Australian National University

Gambling participation in Australia 2024

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Trends over time, and profiles associated with online gambling

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Acknowledgment of Country

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Introduction and overview

Problem gambling is a major public health concern in Australia and internationally (Blank et al., 2021), referring to a pattern of harmful gambling behaviours. Population prevalence estimates for past year problem gambling ranging from 0.1% to 5.8% globally (Calado & Griffiths, 2016) and from 0.7% to 1.0% in Australia (Delfabbro & King, 2021).

The impacts of COVID-19 on gambling participation and on the levels of problem gambling risk received attention early on in the pandemic, showing an overall reduction in gambling frequency and expenditure in 2020 (Hodgins & Stevens, 2021). In Australia, social restrictions were in place for extended periods during the pandemic, particularly in the two most populous states, Victoria and New South Wales (Chodor & Hameiri, 2023). Due to decreased access, gambling participation and problems declined significantly around the height of COVID-19 restrictions in Australia, increasing again when restrictions began to ease (Biddle, 2022). Our own published research shows that while overall gambling participation rates decreased during COVID-19 (Hodgins & Stevens, 2021; Quinn et al., 2022), by early 2023 participation had nearly returned to pre-pandemic levels (Suomi et al., 2024).

Notwithstanding the drop in gambling participation during and after COVID-19, there has also been a longer-term general trend of a steady decrease in gambling participation in Australia.[1] Since our last report in 2023, no other published data show the direction of this trend by early 2024. In this paper, we examine whether gambling participation has continued to increase, since COVID-19 restrictions were lifted, or continue to gradually fall in line with a trend that began prior to the pandemic.

While gambling participation decreased on population level during COVID-19, our longitudinal data from 2019-2023 also shows that those who were at increased risk of gambling problems pre-COVID-19 were less likely to reduce gambling participation or level of risk during the pandemic (Suomi et al., 2024). Our data also suggest that these individuals may have 'switched' their gambling activity from venue-based gambling (e.g. EGM gambling) to activities that are readily available online in Australia, such as betting on sports and racing. This may reflect increase in overall online gambling participation that has been observed prior to COVID-19. The current paper presents the first nationally representative data of the rates of online gambling participation overall, and across multiple activities in Australia beyond COVID-19, provides important evidence of the long term-shift in gambling behaviours.

[1] https://www.aihw.gov.au/reports/australias-welfare/gambling

With that in mind, the aim of the current study is to establish

1. Prevalence of Australian gambling participation and problem gambling risk in 2019, 2020, 2021, 2023 and 2024.
2. Overall participation rate across gambling activities in Australian population in 2024
3. Online gambling rate across gambling activities in 2024
4. The sociodemographic and wellbeing profiles of individuals gambling online in 2024

Data and methods

Life in Australia (LinA)[i] is a longitudinal, probability-based panel infrastructure where a broadly representative sample of Australian adults are invited to participate in monthly surveys either online or through Computer Assisted Telephone Interviewing (CATI).

ANUpoll is an approximately quarterly survey of Australian public opinion, placing public opinion in a broad policy context. Since October 2017 the ANUpoll series of surveys has been collected through LinA, with seven waves of data collection between October 2017 and January 2020. Between April 2020 and January 2023, the ANUpoll series had a particular focus on COVID-19 outcomes, with 14 waves of data collection as part of the ANU Centre for Social Research and Methods, COVID-19 Impact Monitoring series. Since January 2023, four waves of data have been collected as part of the ANUpoll series, with the continuation of a number of tracking questions, as well as new or repeated modules.

In this paper we use data from four waves of ANUpoll collected in April 2019 (n = 2,054), November 2020 (n = 3,029), October 2021 (n = 3,474), January 2023 (n = 3,370), and January 2024 (n=4,027). Each wave includes information on the gambling behaviour of Australians aged 18 years and over, with a subset of each wave able to be linked to previous or subsequent waves. Data from all waves used in this paper are available in unit-record format through the Australian Data Archive. Data in the paper is weighted to population benchmarks.

Measures

Problem gambling risk was measured by the 9-item Problem Gambling Severity Index (PGSI; Ferris & Wynne 2001). The PGSI asks about the negative consequences and behavioural symptoms of gambling over the previous 12 months, e.g., "*Have you bet more than you could really afford to lose?*" with response options ranging from 0=never to 4=often.

The risk thresholds used in the current study were consistent with Currie, Casey & Hodgins (2010): (1) non-gamblers (not gambled in the past 12 months); (2) non-problem (PGSI score 0); (3) low risk (PGSI score 1-2); (4) moderate risk (PGSI score 3-7); and (5) problem gambling (PGSI score 8+).

