Australian gambling statistics* are collected by state and territory

governments for administration of taxation of gambling (Davidson et al. 2015).

Figure 10 compares real per capita expenditure on gambling in the ACT with expenditure in Australia as a whole. The graph shows a marked increase in per capita expenditure on gambling since the 1980s and into the 1990s in the ACT and Australia more broadly. This period coincided with the expansion of EGMs in Victoria, Queensland and South Australia, and the introduction of casinos in most states (Davidson et al. 2015). It is also important to note that the industry data from

Figure 10 Real per capita expenditure on gambling in ACT and Australian adult populations, 1991–92 to 2016–17



Source: *Australian gambling statistics: 1991–92 to 2016–17*, 34th edition, Table All Gambling 8.

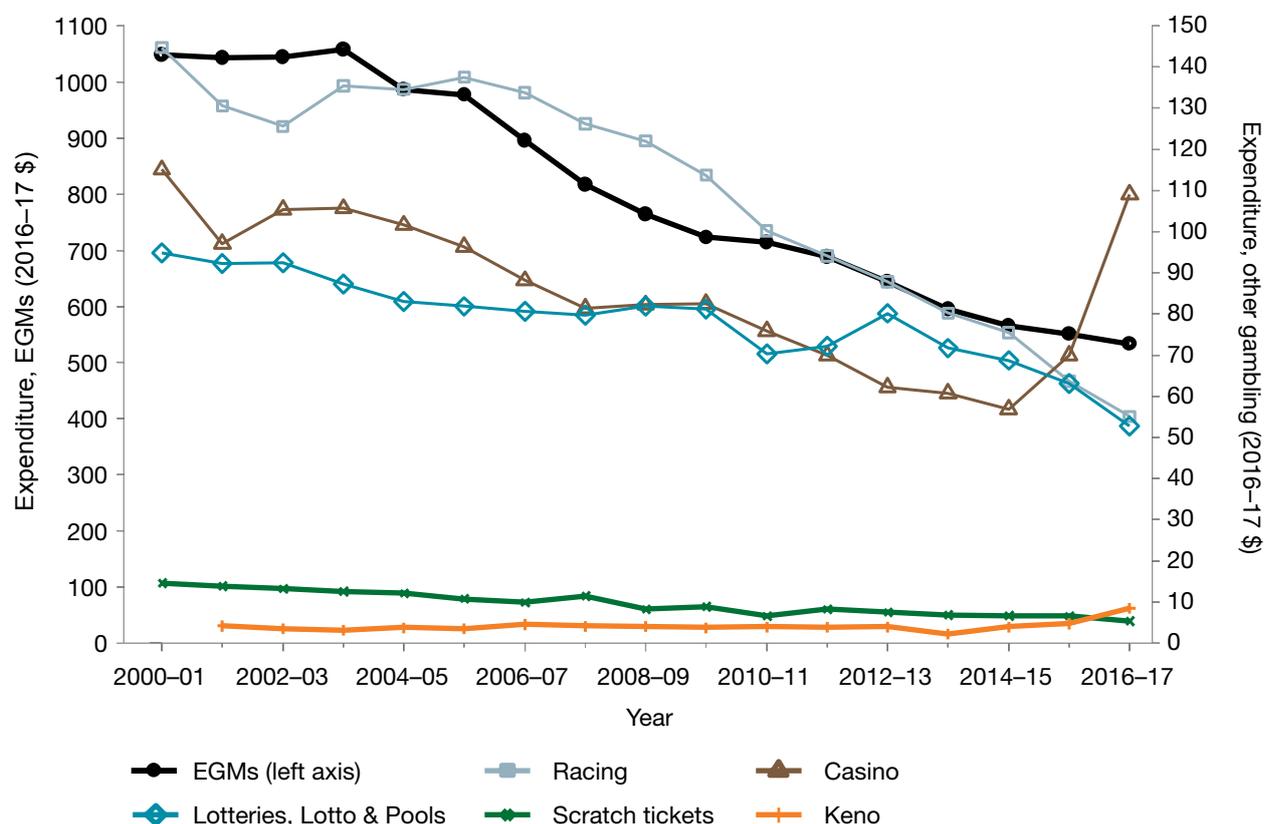
Australian gambling statistics do not include data on online gambling expenditure, so real per capita expenditure (adjusted for inflation) on gambling in the ACT and Australia would be higher than the amounts in Figure 10.

Per capita expenditure on gambling has fallen significantly in the ACT from its peak of \$1415 in 1999–2000. The financial years 1999–2000 to 2015–16 show a consistent year-on-year decline; over this period, per capita expenditure on gambling fell 46.3%. However, 2016–17 saw a small increase in per capita expenditure of 0.6%.

Per capita expenditure on gambling in the ACT has been lower than that for Australia as a whole since 1997–98. In the 2016–17 financial year, per capita expenditure in the ACT was 61.1% of that for the nation as a whole.

Figure 11 presents real per capita expenditure on different types of gambling activities in the ACT. Expenditure on all forms of gambling has continued to decline in per capita terms since the last ACT gambling survey in 2014, with the exception of expenditure at Casino Canberra (the ACT’s sole casino), which increased by 47.7%

Figure 11 Real per capita expenditure by activity in the ACT, 2000–01 to 2016–17



EGM = electronic gaming machine

Notes:

1. Data on expenditure on Keno were not available for 2000–01.
2. Expenditure on EGMs is measured on the left vertical axis, and other expenditures are measured on the right vertical axis.

Source: *Australian gambling statistics 1991–92 to 2016–17*, 34th edition, Tables ACT 8 and ACT 23. The financial reports indicate a 7.4% increase in visitation and a 32.9% increase in spend per visitor between 2014–15 and 2015–16. Note that the increase in spend per visitor would reflect expenditure on both gaming and non-gaming purchases. The increase in gaming revenue presented in the financial reports does not necessarily reflect an increase in gaming expenditure per visitor.

from 2014–15 to 2016–17. The financial reports of Aquis Entertainment Limited, the owner of Casino Canberra, suggest that this increase in per capita expenditure reflects an increase in expenditure arising from a 52.1% increase in gaming revenue between 2013–14 and 2015–16 (Aquis Entertainment 2017).

5.2 Self-reported gambling losses

The 2019 ACT Gambling Survey included questions that asked respondents ‘... subtracting any winnings, how much money were you out of pocket?’ for each gambling activity in which they had participated in the past 12 months, both online and overall.

Table 13 presents average gambling losses reported in the previous 12 months for each gambling activity, both online and overall. The average (overall) gambling loss incurred by each

ACT resident was \$699 in the past 12 months. Average losses incurred from gambling online were only slightly lower, at \$691. Overall, participation in gambling associated with casino table games incurred the highest average losses, at \$897, followed by EGMs, at \$656. Racing and sports betting had the next highest levels of gambling loss, at \$609 and \$576, respectively.

Although participation in online pokies is low in the ACT, those who participated in this form of gambling reported the highest average losses, at \$1256 ($n = 25$). Online losses associated with racing were also significant, at just under \$1000. Online pokies and casino games, and online sports betting were also reported to be associated with significant losses – on average, \$530 and \$451, respectively.

The survey found that 79% of ACT adults who participated in sports betting did so online. This suggests that losses online make a large contribution to overall sports betting losses.

Table 13 Average gambling losses overall and online, by activity

| Activity | Loss (\$/year) | |
|----------------------------|----------------|--------|
| | Overall | Online |
| EGMs | 656 | 1256 |
| Horse and greyhound racing | 609 | 977 |
| Casino table games | 897 | 530 |
| Lottery | 305 | 335 |
| Instant scratch tickets | 82 | 117 |
| Keno | 106 | 263 |
| Bingo | 141 | 0 |
| Sports and special events | 576 | 451 |
| Informal games | 120 | 119 |
| Total | 699 | 691 |

EGM = electronic gaming machine

Note: Overall loss is average dollars lost per year of those who gamble using each activity (e.g. people who used EGMs – online or offline – lost on average \$656 per year). Online loss is average dollars lost per year of those who gamble online using each activity.

5.3 Who incurs the largest losses?

Table 14 gives an indication of the sociodemographic characteristics of ACT residents who incurred the largest gambling losses. With the exception of instant scratch tickets and bingo, males had higher average losses across all types of gambling than females. Average losses for males who participated in these activities were typically more than, or close to, double the losses of females. This pattern was most pronounced for casino table games (overall), where average losses for males were almost 6 times those of females. Average losses associated with sports betting (overall) and online sports betting among males were 7.4 times and 5.8 times, respectively, those of females. For males, the average total losses were 2.6 times (almost triple) those of females for total online gaming.

Although the relationships between gambling losses and the other sociodemographic characteristics are less clear, what does stand out in Table 14 is the higher average losses of those who were divorced or widowed compared with those who were partnered (whether married or in a de facto relationship). The average total losses incurred by people who were divorced were triple those incurred by married gamblers; for online gambling, the total losses for divorced people were double those for married people. The higher total (overall) losses of divorced people compared with people who are married appear to be driven by losses incurred in casino table games, informal games, EGMs, racing (overall and online) and bingo. Average losses incurred playing casino table games and informal games (overall) are especially pronounced for divorced people, at 8.1 and 5.7 times, respectively, those of married people. Among widowed people, the magnitude of average gambling losses compared with people who are married are particularly high for EGMs (5.1 times) and bingo (8.9 times).

Key findings from Chapter 5

- During 2016–17, the ACT saw a small increase in per capita expenditure on gambling of 0.6%.
- Expenditure on all forms of gambling has declined in per capita terms since the last ACT survey in 2014, with the exception of per capita expenditure at Casino Canberra, which increased by 47.7% since 2014–15.
- On average, each ACT resident who gambled lost \$699 in the past 12 months.
- Males who gambled in the ACT had average losses that were 2.5 times those of females who gambled in the past 12 months.
- The average total losses incurred by divorced people were triple those of married people.

Table 14 Average gambling losses (\$) by gambling activity, by sociodemographic indicator

| Indicator | EGMs | | Racing | | Casino | | Lottery | | Instant scratch tickets | | Bingo | | Sports | | Informal | | Total | | |
|----------------------------|---------|--------|---------|--------|---------|--------|---------|--------|-------------------------|--------|---------|--------|---------|--------|----------|--------|---------|--------|--|
| | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online | |
| Gender | | | | | | | | | | | | | | | | | | | |
| Male | 808 | 804 | 1169 | 1088 | 386 | 451 | 75 | 108 | 700 | 525 | 130 | 989 | 911 | | | | | | |
| Female | 437 | 296 | 536 | 189 | 219 | 187 | 87 | 150 | 95 | 91 | 81 | 382 | 313 | | | | | | |
| Age | | | | | | | | | | | | | | | | | | | |
| 18–29 | 532 | 471 | 571 | 450 | 132 | 145 | 66 | 44 | 314 | 358 | 73 | 629 | 453 | | | | | | |
| 30–44 | 731 | 520 | 1013 | 1262 | 250 | 327 | 93 | 72 | 994 | 588 | 137 | 746 | 766 | | | | | | |
| 45–59 | 756 | 790 | 978 | 1613 | 377 | 416 | 84 | 90 | 222 | 246 | 190 | 755 | 658 | | | | | | |
| 60+ | 639 | 752 | 2537 | 2439 | 389 | 536 | 80 | 444 | 456 | 590 | 285 | 631 | 1195 | | | | | | |
| Education | | | | | | | | | | | | | | | | | | | |
| Year 11 or below | 1023 | 783 | 774 | 3067 | 381 | 334 | 137 | 724 | 240 | 277 | 374 | 1048 | 586 | | | | | | |
| Year 12 | 770 | 924 | 1419 | 695 | 334 | 395 | 59 | 75 | 567 | 622 | 122 | 904 | 1022 | | | | | | |
| Certificate/diploma | 495 | 535 | 1024 | 903 | 328 | 401 | 111 | 130 | 1164 | 580 | 123 | 714 | 825 | | | | | | |
| Bachelor degree | 580 | 304 | 516 | 705 | 266 | 272 | 47 | 38 | 249 | 253 | 95 | 511 | 396 | | | | | | |
| Postgraduate degree | 327 | 445 | 459 | 1127 | 218 | 202 | 74 | 34 | 173 | 151 | 53 | 401 | 313 | | | | | | |
| Other | 788 | 73 | 164 | 84 | 353 | 331 | 30 | 60 | 156 | 176 | 5 | 489 | 360 | | | | | | |
| Relationship status | | | | | | | | | | | | | | | | | | | |
| Married | 485 | 546 | 1020 | 680 | 316 | 345 | 79 | 136 | 971 | 574 | 113 | 582 | 692 | | | | | | |
| De facto/in a relationship | 550 | 417 | 624 | 1313 | 276 | 361 | 47 | 39 | 267 | 336 | 98 | 681 | 586 | | | | | | |
| Separated | 189 | 569 | 675 | 4699 | 228 | 315 | 207 | 88 | 140 | 165 | 247 | 334 | 398 | | | | | | |
| Divorced | 2244 | 2247 | 4246 | 5489 | 343 | 241 | 117 | 533 | 442 | 151 | 645 | 1789 | 1410 | | | | | | |
| Widowed | 2456 | 1653 | 3198 | 385 | 332 | 528 | 41 | 1215 | 1874 | 1387 | 10 | 1164 | 1448 | | | | | | |
| Single | 598 | 545 | 739 | 353 | 290 | 302 | 101 | 59 | 395 | 433 | 92 | 719 | 644 | | | | | | |

continued

Table 14 continued

| Indicator | EGMs | | Racing | | Casino | | Lottery | | Instant scratch tickets | | Sports | | Informal | | Total | |
|---|---------|--------|---------|--------|---------|--------|---------|--------|-------------------------|--------|---------|--------|----------|--------|---------|--------|
| | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online | Overall | Online |
| Employee status | | | | | | | | | | | | | | | | |
| Employed full-time | 547 | 575 | 841 | 841 | 798 | 312 | 295 | 312 | 68 | 68 | 79 | 625 | 441 | 119 | 656 | 633 |
| Employed part-time and looking for work | 314 | 89 | 120 | 1747 | 281 | 460 | 281 | 460 | 294 | 294 | 0 | 133 | 115 | 39 | 555 | 310 |
| Employed part-time or casual | 796 | 531 | 1008 | 397 | 265 | 183 | 265 | 183 | 98 | 98 | 47 | 413 | 429 | 146 | 741 | 706 |
| Unemployed, looking for work | 248 | 909 | 1893 | 2614 | 344 | 421 | 344 | 421 | 36 | 36 | 75 | 1619 | 1700 | 281 | 992 | 1238 |
| Not in the paid labour force | 1032 | 852 | 2121 | 4212 | 363 | 689 | 363 | 689 | 89 | 89 | 351 | 164 | 317 | 79 | 793 | 1149 |
| Personal income | | | | | | | | | | | | | | | | |
| Less than \$20 000 | 236 | 252 | 151 | 140 | 330 | 118 | 330 | 118 | 92 | 92 | 181 | 61 | 63 | 92 | 381 | 116 |
| \$20 000–49 999 | 653 | 576 | 1030 | 1035 | 281 | 292 | 281 | 292 | 70 | 70 | 152 | 483 | 548 | 104 | 722 | 787 |
| \$50 000–79 999 | 542 | 364 | 501 | 725 | 261 | 220 | 261 | 220 | 90 | 90 | 150 | 344 | 389 | 56 | 572 | 443 |
| \$80 000–124 999 | 461 | 496 | 594 | 1181 | 294 | 298 | 294 | 298 | 92 | 92 | 48 | 795 | 427 | 68 | 596 | 542 |
| More than \$125 000 | 949 | 1119 | 1837 | 939 | 382 | 581 | 382 | 581 | 69 | 69 | 83 | 743 | 667 | 183 | 1027 | 1228 |

Notes: Online losses for pokies, casino games, instant scratch tickets, bingo and informal games are excluded from the table because the sample sizes for participation in these forms of gambling are too small to provide precise estimates of gambling losses across sociodemographic groups. Losses associated with these forms of gambling are included in the total average losses in the right-most columns.

6 Prevalence of problem gambling in the ACT

The 2019 ACT Gambling Survey used the PGSI (Ferris & Wynne 2001) as the primary screening measure for problem gambling in the ACT adult population. In 2001, the PGSI was developed in response to calls for an appropriate and validated measure to identify pathological or problem gambling – based on clinical criteria – in general population surveys. The PGSI has become the primary measure establishing the prevalence of problem gambling both internationally and in Australia. This index is used as a population-level screening tool. It differs from an individual diagnostic or clinical tool – it does not explicitly measure gambling harm, but rather a mixture of pathological gambling symptoms; external indicators of problem gambling; and negative consequences for the gambler, their social network or the community (Ferris & Wynne 2001).

The scale consists of nine questions about people’s experiences with gambling, giving respondents four possible answers: never (0 points), sometimes (1 point), most of the time (2 points) and almost always (3 points). The maximum score is 27 points. Table 15 outlines the nine items of the PGSI.

The PGSI is based on set cut-points along a continuum of scores. These cut-points are as follows:

- Non-problem gamblers are those who responded ‘never’ to all questions on the index, scoring 0. These people have not experienced any adverse consequences of their gambling behaviour in the past 12 months.
- Low-risk gamblers have scores of 1 or 2 on the PGSI. They answered ‘never’ to most of the indicators of behavioural problems on the PGSI, but have experienced some level of adverse consequences from gambling.
- Moderate-risk gamblers are people who gave one or more ‘most of the time’ or ‘always’ responses, scoring 3–7 on the PGSI. This

group has experienced adverse consequences from gambling.

- Problem gamblers are people who have experienced multiple adverse consequences as a result of their gambling, scoring 8 or more on the PGSI.

Further to the above definitions, the analysis in this chapter includes statistical analysis of ‘at-risk’ gamblers – people who scored 1+ on the PGSI. In this analysis, at-risk and problem gamblers are combined (i.e. low-risk, moderate-risk and problem gamblers) to achieve the highest degree of accuracy when describing the behaviour and sociodemographic indicators of all respondents reporting some degree of at-risk behaviour.

Table 15 Items of the Problem Gambling Severity Index

| Item no. | Item |
|----------|--|
| 1 | Have you bet more than you could really afford to lose? |
| 2 | Have you needed to gamble with larger amounts of money to get the same feeling of excitement? |
| 3 | Have you gone back another day to try to win back the money you lost? |
| 4 | Have you borrowed money or sold anything to get money to gamble? |
| 5 | Have you felt that you might have a problem with gambling? |
| 6 | Have people criticised your betting or told you that you had a gambling problem, whether or not you thought it was true? |
| 7 | Have you felt guilty about the way you gamble or what happens when you gamble? |
| 8 | Has your gambling caused you any health problems, including stress or anxiety? |
| 9 | Has your gambling caused financial problems for you or your household? |

6.1 Prevalence of problem gambling

Figure 12 shows the prevalence of problem gambling in the ACT adult population.

In 2019, a total of 5851 ACT residents completed the PGSI, allowing improved confidence in the estimation of PGSI categories compared with previous surveys.¹⁴ The key findings were that:

- 40% of the population (approximately 131 000 adults) did not gamble
- 49.6% of the population (approximately 162 000 adults) had gambled but did not score on the PGSI and are thus classified as non-problem gamblers
- 7% of the population (approximately 23 000 adults) were classified as low-risk gamblers
- 2.5% of the population (approximately 8000 adults) were classified as moderate-risk gamblers
- 0.8% of the population (approximately 3000 adults) were classified as problem gamblers

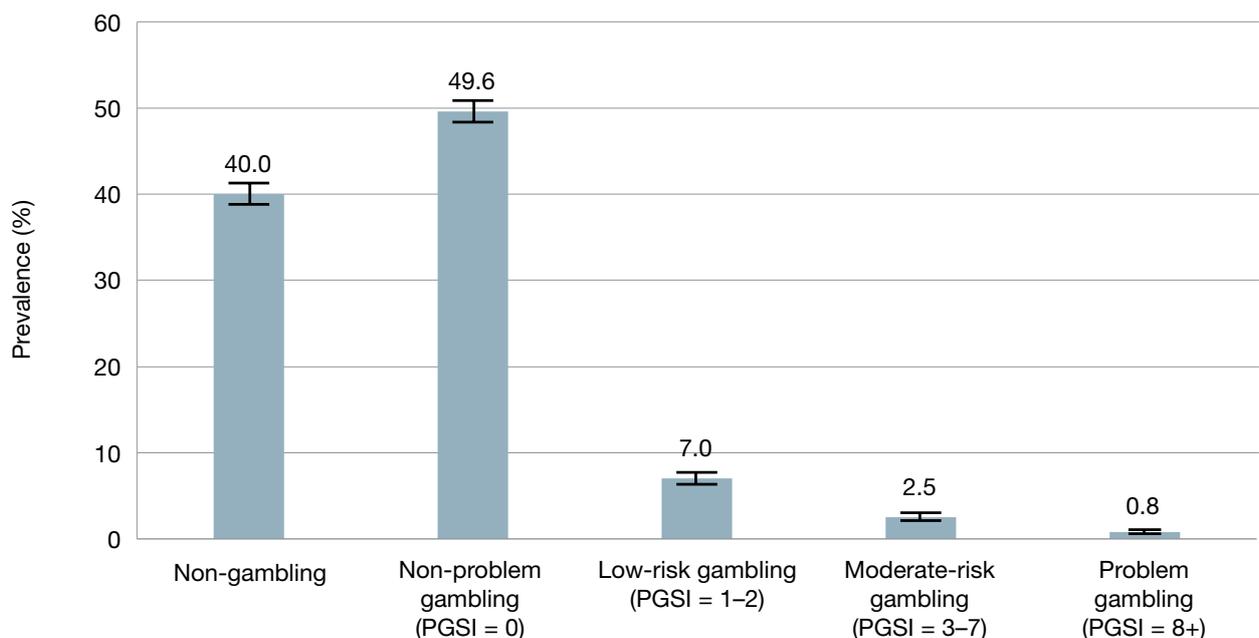
- 10.3% of the surveyed group (approximately 34 000 adults) scored 1+ on the PGSI and are classified as 'at-risk and problem' gamblers.

6.2 Prevalence of problem gambling in comparison with other Australian jurisdictions

Table 16 compares the ACT's 2019 estimates for PGSI categories with the most recent published prevalence estimates from other Australian states and territories. Note that, although all surveys included used the PGSI, there was some variation in the possible responses to PGSI questions,¹⁵ the survey mode¹⁶ and the time periods.

With these caveats in mind, the estimate for non-gamblers in the ACT (40%) was relatively high compared with other states and the Northern Territory. Tasmania was the only state with more non-gamblers (in the 2017 estimate) as a proportion of the population (41.5%). Conversely, the ACT estimate for non-problem gambling (49.6%) was the lowest of the estimates (Table 18).

Figure 12 Prevalence of problem gambling (PGSI)



PGSI = Problem Gambling Severity Index

Note: $n = 9882$, weighted to the ACT adult population.

Table 16 PGSI categories, by state or territory

| State or territory | Year | N | Non-gambling (%) | Non-problem gambling (%) | Low risk (%) | Moderate risk (%) | Problem gambling (%) | Survey mode |
|------------------------------|------|--------|------------------|--------------------------|--------------|-------------------|----------------------|----------------------------|
| Australian Capital Territory | 2019 | 10 000 | 40.0 | 49.6 | 7.0 | 2.5 | 0.8 | Mobile/landline (70/30) |
| New South Wales | 2011 | 10 000 | 35.1 | 52.8 | 8.4 | 2.9 | 0.8 | Landline |
| Victoria | 2014 | 13 554 | 29.9 | 57.6 | 8.9 | 2.8 | 0.8 | Landline, with 7.4% mobile |
| Northern Territory | 2015 | 4 945 | 24.0 | 64.3 | 8.1 | 2.9 | 0.7 | Landline, with 24% mobile |
| Queensland | 2017 | 15 000 | 29.2 | 61.4 | 6.4 | 2.5 | 0.5 | Mobile/landline |
| Tasmania | 2017 | 5 000 | 41.5 | 51.8 | 4.8 | 1.4 | 0.6 | Mobile/landline (50/50) |
| South Australia | 2018 | 20 017 | 35.3 | 57.2 | 4.6 | 2.2 | 0.7 | Mobile/landline (50/50) |

PGSI = Problem Gambling Severity Index

Note: Table shows most recent published estimates.

The 2019 ACT estimate for low-risk gambling (7.0%) was fourth highest out of seven studies, ranking in the middle, but is the highest percentage among more recent studies carried out within the past 2 years (Queensland, Tasmania and South Australia).

Estimates for the moderate-risk and problem gambler categories are more closely grouped. For both moderate-risk and problem gambling, the ACT sits close to the middle of the studies. However, this is not the case for the more recent state comparisons, in which the ACT ranks higher in all categories.

6.3 At-risk gambling by sociodemographic indicator

Figure 13 shows the proportion of at-risk gamblers (all those who scored at least 1 on the PGSI scale, including those scoring 8+) by sociodemographic indicator. A total of 10.3% of the ACT population were classified

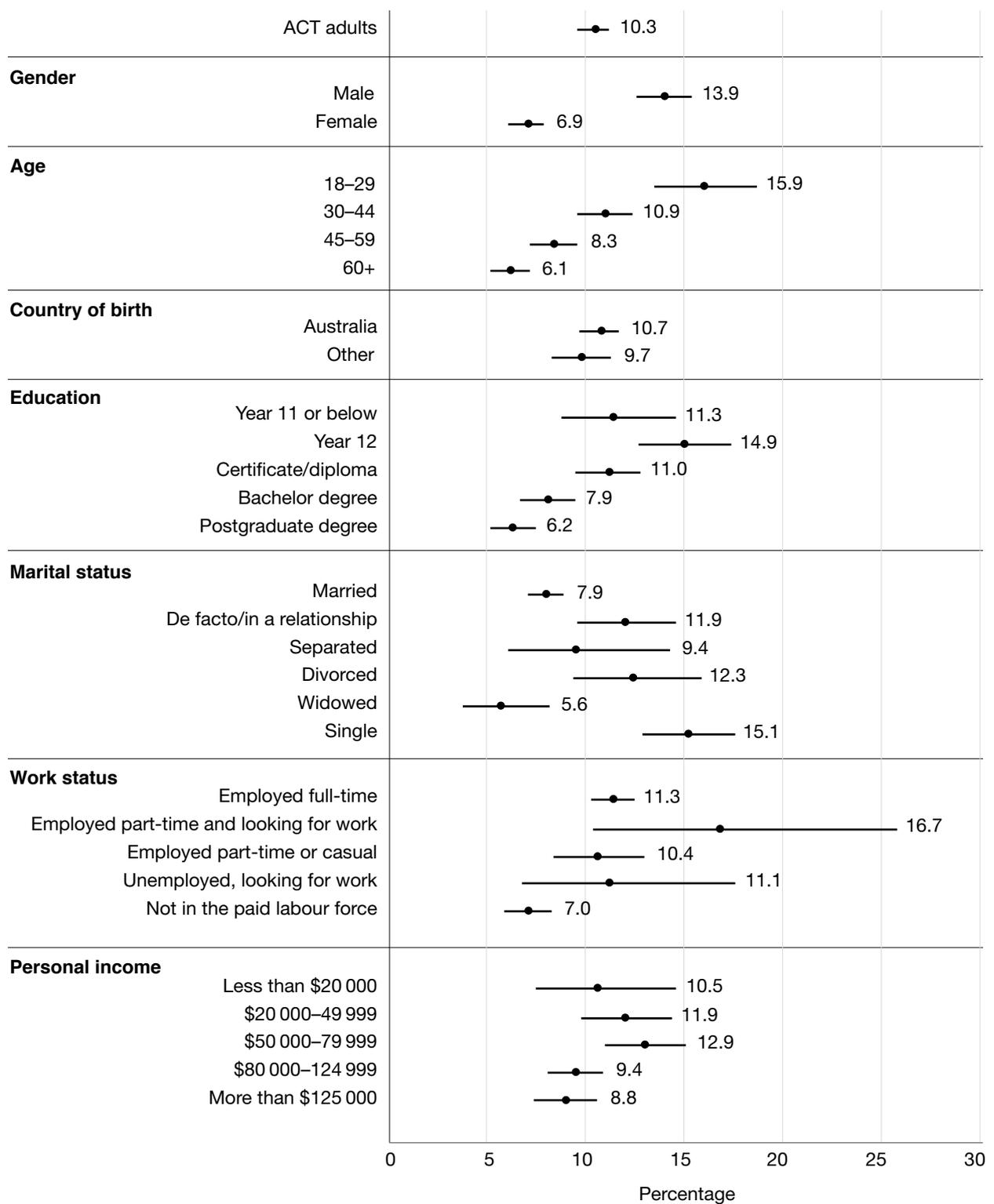
as at-risk gamblers. Differences between sociodemographic groups and the general population were tested using weight-corrected Pearson's chi-squared tests. Estimates that show statistically significant increases or decreases in at-risk prevalence are reported below.

Males in the ACT were significantly more likely to be at risk than females (13.9% compared with 6.9% – that is, double the rate).

People aged 30–44 were not significantly different from the rest of the general population. However, people aged below 30 were significantly more likely to be at risk, while those older than 45 were significantly less likely. There were no significant differences between people born in Australia and people born outside Australia in terms of being at risk.

The relationship between education and at-risk gambling found that higher levels of education were associated with decreased proportions of at-risk gamblers. People with university degrees were significantly less likely than other groups

Figure 13 At-risk gamblers (PGSI > 0), by sociodemographic indicator



Note: *n* = 9882, weighted to the ACT adult population.

to be at-risk gamblers (bachelor degree: 7.9%; postgraduate degree: 6.2%).

Married people were less likely to be at risk (7.9%), as were widowed people. Single people were significantly more likely to be at risk (15.1%).

People outside the labour market were less likely to be at risk (7.0%), while people employed full-time were more likely to be at risk (11.3%).

Personal income had a less clear relationship. Those earning \$50 000–80 000 were more likely to be at risk (12.9%).

Further analysis looked at the sociodemographic characteristics of at-risk gamblers by gender. Results suggested that gender differences in the at-risk population are largely reflective of gender differences at the general population level, as analysed above (Figure 13).

6.4 Problem gambling by sociodemographic indicator

Figure 14 shows the proportions of problem gamblers across several sociodemographic indicators. Statistically significant results are reported below.

Males were 3 times more likely than females to be classified as problem gamblers using the PGSI (1.2%, compared with 0.4%). Respondents over the age of 60 were less likely than the general population to be classified as problem gamblers using the PGSI (0.4%, compared with 0.8%).

Likewise, respondents with a postgraduate degree were less likely to be classified as problem gamblers, using the PGSI (0.2%). Figure 14 shows a negative relationship between education and problem gambling – that is, the higher the level of education, the less likely a person is to be classified as a problem gambler using the PGSI. Despite difficulties in showing significant differences due to small percentages of the population, education is the clearest protective factor for higher levels (PGSI > 7) of problem gambling severity.

Married people were less likely to be classified as problem gamblers (0.4%). Separated, divorced and single people were more likely to be

classified as problem gamblers (2.7%, 2.0% and 1.4%, respectively).

Neither employment status nor personal income was significantly related to problem gambling severity.

6.5 Intersections of risk for problem gambling

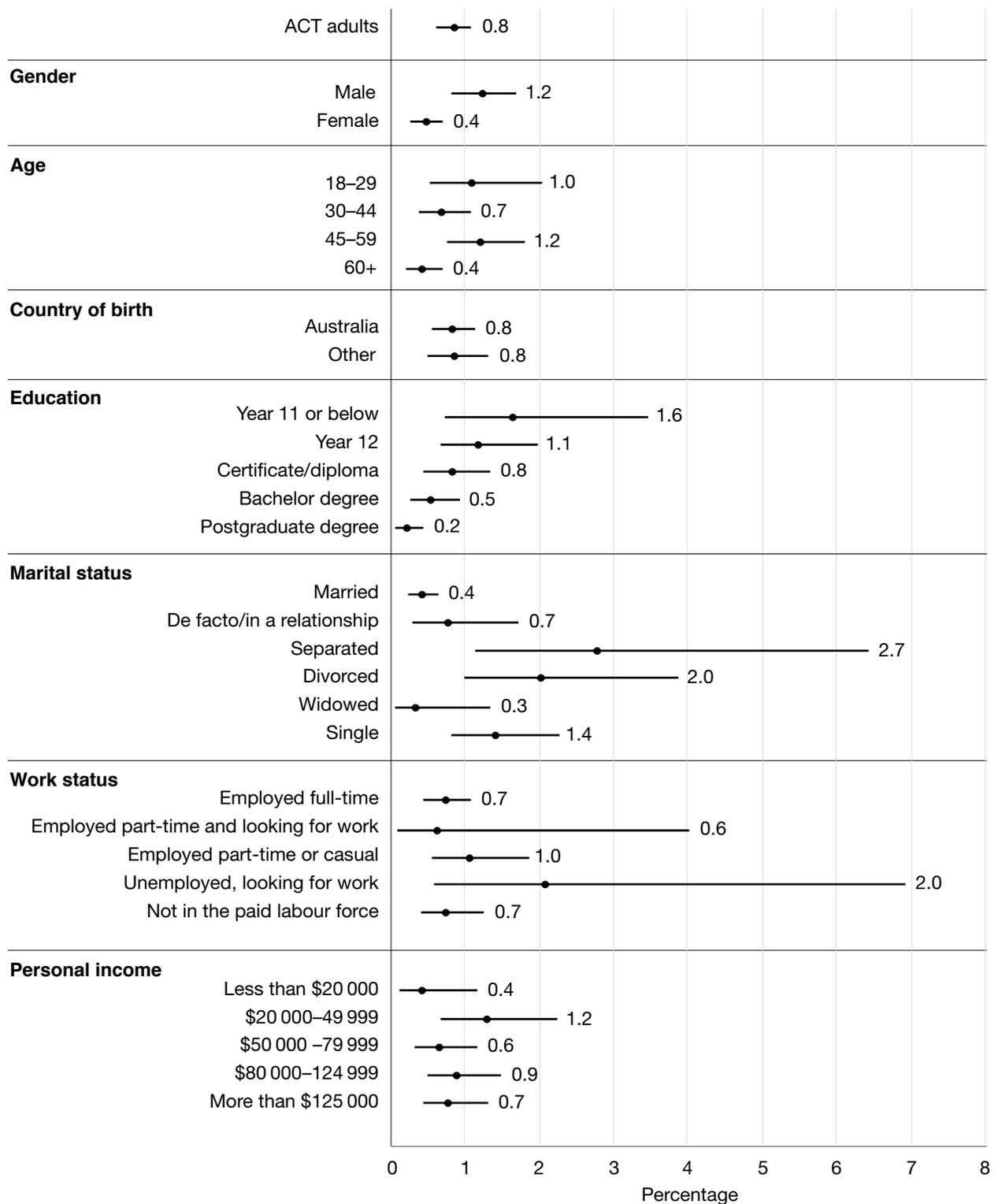
In general, age, education and gender are predictive of who in the population might be at risk (Figures 13 and 14). However, it is not clear from bivariate comparisons how these factors combine to affect the risk of becoming a problem gambler. Figure 15 shows the probability of those at risk for eight subcategories of the population grouped by age (above and below 45), gender and education (degree or no degree).¹⁷

The results show that males under 45 years old without university education are the most likely to be at-risk gamblers (21.1%).

The association with university education across sociodemographic groups is consistent. A university degree is associated with a reduced probability of being at risk by approximately one-half across sociodemographic groups. The association with age is also consistent across sociodemographic groups.

Figure 16 shows the same subsets of the population, this time estimating the probability of each group being classified as a problem gambler (PGSI 8+). Despite relatively large confidence intervals due to the smaller proportion of people, the ranked order of the intersections of the population shows that males without university education (both young and old) are at the highest risk of being problem gamblers (1.87% and 1.44%, respectively, approximately double the general population estimate), followed by females over 45 years old with no university education (0.93%). Whereas education appears to be a protective factor for both males and females, increasing age is a protective factor for males, but potentially a risk factor for females.

Figure 14 Problem gambling (PGSI > 7), by sociodemographic indicator



Note: $n = 9965$, except for education (9902), marital status (9919), work status (9918) and personal income (8760).

Figure 15 Predicted probability of at-risk gambling (PGSI > 0), by age, gender and education

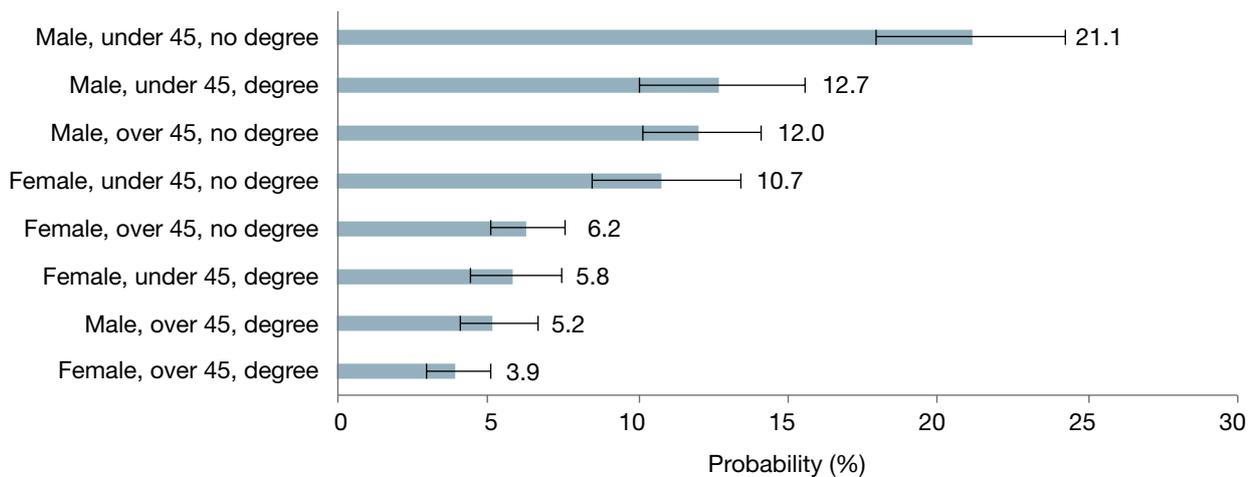
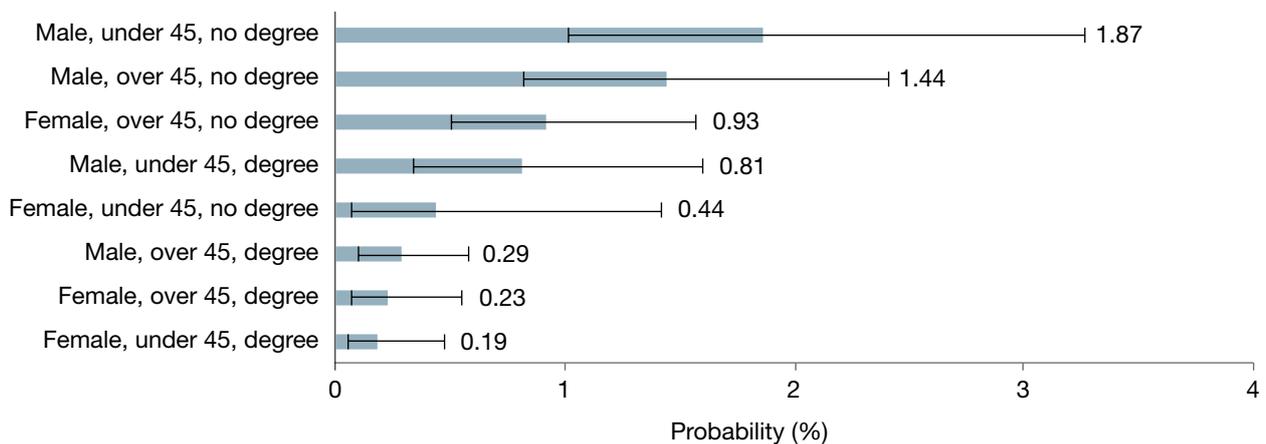


Figure 16 Predicted probability of problem gambling (PGSI > 7), by age, gender and education



6.6 PGSI categories by gambling activity

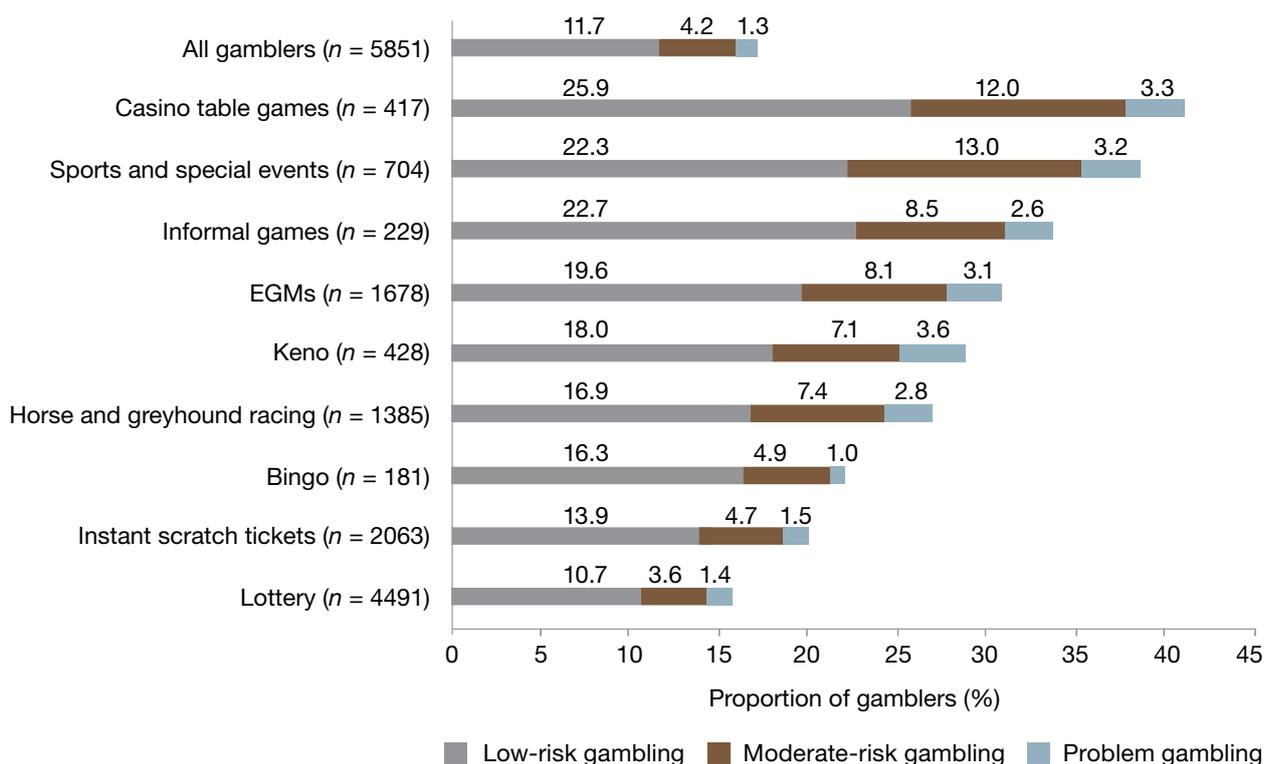
Figure 17 shows the proportion of gamblers participating in each activity who fall into each risk category of the PGSI scale: low risk (PGSI score 1–2), moderate risk (PGSI score 3–7) and problem gambler (PGSI score 8 or above). By adding these scores together, we calculate the total proportion of at-risk gamblers for participants in each activity. For example, when examining gamblers, the analysis found that 17.3% of gamblers are at risk (scoring 1+ on the PGSI) in the ACT.

It is important to note that, since gamblers often participate in multiple games, it is not possible from this graph to determine which activities may

cause the most problems for people in terms of the PGSI. It is clear, however, that strong associations exist between increasing levels of risk on the PGSI scale and activities such as casino table games (at-risk percentage 41.2%), sports betting (38.5%), informal games (33.8%) and EGMs (30.9%).

Using multivariate logistic regression to predict at-risk and problem gambling among all gamblers, it is possible to test for activities that explain problem gambling severity independently of other factors. The models test the association between different gambling activities and the occurrence of at-risk and problem gambling, controlling for age, gender and education. Results presented in Table 17 show that several activities are statistically significant predictors of at-risk

Figure 17 PGSI categories, by gambling activity



EGM = electronic gaming machine
 Note: Unweighted *n* is shown in parentheses.

Table 17 Multivariate weighted logistic regression predicting at-risk and problem gambling

| Characteristic | At-risk gambling (PGSI > 0) (SE) | Problem gambling (PGSI > 7) (SE) |
|----------------------------|----------------------------------|----------------------------------|
| Male | 0.356*** (0.106) | 0.466 (0.329) |
| Age under 45 | 0.346*** (0.099) | -0.3 (0.337) |
| Degree | -0.176 (0.104) | -0.542 (0.344) |
| EGMs | 1.005*** (0.105) | 1.605*** (0.405) |
| Horse and greyhound racing | 0.189 (0.115) | 0.54 (0.335) |
| Instant scratch tickets | 0.218* (0.101) | -0.0385 (0.306) |
| Lottery | -0.0018 (0.114) | 0.368 (0.380) |
| Bingo | 0.361 (0.259) | -0.508 (0.792) |
| Sports and special events | 0.798*** (0.140) | 0.546 (0.430) |
| Informal games | 0.422* (0.209) | 0.17 (0.432) |
| Casino table games | 0.463** (0.170) | 0.0347 (0.489) |
| Online casino games | 0.942** (0.363) | 0.966 (0.563) |
| Constant | -2.596*** (0.151) | -5.855*** (0.455) |
| Number of observations | 5851 | 5851 |

* = significant at the 5% level; ** = significant at the 1% level; *** = significant at the 0.1% level; EGM = electronic gaming machine; SE = standard error

Note: Regression coefficients are displayed with standard errors in parentheses.

gambling (EGMs, instant scratch tickets, sports and events betting, informal games, casino table games and online casino games).

However, when predicting problem gambling, EGM participation is the most important factor and the only statistically significant variable in the model. It should be noted that sociodemographic variables also lose significance when accounting for EGM participation. These results suggest that, although many gambling activities are associated with people being at risk, EGM participation is the single common factor that is a greater predictor of problem gambling (as defined by the PGSI) than any other types of gambling activity and sociodemographic group.

6.7 Problem gambling by time spent using EGMs

The relationship between the typical length of time spent in a single session using EGMs and at-risk gambling (PGSI > 0) was investigated for EGM gamblers (unweighted $n = 1377$).

Time spent using EGMs was split into four categories:

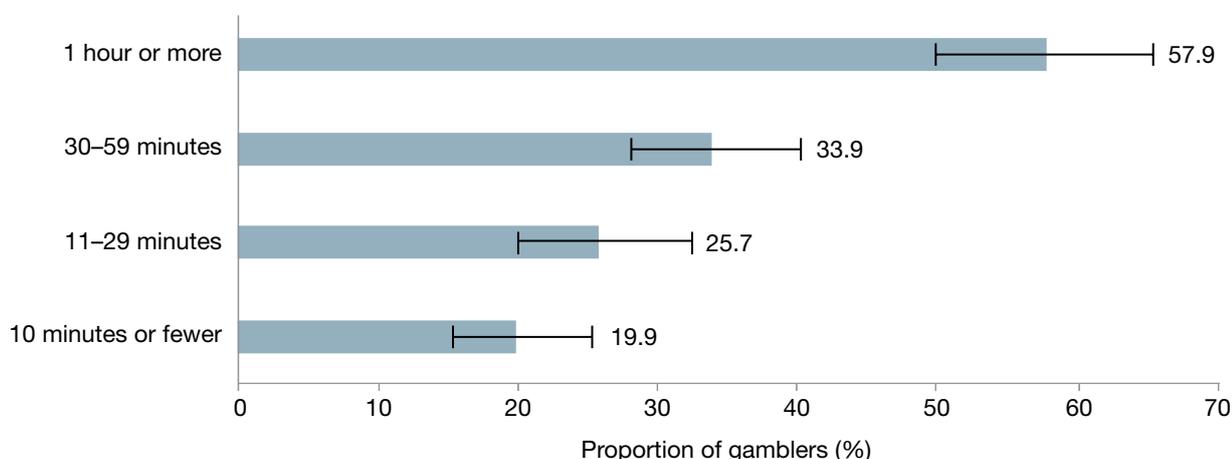
- 10 minutes or less (estimated proportion 33.2%)
- 11–29 minutes (estimated proportion 26.5%)
- 30–59 minutes (estimated proportion 28.5%)
- 1 hour or more (estimated proportion 11.8%).

The percentage of at-risk gamblers and problem gamblers in each category was then estimated (Figure 18). The proportion of EGM gamblers categorised as at risk on the PGSI was 30.9%. Those who typically spend 1 hour or more in a single session are more likely to be at risk than not (57.9%), while those spending fewer than 10 minutes have a significantly reduced risk.

Further analysis was conducted on time spent in EGM sessions by age and gender. Figure 19 shows that those under the age of 45 were consistently more likely to be at-risk and problem gamblers than those over the age of 45 at each level of typical exposure to EGMs. EGM gamblers under the age 45 who normally spent less than 30 minutes at a machine in a session were found to be at-risk and problem gamblers at more than twice the rate of those over the age of 45. Further, people under the age of 45 who spent 30 minutes or more in a typical EGM session were significantly more likely to be at-risk and problem gamblers than those over the age of 45.

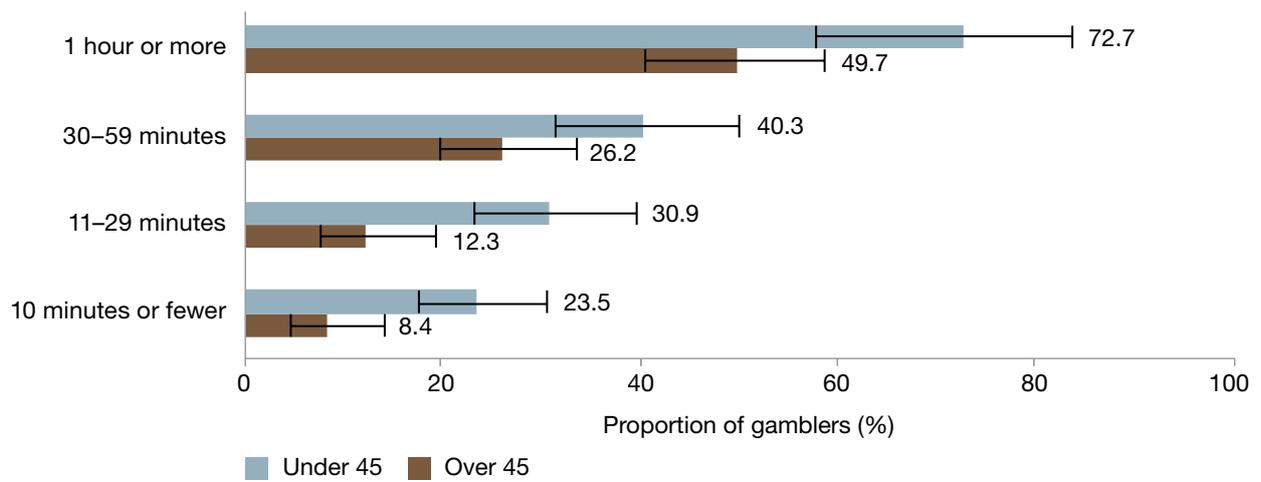
Figure 20 shows the percentage of at-risk gamblers by typical time spent at EGMs by gender. The analysis shows that, although male EGM gamblers were, in general, more likely to be at-risk and problem gamblers than female EGM gamblers, gender differences given typical time spent at the machine are only significant in the 11–29 minutes bracket.

Figure 18 At-risk gamblers (PGSI > 0), by time at EGMs



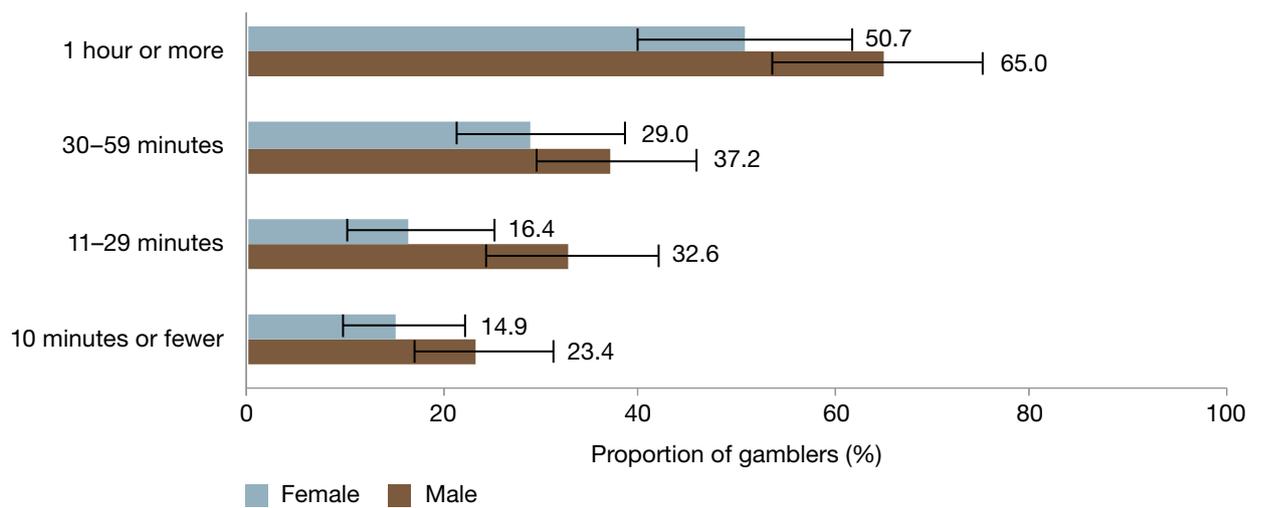
EGM = electronic gaming machine

Figure 19 At-risk gamblers (PGSI > 0), by time at EGM and age



EGM = electronic gaming machine

Figure 20 At-risk gamblers (PGSI > 0), by time at EGM and gender



EGM = electronic gaming machine

Key findings from Chapter 6

- Overall, 10.3% of the ACT adult population reported at-risk or problem gambling (PGSI 1+). This equates to approximately 34 000 ACT adults experiencing some degree of problem gambling–associated symptoms.
- 49% of the ACT population had gambled but did not score on the PGSI and are classified as non-problem gamblers.
- 17.3% of gamblers in the ACT were classified as at-risk and problem gamblers (scoring 1+ on the PGSI).
- In the ACT, males were significantly more likely to be at risk than females (scoring 1+ on the PGSI).
- People below the age of 30 were significantly more likely than the general population to be at-risk or problem gamblers, whereas people aged over 45 were less likely.
- Overall, 0.8% of the ACT adult population were classified as problem gamblers. This equates to approximately 3000 ACT adults.
- In the ACT, males were 3 times more likely than females to be classified as problem gamblers (1.2%, compared with 0.4%).
- Respondents over the age of 60 were less likely than the general population to be classified as problem gamblers (0.4%, compared with 0.8%).
- Strong associations exist between increasing levels of risk on the PGSI scale and particular gambling activities, such as casino table games (41.2%), sports betting (38.5%), informal games (33.8%) and EGMs (30.8%).
- People spending more than 1 hour in a typical session at an EGM were more likely to be at risk than not (57.9%), whereas people spending less than 10 minutes in a typical session had significantly lower risk.
- EGM gamblers under the age of 45 were significantly more likely to be at risk at all levels of EGM playing time per session.
- EGM participation is the single most effective predictor of problem gambling (as defined by the PGSI).

7 Gambling harm in the ACT

The 2019 ACT Gambling Survey implemented the Short Gambling Harm Screen (SGHS). Distinct from the PGSI, the SGHS was developed to measure the harm experienced by gamblers directly (Browne et al. 2018) and is adapted from a 72-item scale compiling a more comprehensive list of gambling-related harm (Langham et al. 2016).

The SGHS is a reliable measure of population-level gambling harm, and was validated using several criteria. First, the 10-item SGHS was strongly correlated with the sum of the full 72-item harms list at 0.94, suggesting that the 'SGHS has good coverage of the primary construct captured by the full harms checklist' (Browne et al. 2017) and does not select items that are more likely to be endorsed. Further, the SGHS displayed good psychometric properties, including unidimensionality (the degree to which items on a scale correlate with each other on a single dimension) and reliability (the combined strength of the item's contribution to the scale).

The shortened scale asks 10 questions about gambling harms and whether respondents had experienced these harms in the past 12 months. The number of harms reported adds to give the individual an SGHS score between 0 and 10. Table 18 gives each item of the SGHS scale and the category of harm to which they belong.

7.1 Harm from gambling

As with the PGSI, the SGHS was administered to all gamblers (5886 respondents, with 5788 completed). If a respondent answered in the affirmative to one or more of these questions, they are said to have experienced harm from gambling. Based on a weighted proportion calculation:

- 9.6% of the ACT adult population (approximately 31 000 adults) experienced gambling harm in the past 12 months

- 15.8% of all gamblers in the ACT experienced at least one harm in the past 12 months using the SGHS
- the most common harms reported in the SGHS were item 1 (reduction of available spending money: 5.6%) and item 2 (reduction of savings: 4%).

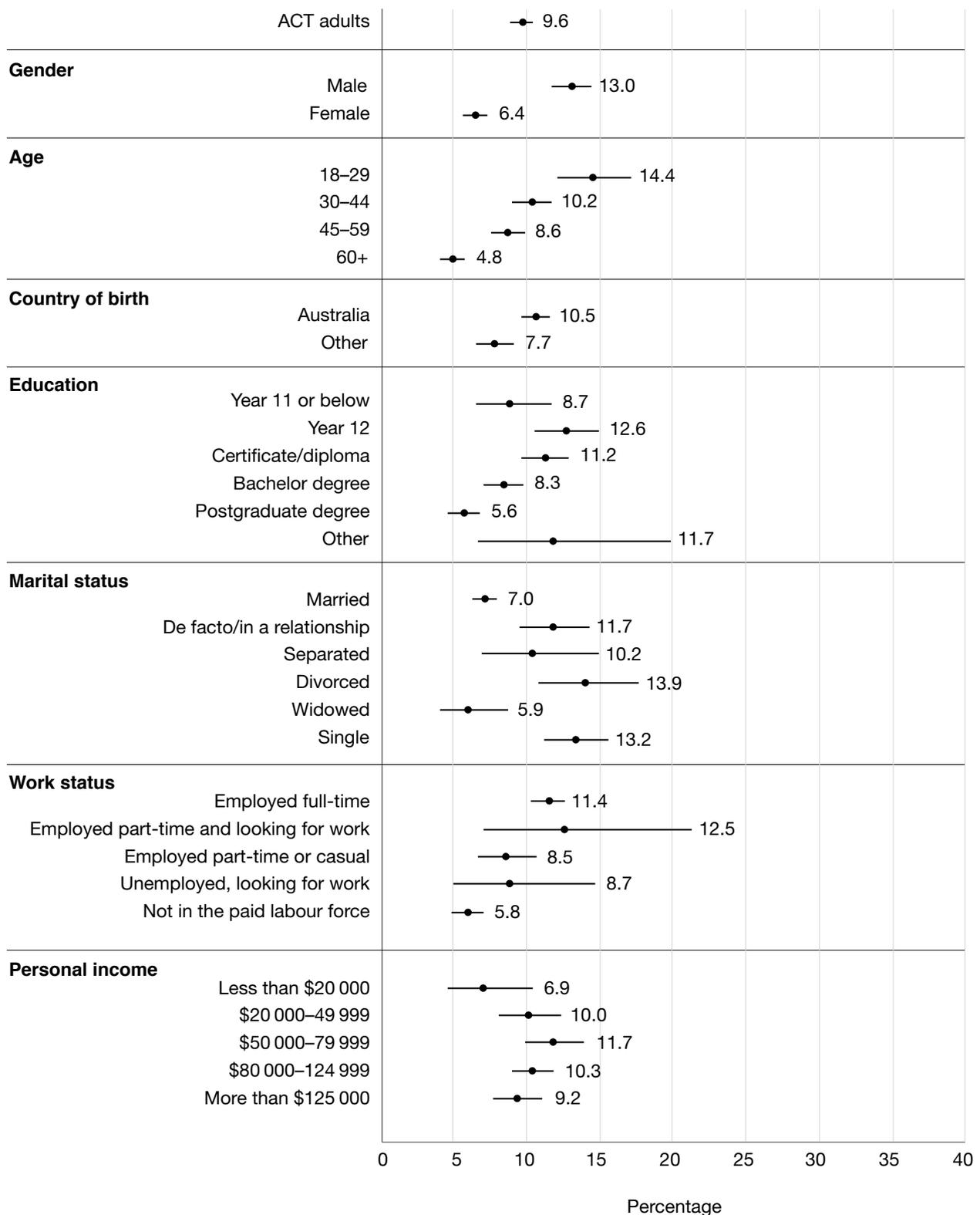
It is important to note that the SGHS was asked of all ACT residents who had gambled in the past 12 months. It is highly likely that there are people in the ACT who are experiencing residual harm (i.e. have not gambled in the past 12 months but

Table 18 Items on the Short Gambling Harm Screen

| Item no. | Category | Item |
|----------|-------------------------|---|
| 1 | Financial | Reduction of my available spending money |
| 2 | Financial | Reduction of my savings |
| 3 | Financial | Less spending on recreational expenses such as eating out, going to movies or other entertainment |
| 4 | Emotional/psychological | Had regrets that made me feel sorry about my gambling |
| 5 | Emotional/psychological | Felt ashamed of my gambling |
| 6 | Financial | Sold personal items |
| 7 | Financial | Increased credit card debt |
| 8 | Relationships | Spent less time with people I care about |
| 9 | Emotional/psychological | Felt distressed about my gambling |
| 10 | Emotional/psychological | Felt like a failure |

Source: Browne et al. (2018)

Figure 21 Gambling harm (SGHS), by sociodemographic indicator



are still experiencing gambling harms), which suggests that these figures are likely to be underestimates of gambling harm in the ACT.

are more likely to be out of the labour force and females are more likely to work in part-time or casual positions.

7.2 SGHS harms by sociodemographic indicator

Figure 21 shows the percentage of people who reported one or more harms using the SGHS, by sociodemographic group. We found that males (13%) were significantly more likely than females (6.4%) to report one or more harms on the SGHS. People under the age of 30 (14.4%) were significantly more likely than older people to report harms. People born in Australia were more likely to report harm (10.5%) than those born overseas (7.7%). In terms of education, people with year 12 and trade certificates or diplomas were significantly more likely to report harms than those with a bachelor degree or higher.

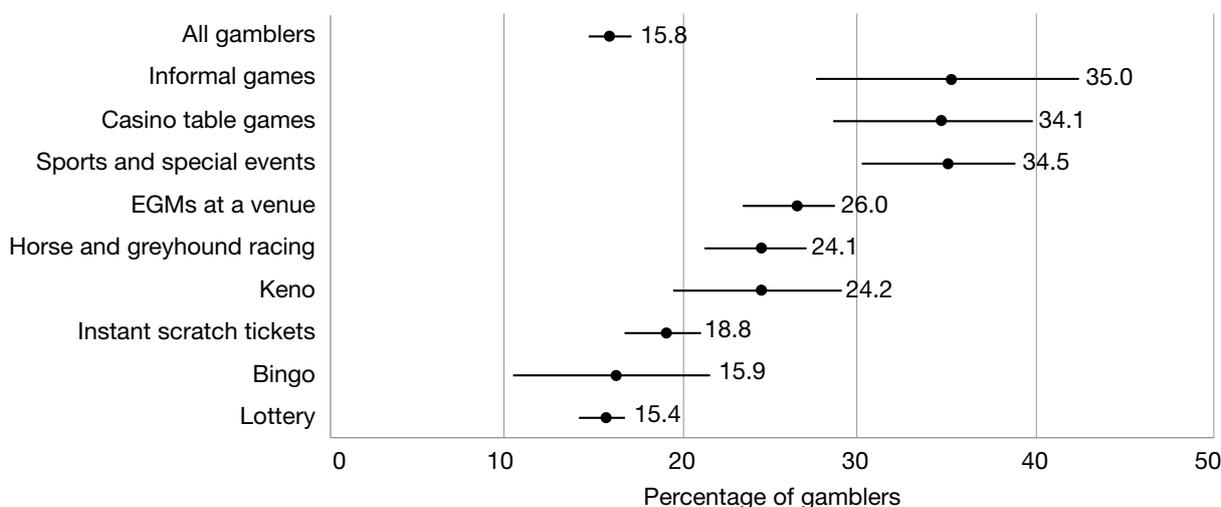
Married people were significantly less likely to report harm than those who were in a de facto relationship, or who were divorced or single. People who were employed full-time were more likely to report one or more harms than those working part-time or casual, or not in the paid labour force. However, the findings regarding workforce participation were not significant when controlling for age and gender, since older people

7.3 Gambling harm (SGHS) by gambling activity

Figure 22 shows the percentage of people who participated in a given gambling activity in the past 12 months who reported one or more gambling harms on the SGHS. The survey found that 15.8% of all gamblers experienced at least one gambling harm in the past 12 months.

Approximately 35% of people who played informal games ($n = 230$), 34.1% of those gambling on casino table games ($n = 399$) and 34.5% who bet on sports or special events ($n = 699$) experienced one or more harms from gambling. The rates of SGHS 1+ gambling harm among participants in these forms of gambling were significantly higher than for those participating in other forms of gambling. Approximately one-quarter of people who used EGMs ($n = 1667$), bet on horse or greyhound racing ($n = 1373$), or played Keno ($n = 426$) experienced one or more harms, significantly more than those buying instant scratch tickets, or participating in bingo or the lottery.

Figure 22 Gambling harm, by gambling activity



EGM = electronic gaming machine

Note: $n = 9905$

It is important to note that these findings are based on statistical association and cannot directly support the interpretation that some forms of gambling are more harmful than others. The conservative interpretation is that people who reported one or more harms were more likely to participate in activities such as casino table games or in sports and special events betting.

7.4 Gambling harm by frequency and sociodemographic indicator

The relationship between gambling frequency and gambling harms varies by sociodemographic group and the type of gambling activity. We examined the percentage of high-frequency gamblers experiencing one or more gambling harms (SGHS > 0). Further analysis was conducted looking at gender, age (above or below 45 years old), education (degree or no degree)

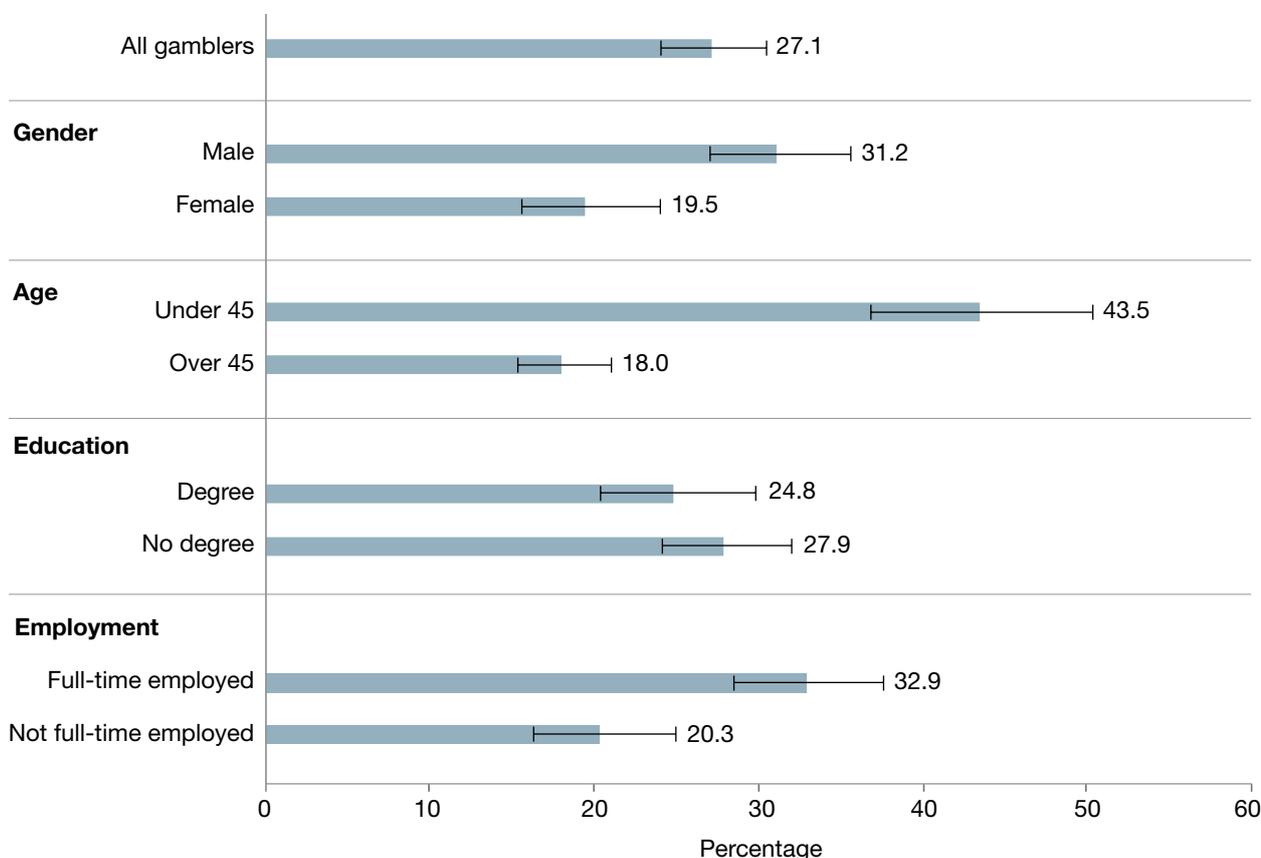
and employment status (full-time employed or not). Figure 23 shows the relationship between high frequency gamblers and harms.