In addition to the five PGSI risk groups, some of the analysis also use the categorisations 'risky' (PGSI 1+) gambling separately to 'high risk gambling' (PGSI 3+) consistent with other studies (Afifi et al., 2010; Suomi et al., 2024).[ii] Non-gamblers and non-problem gamblers can also be grouped.

Gambling activity. Participants were asked which of the following gambling products they used for money in the past 12 months: (1) poker machines or gaming machines; (2) horse or greyhound races; (3) instant scratch tickets; (4) a lottery game (Tattslotto or Powerball); (5) Keno; (6) table games such as blackjack, poker, or roulette at a casino; (7) bingo or housie; (8) sporting or special event like football, cricket, tennis, a TV show, or election; (9) raffle tickets.

Online gambling. In the most recent wave (January 2024) reported in this paper, participants were asked whether they mostly participated online, in venues, or equally online and in venues, for each gambling activity they participated in in the past 12 months.

Wellbeing. We used the Kessler six-item scale (K6) to measure psychological distress as a screener for possible mental health conditions (Kessler et al., 2002; Prochaska et al., 2012). Those with a K6 total score of 19 or higher were categorized as experiencing severe psychological distress consistent with having a 'probable serious mental illness'. Loneliness was assessed asking how often the respondent felt lonely in the past week on a scale from 1 ('rarely or none of the time [less than 1 day]') to 4 ('most or all of the time [5–7 days]') (Abbasi-Shavazi et al., 2022).

Demographic information. Demographic and psychosocial information included gender (male, female), age (six categories), highest level of education (not finished high school, finished high school, post school diploma/certificate, university degree), current employment and household status (single person, couple with/without children, single parent and other).

Analysis

We present proportional data across cross-sections in 2019, 2020, 2021, 2023, and 2024 by gambling risk category and overall. After this, the analyses focus on the most recent data collected in January 2024, including proportional data for participation in each gambling activity overall, and online vs venue participation. We then present proportional data across sociodemographic characteristics and online gambling status, to examine which population characteristics were associated with online gambling. Finally, we present multivariate logistic regression analysis only including individuals who gambled

in 2024, to examine which key characteristics were significantly associated with online gambling participation.

Results

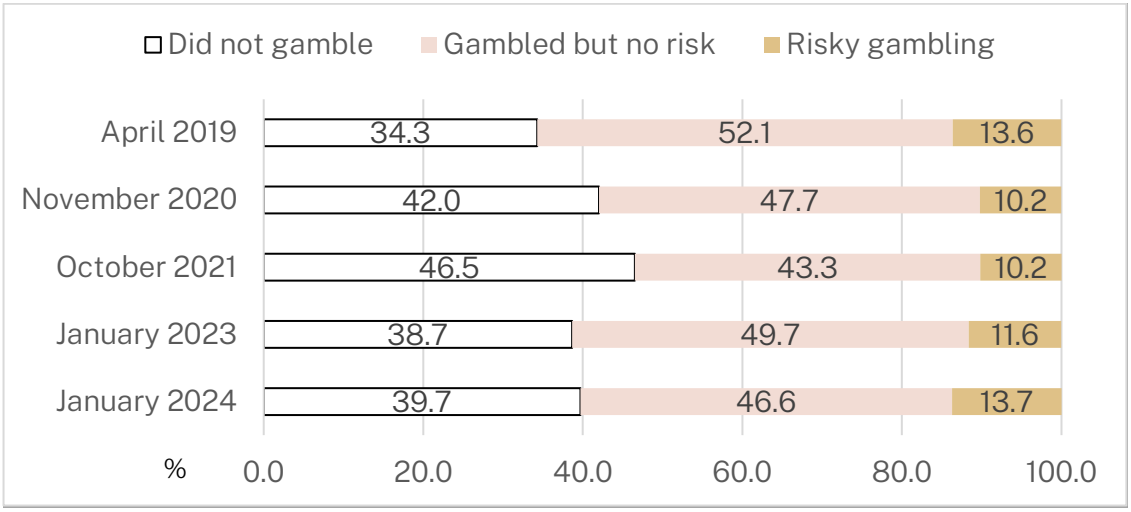
In this section, we report patterns of gambling participation across the Australian population including:

5. Distribution of Australians by gambling participation and gambling risk status in 2019, 2020, 2021, 2023 and 2024;
6. Overall participation rates across gambling activities in Australian population in 2024;
7. Online gambling rates across gambling activities in 2024; and
8. Gambling and sociodemographic factors associated with online gambling participation in 2024.