For all gamblers, the percentage of people experiencing gambling harms increases with the frequency of gambling activity. In total, 27.1% of high-frequency gamblers experienced one or more gambling harms; the percentage was significantly lower for medium-frequency gamblers and low-frequency gamblers.

Male high-frequency gamblers were significantly more likely to report one or harms (31.2%) than females (19.5%).

A similar relationship is evident in the age of respondents. High-frequency gamblers under the age of 45 were significantly more likely to report one or more harms (43.5%) than those over the age of 45 (18.0%). High-frequency gamblers in full-time employment were significantly more likely to report one or more gambling harms

Figure 23 High-frequency gamblers reporting gambling harms, by sociodemographic indicator



Note: Unweighted $n = 5707$. Unweighted n for employment = 5684.

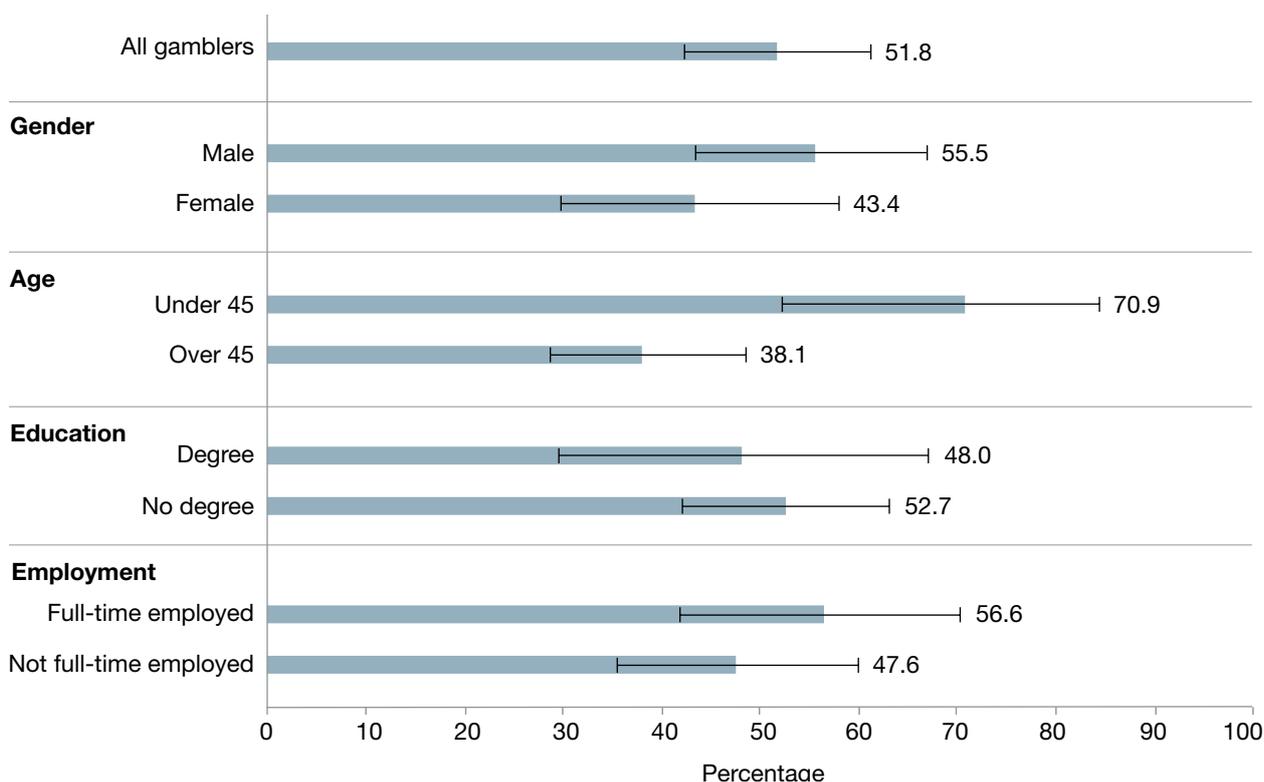
(32.9%) than those not in full-time employment (20.3%).

For high-frequency EGM gamblers, 51.8% report one or more gambling harms (Figure 24). The clearest demographic difference is the percentage of people under 45 reporting harm (70.9%), compared with the percentage of people aged over 45 reporting harm (38.1%). This equates to roughly twice the rate of gambling harm experienced by under-45 high-frequency EGM gamblers.

7.5 Comparing the SGHS and the PGSI

Figure 26 charts the overlap between the coverage of the SGHS and the PGSI, with the percentage of respondents in each PGSI category scoring 1 or more on the SGHS scale ($n = 5791$). The results suggest that, although there is considerable overlap with the PGSI, the SGHS captures a marginally different section of the population, with 8.7% of non-problem gamblers reporting one or more gambling harms. However, this does not imply that the SGHS is a more sensitive scale per se. The survey reports that 10.3% of the population scored 1+ on the PGSI, while 9.6%

Figure 24 High-frequency EGM gamblers reporting gambling harms, by sociodemographic indicator



EGM = electronic gaming machine

Note: Unweighted $n = 1667$. Unweighted n for employment = 1662.

Figure 25 High-frequency racing and sports gamblers reporting harms, by sociodemographic indicator

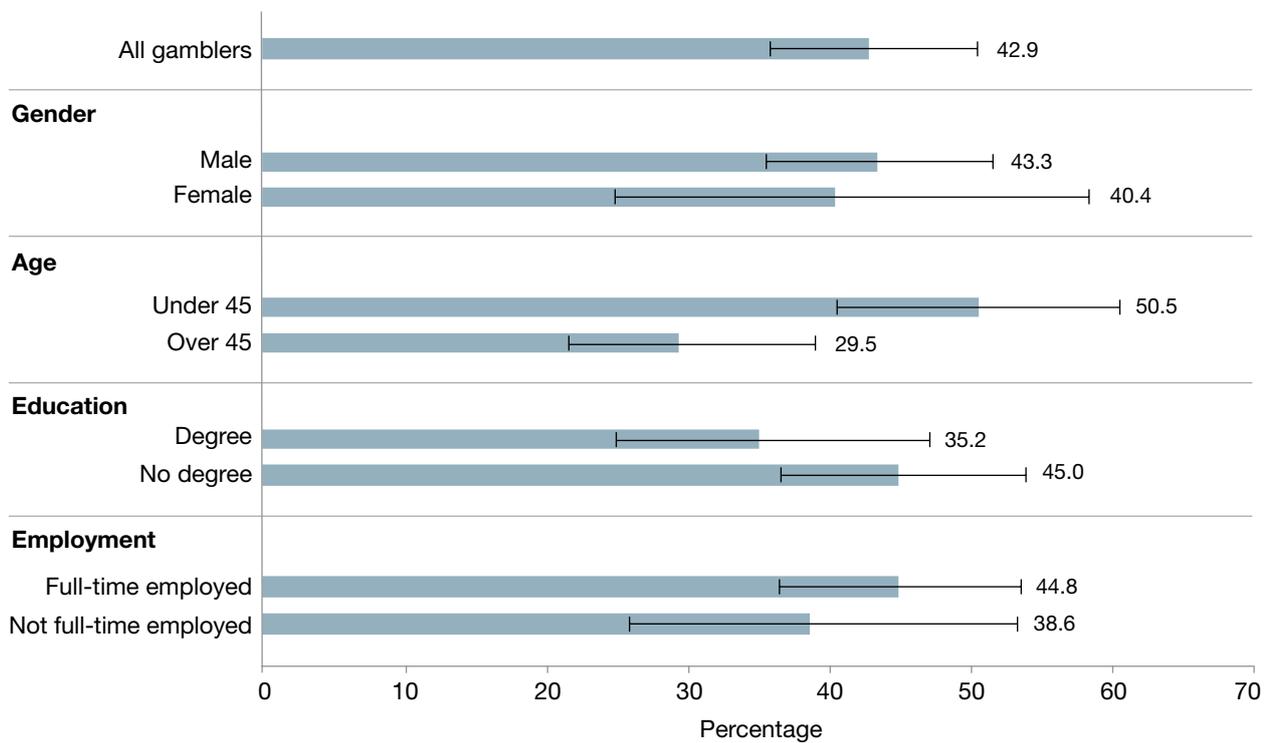
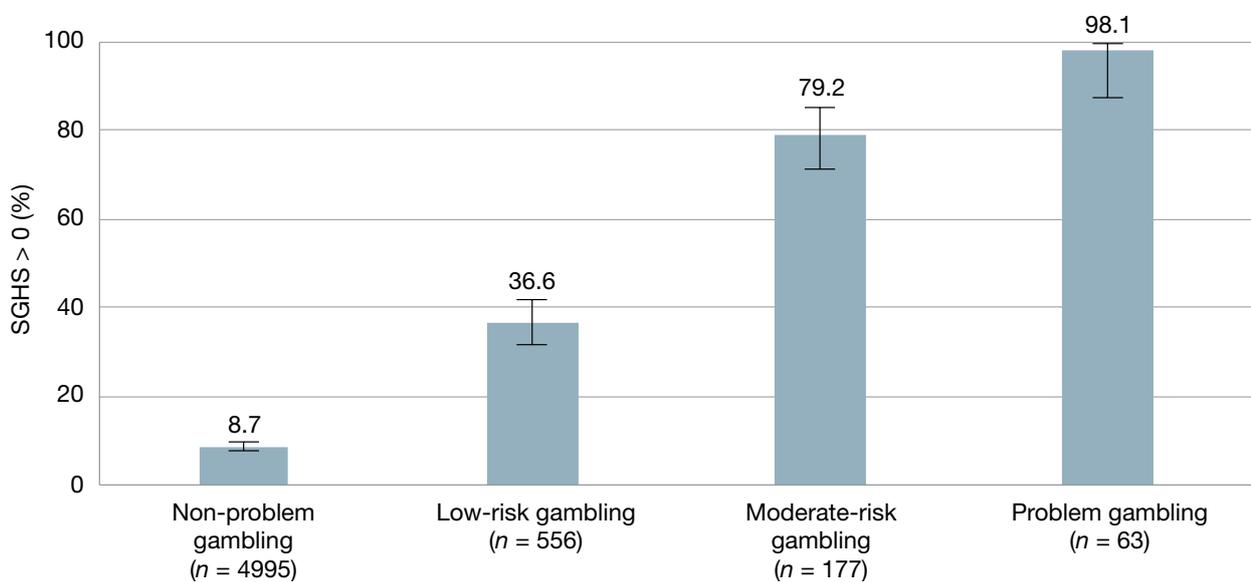


Figure 26 Overlap between PGSI categories and the SGHS



PGSI = Problem Gambling Severity Index; SGHS = Short Gambling Harm Screen

scored 1+ on the SGHS (these percentages were not statistically different from each other using a weight-adjusted Wald test: $P = 0.12$).

What it does suggest is that the scales are measuring slightly different aspects of the negative consequences of gambling. For example, the PGSI asks questions that do not prompt respondents to self-report harm or negative impact. PGSI item 2 ('Have you needed to gamble with larger amounts of money to get the same feeling of excitement?') does not explicitly refer to harm. Item 3 asks about chasing losses ('Have you gone back another day to try to win back the money you lost?'), which also does not necessarily imply harm. Nor does item 6 ('Have people criticised your betting or told you that you had a gambling problem, whether or not you thought it was true?'), which asks about external evaluation of a respondent's gambling behaviour. Analysis of individual item endorsements found that 9% of problem gamblers in the survey (6 out of 65) scored more than 7 on the PGSI based on their responses to items 2, 3 and 6 alone.

Further, SGHS item 1 asks about experiencing a reduction of available spending money, and SGHS item 2 asks about a reduction of savings, without asking the respondent to report whether they could afford such losses (PGSI item 1 is the closest item in meaning to SGHS items 1 and 2). Therefore, 8.7% of non-problem gamblers (PGSI) could report a reduction of funds (as per SGHS items 1 and 2) and not score on the PGSI. Indeed, we found that 225 respondents reported loss of available spending money without scoring on the PGSI, and 141 respondents reported losses of savings without scoring on the PGSI.

Finally, the finding that 98.1% of problem gamblers reported experiencing one or more gambling harms (leaving 1.9% reporting no harm on the PGSI) was driven by one respondent who took the PGSI before taking the SGHS and reported negatively to all questions on the SGHS. This is likely the result of respondent fatigue¹⁸. The 95% confidence intervals for problem gambling in Figure 26 suggest that the likely range for respondents is between 86.9% and 99.9%, reflecting that it is possible, but unlikely, for respondents to be classified with problem gambling without reporting gambling harm.

7.6 Comparison of sociodemographic indicators of the PGSI and the SGHS

Further analysis was conducted to compare the sociodemographic indicators for people reporting one or more gambling harms (SGHS 1+) with the corresponding indicators for at-risk and problem gamblers (PGSI 1+) from Chapter 6. The results suggest that sociodemographic indicators for both PGSI 1+ and SGHS 1+ are similar; they differ significantly only in terms of country of birth. People born in Australia were more likely than those born overseas to report one or more harms on the SGHS, but were not more likely than those born overseas to score 1 or more on the PGSI. We examined rates of item endorsement (the rate that respondents answer affirmatively to individual items of a multiple-item scale) on the PGSI and SGHS to assess differences in response patterns between people born in Australia and people born overseas.

When analysing SGHS question endorsement by birthplace, people born in Australia were significantly more likely than those born overseas to report a reduction in available spending money (SGHS item 1); there were no significant differences for other SGHS items.

When analysing item endorsement by birthplace for the PGSI, two significant differences were found. People born in Australia were more likely to report that others had criticised their gambling (PGSI item 6). However, those born outside Australia were significantly more likely to report chasing their losses (PGSI item 3).

Items 3 and 6 of the PGSI are based on gambling behaviour and external evaluation, and were perhaps driven by cultural differences between Australian-born and overseas-born individuals. Meanwhile, SGHS item 1 prompts respondents to assess whether they have experienced a concrete decline in their available spending money, to which Australian-born respondents were more likely to answer in the affirmative.

These findings do not definitively explain why Australian-born respondents were more likely to report one or more harms on the SGHS but were not more likely to score positively on the PGSI than those born overseas. However, it is clear that

patterns of response to the SGHS and PGSI differ by place of birth and that this should be taken into account if using either the PGSI or the SGHS for cross-cultural comparison.

7.7 Predicting gambling harm (SGHS)

Table 19 presents the results of a multivariate negative binomial regression model predicting the number of harms experienced by gamblers in the survey. This model assumes that the response variable is a count ranging from zero upwards. It also assumes that values are recurrences of events that are identical in character and

importance, which is a simplification of the SGHS scores. The model includes participation in several gambling activities, and includes gender, age and education as demographic controls.

Significant predictors of the number of gambling harms experienced were participation in EGM gambling, sports and special events betting, informal games, and online casino and poker games. These results suggest that these activities have significant associations with increasing gambling harm, independently of demographic factors and other forms of gambling activity. Being male and under the age of 45 were also significant predictors of the number of harms experienced.

Table 19 Negative binomial regression of the number of gambling harms reported

| Characteristic | Number of gambling harms (SE) |
|-------------------------------|-------------------------------|
| Male | 0.433*** (0.108) |
| Under 45 | 0.264* (0.113) |
| Degree | -0.139 (0.109) |
| EGMs | 0.954*** (0.108) |
| Horse and greyhound racing | 0.138 (0.118) |
| Keno | 0.153 (0.221) |
| Instant scratch tickets | 0.128 (0.103) |
| Lottery | 0.119 (0.134) |
| Bingo | 0.0646 (0.331) |
| Sports and special events | 0.679*** (0.147) |
| Informal games | 0.488** (0.172) |
| Online casino and poker games | 1.033*** (0.251) |
| Casino table games | 0.276 (0.171) |
| Constant | -2.031*** (0.177) |
| Ln(alpha) | 1.605*** (0.084) |
| Number of observations | 5788 |

* = significant at the 5% level; ** = significant at the 1% level; *** = significant at the 0.1% level; EGM = electronic gaming machine; SE = standard error

Note: Regression coefficients are displayed with standard errors in parentheses.

Key findings from Chapter 7

- 10% of the ACT adult population (approximately 31 000 adults) experienced gambling harm in the past 12 months.
- 15.8% of all gamblers in the ACT experienced at least one harm in the past 12 months using the SGHS.
- The most common harms reported in the SGHS were item 1 (reduction of available spending money: 5.6%) and item 2 (reduction of savings: 4%).
- In total, 27.1% of high-frequency gamblers experienced one or more gambling harms. The percentage was significantly lower for medium-frequency gamblers and low-frequency gamblers.
- Male high-frequency gamblers were significantly more likely to report one or more harms (31.2%) than females (19.5%).
- High-frequency gamblers under the age of 45 were significantly more likely to report one or more harms (43.5%) than those over the age of 45 (18.0%).
- 70.9% of high-frequency EGM gamblers under the age of 45 experienced harm from gambling (i.e. twice the rate of people aged over 45).
- Significant predictors of the number of gambling harms experienced were participation in EGM gambling, sports and special events betting, informal games, and online casino and poker games. Being male and under the age of 45 were also significant predictors of the number of harms experienced.

8 Burden of gambling harm in the ACT

Taking into consideration recent movement towards a general population approach to addressing gambling harms (GRC 2017), this chapter provides new estimates of the scale of population-level gambling-related harms in the ACT. In the sections below, a burden of disease framework is used for analysis of population-level gambling harm. The analysis includes estimates of the years lost to disability (YLD) associated with responses to the PGSI and SGHS, and examines the association between less severe categories of the PGSI and SGHS and the total burden of disease due to gambling in the ACT. Finally, simple estimates are provided for population-level gambling harm for seven local areas in the ACT.

8.1 Global Burden of Disease Framework

The Global Burden of Disease Framework (WHO 2008) is widely used to assess the impact of medical conditions on populations across the world. Its purpose is to allow a quantifiable comparison of medical problems in a population, enabling governments to effectively allocate resources to reduce harm. For chronic nonfatal illnesses, the framework incorporates two concepts to measure the burden of disease across a population: the disability weight (DW) and YLD.

DWs give a number between 0 and 1 to a medical condition, with 0 indicating no disability and 1 indicating total disability. The DW of a medical condition expresses the extent to which the quality of life of an individual is affected by the condition (Browne et al. 2017). The Global Burden of Disease Collaborative Network maintains a list of DWs of common chronic physical and mental illnesses (Table 20).

Gambling harm has not been included in publications that compile the relative impacts of the burden of disease for many common conditions (IHME 2017). However, recent advances in gambling research allow the study of DWs for different levels of problem gambling using the PGSI (Browne et al. 2017), or gambling harm using the SGHS (Browne et al. 2018). To calculate DWs for PGSI categories and the 10 levels of the SGHS, burden of disease elicitation studies present members of the general public and medical practitioners with algorithmically generated vignettes of harms associated with a given medical condition – in this case, problem gambling (Li et al. 2017). Respondents are then prompted to compare the harm experienced for a given state of problem gambling with other conditions for which DWs are already known. By averaging over multiple responses, the DWs for different levels of problem gambling (PGSI) and gambling harm (SGHS) are calculated with respect to other well-understood mental and physical conditions.

YLD is the second concept used to measure the population-level burden of a nonfatal chronic condition. YLDs are calculated by combining the DW of a given condition with its estimated prevalence in the population. The total YLD of a condition in a population is calculated as the sum of the products of the DWs (DW_i) and the number of individuals with the condition (I_i):

$$\sum_{i=1}^n DW_i I_i$$

A simple example would be if four people in a population had a hypothetical condition with a DW of 0.25. The total YLD because of this condition would be 1 YLD.

Table 20 Selected health conditions and disability weights

| Condition | Health state lay description | Disability weight |
|------------------------------------|--|-------------------|
| Severe major depressive disorder | Has overwhelming, constant sadness and cannot function in daily life. The person sometimes loses touch with reality and wants to harm or kill themselves. | 0.658 |
| Moderate major depressive disorder | Has constant sadness and has lost interest in usual activities. The person has some difficulty in daily life, sleeps badly, has trouble concentrating and sometimes thinks about harming themselves. | 0.396 |
| Moderate anxiety disorder | Feels anxious and worried, which makes it difficult to concentrate, remember things and sleep. The person tires easily and finds it difficult to perform daily activities. | 0.133 |
| Anorexia nervosa | Feels an overwhelming need to starve and exercises excessively to lose weight. The person is very thin, weak and anxious. | 0.224 |
| Severe alcohol dependence | Gets drunk almost every day and is unable to control the urge to drink. Drinking and recovering replace most daily activities. The person has difficulty thinking, remembering and communicating, and feels constant pain and fatigue. | 0.570 |
| Moderate alcohol dependence | Drinks a lot, gets drunk almost every week and has great difficulty controlling the urge to drink. Drinking and recovering cause great difficulty in daily activities, sleep loss and fatigue. | 0.373 |
| Mild alcohol dependence | Drinks a lot of alcohol and sometimes has difficulty controlling the urge to drink. While intoxicated, the person has difficulty performing daily activities. | 0.235 |
| Severe opioid dependence | Uses heroin daily and has difficulty controlling the habit. When the effects wear off, the person feels severe nausea, agitation, vomiting and fever. The person has a lot of difficulty in daily activities. | 0.697 |
| Mild opioid dependence | Uses heroin (or methadone) daily and has difficulty controlling the habit. When not using, the person functions normally. | 0.335 |
| Severe amphetamine dependence | Uses stimulants (drugs) and has difficulty controlling the habit. The person sometimes has depression, hallucinations and mood swings, and has difficulty in daily activities. | 0.486 |
| Mild amphetamine dependence | Uses stimulants (drugs) at least once a week and has some difficulty controlling the habit. When not using, the person functions normally. | 0.079 |

Source: IHME (2017)

8.2 Burden of gambling harm using the PGSI

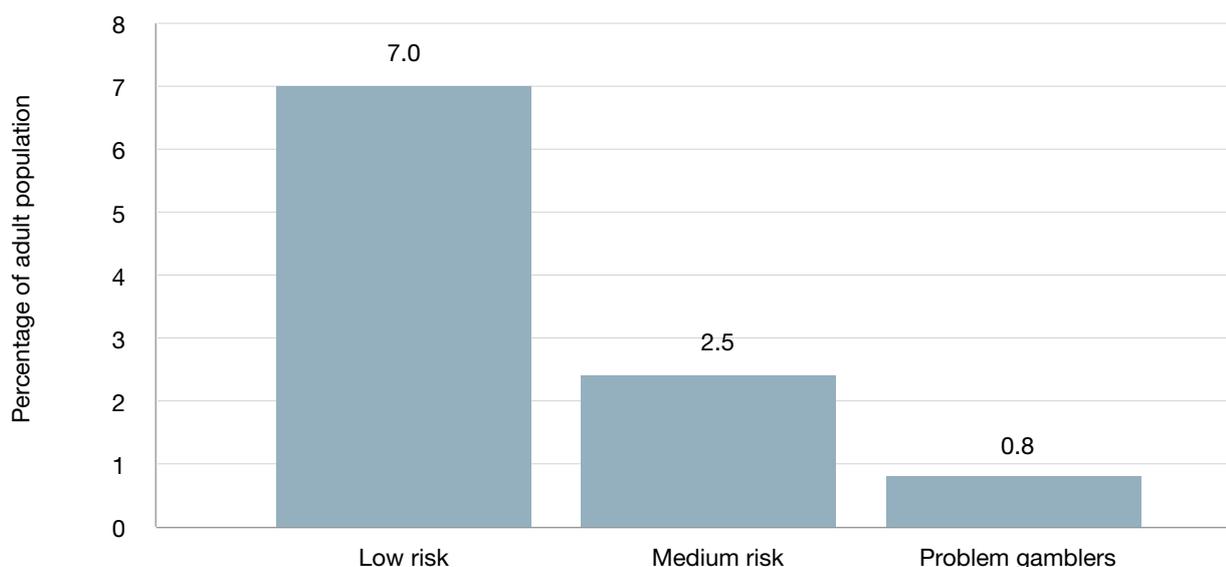
Although problem gamblers (PGSI) are disproportionate in the amount of harm they experience (i.e. their DWs are higher), low- to moderate-risk gamblers experience most of the gambling-related harm at the general population level because of their greater numbers.

Figure 27 shows the distribution of the gambling population in the ACT between the different levels of risk.

These figures can be used to estimate the total harm experienced from gambling in the ACT in terms of YLDs by applying the DWs calculated for gambling-related harm for each category of at-risk gamblers in the Victorian population (Browne et al. 2017). The total number of years lost (per year) in the ACT population due to gambling-related harm is calculated in Table 21.

Table 21 shows the DW for each category of at-risk and problem gambling, the prevalence in the population, and the total YLD in the ACT. The analysis suggests that the DWs for different levels of problem gambling are comparable with those for other serious mental and physical

Figure 27 Distribution of at-risk gambling (PGSI), 2019



PGSI = Problem Gambling Severity Index

Table 21 Estimation of disability life years caused by gambling, by PGSI category

| PGSI category | Disability weight | Prevalence in population (%) | Number of at-risk gamblers in the ACT | Years of life lost to disability in the ACT (% of total gambling harm) |
|------------------|-------------------|------------------------------|---------------------------------------|--|
| Low risk | 0.13 | 7.0 | 22 899 | 2 976.8 (45.5%) |
| Medium risk | 0.29 | 2.5 | 8 315 | 2 411.4 (36.8%) |
| Problem gambling | 0.44 | 0.8 | 2 631 | 1 157.6 (17.7%) |
| Total | – | 10.3 | 33 845 | 6 545.9 (100%) |

PGSI = Problem Gambling Severity Index

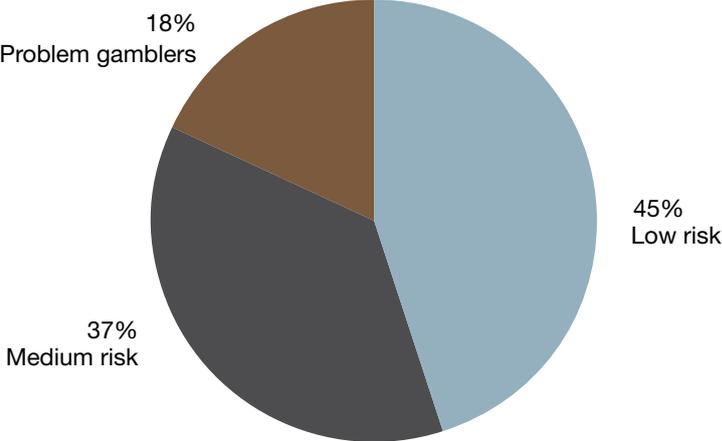
Note: Calculations are based on an estimation of total in-scope adult population of the ACT (327 259).

conditions (listed in Table 20). Low-risk gambling is equivalent to a moderate anxiety disorder, moderate-risk gambling to moderate alcohol dependence, and problem gambling to moderate major depressive disorder or severe amphetamine dependence.

When combined with overall PGSI prevalence, YLD caused by gambling in the ACT is significant. When averaged over the total number of affected people, those scoring 1 or above on the PGSI had a DW of 0.19. Using the definition of YLD, this is equivalent to approximately 2% of the adult population living with complete disability in the past 12 months as a result of gambling harm.

Further, gambling harms were not overwhelmingly experienced by problem gamblers. Although problem gamblers experience more harms relative to other at-risk gamblers, the overall harm in the general population is experienced predominantly by low- and moderate-risk gamblers, supporting previous findings of a ‘prevention paradox’ (Canale et al. 2016) – that the greatest amount of population-level gambling harm comes from those suffering the least. Figure 28 presents the proportion of total harms experienced as a result of problem gambling (PGSI) in the ACT. It shows that 82% of harm is experienced by people who are not considered to be problem gamblers.

Figure 28 Gambling-related harms, by PGSI category



PGSI = Problem Gambling Severity Index

8.3 Burden of gambling harm using the SGHS

The analysis of the burden of gambling harm was extended by adapting methods developed to assess the extent of gambling-related harm in terms of DWs and YLDs for the SGHS.¹⁹

Using weighted estimation of the proportion of ACT adults reporting each level of the SGHS, the DWs and the total adult population, it was calculated that the gambling-associated YLD in the ACT was 7583.3 years per year, approximately equivalent to a 2.3% reduction in quality of life across the ACT adult population (similar to estimates using the PGSI). The mean DW of an individual who scored positively on the SGHS in the present survey was 0.24 (slightly greater than the PGSI 1+ DW of 0.19), which reflects the direct measurement of gambling harm with the SGHS.

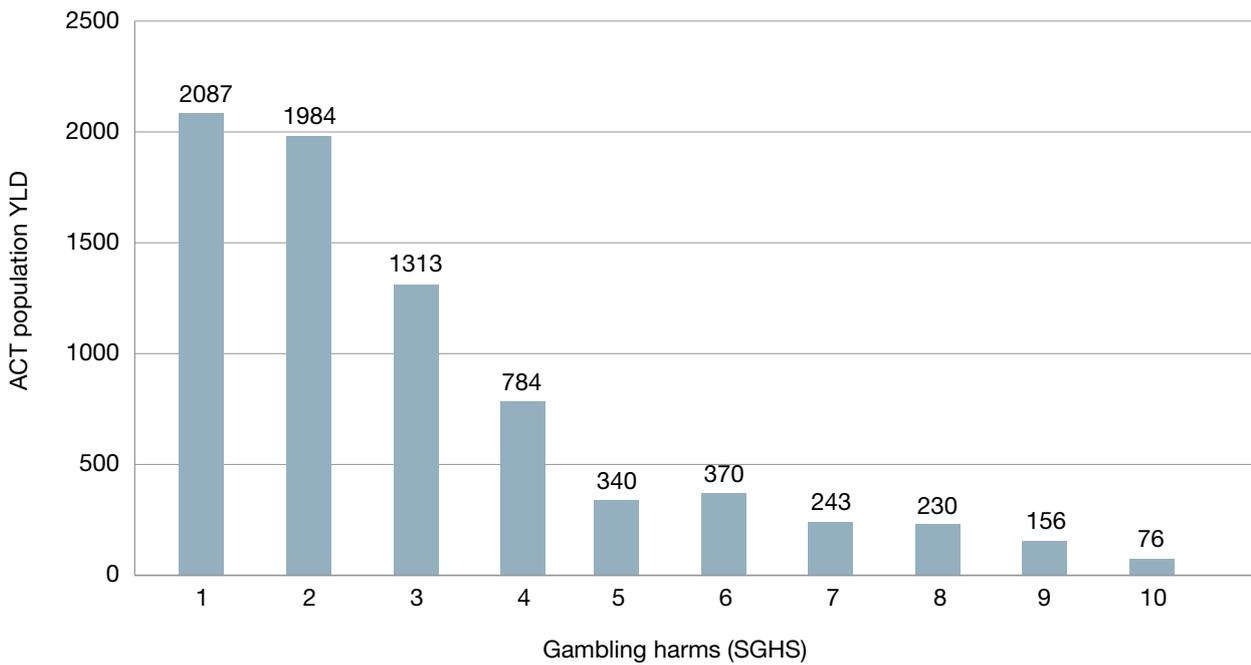
Further evidence was found for a prevention paradox in gambling prevalence screens. Figure 29 shows the total harm in the ACT population by the number of gambling harms experienced by respondents to the 2019 survey. More than 50% of the total harm experienced by gamblers in the ACT was experienced by respondents who reported two or fewer harms on the SGHS.

8.4 Distribution of harm across ACT regions

Finally, the analysis concludes by applying the burden of disease framework to analyse population-level harm within statistical regions of the ACT. Figure 30 gives the estimated YLD in each area, indicating that most gambling-related harms occur in the regions centred around the town centres of Belconnen (26.7%), Tuggeranong (22.6%) and Gungahlin (19.7%). Taken together, residents of these town centres account for 69% of the harms in the ACT.

Table 22 shows the relative representation of gambling harms in the ACT in terms of percentages. For example, Belconnen represents 24.3% of the adult population covered by the survey, but 26.7% of the ACT’s gambling harm, indicating that the area experiences 9.9% more harm than is expected given the size of its population. North Canberra experiences 27.2% less harm than expected.