Gambling participation in Australia 2019-2024

Figure 1 shows the distribution of three groups based on their gambling risk status of individuals who: did not gamble, gambled without risk and gambled at risky levels (PGSI 1+) in 2019, 2020, 2021 and 2023. Overall gambling participation rate in Australian population was 65.6% in 2019, 57.9% in 2020, 53.5% in 2021, 61.3% in 2023, and 60.3% in 2024. The proportion of individuals who gambled overall is largest in 2019 (65.7%), and the smallest in 2021 (53.5%). Gambling participation and at-risk gambling increased in 2023 compared to 2020 and 2021, but it was lower than in 2019. In the most recent data, the proportion of individuals gambling at risky levels exceeded the pre-COVID-19 rate, and the proportion of individuals who did not gamble has slightly increased since 12 months ago.

Figure 1 Percentage of Australians participating in gambling[2] and gambling risk status in 2019, 2020, 2021, 2023, 2024.



Venue and online gambling participation across activities in 2024

Table 1 shows that the most popular gambling activities in 2024 were buying lottery tickets (46.8% of Australian adult population), followed by buying raffle (23.4%) and scratch (15.7%) tickets, gambling on EGMs (12.9%) and race betting (10.0%). Of all activities, sports betting had the largest proportion of online gambling (94.2%), followed by betting on races (67.9%) and buying lottery tickets (45.0%).

Table 1. Gambling participation rate in Australian population and venue/online participation across individual gambling activities in 2024.

	% of Australian population	Mostly online %	Mostly in venues %	Equally online and in venues %
EGMs	12.9	4.7	93.5	1.8
Races betting	10.0	67.9	26.6	5.5
Scratch tickets	15.7	1.7	95.2	3.2
Lottery	46.8	45.0	47.9	7.1
Keno	5.2	8.9	89.5	1.6
Casino table games	2.7	3.0	95.3	1.8
Bingo	1.4	4.6	95.4	0
Sports betting	4.7	94.2	4.5	1.4
Raffle tickets	23.4	21.0	72.8	6.2

[2] To allow for comparison over time, those who only buy raffle tickets are set as missing for these analyses, excluding 1.7% of the population in 2024.

Sociodemographic profiles associated with online gambling

Individuals who gambled equally online and in venues represent only a small proportion of the overall participation rate. For the subsequent analyses we merged these individuals with those who mostly participated online for each activity, so that the overall online gambling participation rate used for the remainder of the analyses comprises of individuals who gambled online at least half of the time.

Table 2 shows that overall online gambling participation rate in Australian population is 33.4%. Sociodemographic factors associated with online gambling are: gender, age, education, employment status, household type, household income. It should be noted that the first row of the table shows row percentages to illustrate the overall rates in population, while the rest of the table presents column percentages to illustrate the distribution of sociodemographic characteristics separately for those gambling online, in venues, and total population.

Table 2. Sociodemographic characteristics by gambling status, and overall in Australian population.

		Online gambling %	Venue gambling %	Non-gambling %	*Total population %*
Overall (row %)		33.4	28.6	38.0	*100.0*
Gender	Female	**42.1**	**53.8**	**54.5**	*50.1*
Age	18-24 years	**6.1**	**6.1**	**20.0**	*11.4*
	25-34 years	18.7	**13.3**	**22.8**	*18.7*
	35-44 years	19.9	14.5	18.5	*17.8*
	45-55 years	**20.5**	15.5	**11.6**	*15.7*
	55-64 years	**17.2**	16.8	**10.5**	*14.5*
	65-74 years	13.8	**21.2**	**10.4**	*14.7*
	75 or more years	**3.7**	**12.6**	6.2	*7.2*
Highest educational qualification					
	Bachelor degree or higher	**28.5**	**28.5**	**41.5**	*33.5*
	Post school certificate/diploma	**47.2**	42.3	**32.8**	*40.3*
	Year 12	12.8	11.5	17.3	*14.1*
	Less than year 12	11.5	**17.7**	**8.4**	*12.1*
Employment	Full-time	**48.3**	**32.2**	36.9	*39.4*
	Employed part-time	22.2	19.7	24.5	*22.4*
	Unemployed	2.9	2.5	4.3	*3.3*
	Not in the labour force	**25.5**	**43.7**	32.0	*33.2*
Household type	Single person	8.9	10.9	8.4	*9.3*
	Couple without children	29.6	**38.0**	28.0	*31.4*
	Single parent	6.8	6.9	7.7	*7.2*
	Couple with children	**44.2**	**34.2**	42.6	*40.7*
	Group household/other	10.5	10.0	13.3	*11.4*
Household income					
	$0 to $52,884	**26.6**	**37.1**	34.5	*32.5*
	$52,885 to $109,304	36.7	35.8	34.6	*35.7*
	$109,305 to $168,688	21.5	18.4	17.8	*19.2*
	$168,689 or more	**15.2**	**8.7**	13.0	*12.6*
Socio-economic area index					
	Most disadvantaged	16.3	15.4	15.5	*15.7*
	Next most disadvantaged	18.5	20.7	17.9	*18.9*
	Neither	21.8	22.9	18.5	*20.8*
	Next most advantaged area	23.1	20.9	23.6	*22.6*
	Most advantaged	20.4	20.2	24.5	*21.9*

Values in **Bolded** cells are significantly higher/lower to the overall population value in the last column.