Figure 29 Years lost to disability, by number of harms experienced by each respondent



SGHS = Short Gambling Harm Screen; YLD = years lost to disability

Figure 30 Years lost to disability, by ACT region

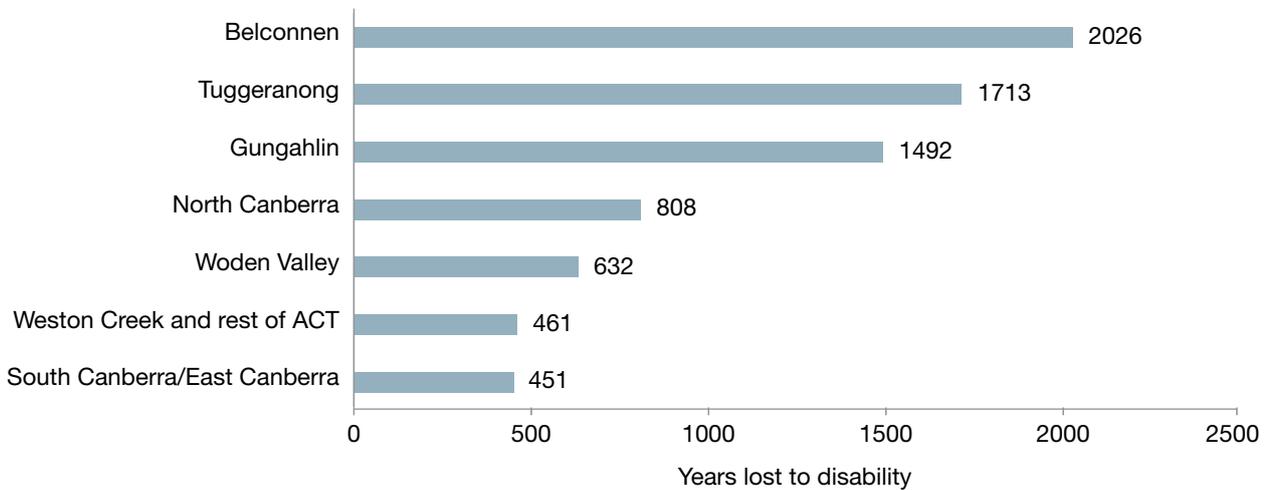


Table 22 Percentage of ACT population and percentage of harm, by region

| Region | % ACT population | % harm in the ACT | % over/under |
|------------------------------|------------------|-------------------|--------------|
| South Canberra/East Canberra | 7.6 | 6.0 | -21.1 |
| Weston Creek and rest of ACT | 7.0 | 6.1 | -12.9 |
| Woden Valley | 8.8 | 8.3 | -5.7 |
| North Canberra | 14.7 | 10.7 | -27.2 |
| Gungahlin | 16.6 | 19.7 | 18.7 |
| Tuggeranong | 21.0 | 22.6 | 7.6 |
| Belconnen | 24.3 | 26.7 | 9.9 |

Note: Data for ACT population are taken from the 2016 Census (adults over 18). The ACT consists of 10 SA3 regions but, because of their size, the three smallest SA3 regions were grouped with larger areas. Molonglo and Urriarra–Namadgi were grouped with Weston Creek, and East Canberra was grouped with South Canberra.

Key findings from Chapter 8

- Although problem gamblers (PGSI) were disproportionate in the amount of harm they experienced (i.e. their DWs are higher), low- to moderate-risk gamblers experienced more than 80% of the gambling-related harm at the general population level.
- Based on YLD, low-risk gambling is considered equivalent to a moderate anxiety disorder, moderate-risk gambling to moderate alcohol dependence, and problem gambling to moderate major depressive disorder or severe amphetamine dependence.
- Using the SGHS, 50% of the total harm experienced by gamblers in the ACT was experienced by people who reported two or fewer harms on the SGHS.
- Using weighted estimation of the proportion of ACT adults reporting each level of the SGHS, gambling-associated YLD in the ACT was 7583.3 years per year, approximately equal to a 2.3% reduction in quality of life across the ACT adult population.
- Most gambling-related harm occurred in the regions of Belconnen (26.7%), Tuggeranong (22.6%) and Gungahlin (19.7%). Taken together, residents of these town centres accounted for 69% of the harms in the ACT.

9 Gambling trends in the ACT: 2009–19

The 2019 ACT Gambling Survey is the fourth representative survey of gambling conducted in the ACT and one of three surveys spanning the decade to 2019. Combining data from the three most recent surveys (2009, 2014 and 2019) has the potential to provide insights into trends in gambling participation and the prevalence of gambling problems in the ACT over the past decade.

The primary challenge in combining data collected as part of three separate studies is the variation in survey methodology. The changes made to the surveys over the years have the potential to produce differences in statistical estimates that reflect changes in methodology rather than genuine changes in the outcomes of the population that they were intended to measure.

Although respondents to all of the surveys were interviewed over the phone, respondents to the 2009 and 2014 surveys were only interviewed on

landlines. This is in contrast to the 2019 survey in which 70% of respondents were interviewed over mobile phones and the remaining 30% on landlines.

The omission of those who reside in mobile-only households from the earlier studies presents a challenge in the estimation of trends in gambling behaviour for two reasons. The first is that the population of those who can only be contacted via mobile phone may differ in their propensity to gamble and/or in their prevalence of gambling problems (Jackson et al. 2014). The second is that there is evidence that the mode of interview can have a bearing on how people respond to certain types of questions, termed a 'mode effect' (Dowling et al. 2016).

Insofar as the percentage of those in mobile-only households has increased in recent years, the question arises of the extent to which variation in statistical estimates formed from surveys that exclusively sample those with access to a

Challenges of estimating trends in gambling behaviour

- Previous ACT Gambling Surveys sampled ACT residents who could be contacted via landline exclusively. The 2019 survey used a 'dual' sampling frame that, in addition, included those who could only be contacted via mobile phone. Although the 2019 survey is more representative of the ACT population, the higher rates of gambling participation and problems associated with gambling among ACT residents who can only be contacted via mobile phone complicate the interpretation of trends in gambling behaviour.
- The sociodemographic characteristics used to form the population benchmarks that were used to weight the survey samples to better reflect the ACT population in 2014 were slightly different from those used in 2009. The weighting methodology applied to the 2019 survey involved a more comprehensive set of population benchmarks than those used in previous surveys. This chapter presents statistics estimated using the application of population benchmarks for the distribution of age and gender of the ACT population in each year of data collection.

landline reflects changes in gambling behaviour in the population, rather than changes in the characteristics of those who were contactable via landline. According to the Australian Communications and Media Authority, 41% of Australian adults relied solely on mobile devices as of June 2018, up from 27% in June 2014 (ACMA 2018).

For these reasons, the estimates presented in this chapter use sampling weights formed from the application of population benchmarks that are consistent across the 2009, 2014 and 2019 data, rather than those used for the statistical estimates presented in earlier reports.²⁰ The data for each of these years are weighted to reflect the distribution of age and gender in the ACT reported at the time of data collection.²¹ The weights used in the 2014 ACT Gambling Survey included an additional benchmark for marital status, and the 2019 survey included a more comprehensive set of benchmarks, as documented in Chapter 2.

This chapter is concerned with evidence of any trends in gambling and gambling-related

behaviours in the ACT over time, rather than obtaining precise estimates for a specific year. To this end, the use of a consistent – although somewhat less sophisticated – weighting methodology removes a potential source of variation that pertains to survey methodology rather than a change in the gambling behaviours of the ACT population.

9.1 Trends in gambling participation

Figure 31 presents the rate of participation in all types of gambling, and in participation in gambling excluding instant scratch tickets and lottery, for ACT residents in 2009, 2014 and 2019. The figure also shows the 2019 gambling participation rate (exclusive of instant scratch tickets and lottery) for all ACT residents in addition to participation rates for those who could be contacted via landline (and perhaps also mobile phone) and those who could only be contacted via mobile phone.

Figure 31 Gambling participation, 2009–19

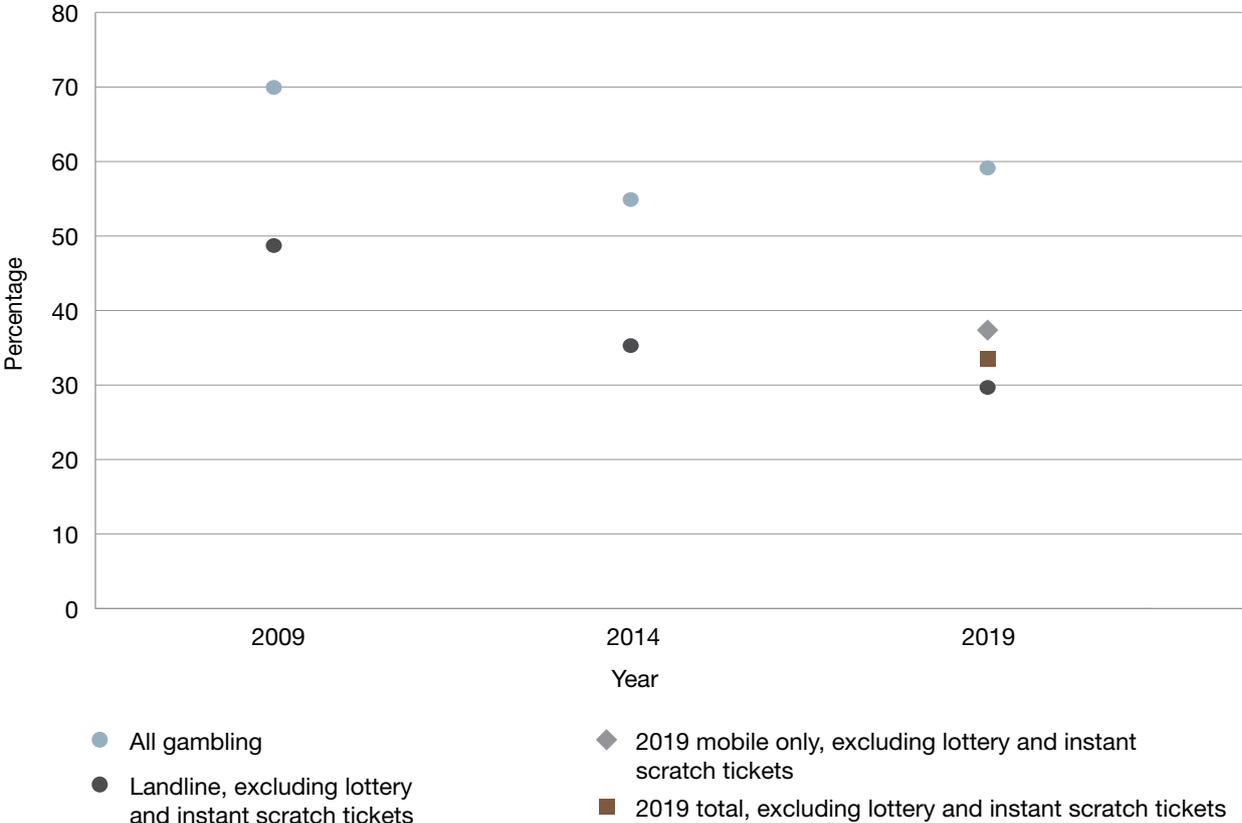


Figure 31 suggests that just under 70% of ACT residents gambled in 2009. Participation fell significantly between 2009 and 2014, by 15%, and then increased in 2019 (total sample) to 60%.

When the purchase of instant scratch tickets and lottery is excluded, less than half (48.7%) of ACT residents gambled in 2009, and this was followed by a 13.4 percentage point decline in 2014. There was a further fall of less than 2 percentage points in 2019, to 33.5% participation (overall). This modest decline in gambling participation is not statistically significant at a 95% level of confidence; even if it were, there are other reasons to interpret the change between 2014 and 2019 cautiously.

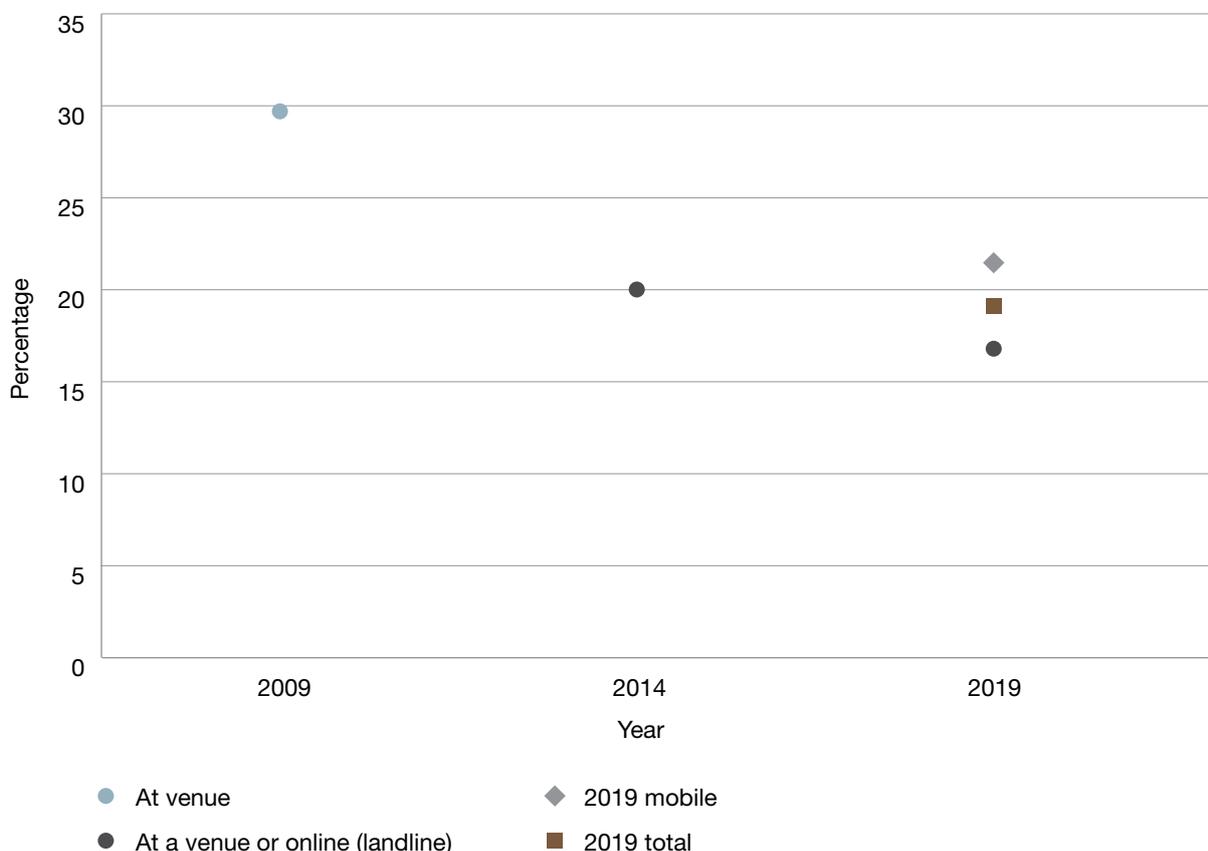
As indicated above, before the 2019 survey, only those in households that had access to a landline were surveyed. Figure 31 shows that the 2019 participation rate (excluding instant scratch tickets and lottery) was 29.7% for those contactable by landline but 37.4% for those who could only be contacted by mobile phone. Whether there has in fact been a decline in

gambling participation between 2014 and 2019 turns on what the 2014 participation rate would have been had ACT residents in mobile-only households been sampled.

9.2 Trends in EGM participation

Figure 32 presents participation in EGM gambling between 2009 and 2019 in gaming venues and online. Overall, the figure indicates little change in EGM participation between 2014 and 2019 (a change of less than 1% to 19.1% in 2019). As in Figure 31, when only those contactable via landline are considered, the decline in EGM gambling is greater (3.2 percentage points) as a consequence of higher EGM participation among those in mobile-only households (21.5%). As for Figure 31, the question of whether EGM participation has in fact declined over the past 5 years depends on what the 2014 rate of EGM participation would have been had mobile-only ACT residents been sampled.

Figure 32 Electronic gaming machine participation (at venue and online), 2009–19



9.3 Trends in self-reported gambling problems

Figure 33 presents the percentage of respondents who, when asked ‘In the past 12 months, have you felt that you might have a problem with gambling?’, indicated that they had felt this way ‘sometimes’, ‘most of the time’ or ‘almost always’, as opposed to ‘never’ in each of the surveys. The estimates suggest that the prevalence of self-reported gambling problems was 1.4% in 2009 and 1.6% in 2014, followed by a return to 2009 levels in 2019. In contrast to the estimates for participation, the prevalence of self-reported gambling problems in the previous 12 months appears to be similar among those who reside in

mobile-only households and those with access to a landline.

Lifetime prevalence of gambling problems was estimated to be 3.6% in 2009, 3.8% in 2014 and 3.9% in 2019 (Figure 34), although there is no evidence of any statistically significant change. Consistent with gambling participation and self-reports of gambling problems in the past 12 months, mobile-only respondents reported a higher lifetime prevalence of gambling problems (4.1%) than those contactable via landline (3.6%).

Figure 33 Self-reported problems with gambling in the past 12 months, 2009–19

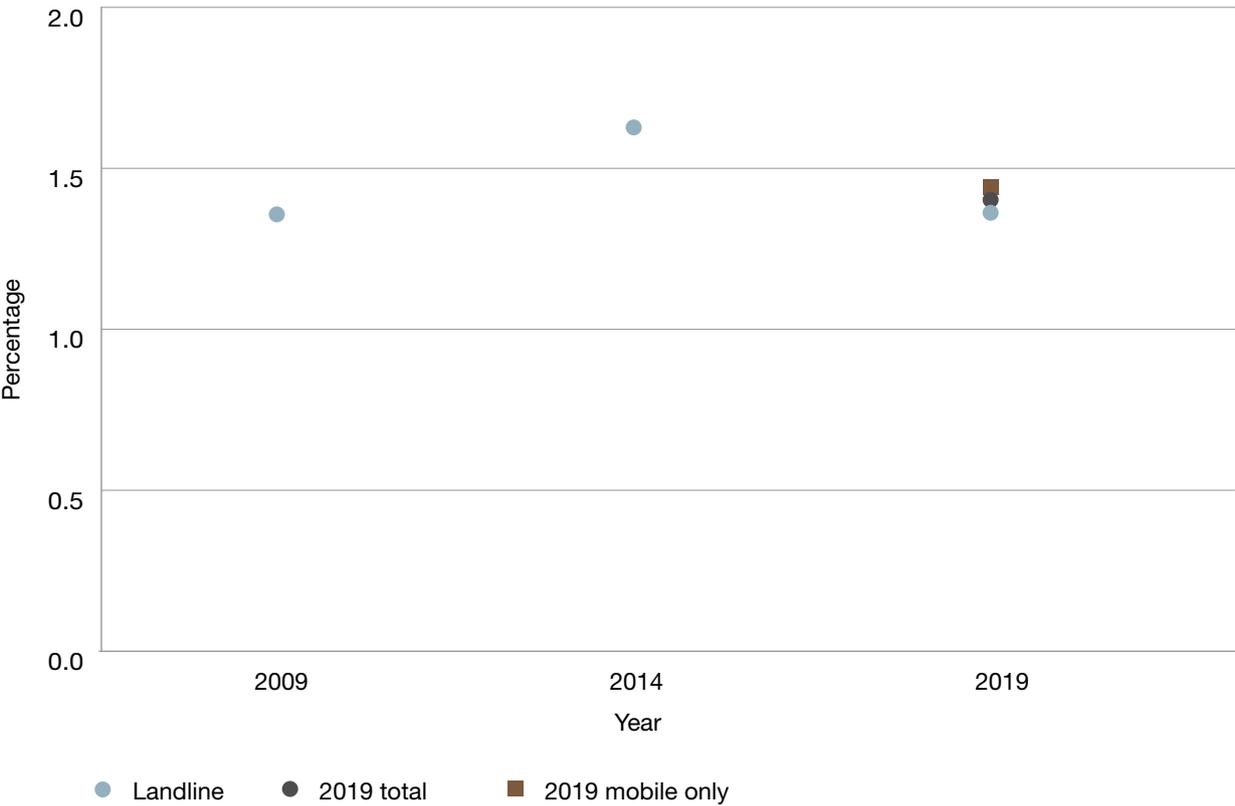
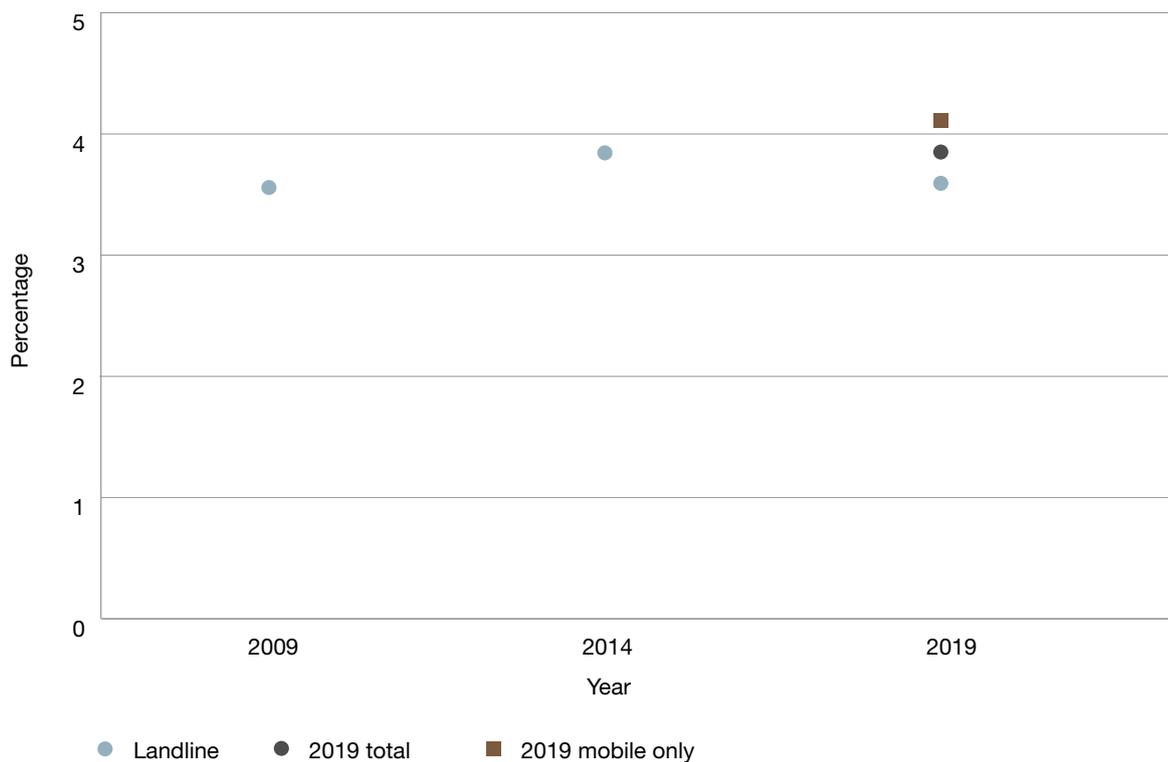


Figure 34 Self-reports of ever having had a problem with gambling, 2009–19

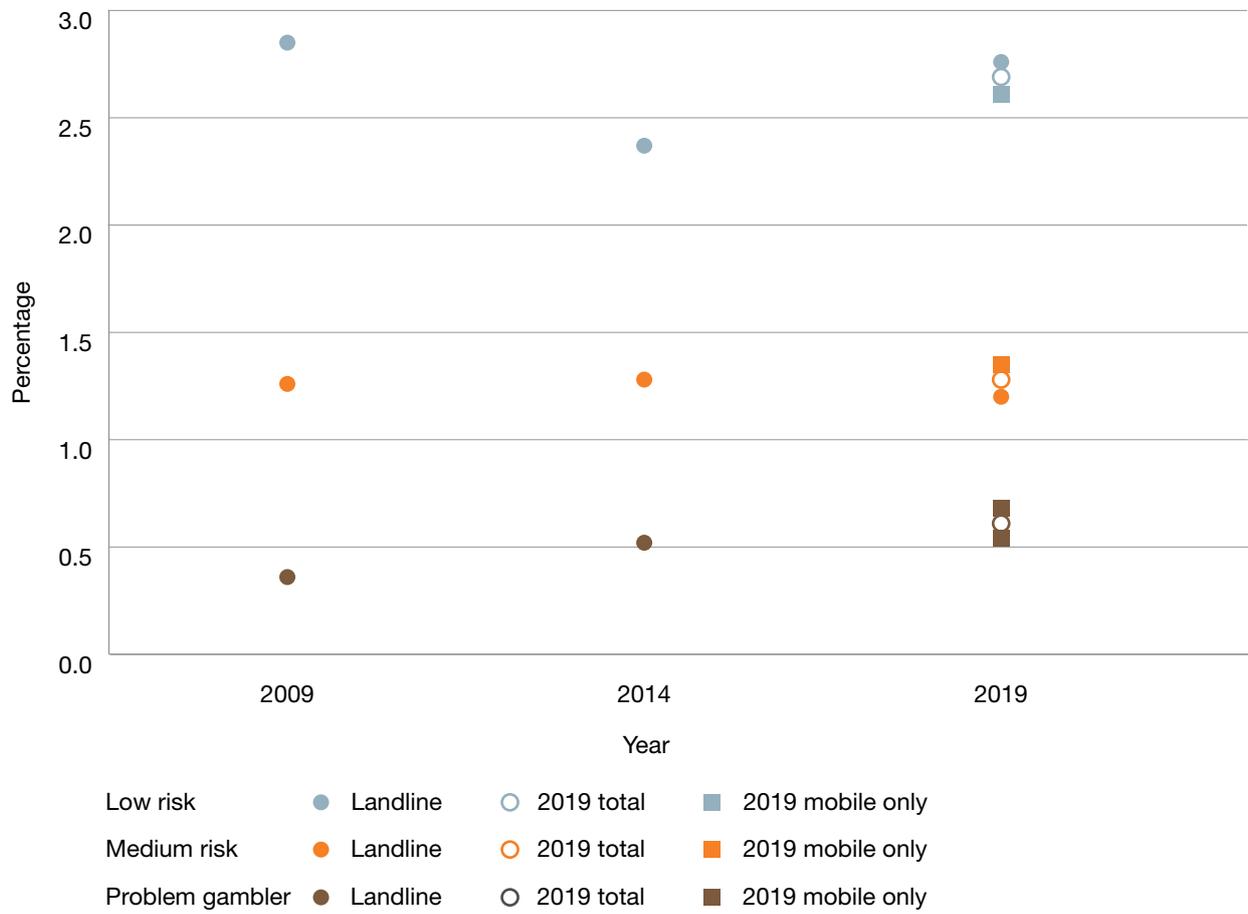


9.4 Trends in PGSI categories

Figure 35 shows the percentage of ACT residents in each of the PGSI risk categories in 2009, 2014 and 2019. The first panel indicates an increase in the percentage of ACT residents who did not experience problems associated with their gambling between 2014 and 2019, from 51.6% to 54.6%,²² after a marked decline in this group between 2009 and 2014 (13.2%).

The increase in non-problem gambling is largely the result of a small decline in the percentage of ACT residents who abstained from gambling between 2014 and 2019 (see Figure 31) but also reflects a modest increase in low-risk gambling (0.32 percentage points) and problem gambling (0.1 percentage points), although it should be emphasised that these increases are not statistically significant.

Figure 35 PGSI risk categories, 2009–19



PGSI = Problem Gambling Severity Index

Key findings from Chapter 9

- Changes to the survey design have improved representation of the ACT adult population in the 2019 survey but complicated direct comparison with the 2014 survey. By homogenising the weighting procedure and using only landline responses from the 2019 survey, changes over time for landline respondents were estimated. Without a mobile phone sample frame for the 2014 survey, the survey could not estimate changes for mobile phone respondents.
- Changes in self-reported gambling problems for landline respondents between 2014 and 2019 were not statistically significant.
- Changes in lifetime prevalence of gambling problems for landline respondents in the ACT were not statistically significant.
- Changes in PGSI categories for landline respondents in the ACT population in 2019 were not statistically significant.
- Changes in overall participation indicated a slight increase from 2014 to 2019. However, these changes were not significant when excluding lottery and instant scratch ticket participation.

10 Gambling online in the ACT

With significant advances in technology occurring at rapid rates, one of the objectives of the 2019 ACT Gambling Survey was to understand the mode with which people gamble in the ACT, with specific attention to levels of participation in gambling activities online.

The analysis in this chapter defines online gambling as participation in gambling on the internet – on a computer, mobile phone, interactive television or other device. Offline gambling is defined as land-based gambling – at a venue, outlet (e.g. EGMs, TAB, newsagent) or racetrack.

The survey estimates that 20.9% of ACT adults (68 000 people) gambled online in the past 12 months. This accounts for approximately one-third of gamblers (35%).

10.1 Online gambling by sociodemographic indicator

Figure 36 shows the sociodemographic indicators of people who gambled online in 2019.

Males were almost twice as likely to have gambled online (27.2%) than females (14.9%). This equates to over one in four adult males in the ACT. People aged under 45 were more likely to gamble online than those aged 45 or above. People born outside Australia were less likely (17.3%) than those born in Australia (22.7%) to gamble online.

Education was correlated with gambling online, but in a nonlinear way. Individuals with year 12 education were more likely than those who had completed year 11 or below to gamble online (25.4%, compared with 18.9%). However, at the other end of the education distribution, people with a bachelor degree (20.7%) or a postgraduate degree (15.3%) were less likely to gamble online than those who had completed year 12 only.

In terms of relationship status, those in de facto relationships were significantly more likely to gamble online (29.3%), while widowed people were less likely (6%).

Participation in the workforce and personal income were highly associated with gambling online. More than one in four people in full-time employment (27.6%) gambled online; they were more than 3 times more likely to do so than those out of the labour force (8.8%). Similarly, gambling online increases with personal income; those earning below \$50 000 were less likely to gamble online, while those earning above \$50,000 were more likely to gamble online.

Table 23 presents participation in particular modes of gambling. Gambling mode is broken down into offline only, online and offline, and online only.

The analysis found that 34.5% of people who had gambled in the ACT during the past 12 months had participated online (9.7% online only). However, two-thirds of gamblers (65.5%) in the ACT participated in offline (land-based) gambling only in the past 12 months. Further analysis was conducted excluding those who only bought lottery tickets to see if participation differed. The analysis found that removing people who only bought lottery tickets halved the number of online only gamblers (5.1%).

Figure 36 Participation in gambling online, by sociodemographic indicator

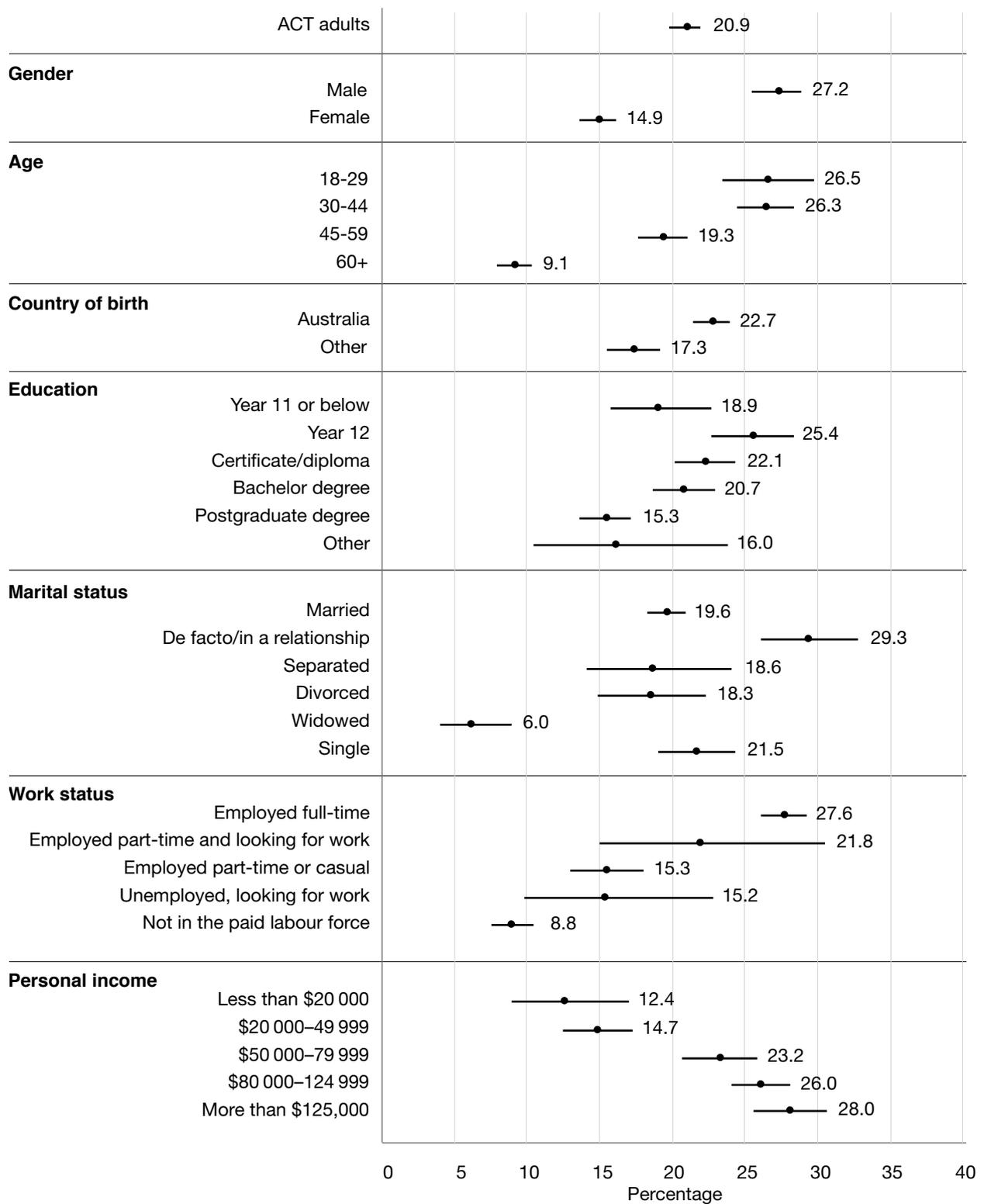


Table 23 Participation in gambling, by gambling mode

| Gambling mode | All gamblers (%) | Gamblers excluding those who only played lottery (%) |
|--------------------|------------------|--|
| Offline only | 65.5 | 63.2 |
| Online and offline | 24.8 | 31.7 |
| Online only | 9.7 | 5.1 |

Note: *N* (all gamblers) = 5751; *n* (gamblers excluding those who only played lottery) = 3920.

10.2 Online participation by gambling activity

Table 24 shows the percentage of online participation by activity in the ACT adult population and the percentage of participants within each activity who participated online.

The analysis found that 7.7% of the ACT adult population bet on sports or special events online, and 79.5% of sports and special events bettors had bet online at least once in the past 12 months. Similarly, 7.2% of the adult population bet on horse or greyhound racing, but comparatively fewer did so online (50.7%). In absolute terms, the largest portion of online gambling in the ACT is the lottery, with 13.3%

Table 24 Online participation in gambling, by activity

| Activity | Participation online (% of adult population) | Participation online by activity (% of gamblers by each activity) |
|----------------------------------|--|---|
| Sports and special event betting | 7.7 | 79.5 |
| Horse and greyhound racing | 7.2 | 50.7 |
| Lottery | 13.3 | 30.4 |
| Keno | 0.2 | 4.5 |
| Instant scratch tickets | 0.4 | 2.0 |
| Bingo | 0.0 | 0.9 |

of the adult population participating online and 30.4% of total participants purchasing at least one ticket online.

10.3 Mode of gambling by sociodemographic indicator

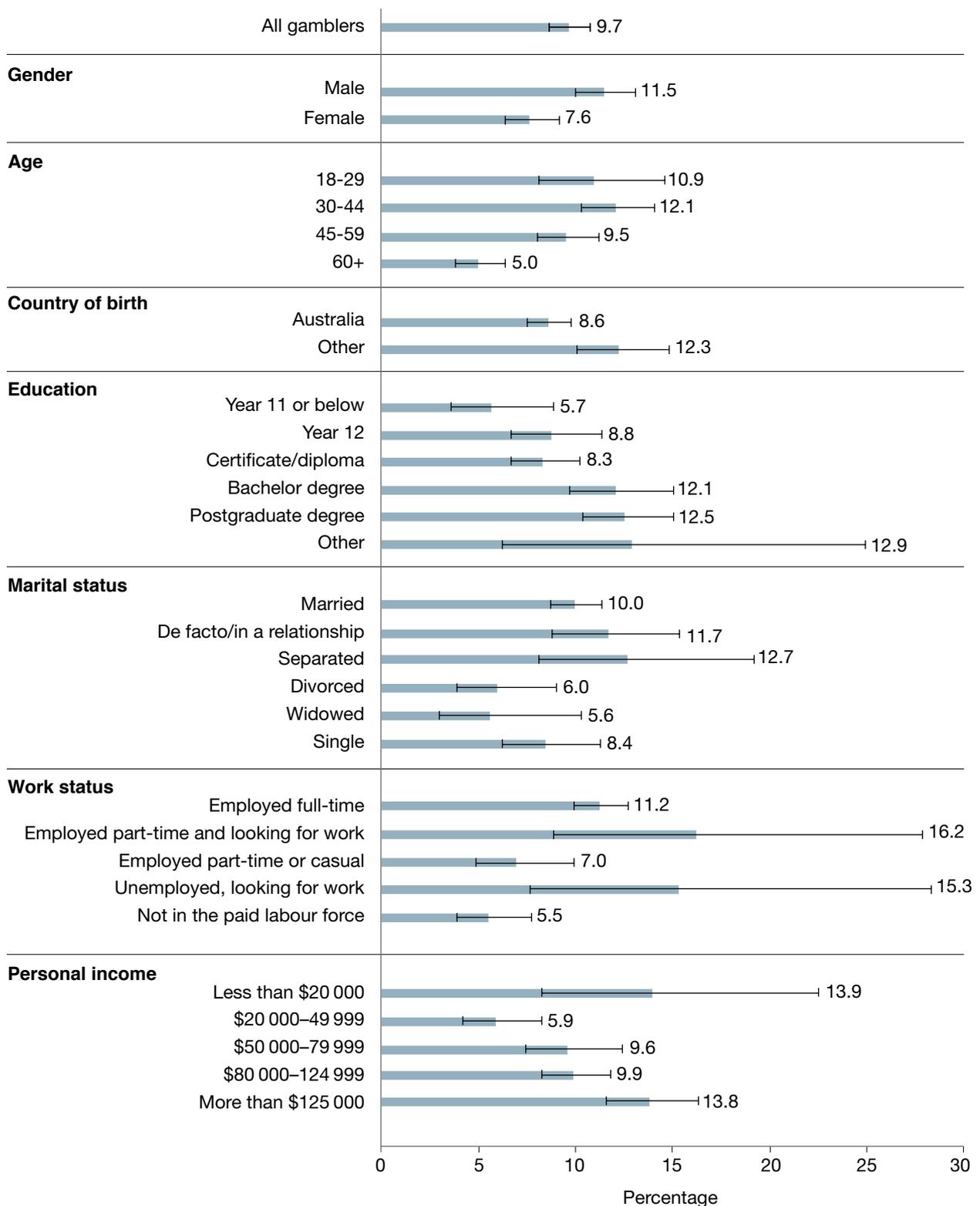
Figures 37 and 38 provide a detailed analysis of participation in gambling online only, online and offline, and offline only, by sociodemographic indicator.

Figure 37 shows that 9.7% of the ACT adult population that gambled did so only online. Males gambled online only at significantly higher rates than females. People aged under 60 gambled online only at significantly higher rates than people aged over 60. People born overseas were significantly more likely to gamble online only than people who were born in Australia. People with a university education gambled exclusively online at significantly higher rates than those whose level of education was year 11 or below. Married people were significantly more likely than divorced people to gamble online only. People on incomes less than \$20 000 were more likely to gamble online only than those on incomes of \$20 000–50 000 per year.

Figure 38 shows that 24.8% of all ACT gamblers participated in gambling both online and offline. Males gamble at significantly higher rates on both modes of gambling than females in the ACT. Mixed use of online and offline gambling modes was more prevalent among younger people, becoming statistically significantly less common with each age group. People born overseas were less likely to gamble both online and offline than those born in Australia. People in a relationship and single people were significantly more likely to gamble online and offline than married, separated, divorced or widowed people. People employed full-time were significantly more likely to gamble both online and offline, whereas people who are not in the paid labour force were significantly less likely to gamble using multiple modes.

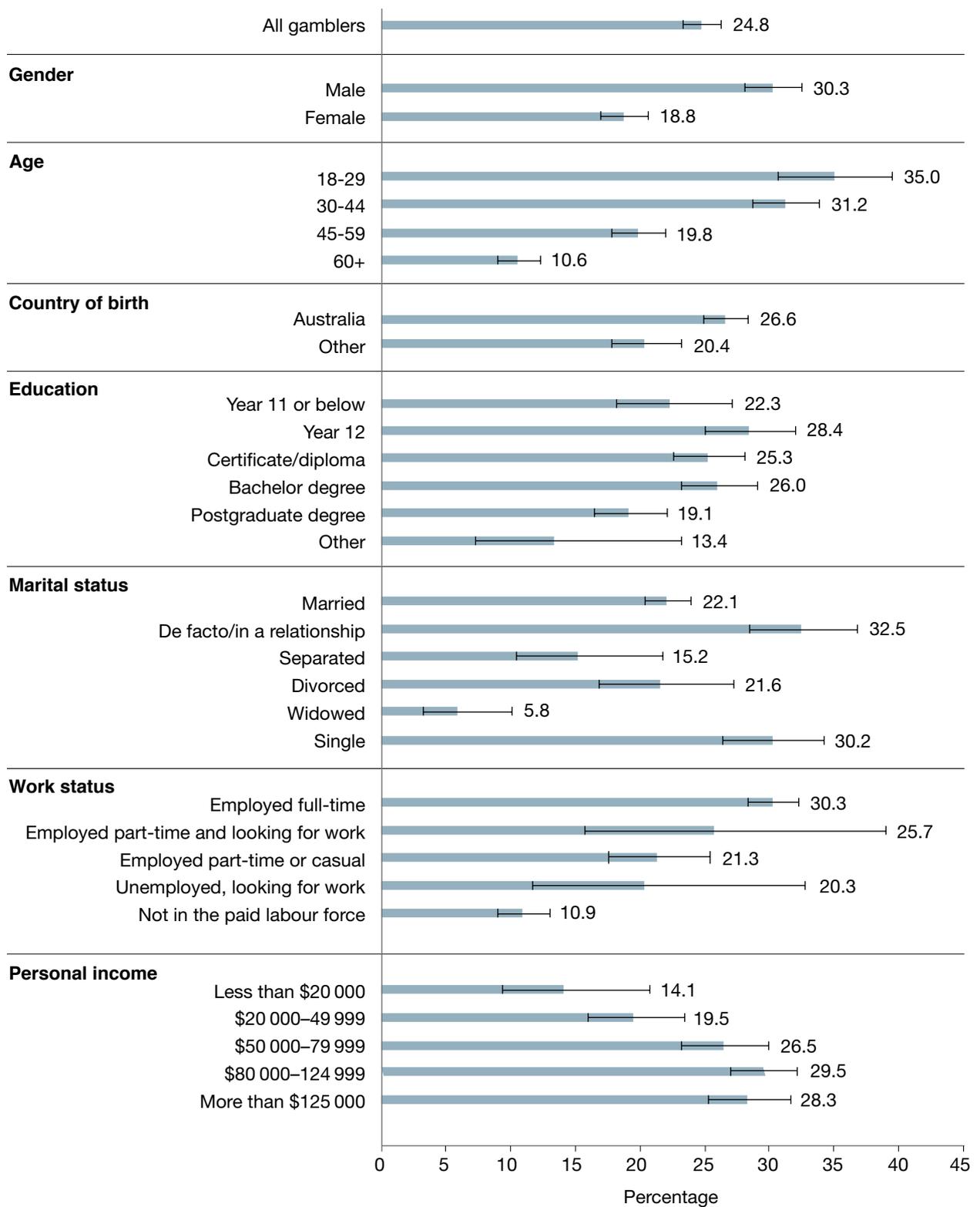
Figure 39 looks at the sociodemographic characteristics of people in the ACT who gamble offline only.

Figure 37 Gamblers who gamble online only, by sociodemographic indicator



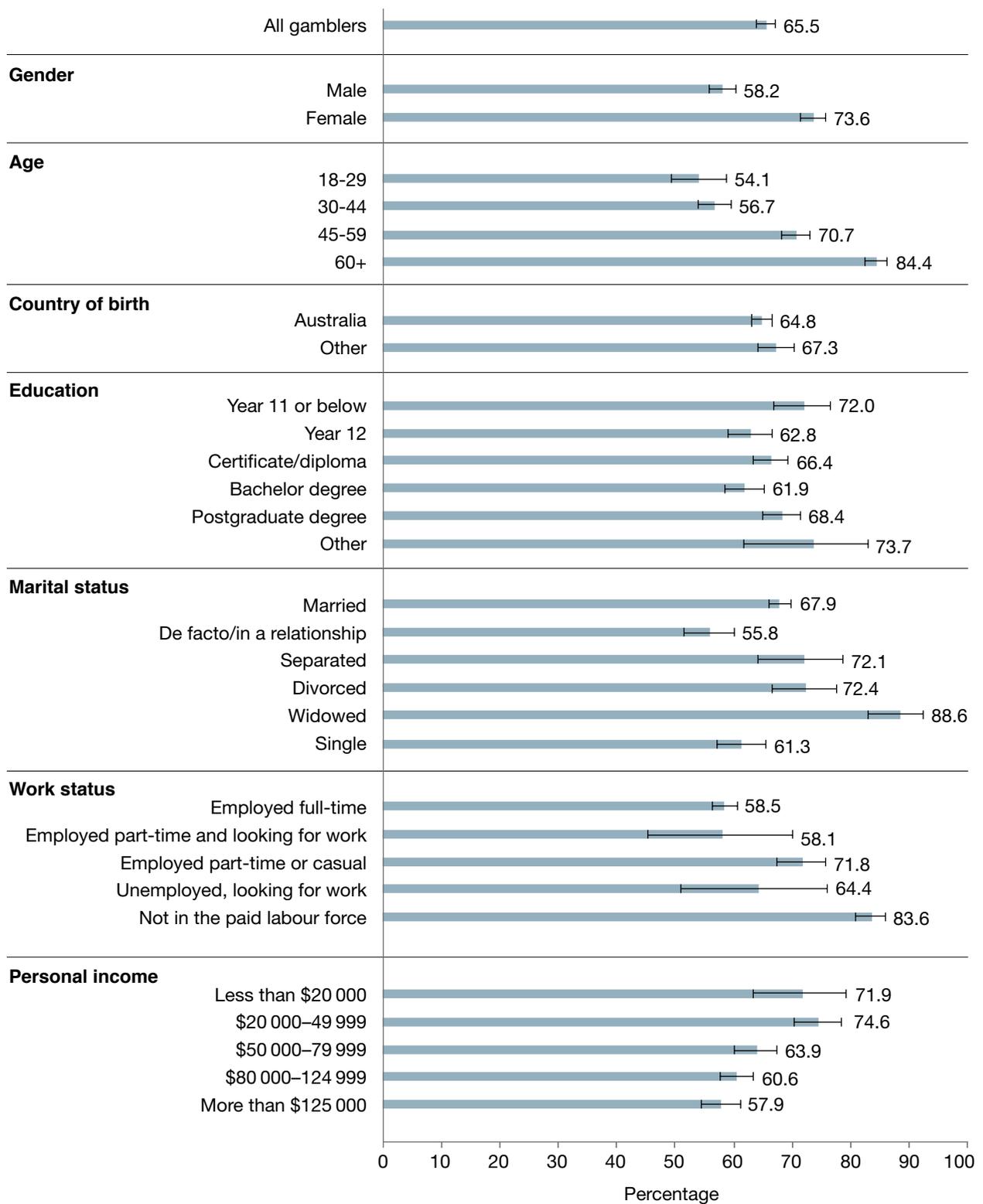
Note: n = 429

Figure 38 Gamblers who gamble both online and offline, by sociodemographic indicator



Note: *n* = 1207

Figure 39 Gamblers who gamble offline only, by sociodemographic indicator



Note: *n* = 4053

Unlike the other two modes of gambling, people who gamble offline only were significantly more likely to be female. Further, those who gamble offline only were significantly more likely to be over 45 years old. Significant differences exist between those who have education to year 11 or below and those who have education to year 12. Widowed people were significantly more likely to gamble offline than any other group of people. People not in the paid labour force were also significantly more likely to gamble offline only, as were those outside the paid labour force, or in part-time or casual occupations. Finally, increasing personal income was significantly and negatively related to exclusive use of offline gambling modes.

10.4 Gambling mode by frequency, PGSI and SGHS harms

The association between gambling modes (online only/offline only/both online and offline) and gambling frequency, problem gambling (PGSI) and gambling harm (SGHS) were tested to gain insights into online gambling behaviour in the ACT. This analysis was then extended to examine the association between mode ‘preference’

in terms of mostly online and mostly offline gambling.

Gambling respondents were also split into two groups: those who had gambled most often in land-based offline settings ($n = 4579$) and those who gambled mostly online ($n = 1307$). ‘Mostly online’ is defined as gamblers whose gambling frequency over the past 12 months was higher for online gambling activities than for offline activities; ‘mostly offline’ refers to gamblers who reported higher gambling frequency for offline than online activities. This analysis allows a closer examination of the ‘both online and offline’ gambling group, for whom significant differences exist when the preferred mode of gambling is online, as we show below (Figure 40).

Figure 40 shows the different modes by gambling frequency (low, medium and high). People who gambled online only were significantly more likely to be medium-frequency gamblers than high-frequency gamblers. Low-frequency gamblers were most likely to gamble offline only (76%). Finally, as total gambling frequency increases, the likelihood that an individual participates in both online and offline gambling increases (low frequency: 14%; medium frequency: 35%; high frequency: 42%).

Figure 40 Gambling mode, by gambling frequency

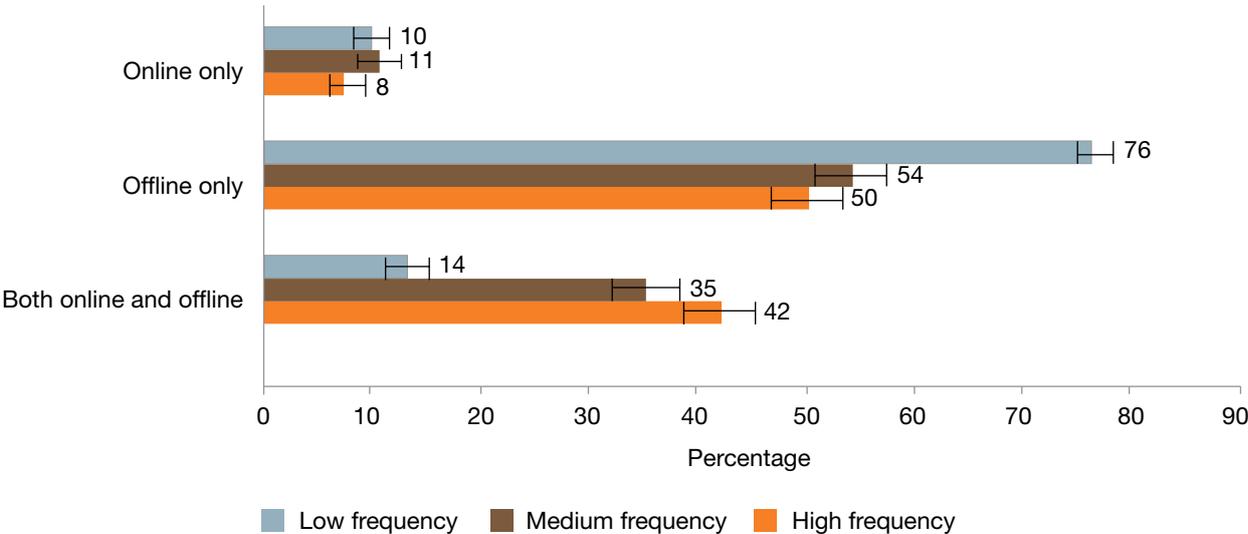


Figure 41 shows the distribution of frequency categories for gamblers who engage mostly online compared with gamblers who engage mostly offline. Mostly offline gamblers were significantly more likely to be low-frequency gamblers (59.1%). In contrast, mostly online gamblers were more likely to be medium- and high-frequency gamblers, suggesting

that gambling often online is associated with significantly higher frequency of betting.

Moving to the association between online and offline gambling and problem gambling, as defined by the PGSI, similar patterns to those found when examining gambling frequency are revealed (Figure 42).

Figure 41 Gambling frequency, by most frequent gambling mode

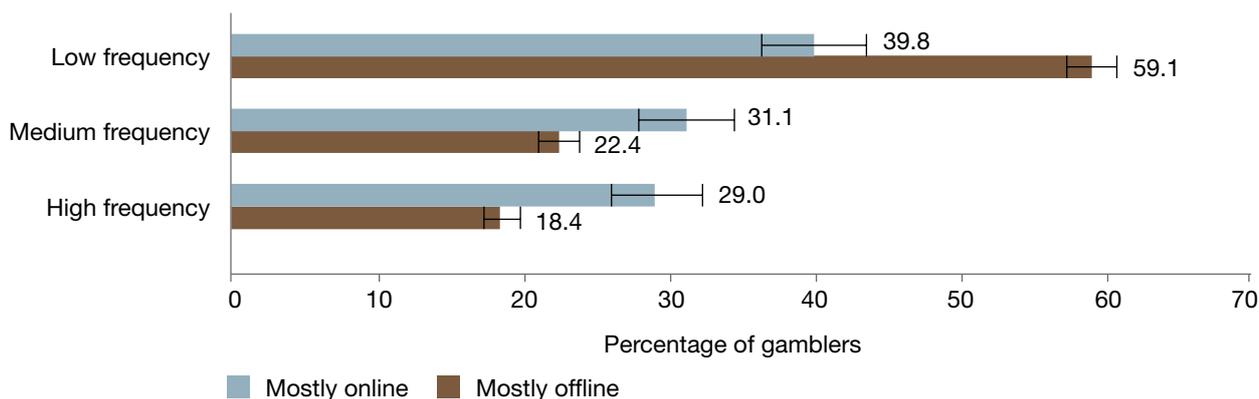
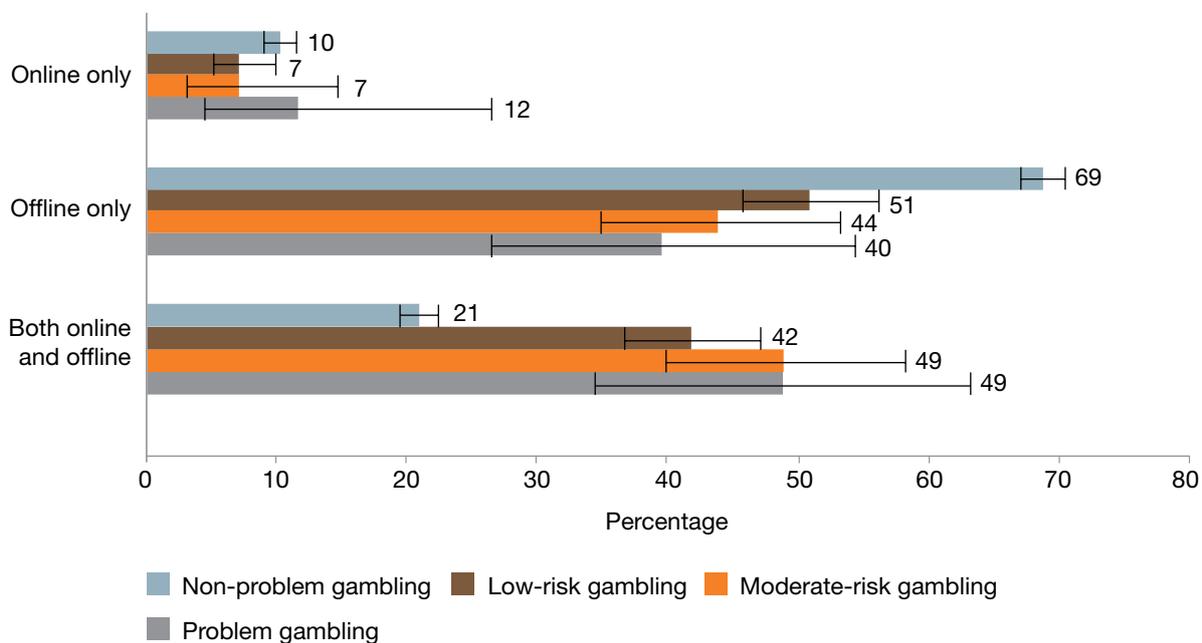


Figure 42 Gambling mode, by PGSI category



PGSI = Problem Gambling Severity Index

Note: n = 5719

Figure 42 shows that there is no significant difference in PGSI categories for people who gamble online only. However, people who gamble offline only were significantly more likely to be non-problem gamblers than any other category. Looking at those who gambled both online and offline, non-problem gamblers were significantly less likely to gamble both online and offline, suggesting that use of both online and offline gambling modes is related to increased incidence of at-risk and problem gambling, as defined by the PGSI.

Figure 43 shows the distribution of the PGSI scale categories for mostly online and mostly offline gamblers (defined above). Mostly offline gamblers were more likely to participate in non-problem gambling (85.4%, compared with 75.2%). However, mostly online gamblers were more likely to be low-risk, moderate-risk and problem gamblers. In total, the percentage of at-risk gamblers (PGSI > 0) among mostly online gamblers was 24.8% (compared with 14.6% for mostly offline gamblers).

Table 25 presents the rate of reporting one or more gambling harms using the SGHS by gambling mode (online and offline, online only, and offline only). Consistent with findings above, those who gambled both online and offline reported one or more harms at more than double

the rate of those who gambled either online or offline only.

Again, applying the definition of mostly online and mostly offline gambling, Table 26 indicates that people who gambled mostly online reported one or more harms from gambling at double the rate of people who gambled mostly offline.

Taken together, the analysis of online gambling compared with traditional land-based gambling suggests that gambling exclusively online does not appear to be a predictor of frequent, problematic or harmful gambling. Instead, frequent gamblers use multiple forms and multiple modes of gambling rather than restricting

Table 25 Percentage of gambling harm (SGHS 1+), by gambling mode

| Mode | % reporting one or more harms | LL (%) | UL (%) |
|-------------------------|-------------------------------|--------|--------|
| Both online and offline | 28.5 | 25.4 | 31.9 |
| Offline only | 11.3 | 10.0 | 12.7 |
| Online only | 13.2 | 10.0 | 17.3 |

LL = lower limit of 95% confidence interval; SGHS = Short Gambling Harm Screen; UL = upper limit of 95% confidence interval

Figure 43 PGSI categories, by most frequent gambling mode

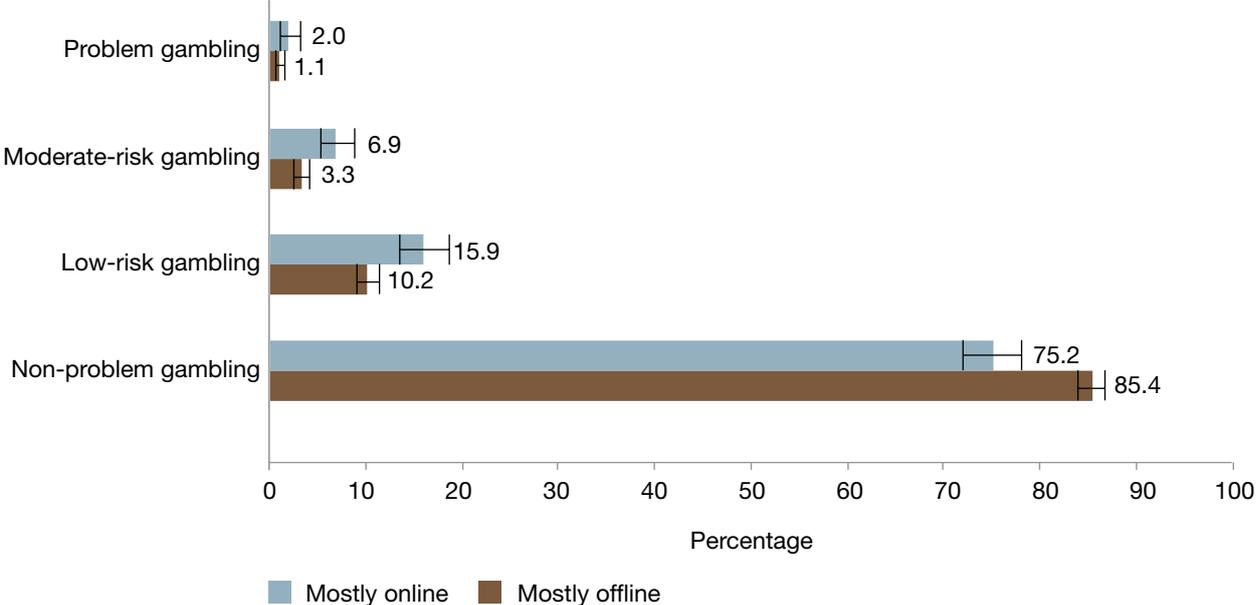


Table 26 Percentage of gambling harm (SGHS 1+), by most frequent gambling mode

| Mode | % reporting one or more harms | LL (%) | UL (%) |
|----------------|-------------------------------|--------|--------|
| Mostly offline | 13.5 | 12.2 | 14.9 |
| Mostly online | 22.5 | 19.7 | 25.7 |

LL = lower limit of 95% confidence interval; SGHS = Short Gambling Harm Screen; UL = upper limit of 95% confidence interval

the variety of their gambling activity. However, analysis of gambling mode preference in terms of mostly online and mostly offline gambling adds nuance to this finding. Consistent statistically significant associations exist between a preference for gambling mostly online and higher frequencies of increased at-risk and problem gambling, and increased self-reported gambling harm using the SGHS.

10.5 Emerging online gambling-related activities

The rise of gambling-related activities in online games is of increasing concern to the community and regulators. This is the first time in Australia that a survey on gambling has asked participants to report on their online engagement through a range of activities, not specifically gambling. The

2019 ACT Gambling Survey asked, ‘In the last 12 months, have you ...’: purchased a video or computer game; purchased a subscription; made an in-game, in-app purchase either randomly or to gain an advantage; engaged in online investment trading; played fantasy sports; or purchased something in an online auction.

An analysis of participation relating to key sociodemographic indicators and risky gambling behaviour was conducted. Table 27 presents the participation in online activities among adults in the ACT. The most popular activities were video game purchases (28.6%) and online auctions on websites such as ebay.com (27.5%). Next, the survey found that 14.7% of ACT adults made an in-app or in-game purchase to unlock game features, or purchased monthly gaming subscriptions (14.2%). The survey found that 9.4% of the adult population had engaged in online investment trading, and 5% of the adult population made a purchase that gave a random chance of winning a video game feature (commonly known as loot boxes).

These prevalence figures were then split by gender, testing for associations using weight-corrected Pearson’s chi-squared tests. In all activities, males were significantly more likely to take part than females ($P < 0.01$ for all categories).

Next, tests for association between the above activities and at-risk and problem gambling were conducted.²³ Figure 44 presents the prevalence

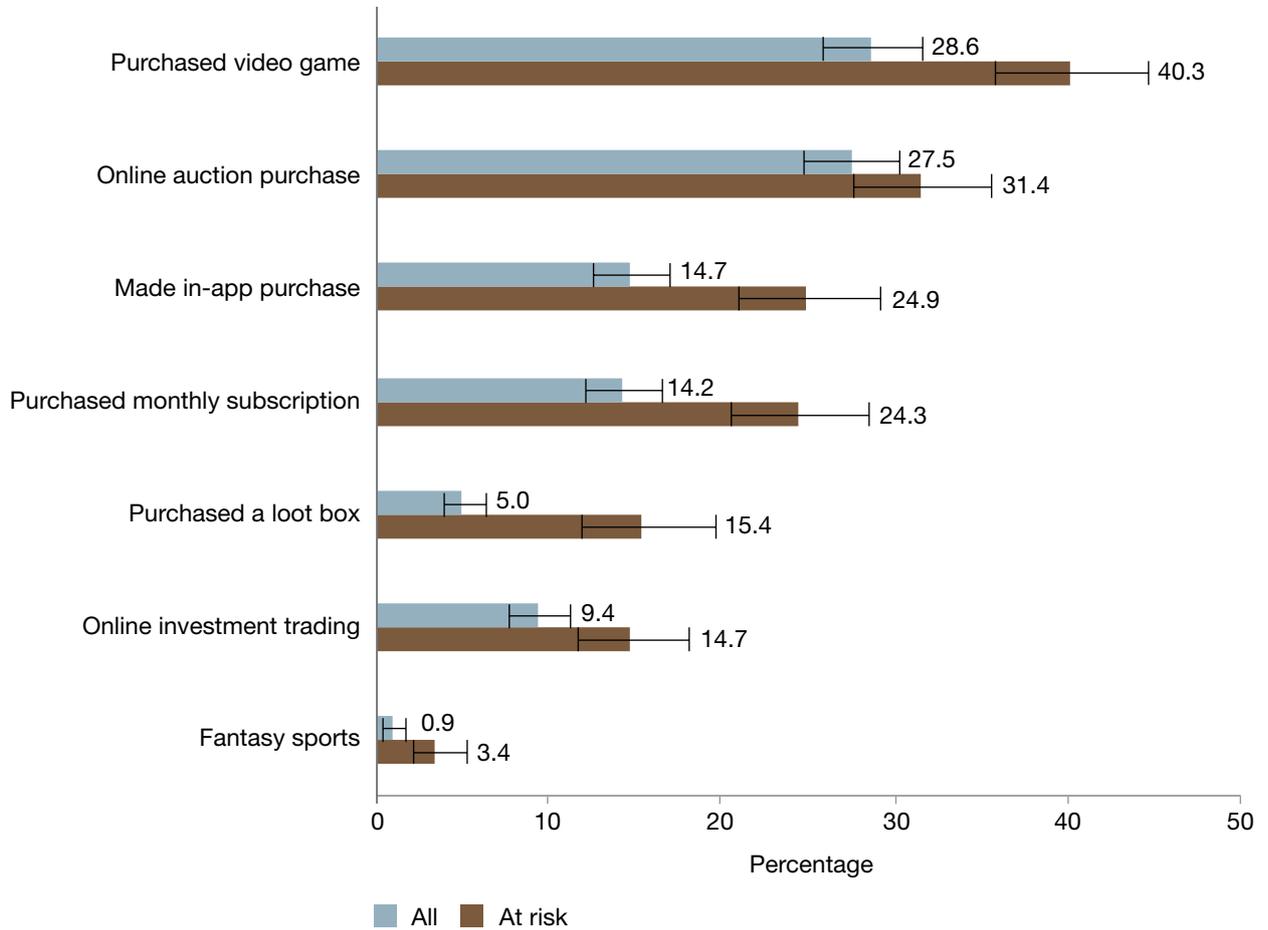
Table 27 Participation in online activities, by gender

| Activity | All (%) (n = 2216) | Male (%) (n = 1105) | Female (%) (n = 1111) |
|---|-----------------------|------------------------|--------------------------|
| Purchased a video or computer game | 28.6 | 39.3 | 18.4 |
| Purchased something in an online auction | 27.5 | 35.2 | 20.1 |
| Made an in-game or in-app purchase that gave you an advantage or unlocked game features | 14.7 | 17.9 | 11.6 |
| Purchased a monthly or annual subscription that gave you access to a video or computer game | 14.2 | 20.0 | 8.6 |
| Engaged in online investment trading | 9.4 | 15.0 | 4.1 |
| Made an in-game or in-app purchase that gave you a random chance to gain an advantage or unlock game features | 5.0 | 7.2 | 2.9 |
| Spent money playing fantasy sports | 0.9 | 1.7 | 0.1 |

of each activity for all respondents, and then respondents scoring 1 or more on the PGSI. People classified as at-risk and problem gamblers were significantly more likely to take part in each

online activity above. Those classified as at-risk and problem gamblers purchased loot boxes and engaged in fantasy sports at 3 times the rate of the rest of the ACT population.