Table 2 shows that in the Australian population, men, older age groups and those with lower education had higher rates of overall gambling participation (online or venue) compared to younger groups. Online gambling was more common in men, in the middle age groups (35-55 years) and venue gambling was more common in women, and the oldest groups (65 and older). Individuals with post-school diploma or certificate had higher levels of online gambling participation and individuals who had not finished high school reported higher levels of in-venue gambling.

Individuals working full time reported higher levels of online gambling and those out of the labour force had higher levels of in-venue gambling. Couple households with children reported higher levels of online gambling participation, and couple households without children higher levels of in-venue gambling. Individuals in the highest income bracket reported higher levels of online gambling, and individuals in the lowest income bracket reported more in-venue gambling.

The multivariate analysis predicting online gambling with key sociodemographic, gambling and psychosocial factors is shown in Table 3. Holding all other factors constant, the model shows that gender, age, employment status, household status, household income, PGSI category, gambling frequency, psychological distress, and loneliness were associated with online gambling among individuals who gambled in the past 12 months.

Compared to those who gambled mostly in venues, individuals who gambled online were more likely to be male, single parents, experience some level of gambling problems, gamble more frequently, report loneliness and higher household income, and less likely to be in the oldest age groups, have high levels of psychological distress, and be out of labour force.

Table 4. Odds Ratios for multivariate logistic regression model predicting online gambling participation among Australian gambling population

Variables included in the model	Category	OR
Gender	Female	0.74***
Age	25-34 years	1.21
	35-44 years	0.87
	45-55 years	0.76
	55-64 years	0.73
	65-74 years	0.53*
	75 or more years	0.32***
Highest educational qualification (ref tertiary education)		
	Certificate III/IV, diploma or advanced diploma	1.17
	Year 12	1.21
	Less than year 12	0.81
Employment status (ref full-time)	Employed part-time	0.93
	Unemployed	1.11
	Not in the labour force	0.74**
Household type (ref single person)	Couple without children	0.85
	Single parent	1.44*
	Couple with children	1.14
PGSI Category (ref PGSI 0)	Low risk gambling (PGSI 1-2)	1.50**
	High risk gambling (PGSI 3+)	1.10
Gambling frequency (ref less than monthly)		
	Monthly, less than weekly	2.63***
	Weekly or more	3.38***
Household income (ref less than $52,885)		
	$52,885 to $109,304	1.07
	$109,305 to $168,688	1.00
	$168,689 or more	1.49**
Psychological distress (ref not probable mental illness)		
	Probable mental illness	0.59***
How often has felt lonely in past week (ref never)		
	Sometimes	1.07
	Occasionally	1.18
	Mostly	1.85**
Socio-economic indexes for areas (most disadvantaged)		
	Next most disadvantaged area	0.78
	Neither disadvantaged nor advantaged	0.96
	Next most advantaged area	1.01
	Most advantaged area	1.00

*** p<.01, ** p<.05, * p<.1

Summary and implications

The current data shows that the past year gambling participation rate in Australian adult population was 60.3%. This was slightly lower than the participation rate 12 months earlier at 61.3% and lower than the pre-COVID-16 participation rate of 65.6%. While the participation rate dropped close to 50% of adult population during COVID-19, these data suggest that the 'new normal' gambling participation rate has plateaued at around 60%. This trend follows the steady decline in gambling participation over the past 15 years (Browne et al., 2020; Rockloff et al., 2020; Paterson et al., 2019; Stevens et al., 2019).

While the gambling participation rate is similar to 12 months ago in our data, the proportion of individuals gambling without risk decreased from 49.7% to 46.6%, and the proportion of individuals gambling at risky levels increased from 11.6% in 2023 to 13.6% in 2024. The current rate of risky gambling is similar to the pre-pandemic levels in Australian population, notwithstanding fewer people now gamble than before COVID-19. This means that a larger proportion of individuals who gamble are doing so at risky levels.