Figure 44 Participation in online activities, by at-risk and problem gambling (PGSI > 0)



PGSI = Problem Gambling Severity Index

Key findings from Chapter 10

- 20.9% of ACT adults (68 000 people) gambled online in the past 12 months. Two-thirds of gamblers in the ACT participated in offline (land-based) gambling only in the past 12 months, and about one-third gambled online.
- Males were almost twice as likely to have gambled online (27.2%) as females (14.9%). This equates to more than one in four adult males in the ACT. People aged under 45 were more likely to gamble online than those aged 45 or above.
- 7.7% of the ACT adult population bet on sports or special events online in the past 12 months, accounting for 79.5% of all participation in sports and special events betting.
- Using the PGSI, people who gambled offline only (land-based) were significantly more likely to be non-problem gamblers than any other category. However, non-problem gamblers were significantly less likely to gamble both online and offline.
- The analysis of online gambling compared with traditional land-based gambling suggests that gambling exclusively online does not appear to be a predictor of frequent, problematic or harmful gambling.
- The analysis of gambling mode preference in terms of mostly online and mostly offline gambling shows statistically significant associations between a preference for gambling mostly online and higher frequencies of gambling, increased at-risk and problem gambling, and increased self-reported gambling harm using the SGHS. Using the SGHS, people who gambled mostly online reported one or more harms from gambling at double the rate of people who gambled mostly offline.
- People classified as at-risk and problem gamblers purchased loot boxes and engaged in fantasy sports at 3 times the rate of the rest of the ACT population.

11 Attitudes to gambling in the ACT

Gambling surveys in the ACT have found a consistently negative view of gambling and its role in the community. Both the 2009 and 2014 surveys found that more than three-quarters of the population believed that gambling does more harm than good for the community. The 2019 survey expanded the examination of public attitudes by introducing a validated measure of public opinion towards gambling, to produce a thermometer score of gambling attitudes. The analysis included variation in attitudes towards gambling across sociodemographic groups and gambling behaviour, as well as attitudes towards types of gambling activity, knowledge of the ACT’s self-exclusion program, public support for pre-commitment, public support for limits to cash withdrawals in gambling venues from ATM and EFTPOS machines, and finally attitudes towards the maximum permitted bet on EGMs in the ACT.

11.1 Attitudes Towards Gambling Scale

The 2019 ACT Gambling Survey used the 8-item Attitudes Towards Gambling Scale (ATGS-8), a validated scale of public opinion (Canale et al. 2016) to measure attitudes towards gambling in the ACT.

Table 28 lists the items on the ATGS-8 scale. Responses to ATGS-8 items were scored using a Likert scale: 1 = ‘strongly agree’ to 5 = ‘strongly disagree’. We reverse-coded items so that positive attitudes scored higher. Items were then summed to form a scale between –16 and 16. To aid interpretation and statistical analysis, we transformed²⁴ the scale to a thermometer score (0–100). In short, the higher the ATGS thermometer score, the more favourably the public views gambling, with a midpoint at 50.

Table 28 Items on the ATGS-8 scale

| Item | Observations | Item-test sign |
|--|--------------|----------------|
| People should have the right to gamble whenever they want – agree/disagree | 2183 | – |
| There are too many opportunities for gambling nowadays – agree/disagree | 2189 | + |
| Gambling should be discouraged – agree/disagree | 2186 | + |
| Most people who gamble do so sensibly – agree/disagree | 2086 | – |
| Gambling is dangerous for family life – agree/disagree | 2179 | + |
| On balance, gambling is good for society – agree/disagree | 2173 | – |
| Gambling livens up life – agree/disagree | 2149 | – |
| It would be better if gambling was banned altogether – agree/disagree | 2193 | + |

In total, 2193 respondents received the ATGS-8, and 1966 respondents completed the full scale without refusal or responding 'don't know' to any items. The internal consistency of the ATGS-8 in the 2019 survey was of acceptable quality, with Cronbach's alpha = 0.78.²⁵

The analysis found an average thermometer score of 38.4 for ACT adults using weighted mean estimation. This indicates a negative public attitude towards gambling, comparable with negative findings in previous ACT surveys and with studies using the ATGS-8 in Australia (McAllister 2014), Finland (Salonen et al. 2014) and the United Kingdom (Canale et al. 2016).

11.2 ATGS-8 thermometer by sociodemographic indicator

Figure 45 shows the ATGS-8 thermometer scale by sociodemographic indicator. Results suggest that the most salient difference in attitudes by sociodemographic group is by gender, with males scoring on average 5 points higher on the scale. Smaller differences were found in other demographic groups using weight-adjusted t-tests.

Respondents over the age of 45 had less favourable attitudes towards gambling than the general population, while respondents aged 18–29 had more favourable views.

Small but statistically significant differences were also found for education. Respondents with year 12 education had more favourable views of gambling than the general population (40.4 on the ATGS-8 scale), while people with postgraduate degrees had less favourable views (36.9).

With respect to labour participation, people in full-time employment were more likely to view gambling positively (39.6), while people employed part-time or in casual positions had less favourable views (36.0).

In summary, although attitudes towards gambling varied marginally across sociodemographic groups, the most consistent finding is that a negative view of gambling is common across the ACT community, with no single subpopulation

reporting positive attitudes using the ATGS-8 scale.

11.3 ATGS-8 thermometer by gambling frequency, PGSI category and SGHS

Turning to the association between gambling behaviours and attitudes, analysis was conducted on the relationship between the ATGS-8 thermometer scale and gambling frequency (Figure 46), PGSI categories (Figure 47), and the number of gambling harms experienced measured using the SGHS (Figure 48).

Figure 46 shows the average ATGS-8 score by frequency of gambling. A clear positive relationship exists between gambling frequency and gambling attitudes. Non-gamblers have the least positive attitudes (34.4 on the ATGS-8 scale), and low-frequency gamblers have approximately the same thermometer level as the general population (38.6). Medium- and high-frequency gamblers have significantly more positive attitudes than the general population (medium frequency 41.6; high frequency 45.1).

However, the same monotonically increasing relationship is not evident for measures of gambling severity (using the PGSI) and gambling-related harms (using the SGHS). Figure 47 shows that negative attitudes towards gambling are comparatively strong across non-problem gamblers (40.5 on the ATGS-8 scale), low-risk gamblers (44.8) and moderate-risk gamblers (41.6). However, respondents classified as problem gamblers (PGSI > 7) had the least favourable attitudes (33.2), at a similar level to non-gamblers (34.4).

Similarly, when examining the relationship between gambling harms using the SGHS, an inverted U-shaped relationship exists. Figure 48 shows the predicted level of favourability towards gambling given the number of harms experienced by the individual, independently of age, gender and education.²⁶

For those experiencing no gambling harms (including non-gamblers), the expected level of favourability was 38.2. As gambling harms increase from zero, attitudes towards gambling

Figure 45 Attitudes towards gambling, by sociodemographic indicator

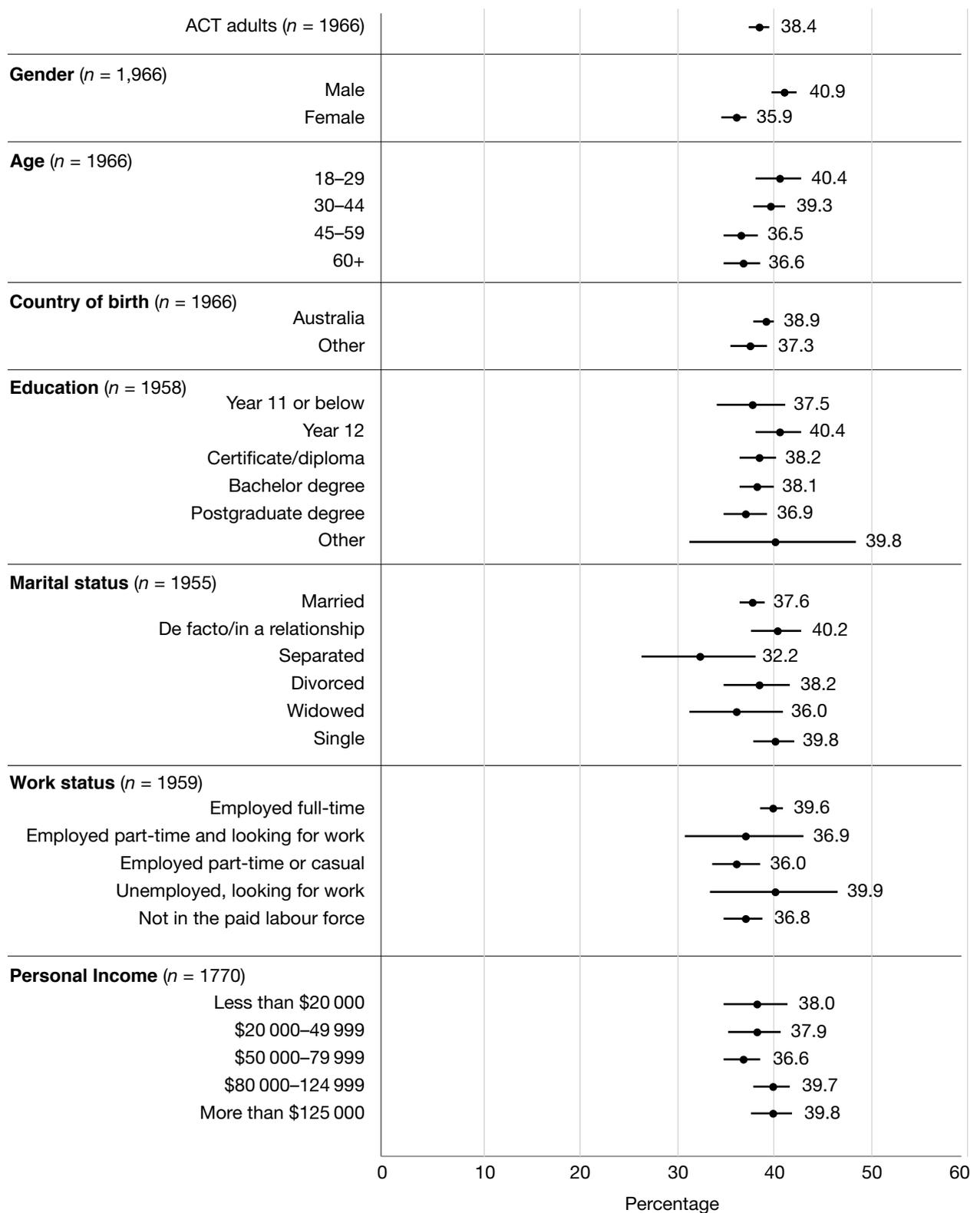
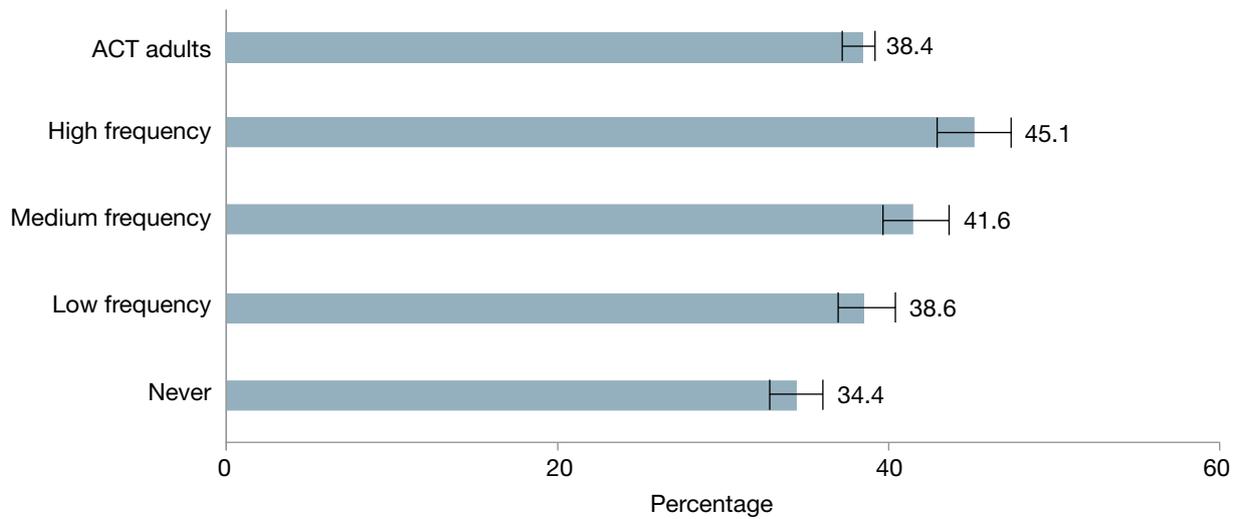
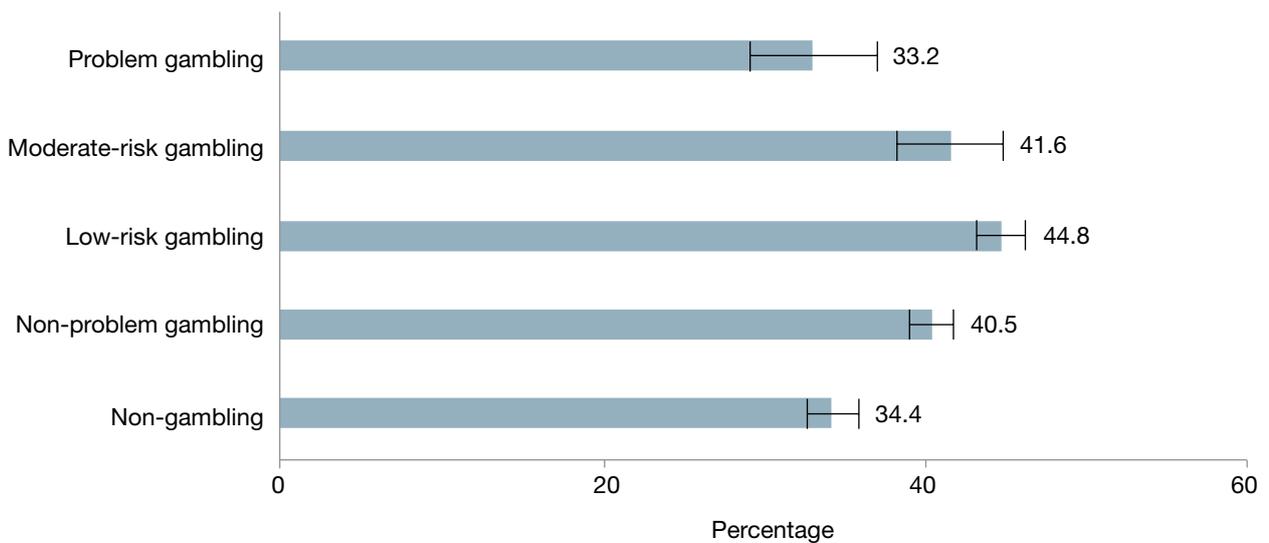


Figure 46 Attitudes towards gambling, by gambling frequency (ATGS-8 score)



ATGS-8 = 8-item Attitudes Towards Gambling Scale

Figure 47 Attitudes towards gambling, by PGSI category (ATGS-8 score)



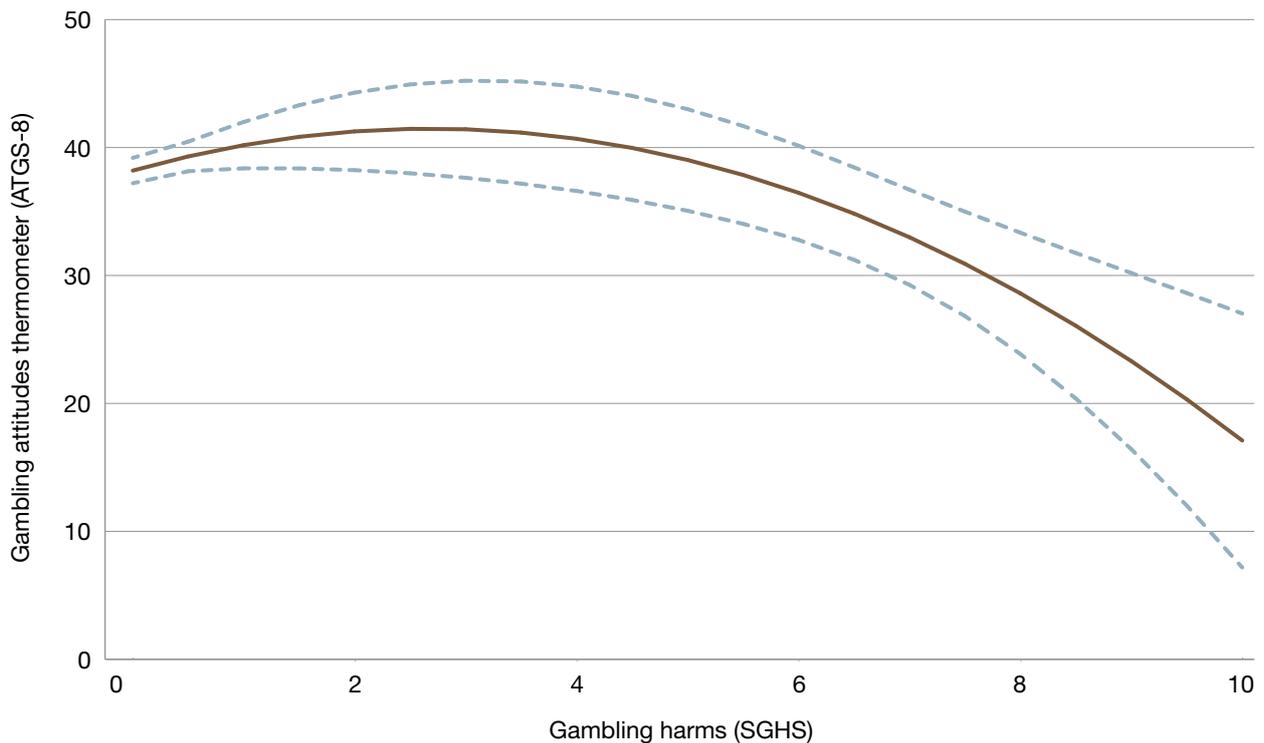
ATGS-8 = 8-item Attitudes Towards Gambling Scale; PGSI = Problem Gambling Severity Index

improve, reaching a peak at three gambling harms (41.4 on the ATGS-8 scale). As harms increase further, however, attitudes towards gambling decline. At 10 gambling harms, the expected ATGS-8 thermometer score is 17.1.

Taking the results using the PGSI and SGHS together, the apparent utility of gambling for

lower- to medium-risk categories remains relatively high, despite the accumulation of harm. It is not until more significant personal harm begins to accumulate that regular gamblers begin to form more negative opinions about gambling and its role in the community.

Figure 48 Estimated gambling attitudes thermometer score, by number of harms experienced



ATGS-8 = 8-item Attitudes Towards Gambling Scale; SGHS = Short Gambling Harm Screen

11.4 Attitudes towards gambling activity and gambling online using mobile apps

The analysis was extended to understand attitudes towards particular gambling activities. Figure 49 shows responses to the question ‘Do you think [gambling activity/ies] does/do more harm than good for the community?’.

EGMs were the least popular form of gambling activity in the ACT, with 64.3% of respondents agreeing that they do more harm than good for the community. Horse and greyhound racing, sports betting and casino table games were viewed at similar levels, with 51.2%, 48.7% and 43.7%, respectively, agreeing with the statement that they do more harm than good.

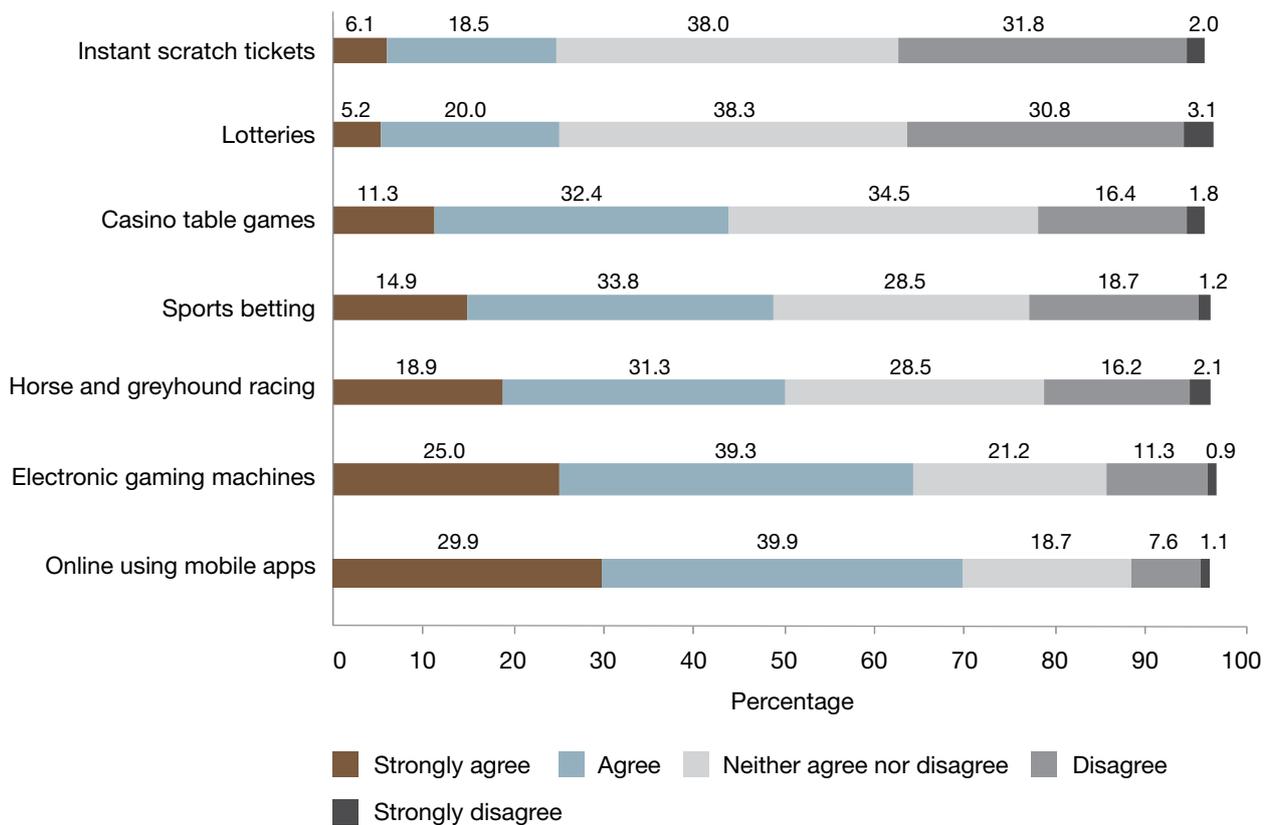
Instant scratch tickets and lottery were viewed more favourably, with more respondents disagreeing with the statement than agreeing (lottery: 33.9% disagree, 25.2% agree; instant scratch tickets: 33.8% disagree, 24.6% agree).

Of respondents, 69.8% agreed that the mobile app mode of gambling does more harm than good to the community – more than any specific gambling activity – suggesting that recent uptake in the online mode of gambling has proved unpopular in terms of public opinion, compared with traditional modes of gambling.

11.5 Club attendance and gambling attitudes

Survey respondents were asked about their attendance at clubs with gambling facilities in the ACT (Figure 50). Approximately 80% of ACT adults had been to an ACT club in the previous 12 months: 45.7% had visited less than once per month, 23.2% had visited 1–3 times per month, 9.8% attended clubs weekly, and 1% attended daily. Respondents were also asked about the positive or negative social contribution of clubs to the ACT; 58.4% believed that clubs make a positive social contribution, while 18.1% believed that the social contribution of clubs was negative.

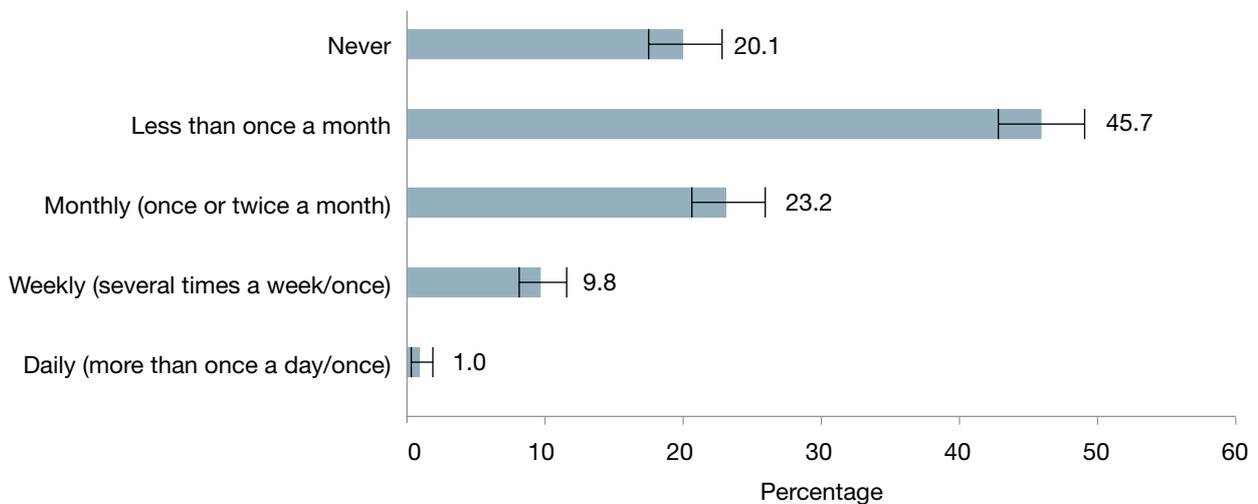
Figure 49 Responses to ‘Do you think ... does/do more harm than good for the community?’



Notes:

1. $n = 2216$.
2. Weighted to the ACT adult population.
3. Totals do not sum to 100 to account for refusals and ‘don’t know’ responses.
4. The 2014 survey asked similar questions and randomly alternated the order of ‘good’ and ‘harm’. No statistically significant differences were found, leading the current study to retain the ‘harm’ first word ordering.

Figure 50 Club attendance in the ACT



Notes:

1. $n = 2211$ (excluding nonresponses)
2. Weighted to the adult ACT population.

Responses were then combined with attitudes towards gambling using the ATGS-8 (Figure 51). In general, as club attendance increases, attitudes towards gambling also become more positive. Weekly attendees have significantly²⁷ more favourable attitudes (42.4 on the ATGS-8 scale) towards gambling than those attending occasionally (37.5) or never (35.4).

before the survey. When split between gamblers and non-gamblers, gamblers were more likely to have heard of the scheme (gamblers: 39.6%; non-gamblers: 25.2%).

Self-exclusion operates in gambling venues throughout the ACT. Approximately one-half of EGM users (47.9%) had heard of the program.

11.6 Knowledge of the ACT’s self-exclusion program

Respondents were asked ‘In the ACT there is a self-exclusion program that enables people to ban themselves from gambling venues. Have you heard of this program?’. Figure 52 shows that 33.9% of ACT adults had heard of the program

11.7 Attitudes towards pre-commitment

Participants were given the statement ‘People should nominate a dollar amount before they start gambling and not be allowed to spend more (either in venues or in apps)’. The survey found that 70.6% of the ACT adult population agreed with the statement (compared with 12.7%

Figure 51 Club attendance and attitudes towards gambling

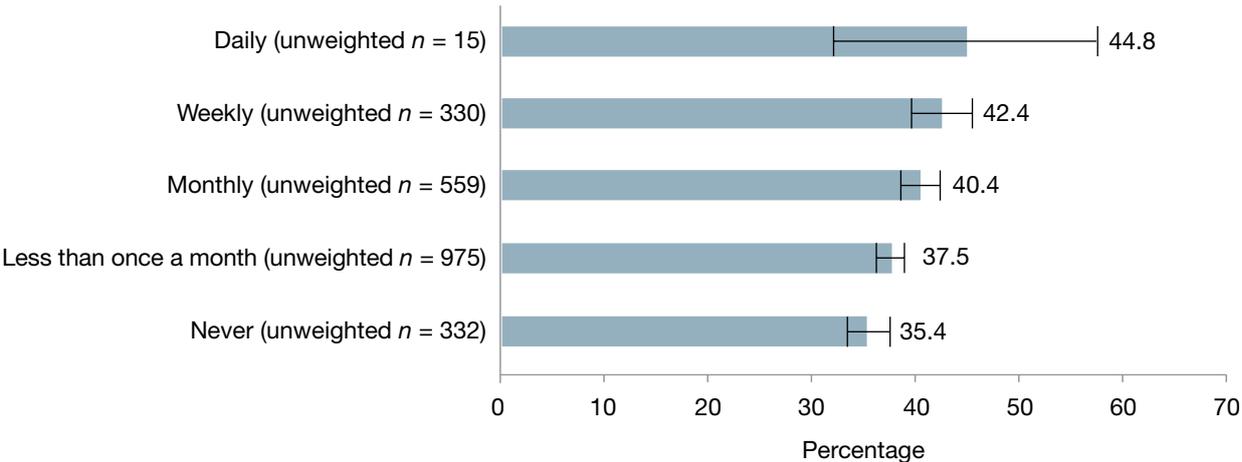
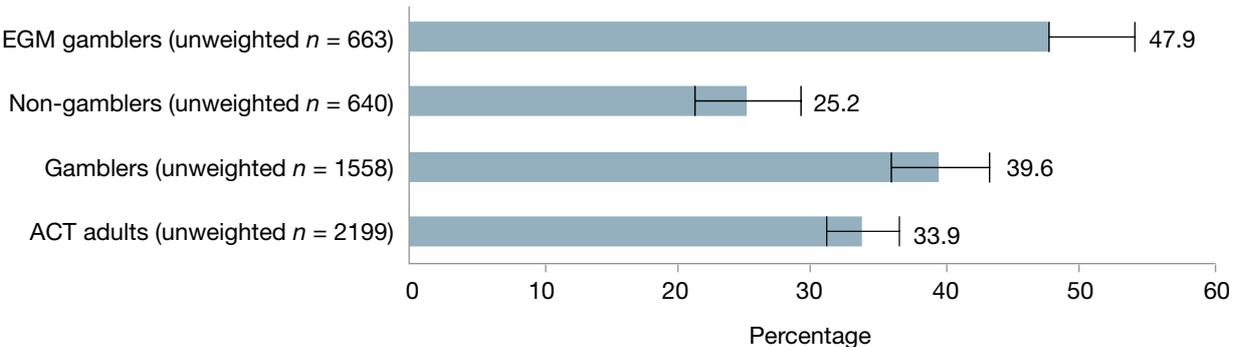


Figure 52 Positive responses to ‘In the ACT there is a self-exclusion program that enables people to ban themselves from gambling venues. Have you heard of this program?’



EGM = electronic gaming machine

disagreeing), indicating high public support for a pre-commitment scheme in the ACT. Figure 53 divides support for a potential scheme between gamblers and non-gamblers. Although gamblers were more likely to disagree or strongly disagree with the statement (gamblers: 14.4%; non-gamblers: 9.9%), similar percentages of gamblers and non-gamblers were supportive (gamblers: 70.0%; non-gamblers: 71.3%).

11.8 Attitudes towards ATM and EFTPOS limits

Limits on withdrawal amounts using ATM and EFTPOS machines in gambling venues are currently \$200 and \$250, respectively, in the ACT. Withdrawal using credit is prohibited. Individuals were informed about the current limits and asked whether they would change the limit (in which case they were asked to specify a dollar amount), have the limit remain the same, or have the limit removed entirely.

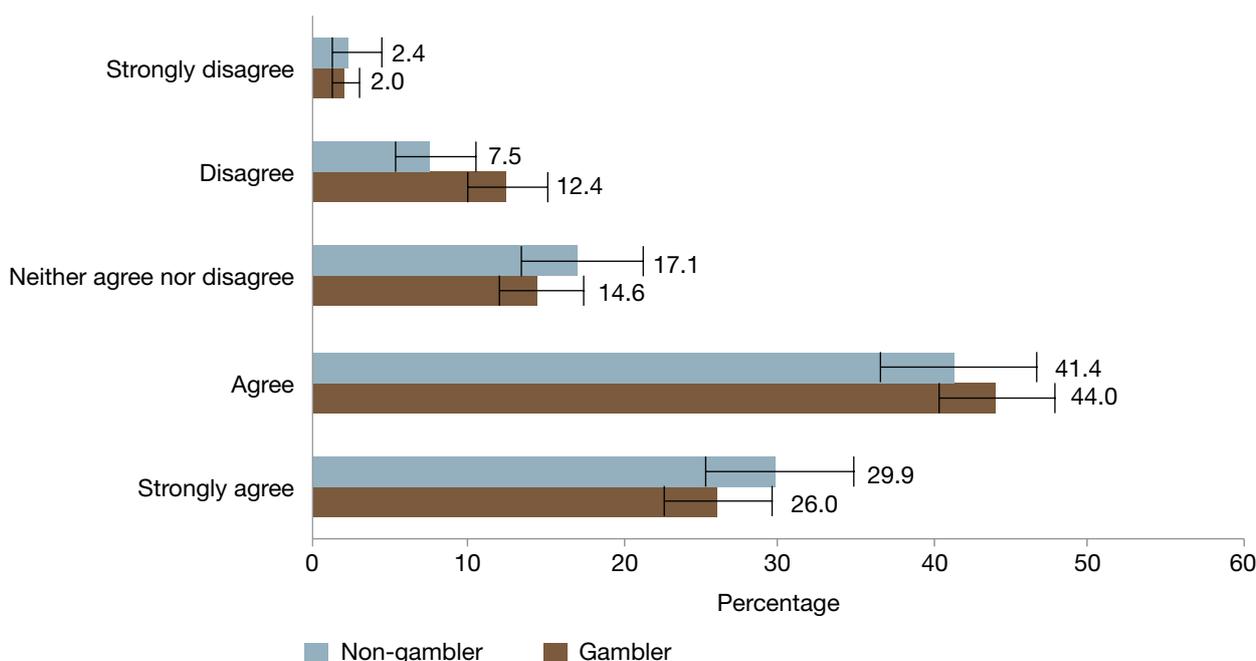
For ATM withdrawals (current limit \$200), 46.1% of the ACT adult population believed that the limit

should be changed, compared with 38.3% who believed that the limit should remain the same (Table 29). Only 2.8% believed that limits should be removed. Table 29 also suggests similar views on limits to EFTPOS withdrawals (current limit \$250). The survey found that 48.6% of the ACT adult population believed that the limit should be changed, compared with 38.6% who believed that the limit should remain unchanged; 2.2% believed that the limit should be removed.

ACT adults who believed that the ATM limit should change in venues suggested that the limit should decrease to a mean of \$135.65 (Table 30), indicating that people who wanted a change were more likely to favour a reduction than an increase to current ATM limits.

Individuals who believed that the EFTPOS limit should change suggested, on average, that the limit should be decreased to a mean of \$146.60 (Table 31). Like results for ATMs, findings for EFTPOS suggest some public support for a decrease to the withdrawal limit.

Figure 53 Responses to ‘People should nominate a dollar amount before they start gambling and not be allowed to spend more (either in venues or in apps)’



Note: Unweighted *n* (gamblers) = 1552. Unweighted *n* (non-gamblers) = 633.

Table 29 Responses to ‘Should limits to ATM and EFTPOS withdrawals be changed, remain the same, or be removed?’

| Type of withdrawal | Change the limit (%) | Remain as is (%) | Remove the limit (%) | Don't know/refused (%) |
|--------------------------------------|----------------------|------------------|----------------------|------------------------|
| ATM (<i>n</i> = 2216) | 46.1 | 38.3 | 2.8 | 12.6 |
| EFTPOS withdrawal (<i>n</i> = 1879) | 48.6 | 38.6 | 2.2 | 10.6 |

Table 30 Responses to ‘What do you think the maximum amount for ATM withdrawals in these venues (gaming machine venues) should be?’

| Response | Weighted mean (\$) | 95% CI (\$) | | Median (\$) | <i>n</i> |
|--|--------------------|-------------|--------|-------------|----------|
| | | LL | UL | | |
| Dollar amount for those who stated the limit should change | 135.65 | 119.94 | 151.36 | 100.00 | 1054 |

CI = confidence interval; LL = lower limit; UL = upper limit
 Note: Current limit is \$200.

Table 31 Responses to ‘What do you think the maximum amount for EFTPOS withdrawals in these venues (gaming machine venues) should be?’

| Response | Weighted mean (\$) | 95% CI (\$) | | Median (\$) | <i>n</i> |
|--|--------------------|-------------|--------|-------------|----------|
| | | LL | UL | | |
| Dollar amount for those who stated the limit should change | 146.60 | 128.15 | 165.05 | 100.00 | 940 |

CI = confidence interval; LL = lower limit; UL = upper limit
 Notes:

1. Current limit is \$250.
2. Mean is presented with the removal of an outlier response of \$100 000.

11.9 Attitudes towards maximum bet limit on EGMs

In the ACT, there is a \$10 maximum bet on EGMs. The survey asked if this limit should be changed, should be removed or should stay the same. The survey found that 49.4% of the ACT adult population believed that the limit should be changed, while 34.3% believed that the limit should remain the same. Little support was found for removal of the maximum limit (0.8%).

People who wished to change the limit suggested an average dollar amount of \$6.92 (Table 32), although the upper bound of the estimate was above the current limit (\$10.95), suggesting limited

evidence for public support for a reduction to the EGM maximum bet limit in the ACT.

Table 33 examines whether attitudes towards the maximum bet limit differed between gamblers and non-gamblers, as well as between EGM gamblers and non-EGM gamblers. The results show that gamblers and EGM gamblers in the ACT, on average, gave a lower dollar amount limit for the maximum bet than their non-gambling and non-EGM-using counterparts. However, these differences were not statistically significant, suggesting that familiarity with EGMs and gambling in general does not imply support for higher limits.

Table 32 Responses to ‘In the ACT, the maximum you can bet per spin on a poker machine is \$10. In your opinion, what do you think the maximum amount per spin should be?’

| Response | Weighted mean (\$) | 95% CI (\$) | | Median (\$) | <i>n</i> |
|--|--------------------|-------------|-------|-------------|----------|
| | | LL | UL | | |
| Dollar amount for those who stated the limit should change | 6.92 | 2.89 | 10.95 | 2.00 | 1240 |

CI = confidence interval; LL = lower limit; UL = upper limit

Note: Current limit is \$10.

Table 33 Responses to ‘In the ACT, the maximum you can bet per spin on a poker machine is \$10. In your opinion, what do you think the maximum amount per spin should be?’

| Type of gambler | Mean (\$) |
|---------------------------------------|-----------|
| Participation (NS; <i>P</i> = 0.3746) | |
| Gambler | 7.12 |
| Non-gambler | 9.89 |
| EGM use (NS; <i>P</i> = 0.8271) | |
| EGM gambler | 7.86 |
| Non-EGM gambler | 8.28 |

EGM = electronic gaming machine; NS = nonsignificant

Note: Unweighted *n* = 1910.

Key findings from Chapter 11

- A negative view of gambling is common across the ACT community, with no single subpopulation reporting positive attitudes.
- People who experienced the highest level of gambling harms (using the SGHS) had the least positive view towards gambling.
- EGMs were the least popular form of gambling activity in the ACT, with 64% of the ACT adult population agreeing that they do more harm than good for the community.
- Attitudes towards gambling online on mobile apps were very negative, with 70% of the ACT adult population suggesting that it does more harm than good.
- 33% of people surveyed had heard of the ACT self-exclusion program, and less than half of EGM gamblers had heard of the program (48%).
- The survey found strong support for pre-commitment in the ACT, with 71% of the ACT adult population surveyed in favour (compared with 13% disagreeing).
- ACT adults were asked about attitudes towards withdrawal limits at ATMs (current limit: \$200) and EFTPOS machines (current limit: \$250). Of respondents, 46.1% believed that the ATM limit should be changed, while 48.6% believed that the EFTPOS limit should be changed. Of those supporting changes to the limits, the mean response for the new limits were \$136 (ATM) and \$147 (EFTPOS).
- Nearly half (49%) of the ACT adult population believed that the maximum bet on EGMs should be changed. For those who believed the limit should be changed, the average suggested limit was \$6.92. The suggested limit changes were not significantly different between gamblers and non-gamblers, nor between EGM gamblers and non-EGM gamblers.

12 Help and information seeking in the ACT

Seeking help for problems related to gambling in the ACT is known to be of low prevalence relative to the size of the problem (Suurvali et al. 2009, Carroll et al. 2011). The 2019 ACT Gambling Survey, therefore, aimed to examine the knowledge of, and attitudes towards, gambling help at the level of the general population and the population of gamblers who are already reporting some form of gambling harm (SGHS > 0).

The survey asked all respondents how they would look for information if they were experiencing gambling harm. The results were compared with those from people who had already reported harm (using the SGHS). Next, the analysis examined the sociodemographic characteristics of people who did not know where to seek information for gambling help. The analysis also examined the rates of help seeking for gamblers, the motivations for seeking help, and the types and variety of help seeking (both during the past year and during the lifetime).

12.1 Where people seek help and information

The survey asked all respondents about where they would look for information if they were experiencing gambling harm (Table 34). The most common responses were an internet search (49.7%), a gambling helpline (15.1%), other family or friends (11.6%), and Gamblers Anonymous (9.3%). Relatively few mentioned their partner as a potential source of information (0.9%) or gambling help services in the general sense (3.0%). However, mental health services were more commonly reported (Lifeline, Beyond Blue, Headspace and others: 7.9%), and gambling venues themselves were relatively commonly cited sources of information (5.9%).

When comparing attitudes towards, and knowledge of, information sources for gambling support in the general population with people experiencing some degree of gambling harm,

there were several statistically significant differences using weight-corrected Pearson's chi-squared tests.

People reporting harms were significantly more likely than the general population to cite leaflets from venues (4.1%), a gambling helpline (23.2%), other family or friends (17.0%), and clubs or venues (12.0%). However, people reporting harm were less likely than the general population to report 'don't know' (10.4%) or Gamblers Anonymous (6.8%) as a source of information or support.

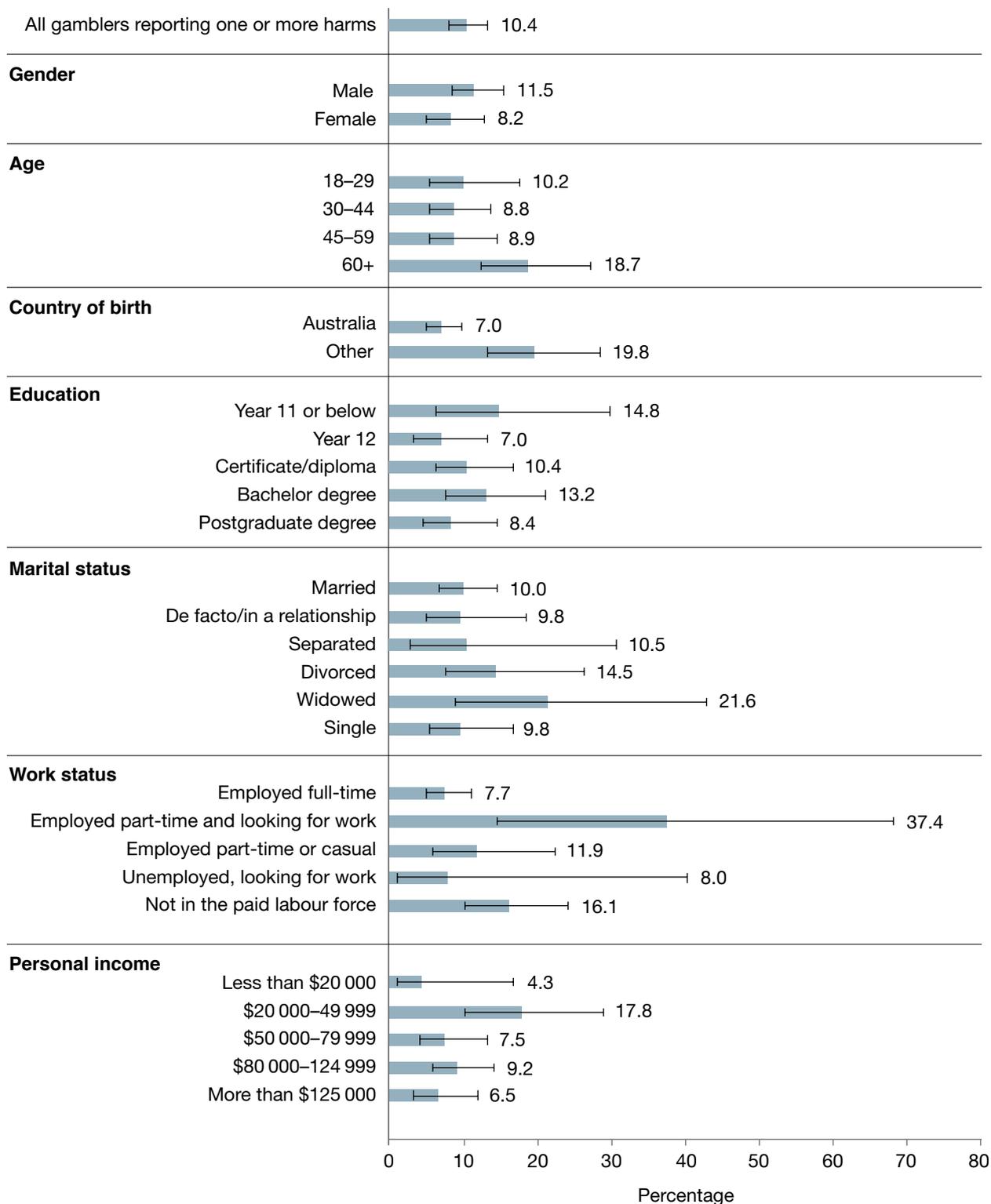
The analysis examined the sociodemographic differences between people who knew where they would search for information and those who did not know. Figure 54 presents respondents who had reported experiencing one or more harms due to gambling in the past 12 months ($n = 791$). Approximately 1 in 10 gamblers experiencing harm did not know where to look for gambling help.

The analysis also found that there were significant differences in knowledge about gambling help across sociodemographic groups. Of people who reported gambling harm in the past 12 months, people aged 60 and above (18.7%), born outside Australia (19.8%) and with personal income of \$20 000–49 999 (17.8%) were more likely to report not knowing where to find gambling help information than any other sociodemographic group. Conversely, those in full-time occupations were less likely to not know where to find information about gambling help (7.7%).

Table 34 Responses to ‘If you were experiencing harm from gambling, where would you go for information?’

| Source of help | ACT adult population (%) (n = 10 000) | People with one or more gambling harms (SGHS > 0) (%) (n = 791) |
|--|--|---|
| Internet search (e.g. Google) | 49.7 | 48.5 |
| Brochure | 0.5 | 0.8 |
| Leaflets from venues | 1.7 | 4.1 |
| Advertising | 3.7 | 4.0 |
| Financial counsellor | 0.4 | 0.2 |
| Gambling help services | 3.0 | 3.0 |
| Gambling helpline | 15.1 | 23.2 |
| Lifeline, Beyond Blue, Headspace, Relationships Australia, Salvation Army, St Vincent De Paul, Centacare | 7.9 | 7.8 |
| Alcohol and drug service, addictions service | 0.4 | 0.8 |
| Gamblers Anonymous | 9.3 | 6.8 |
| Doctor, general practitioner | 7.9 | 6.6 |
| Counsellor | 4.0 | 4.4 |
| Social worker | 0.2 | 0.0 |
| Partner | 0.9 | 1.4 |
| Other family or friends | 11.6 | 17.0 |
| Psychologist | 1.8 | 2.2 |
| Psychiatrist | 0.2 | 0.1 |
| Church groups | 0.7 | 0.6 |
| Community support group | 1.0 | 0.6 |
| Clubs, venues | 5.9 | 12.0 |
| Other (please specify) | 3.5 | 2.8 |
| Don't know | 17.7 | 10.4 |
| Refused | 0.3 | 0.8 |
| Government agency or website, Access Canberra | 3.3 | 2.1 |
| ACT Health, other health department | 0.3 | 0.2 |

Figure 54 Respondents who reported gambling harm, but did not know where to find information



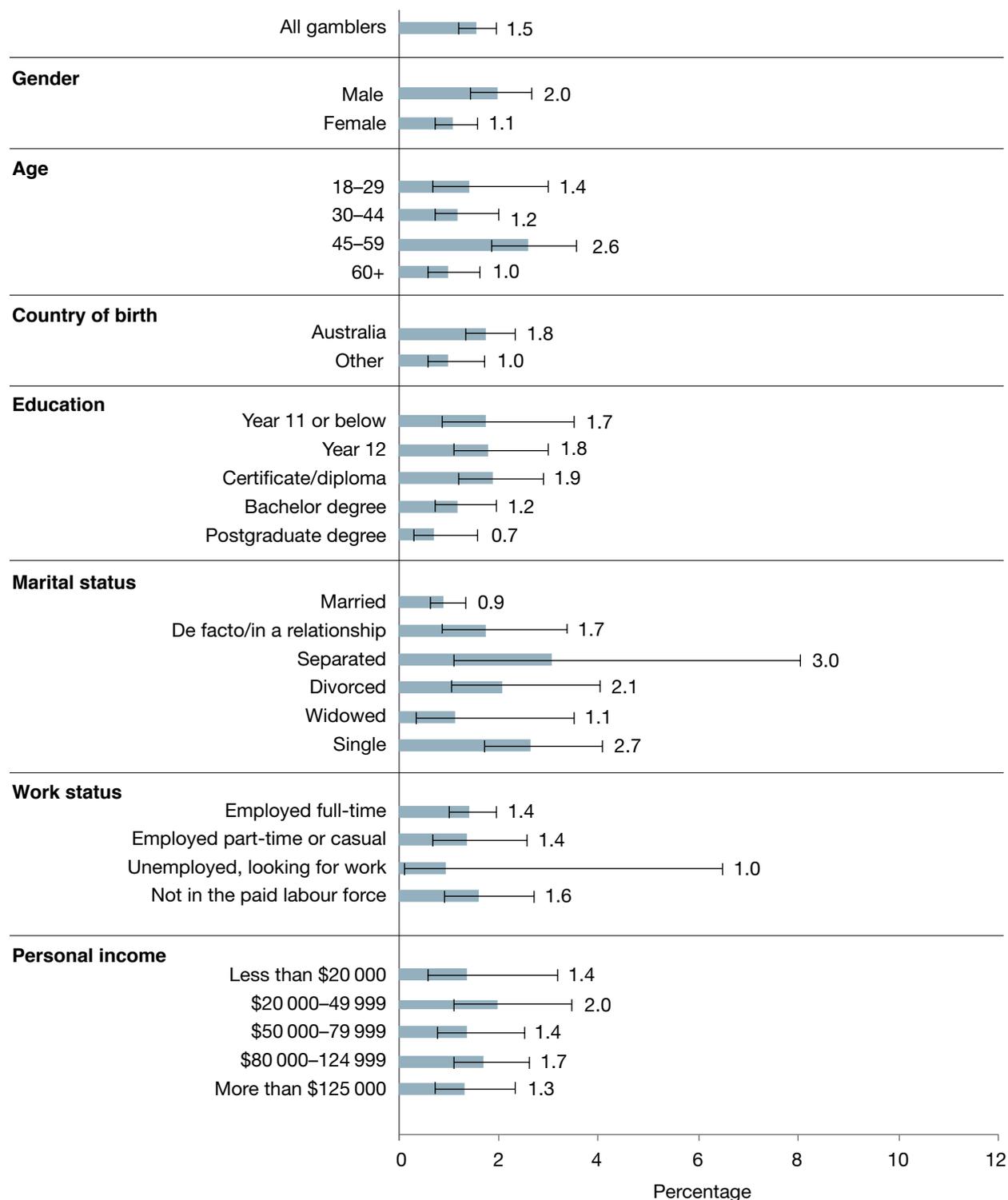
12.2 Help-seeking behaviour by sociodemographic indicator

$n = 5886$; Figure 55).²⁸ In total, 1.5% of gamblers had ever sought help for their gambling.

All gamblers in the ACT were asked if they had ever sought help for their gambling (unweighted

Significant sociodemographic differences in the help-seeking rate were found between males and

Figure 55 Gamblers who reported ever seeking help for their gambling, by sociodemographic indicator



females (males: 2.0%; females: 1.1%). In addition, there were differences in age for help seeking by those who had ever sought help for gambling. Those aged 30–44 and 60+ were less likely to have ever sought help than those aged 45–59.

Turning to education, people with a certificate or diploma were more likely to have ever sought help than people with other levels of education. In terms of relationship status, married respondents were less likely, while separated people and single people were more likely, to have sought help. No sociodemographic differences in the rate of help seeking were found for work status or personal income.

The analysis also measured the rate of help seeking for those who had reported a gambling problem in their lifetime ($n = 331$) and for respondents reporting one or more harms in the past 12 months (SGHS > 0; $n = 788$). The survey found that 23.6% of people who had reported a gambling problem in their lifetime and 5.6% of gamblers who reported one or more harms in the past 12 months reported ever seeking help for their gambling. However, examining these rates of help seeking by sociodemographic characteristics did not yield statistically significant differences.

12.3 Motivations for seeking help and information

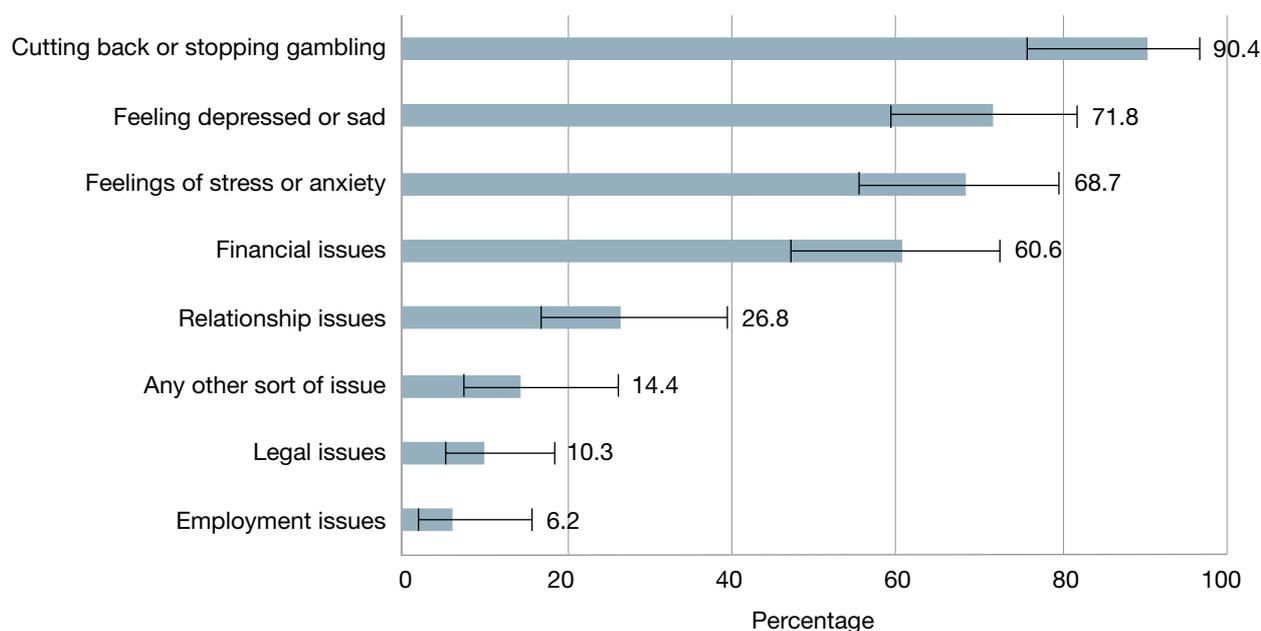
Among respondents who had sought some form of help for gambling problems ($n = 88$), the most common motivations cited were cutting back or stopping gambling (90.4%), feeling depressed or sad (71.8%), feelings of stress or anxiety (68.7%) and financial issues (60.6%) (Figure 56). Relatively few respondents cited legal or employment issues.

12.4 Forms of support and information

Respondents who had sought help were asked which types of support they had tried in their lives and in the past year (Table 35).

Of those who had sought help, the most common form of help seeking was talking to family or friends about gambling (lifetime gamblers: 80%; gamblers in the past year: 32%), followed by self-help strategies (lifetime: 64%; past year: 27%). Formal help in the form of a gambling counsellor or psychologist was markedly less common (lifetime: 33%), although more common than gambling helplines (lifetime: 23%; past year: 3%). Self-exclusion was a relatively common

Figure 56 Reasons for seeking help and information among those who wanted help



type of help (lifetime: 17%; past year: 8%). No respondents reported attending a residential facility for gambling.

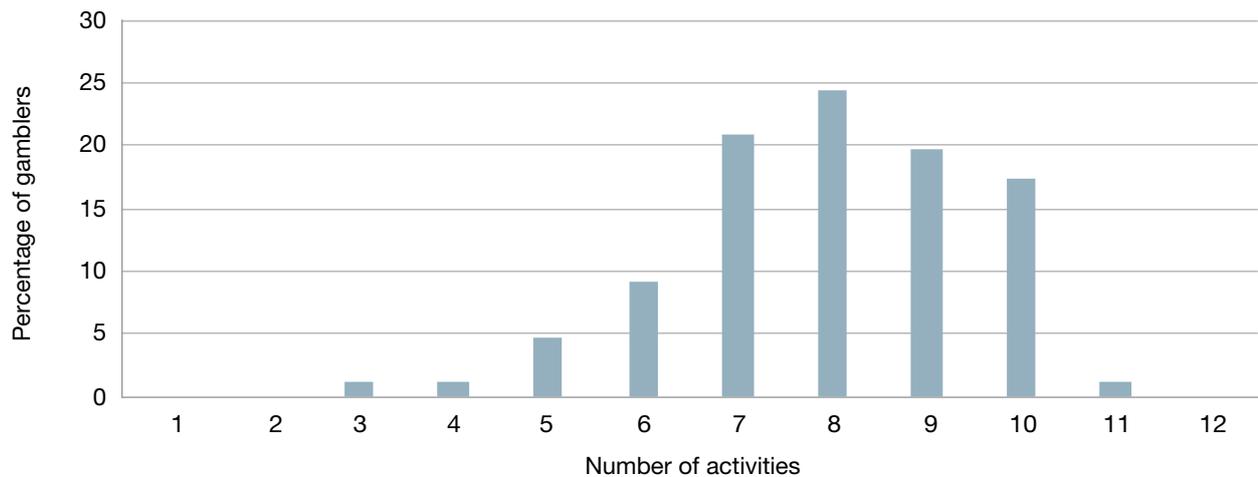
Finally, the survey coded the number of help activities reported by each respondent who had sought some form of gambling help. The findings

suggest that the most common strategy is to try multiple forms of gambling help; no respondents had tried only one or two forms of help (Figure 57). Respondents reported an average of 7.9 (median = 8) help-seeking activities, suggesting that no single form of gambling help is sufficient to address gambling harm.

Table 35 Types of help seeking tried

| Type of help | Help seeking ever (%) (n = 88) | Help seeking in past year (%) (n = 88) |
|---|-----------------------------------|---|
| Talked to family members or friends about your gambling | 80 | 32 |
| Tried a self-help strategy like budgeting to reduce the impact of gambling | 64 | 27 |
| Talked to a gambling counsellor face to face | 33 | 5 |
| Talked to a psychologist, psychiatrist or general practitioner about gambling | 33 | 10 |
| Talked to a financial counsellor face to face | 25 | 7 |
| Phoned a gambling helpline | 23 | 3 |
| Signed up for exclusion from a land-based venue or online gambling site | 17 | 8 |
| Attended a support group for gambling | 14 | 14 |
| Talked to a gambling support counsellor online | 13 | 5 |
| Read or posted on a gambling support website or online forum | 8 | 3 |
| Stayed in a residential facility for gambling | 0 | 0 |

Figure 57 Number of help-seeking activities tried by people who have gambled in their lifetime



Key findings from Chapter 12

- 1.5% of gamblers in the ACT had ever sought help for their gambling.
- Of those who had sought help, the most common form of help seeking was talking to family or friends about gambling, followed by self-help strategies.
- People who reported having a problem with gambling at some point in their life who had sought help typically did not rely on just one source of help. The average number of help activities tried was eight, and no respondents had tried only one or two types of help.
- When people were asked where they would seek help or information for gambling issues, the most common responses among ACT residents were internet search (49.7%), a gambling helpline (15.1%), other family or friends (11.6%) and Gamblers Anonymous (9.3%). People reporting one or more gambling harms were more likely to cite leaflets from venues (4.1%), a gambling helpline (23.2%), other family or friends (17.0%), and clubs or venues (12.0%).
- The second most endorsed item was that people did not know where to find gambling help information (don't know: 17.7%). Approximately 1 in 10 gamblers who experienced harm did not know where to look for gambling help. Those aged 60 and above were more likely to report not knowing where to find gambling help information (18.7%), as were respondents born outside Australia (19.8%).
- The most common motivations for seeking help were cutting back or stopping gambling (90.4%), feeling depressed or sad (71.8%), feelings of stress or anxiety (68.7%), and financial issues (60.6%).



13 Relational impacts and harms

The 2019 ACT Gambling Survey collected information about how an individual's gambling may affect those around them, and assessed the nature and extent of any harms experienced. The survey asked all participants whether they had been personally affected by another person's gambling in the past 12 months. It also asked about the relationship of the gambling person to the respondent, and any issues created by gambling in the affected other's life. Finally, we assessed the forms of help that affected others would seek and whether they had attempted to talk about gambling with the gambler who had affected them.

The analysis found that 5.3% of the ACT adult population had been personally affected by another's gambling, equivalent to approximately 17 000 adults. When combined with the number of ACT adults who had been affected by their own gambling in the past 12 months, 13.6% (44 000 individuals) had been affected by gambling.

13.1 Sociodemographic indicators of affected others

Table 36 shows the sociodemographic indicators of those affected by others' gambling in the ACT. Females in the ACT are more commonly affected by others' gambling (57.5 %, compared with 42.5% of males). Those affected by others' gambling tend to be in the 18–44-year age group. Both married and single people are affected by others' gambling at relatively high rates (41.4% and 31.3%, respectively), compared with people reporting other types of relationship status. Finally, 11.3% of affected others also reported having a gambling problem themselves.

13.2 Relationship to the gambler

People who indicated that they had been affected by someone else's gambling in the past 12 months were asked whose gambling affected them the most (Table 37). Approximately one in four were most significantly affected by a friend's gambling (24.8%). The high number here likely reflects the fact that people have more friends than any of the other relationships, and also perhaps a reduction in stigma to disclose a friend's gambling, as opposed to a parent's or partner's gambling. Partners were also highly affected by their loved one's gambling (18.8%).

When looking at differences in the gender of the family member whose gambling is affecting others, the findings reflect the gender and age demographics of harm in the ACT. The analysis shows that it is mainly the gambling of fathers (6.2%), brothers (7.8%) and sons (5.0%) that is affecting family members. Other than mothers (5.4%), female family members' gambling is rarely reported as affecting others.

Survey participants were asked if they had sat down and talked about any issues related to gambling with the person whose gambling had most affected them. One in four said that they had never talked about the gambling issues with the gambler (24.9%). The most commonly reported response of once or twice (38.4%) suggests that it is a challenging issue for affected family and friends to bring up. The remaining family or friends reported 'sometimes' (17.7%) or 'often' (19%).

Table 36 Sociodemographic indicators of affected others

| Characteristic | Percentage |
|---|------------|
| Gender | |
| Male | 42.5 |
| Female | 57.5 |
| Age | |
| 18–29 | 26.8 |
| 30–44 | 34.6 |
| 45–59 | 22.5 |
| 60+ | 16.1 |
| Education | |
| Less than year 11 or below | 9.4 |
| Year 12 | 24.8 |
| Certificate/diploma | 28.4 |
| Bachelor degree | 23.3 |
| Postgraduate degree | 12.7 |
| Other | 1.4 |
| Relationship status | |
| Married | 41.4 |
| De facto/in a relationship | 15.3 |
| Separated | 4.4 |
| Divorced | 5.5 |
| Widowed | 2.1 |
| Single | 31.3 |
| Work status | |
| Employed full-time | 57.9 |
| Employed part-time and looking for work | 5.0 |
| Employed part-time or casual | 18.9 |
| Unemployed, looking for work | 1.8 |
| Not in the paid labour force | 16.4 |
| Personal income | |
| Less than \$20 000 | 7.5 |
| \$20 000–49 999 | 21.4 |
| \$50 000–79 999 | 27.1 |
| \$80 000–124 999 | 31.0 |
| More than \$125 000 | 13.0 |
| Own gambling | |
| Affected by own gambling (lifetime) | 11.3 |
| Not affected by own gambling | 88.7 |

Note: $n = 504$

Table 37 Relationship between affected others and the person whose gambling affected them the most

| Relationship | Percentage | 95% CI | |
|---------------------------------|------------|--------|------|
| | | LL | UL |
| Partners and ex-partners | | | |
| Spouse or partner | 18.8 | 14.8 | 23.5 |
| Ex-partner | 5.0 | 3.0 | 8.3 |
| Male family members | | | |
| Father | 6.2 | 4.0 | 9.7 |
| Brother | 7.8 | 5.4 | 11.4 |
| Son | 5.0 | 3.5 | 6.9 |
| Father-in-law | 1.2 | 0.4 | 3.5 |
| Brother-in-law | 2.4 | 1.4 | 4.1 |
| Son-in-law | 0.7 | 0.3 | 1.7 |
| Female family members | | | |
| Mother | 5.4 | 3.3 | 8.8 |
| Sister | 2.1 | 1.0 | 4.3 |
| Daughter | 0.6 | 0.2 | 1.4 |
| Mother-in-law | 1.9 | 0.8 | 4.0 |
| Sister-in-law | 0.9 | 0.4 | 2.3 |
| Daughter-in-law | 0.4 | 0.0 | 2.5 |
| Other family members | | | |
| Grandparent | 1.9 | 0.7 | 5.2 |
| Other family member | 6.4 | 4.1 | 10.0 |
| Other relationships | | | |
| Friend | 24.8 | 20.1 | 30.2 |
| Work colleague | 2.7 | 1.5 | 4.8 |
| Other | 6.0 | 3.5 | 10.1 |

CI = confidence interval; LL = lower limit; UL = upper limit

13.3 Relational harms

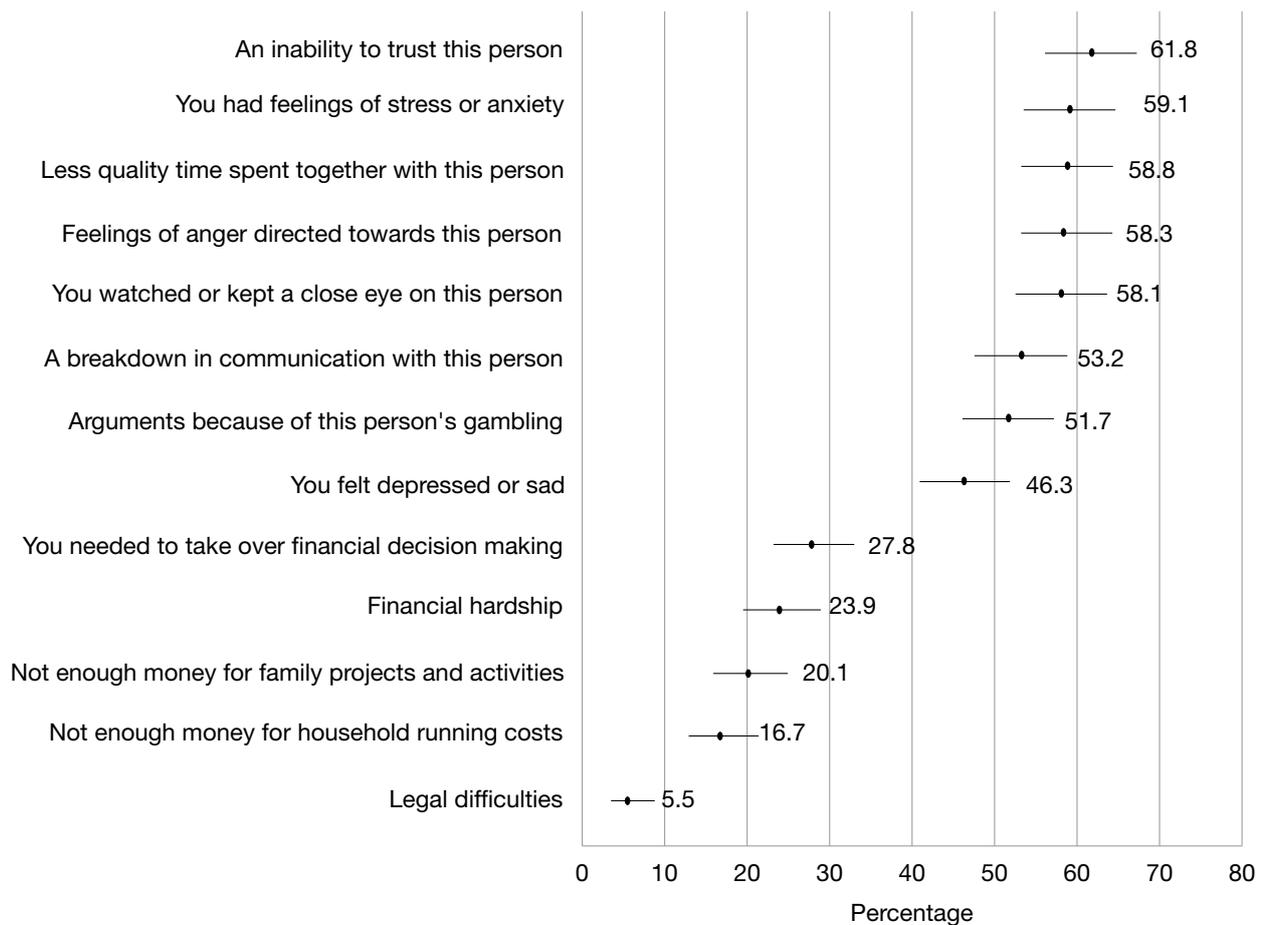
All ACT adults who reported being affected by the gambling of family or friends were asked how they were affected by this person. Figure 58 provides an in-depth look at the percentage of harms experienced by those affected by others' gambling.