The most popular gambling activities in the Australian adult population in 2024 were buying lottery (46.8%), raffle (23.4%), and scratch tickets (15.7%), EGM gambling (12.9%) and betting on races (10.0%).

Of the Australian adult population, 33.4% had gambled online in the past 12 months. While sports betting participation was relatively low on population level (4.7%), it had the highest rate of online gambling participation relative to other activities (94.2% of individuals betting on sports), followed by the online participation rate in betting on races (67.9%), buying lottery (45.0%) and raffle (21.0%) tickets. These rates reflect the availability of legal online gambling products in Australia, for example providing EGMs or casino table game gambling online in Australia is currently illegal.

When looking at the Australian population, our findings are consistent with a number of state-based gambling prevalence studies that sociodemographics associated with higher rates of gambling participation overall, included male gender, older age, and lower education (Browne et al., 2020; Rockloff et al., 2020; Paterson et al., 2019; Stevens et al., 2019). Sociodemographic characteristics associated with online gambling on population level were male gender, ages between 35 and 55, full-time employment, being in a couple household with children, and higher household income. In contrast, characteristics associated with in-venue gambling on population level were female gender, age 65 and older, not having finished high school, being out of labour force, and lower income.

When restricting the analysis to only include those who gambled in the past year, online gambling was related to younger age, male gender, living in single parent households, higher likelihood of risky gambling, including more frequent

gambling, as well as reports of loneliness. Those who predominantly gambled in venues were more likely to be in the oldest age groups, experience psychological distress and be out of labour force. While younger age groups (18-34 years of age) reported lower rates of gambling participation overall than older groups. This might reflect a pattern found in other studies whereby young people are less likely to participate in traditional gambling activities, and more likely to engage with gambling-features online (Hing et al., 2022; Suomi et al., 2024b). The current study did not ask about such gambling features, predominately available on videogames, such as loot boxes, skins or eSports betting. Younger people who did gamble, however, were more likely do so online than in venues.

These findings are in line with previous studies that online gambling attracts different demographic profile to in-venue gambling. Our data showing demographic and psychosocial differences between online and venue-based gambling suggest two separate population subgroups of individuals who gamble. They also reflect the generational change in gambling behaviours: older individuals who are less educated, and potentially retired or otherwise transitioned out of the labour force tend to gamble in venues. The profile of individuals who gamble online looks vastly different, with younger age profile, higher likelihood of fulltime employment and higher income.

Risk factors related to online gambling

Higher rates of online gambling were reported by individuals living in households with children. It is likely that easy access to online gambling through apps and the internet is more convenient to parents, and activities that can be accessed online are more appealing than in venues, particularly for single parents, as shown in our data. Online gambling also enables much more frequent gambling that increases the likelihood gambling problems (Hing et al., 2022; Tabri et al., 2022). Previous evidence shows that unlimited access to online gambling through mobile devices is associated with continuous gambling, leading to losses and gambling harm at a faster rate than in venues (Parke & Parke, 2019). Specifically those prone to excessive gambling may find if difficult to take breaks, or resist the urge to gamble even if they want to, given that mobile devises with betting apps are now such an integral part of daily living. Similarly, in our data online gambling was associated with more frequent gambling, and heightened risk of gambling problems.

While psychological distress was specifically associated with in-venue gambling in our data, individuals gambling online reported higher rates of loneliness in the past week than those gambling in venues. The causal relationship between online gambling and loneliness cannot be ascertained from the current data, however, emerging evidence suggests that loneliness predicts online gambling addiction rather than the other way around (Karaıbrahımoglu et al., 2023). Other research shows that loneliness may

exacerbate the association between online gambling and gambling problems (Sirola et al., 2019). During COVID-19 levels of loneliness increased overall due to social restriction measures, and for those who gambled, loneliness was one of the key contributors to increased gambling and gambling problems (Ciccarrelli et al., 2022; Rogier et al., 2021).

Conclusion

Gambling participation rates after COVID-19 have stabilised since the substantial decline in the midst of the pandemic in 2020 and 2021 in Australian general population. While overall gambling participation rates have decreased over the past 15 years, online gambling rates have exponentially increased in the same period, and should now be considered one of the main gambling platforms. The unlimited and uninterrupted access to online gambling platforms has the potential to cause harm if not adequately addressed with evidence-based public health strategy including industry regulation.

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[i] https://srcentre.com.au/our-research/life-in-australia-study

[ii] Additional support for lowering the PGSI cut point comes from a recent study which shows that while the PGSI 8+ cut point has a specificity of 99 % (almost no false positives), it only identifies 49 % of the problem gamblers based on clinical ratings and therefore generated many false negatives (Williams and Volberg 2014).