Figure 58 shows very strong significant differences between experiences of financial or legal harm and relationship disruption or emotional/psychological distress experienced. Just under 60% of affected others reported feelings of stress and anxiety (59.1%), and anger towards the person (58.3%). Having to keep an eye on the person (58.1%) and a reduction in quality time (58.8%) were also commonly

reported. A little more than 60% reported an inability to trust the person whose gambling had affected them. More than half reported arguments (51.7%) and a breakdown in communication (53.2%).

Of those affected by others' gambling, 23.9% reported experiencing financial hardship, with 27.8% reporting that they had taken over financial decision making. As well, 16.7% experienced a lack of money to cover household running costs or family activities. It is most likely that the financial harms are experienced by others when they are co-residing with the gambler.

Figure 58 Harms associated with gambling experienced by affected others



13.4 Help seeking when affected by others' gambling

Given that 5.3% of the ACT population experience harm from someone else's gambling, it is

important to understand if and where these people seek help or support for these issues. The analysis found that 15.4% of those affected by others' gambling have wanted help or support in the past 12 months.

Table 38 Where affected others would seek help when experiencing harm

| Type of help | Percentage | 95% CI | |
|---|------------|--------|------|
| | | LL | UL |
| Internet search | 46.7 | 41.2 | 52.3 |
| Gambling helpline | 16.5 | 12.8 | 21.1 |
| Don't know | 13.8 | 10.1 | 18.5 |
| Other family or friends | 13.8 | 10.2 | 18.4 |
| Gamblers Anonymous | 12.2 | 9.5 | 15.5 |
| Clubs, venues | 8.8 | 6.0 | 12.7 |
| Doctor, general practitioner | 7.9 | 5.6 | 11.0 |
| Counsellor | 7.2 | 4.5 | 11.5 |
| Lifeline, Beyond Blue, Headspace, etc. | 5.1 | 3.6 | 7.3 |
| Other | 4.0 | 2.4 | 6.7 |
| Advertising | 3.6 | 2.0 | 6.3 |
| Leaflets from venues | 3.2 | 1.6 | 6.3 |
| Gambling help services | 3.1 | 1.7 | 5.4 |
| Government agency or website, Access Canberra | 2.8 | 1.5 | 5.0 |
| Psychologist | 2.1 | 1.2 | 3.8 |
| Brochure | 1.3 | 0.5 | 3.8 |
| Church groups | 1.2 | 0.6 | 2.5 |
| Relationships Australia | 1.2 | 0.5 | 2.5 |
| ACT Health, other health department | 0.7 | 0.3 | 1.9 |
| Alcohol and drug service, addictions service | 0.5 | 0.2 | 1.3 |
| Financial counsellor | 0.5 | 0.2 | 1.3 |
| Partner | 0.4 | 0.1 | 2.2 |
| Social worker | 0.3 | 0.0 | 2.2 |
| Psychiatrist | 0.3 | 0.1 | 0.9 |
| Salvation Army, St Vincent De Paul | 0.1 | 0.0 | 0.9 |
| Community support group | 0.1 | 0.0 | 0.5 |

CI = confidence interval; LL = lower limit; UL = upper limit

The survey then asked all those harmed by others' gambling where they would go to find information or support. Table 38 shows the most common to the least common responses in the ACT.

When asked where people would seek help, an internet search was the most common response (46.7%). The next most common response was a gambling helpline (16.5%).

Key findings from Chapter 13

- 5.3% of the ACT adult population had been personally affected by another's gambling, equivalent to approximately 17 000 adults.
- Females were more likely than males to be affected by someone else's gambling (57.5%).
- The most common relationship between a gambler and affected other was a friend (24.8%), followed by a spouse (18.8%).
- One in four affected others had never talked about gambling issues with the person who had affected them most.
- Emotional impacts of others' gambling were common, with more than 50% of respondents reporting arguments, breakdown in communication, less quality time, feelings of anger, reduction of trust, and stress or anxiety.
- 15.4% of those affected by others' gambling wanted support in the past 12 months.
- 13.8% of affected people did not know where they would go to seek information or help.

14 Wellbeing and lifestyle

14.1 Quality of life and the PGSI

The survey used a quality of life measure called the EUROHIS-QOL-8 item scale (QoL scale) as the primary measure of quality of life (da Rocha et al. 2012). The items in the scale include questions about overall quality of life,²⁹ having enough energy for everyday life, having enough money,³⁰ being satisfied with health, being satisfied with ability to undertake daily tasks, being satisfied with yourself, being satisfied with personal relationships, and being satisfied with the conditions of your living space.³¹ Respondents are asked to think about the previous 4-week period for their answers.

A total of 1071 ACT adults completed the QoL scale. The final scale ranges between 1 (worst quality of life) and 5 (best quality of life). Figure 59 presents the mean QoL score for each category of the PGSI. The results show that there is a marked decline in quality of life associated with higher scores on the PGSI. Weight-adjusted t-tests show that low-risk, moderate-risk and problem gambler groups report significantly reduced quality of life, when compared with non-gamblers and non-problem gamblers. Similar results were found for the SGHS. As the number of harms (SGHS) increases, the quality of life reported by respondents decreases.

14.2 Psychological distress and the PGSI

The survey also included a 6-item measure (Furukawa et al. 2003) that assesses mental health in the previous 30 days: the Kessler Screening Scale for Psychological Distress (K6 scale). These items asked how often people felt nervous, hopeless, restless or fidgety, so depressed that nothing could cheer them up, that everything was an effort, and worthless. A 5-point response scale was used, ranging from 'all of the

time' to 'none of the time'. A higher score reflects greater psychological distress (scores range from 6 to 30).

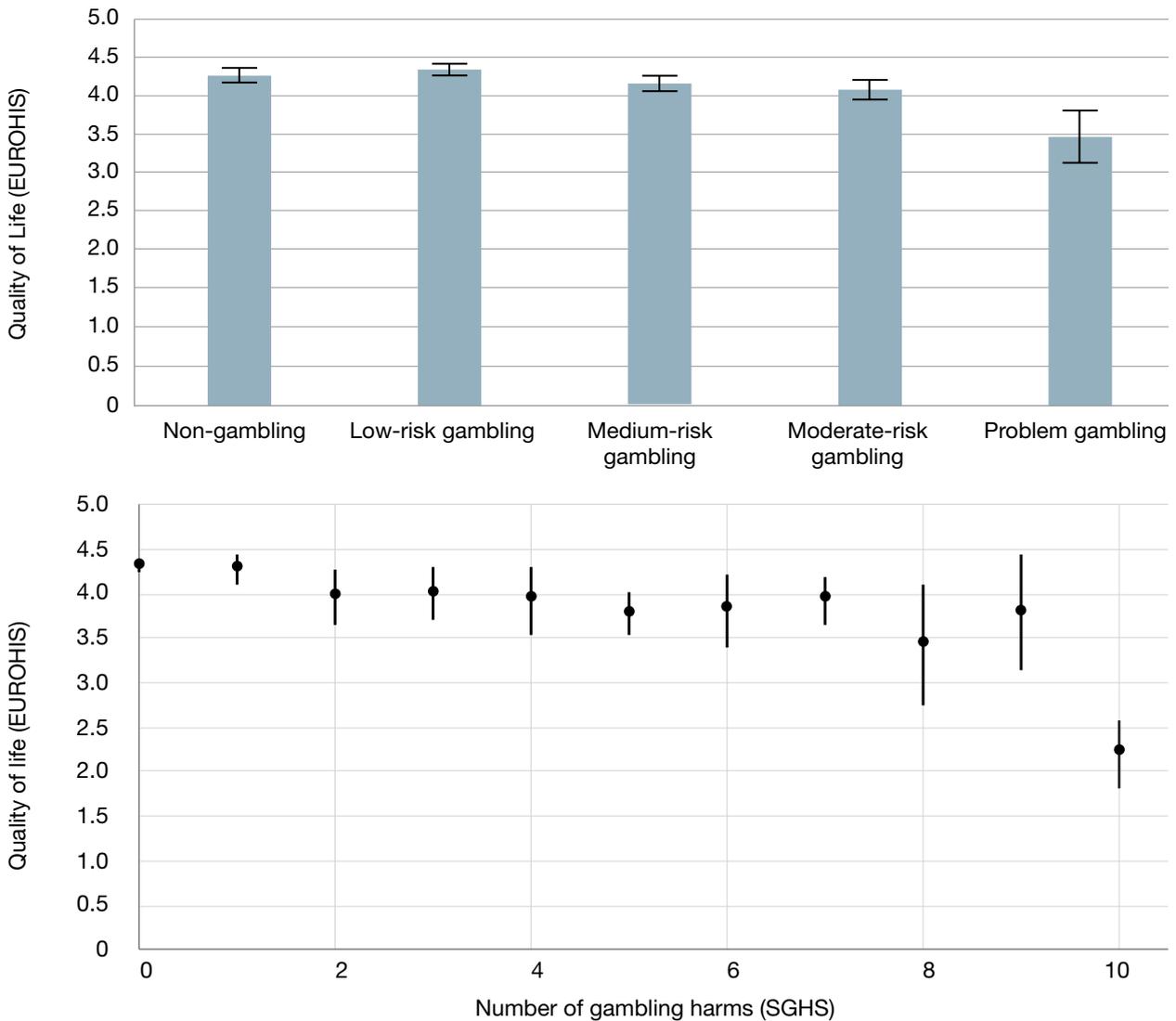
Respondents ($n = 1075$) completed the K6 scale with a mean score of 9.6. Figure 60 presents mean K6 scores by PGSI category. Using weight-adjusted t-tests, results suggest that, whereas non-problem gamblers report reduced psychological distress when compared with other categories, moderate-risk and problem gamblers report increased psychological distress.

Further, the analysis used cut-points to screen respondents as experiencing moderate mental distress (K6 score of 11 or above) and severe mental illness (K6 score of 19 or above).³²

When examining the prevalence of moderate psychological distress (Figure 61), although non-gamblers were more likely than non-problem gamblers to screen positive, rates of moderate psychological distress increased for low-risk gamblers, moderate-risk gamblers and problem gamblers.

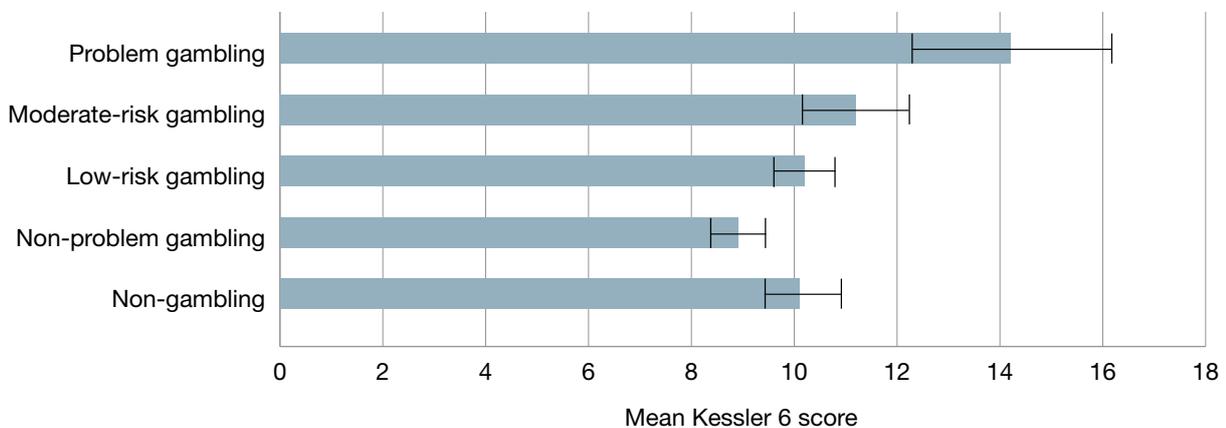
Overall, people who gamble but do not experience harm (non-problem gamblers) experience significantly higher self-reported quality of life and significantly reduced levels of psychological distress than non-gambling people. The important thing to note here is that correlation does not equal causation. However, as gambling increasingly affects people's lives (PGSI), the level of psychological distress increases, and a reduction in quality of life scores is observed.

Figure 59 Mean QoL score, by PGSI category and number of harms experienced (SGHS)



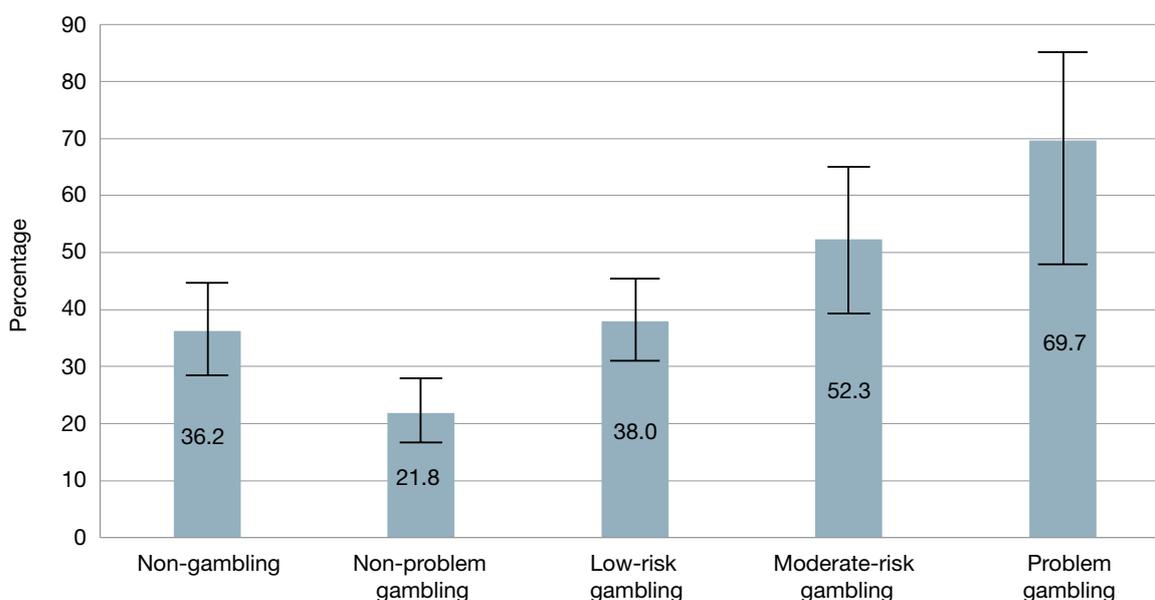
PGSI = Problem Gambling Severity Index; QoL = EUROHIS-QOL-8 item index; SGHS = Short Gambling Harm Screen

Figure 60 Mean Kessler 6 score, by PGSI category



PGSI = Problem Gambling Severity Index

Figure 61 Moderate psychological distress, by PGSI category



PGSI = Problem Gambling Severity Index

14.3 Alcohol intake and the PGSI, by gender

The relationship between alcohol and problem gambling has been shown to be stronger for males than for females (Blanco et al. 2006, Edgren et al. 2016). The 2019 ACT Gambling Survey examined the relationship between frequency of risky alcohol consumption (defined as five standard drinks or more on a single occasion) and at-risk gambling (PGSI > 0).

Table 39 presents the percentage of at-risk respondents for each listed frequency of risky alcohol consumption for males ($n = 1098$) and females ($n = 1108$). The analysis found a strong positive association between increased risky consumption of alcohol and at-risk gambling for males, but not for females.

14.4 Financial risk taking and at-risk gamblers

Respondents ($n = 2206$) answered questions on their attitudes towards financial risk – the same questions that are asked in the Household Income and Labour Dynamics in Australia (HILDA) panel survey. Overall, 7.4% of adults in the ACT stated that they typically take above-average or higher financial risk, while 40.3% said that they are not willing to take any financial risk (Table 40).

Figure 62 presents the percentage of people identifying with each financial risk-taking attitude, grouped by at-risk gamblers and those not at risk (either non-problem gamblers or non-gamblers). The findings indicate that at-risk gamblers were more likely to take financial risks in general; 42% of not-at-risk respondents stated they are not willing to take financial risk (compared with 25.1%). Further, 52.4% of at-risk gamblers reported taking average financial risk (compared with 38.6%), and 8.2% take above-average financial risk (compared with 5.6%). This suggests a clear overlap between attitudes to financial risk and at-risk gambling behaviour in the ACT.

Table 39 Frequency of alcohol intake (more than five 5 units), by at-risk gambling (PGSI > 0) and gender

| Frequency of alcohol intake | At risk, males (%) (n = 1098) | At risk, females (%) (n = 1108) |
|-----------------------------|----------------------------------|------------------------------------|
| Never | 9.5 | 5.0 |
| Not in the last year | 14.7 | 3.7 |
| Monthly | 12.3 | 8.3 |
| 2–3 times a month | 23.6 | 8.2 |
| Once a week | 16.5 | 7.3 |
| 2–3 times a week | 19.2 | 8.8 |
| 4–6 times a week | 36.8 | 12.4 |
| Every day | 39.7 | 4.9 |
| <i>P</i> value | <0.0001 | 0.3807 |

PGSI = Problem Gambling Severity Index

Notes:

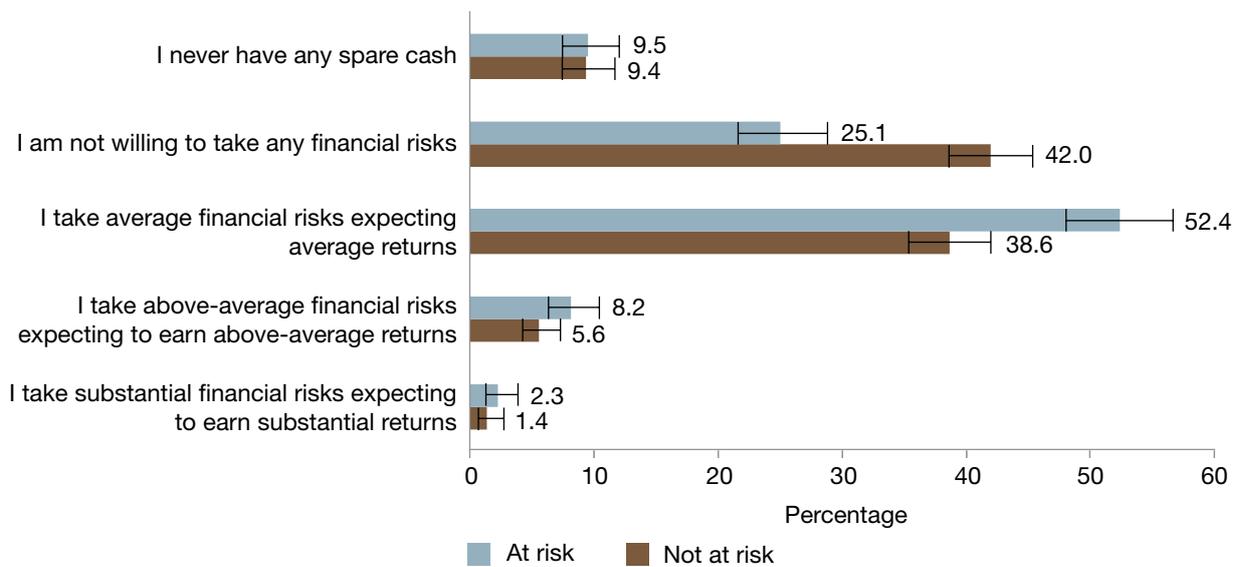
1. *P* values calculated using weight-adjusted Pearson's chi-squared tests.
2. Differences are considered statistically significant if *P* < 0.05.

Table 40 Attitudes towards financial risk

| Attitude | Percentage | LL | UL |
|--|------------|------|------|
| I take substantial financial risks expecting to earn substantial returns | 1.5 | 0.8 | 2.6 |
| I take above-average financial risks expecting to earn above-average returns | 5.9 | 4.6 | 7.4 |
| I take average financial risks expecting average returns | 40.0 | 37.0 | 43.0 |
| I am not willing to take any financial risks | 40.3 | 37.3 | 43.4 |
| I never have any spare cash | 9.4 | 7.6 | 11.4 |

LL = lower limit; UL = upper limit

Figure 62 Attitudes towards financial risk, by at-risk gambling (PGSI > 0)



PGSI = Problem Gambling Severity Index

Key findings from Chapter 14

- There is a marked decline in quality of life as level of gambling risk increases.
- Gamblers in the ACT who do not experience harm have significantly higher self-reported quality of life and significantly reduced levels of psychological distress than non-gambling people.
- A strong positive association between increased risky consumption of alcohol and at-risk gambling exists for males, but not for females.
- A clear overlap exists between attitudes to financial risk and at-risk gambling behaviour in the ACT. At-risk gamblers take average risks, expecting average returns, at significantly higher rates than the rest of the ACT population.

15 Discussion

The findings of the 2019 ACT Gambling Survey describe a community that is highly engaged in a diverse range of gambling activities. However, the survey also presents a picture of a community experiencing a substantial level of harm as a result (14% of ACT residents).

The analysis conducted in the report applied relatively new techniques to describe and understand gambling-related harm in the ACT. Using PGSI categories and applying these to a burden of disease framework, the analysis found that approximately 18% of gambling-related harm in the ACT was experienced by people classified as problem gamblers (PGSI). However, it was notable that the remaining 82% of gambling harm in the ACT is experienced by people who are not considered problem gamblers (i.e. low- to medium-risk gamblers). The level of gambling harm in the ACT is comparable with the impacts of other considerable public health concerns such as alcohol dependence, depressive disorders, and chronic conditions such as diabetes and heart disease.

The most striking findings of the survey relate to the impacts of gambling on men. Men in the ACT, particularly young men, are disproportionately engaged in gambling activity and, as a result, experience harms at significantly greater rates than women. Men, compared with women, are significantly more likely to gamble frequently; men who are classified as high-frequency gamblers were 3 times more likely to be under the age of 30 than women. Men in the ACT experienced gambling losses, on average, at more than double the rate of women and losses associated with sports betting (both online and offline) at 7.4 times the rate of women.

Further to the significant levels of participation and financial loss, men in the ACT are classified as at-risk or problem gamblers at twice the rate of women and as problem gamblers (PGSI) at 3 times the rate. Men report gambling harm (SGHS) at twice the rate of women.

Unsurprisingly, given the above findings, men under the age of 45 with no degree have a 1 in 5 predicted probability of being at-risk or problem gamblers in the ACT. Despite the reported harm and financial losses from gambling, only 2% of men who gamble ever reported seeking help. These findings require a level of reflection as a community, particularly with respect to acceptable levels and standards of gambling advertising, gambling product availability and gambling regulation in the ACT. The findings provide evidence that targeted harm minimisation and prevention strategies are clearly needed.

Overall, ACT residents hold a negative view of gambling in their community. Although the analysis cannot tell which activities cause the most harm (because gamblers often participate in multiple activities), strong associations exist between levels of gambling harm and casino table games, sports betting and EGMs. Community attitudes correspond to these survey findings, with commonly held beliefs that these activities (casino table games, EGMs and sports betting) do more harm than good. Nearly three-quarters of the ACT community believe that gambling on mobile phones/online does more harm than good.

The findings of the report show a generational shift in gambling towards an online gambling environment. The previous survey, in 2014, found that 8% of people in the ACT had gambled on the internet, while the current survey found 21%. This change over time reflects a broad societal shift to an environment where many day-to-day social and transactional activities are carried out online. One in four adult males in the ACT had gambled online in the past 12 months. It is of increasing concern that the survey found that people gambling mostly online in the ACT are experiencing significantly more harm than those who gamble mostly offline. This is a trend that will need careful monitoring in the future.

Although there is growing community concern about the gambling that is occurring online, it is

important to note that EGM participation predicts problem gambling (PGSI) in the ACT more reliably than participation in any other type of gambling activity. EGM participation and association with harm were analysed extensively throughout the report. One in five people in the ACT use EGMs, and nearly one-third of these people are at-risk or problem gamblers. Contrary to community perceptions of EGMs being perhaps an older persons' gambling activity, people who use EGMs in the ACT are more likely to be under the age of 30 than those who do not use EGMs. Overall, gambling associated with EGM participation incurred the second highest losses (second to casino table games), with each ACT resident losing on average \$656 per year (men incurring double the average losses on EGMs compared with women). Reflecting community dissatisfaction with EMGs (64% stating that they do more harm than good), nearly half of the ACT adult population believed that the maximum EGM bet (\$10) should be changed, and the suggested average response was a reduction in the maximum bet to \$6.92.

One of the more interesting findings of the report was the significant associations between time spent gambling on EGMs and at-risk and problem gambling (PGSI). Nearly two-thirds of gamblers who used EGMs in the ACT for 1 hour or more were at risk on the PGSI. However, people who spent less than 10 minutes gambling on EGMs were at significantly reduced risk. EGM gamblers under the age of 45 who normally spent 30 minutes or more at a machine were found to be at-risk and problem gamblers at twice the rate of people over 45. These are tangible findings that can be translated into health promotion messaging designed to reduce gambling harm in the ACT.

This survey builds a strong foundation for future research and gambling studies in the ACT. Improved coverage of the population, primarily through increases in sample size and the inclusion of mobile phone respondents, has enabled more accurate estimates of gambling impacts in the ACT and will allow improved time-series comparison in future surveys. While the inclusion of mobile phone respondents in this survey has contributed to a limitation in being able to assess trends over time (i.e. from

2009 and 2014 surveys), it will ensure that future surveys will be able to provide robust trend comparisons.

The survey highlights some areas for future evidence-based research and policy focus. These include increased regulatory oversight and controls (particularly around pre-commitment and maximum bets), targeted prevention and early intervention strategies, and innovation and capacity building in service provision in the ACT to address gambling harm.

Notes

1. Throughout the report, statistical significance is defined by a P value below 0.05 when using the appropriate statistical test.
2. Frequency categories are consistent with previous ACT surveys. Raffles were excluded from frequency estimates.
3. This is calculated using the SGHS, assessing those who are harmed by gambling, with the addition of those affected by a significant other's gambling. Any overlap between these individuals has been accounted for.
4. Both mobile and landline lists were sourced from SamplePages.
5. It should be noted the ACT consists of 10 SA3 regions. However, due to their size, the three smallest SA3 regions (Molonglo, Canberra East and Urriarra–Namadgi) were grouped with larger areas. The nature of the grouping was based on overlapping postcodes between SA3 regions. Molonglo and Urriarra–Namadgi were combined with Weston Creek. East Canberra was combined with South Canberra.
6. Participation in raffles or sweeps was excluded from overall participation figures.
7. Tests of association were made using weight-adjusted Pearson's chi-squared tests. Statistically significant results ($P < 0.05$) are reported in the text.
8. For example, the overall participation rate for EGMs is 19.7%, while the co-occurrence rate for EGMs and sports betting is 5%. Dividing 5% by 19.7% and multiplying by 100 gives the percentage of EGM gamblers who also bet on sports and special events (25.3%).
9. Frequency categories are consistent with previous ACT surveys. Raffles were excluded from frequency estimates.
10. Tests for significance were made with weight-corrected Pearson's chi-squared tests, and are reported in the text where differences between the demographic characteristic and the rest of the adult ACT population are significant at the $P < 0.05$ level.
11. See Figure 6 for a visual representation of the relationship between age and low-frequency gambling.
12. Unweighted n (male) = 692; unweighted n (female) = 595.
13. Unweighted n (male) = 744; unweighted n (female) = 428.
14. In the 2019 survey, all respondents who had gambled in the past year (excluding those who had only bought raffle tickets) were given the PGSI. This differs from the 2014 survey in which 75% of low- to moderate-frequency gamblers who did not spend more than \$2000 in the previous year on gambling were excluded from the long form of the survey and did not take the PGSI.
15. Some surveys, including the previous Victorian and Queensland surveys, used a 5-point response frame (never = 0, rarely = 1, sometimes = 1, often = 2, always = 3).
16. Surveys were conducted either with landline or a dual-frame mobile/landline sample, with varying percentages of mobile inclusion. In some cases, the percentage split was not clearly stated in the report.
17. Based on survey weighted logistic regression (Lumley & Scott 2017) with three 2-category variables: age (under 45, over 45), gender (male, female) and education (degree, no degree). The variables were included in a three-way interaction, resulting in a model with a constant term and seven beta coefficients. Predicted probabilities and 95% confidence intervals were calculated using resampling of the model's coefficients and variance-covariance matrix. Unweighted $n = 9965$.
18. To avoid systematic bias of this sort, the order of the PGSI and SGHS was randomised, with 50% of gamblers taking the PGSI first and the other 50% taking the SGHS first.
19. See Browne et al. (2017) for details on the methods developed to map categories from the PGSI to DWs and Browne et al. (2018) for details on the SGHS. Thanks to Associate Professor Matthew Browne for providing DWs for each level of the SGHS.

20. This methodology is also applied to the 2019 data. As a result, the 2019 estimates in this chapter differ slightly from those presented in this report.
21. The 2009 benchmarks are taken from *Australian demographic statistics*, June 2009, Table 6 (ABS 2009). The 2014 benchmarks are taken from *Australian demographic statistics*, June 2014, Table 6 (ABS 2014). The 2019 benchmarks are taken from *Australian demographic statistics*, June 2018, Table 6 (ABS 2018). The June 2018 population data are used for 2019 because this was the most recent publication available at the time of writing.
22. This percentage is somewhat higher than the 49.6% of the ACT population reported as non-problem gamblers earlier in this report. The reason for the higher estimate has more to do with the construction of the PGSI categories used in this chapter than the use of different sampling weights from those applied in the rest of this report. The percentage presented here reflects the construction of PGSI categories that are consistent across each of the surveys. These categories reflect the omission of respondents who reported gambling less than once a month from the PGSI questions in the 2009 survey who had not reported gambling losses in excess of \$2000 in the previous 12 months. The report accompanying the 2009 survey reported PGSI categories that assumed that infrequent gamblers would not have reported gambling problems (Davidson & Rodgers 2010). In the interest of temporal consistency, the estimates presented here make the same assumption, thereby slightly increasing the percentage of non-problem gamblers in 2019. The estimates presented here for 2009 and 2014 do not differ markedly from those presented in Davidson and Rodgers (2010) and Davidson et al. (2015).
23. Again, using weight-corrected Pearson's chi-squared tests; statistical significance at $P < 0.05$.
24. Using simple linear transformation.
25. Canale et al. (2016) report a Cronbach's alpha of 0.78; McAllister (2014) found $\alpha = 0.77$, and Salonen et al. (2016) found $\alpha = 0.79$.
26. The ATGS-8 thermometer score was scaled to range between 0 and 1, and estimated using fractional logistic regression with second-order polynomial effects for the number of gambling harms experienced. The model controls for gender, age and education. The SGHS (Browne et al. 2017) was asked of all gamblers. Non-gamblers are also included in the model. The number of observations was 1966. Predicted probabilities were rescaled and are presented in Figure 48.
27. $P < 0.001$
28. While this question referred to 'wanting' help (Q1a), later analysis showed that 100% of respondents who had reported wanting help also subsequently reported having sought help of some sort in their lifetimes. Consequently, we treat Q1a as a help-seeking question. Future surveys might find higher rates of help seeking if the questioning moves directly to asking about whether gamblers had tried certain forms of help, instead of filtering through those who report having wanted help.
29. Item 1 rated on a 5-point scale from 'very poor' to 'very good'.
30. Items 2 and 3 rated on a 5-point scale: 'not at all', 'a little', 'moderately', 'mostly', 'completely'.
31. Items 4–8 rated on a 5-point scale from 'very dissatisfied' to 'very satisfied'.
32. Research argues that a cut-point of 11 and above optimally classifies moderate mental distress, while a score of 19 or above is typically used to indicate severe mental illness (Prochaska et al. 2012). Note that scores in this report reflect a theoretical range for the K6 of 6–30, while some other studies report a range of 0–24.
33. Recent research finds clear links between long-term financial and economic risks with problem gambling using data from HILDA (Fogarty et al. 2018).

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