

# Problems shared: Gambling by Aboriginal adults in Victoria, Australia – correlations, harms and support



Marion Cincotta<sup>a</sup>, Kye Bancroft-Gardiner<sup>a</sup>, Sarah MacLean<sup>a,\*</sup>, Tahnee McBean<sup>b</sup>

<sup>a</sup>Social Work and Social Policy, La Trobe University, Bundoora, Victoria, Australia

<sup>b</sup>Victorian Aboriginal Health Service, Preston, Victoria, Australia

## Abstract

**Purpose** This study was initiated by the Victorian Aboriginal Health Service (VAHS) to support planning of the gambling services it provides to the community. The aim was to identify the demographic and behavioural correlates of gambling harm among Aboriginal community members in Victoria and support accessed to address harm from gambling.

**Methods** An online survey was developed in accordance with recommendations from Aboriginal and non-Aboriginal VAHS staff and promoted at Aboriginal service and educational organisations. Eighty-nine Aboriginal adult community members who had gambled in the previous year completed the survey. Categorical frequency data were tested for associations in SPSS.

**Main findings** The gambling reported was mainly commercial, both online and at venues. Eighty-four per cent of participants indicated some social, psychological or financial harm from their own gambling, which was more likely for men and those gambling once or more per week. Poker machine and online gambling were associated with more harm than ticket-based and other venue gambling. Half of the participants experienced negative effects from both their own gambling and gambling by others. Forty-six per cent of survey participants were gambling at high risk of harm, as defined by the Problem Gambling Severity Index (with those aged  $\geq 50$  years overrepresented). Most participants reported positive experiences as well as harms associated with gambling. Gambling participation, gambling harm and help with gambling problems were mainly shared experiences. Twenty-three per cent of participants had approached an organisation for support regarding gambling-related problems, with many relying on themselves, or on friends or

\*Corresponding author.

E-mail address: [S.MacLean@latrobe.edu.au](mailto:S.MacLean@latrobe.edu.au) (S. MacLean).

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family. Participants recommended greater accessibility of Aboriginal-specific gambling services; de-stigmatisation; cultural safety and leadership; and decreased gambling product availability and advertising.

**Principal conclusions** Low participation and method of recruitment limited how comparable and generalisable these findings are. However, this study indicates a group of Victorian Aboriginal people who gamble at high risk of harm and who do not access formal services. Need for gambling regulation, services and support for Aboriginal Victorians remains high. To address gambling harm, preferred services would be in Aboriginal community settings. Programs directly addressing those who gamble might expand and promote evidence-based therapeutic programs, such as yarning circles. Responses are also required for those affected by other people's gambling.

**Keywords:** Aboriginal adults; Gambling harm; Community; Prevention; Service

## Highlights

- 89 Aboriginal adult Victorians who had gambled in the past year completed a survey.
- Just under half recorded high-risk gambling, especially those aged  $\geq 50$  years.
- Men and regular poker machine and online gambling players reported more harm.
- Few participants accessed formal support, relying on themselves and family.
- Culturally safe, local services are needed to engage people who gamble.

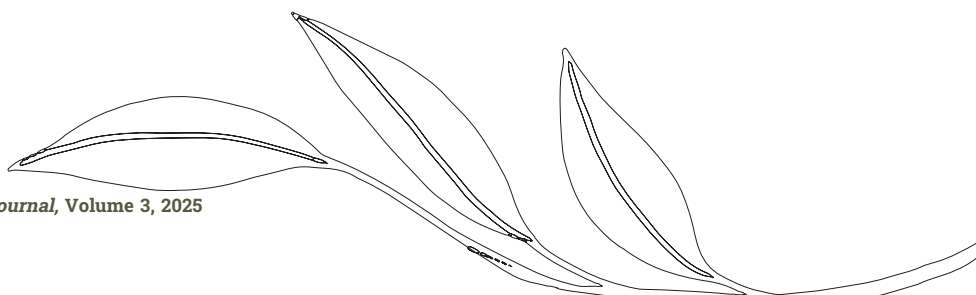
## Introduction

In keeping with terms used in the Victorian Aboriginal Health Service (VAHS), the First Peoples of Australia, including Torres Strait Islanders, are respectfully referred to as Aboriginal. Australian Aboriginal people practice humankind's longest-lasting continuous culture, for example conducting burials on Yorta Yorta Country (now termed the Murray-Goulburn Valley) since the Pleistocene era (David et al. 2006). Despite ongoing colonisation, Aboriginal cultural values and practices, including sharing, continue (Schwb 2018; Smith-Morris 2019) and have undoubtedly contributed to the longevity of Aboriginal communities (Chamberlain and Mohamed 2023).

Australia spends more than any other country per capita on commercial gambling (Armstrong et al. 2018). Gambling businesses use psychological and

electronic technology to target and swiftly extract profit, especially from disadvantaged populations (Adams 2009). Aboriginal Australians experience high burdens of harm from gambling (Gordon and Breen 2023; Rockloff et al. 2020). Financial, psychological, interpersonal and housing stress related to gambling spread from the individual to the community (Breen and Gainsbury 2013).

The self-responsibility and 'problem gambler' discourse blames gambling harm on those who experience it (Kolandai-Matchett et al. 2017) rather than the gambling industry and the states which financially benefit from the gambling (Francis and Livingstone 2021). This paper discusses forms of 'gambling harm' or 'gambling problems', which are terms that do not imply that difficulties experienced by people who gamble are their own fault.





VAHS has provided support to Aboriginal community members to support them in addressing gambling and financial concerns for the past two decades. VAHS initiated the study on which this paper is based, with the intention to identify community needs, and worked with staff of La Trobe University to conduct it. On advice from VAHS, the study methods included two components: a survey of Aboriginal community members and in-depth interviews with community members and staff. Other findings from the survey are available in the project report (Bancroft-Gardiner et al. 2025).

This paper aimed to identify the demographic and behavioural correlates of gambling harm and support accessed to address harm from gambling. This provides important information about Aboriginal community preferences and needs to support service design and planning.

## Methods

### Research in and with an Aboriginal community

The [National Health and Medical Research Council Guidelines \(2018\)](#) informed the study design and processes, in the application of values and ethics of reciprocity, respect, equality, responsibility, survival and protection, and spirit and integrity. VAHS is community-controlled, meaning that the organisation is governed by Aboriginal people elected to represent their community. Project aims, publication rights and data ownership were stipulated in a Memorandum of Agreement, which was collaboratively developed and signed by VAHS and La Trobe University.

Two authors on the study team are Aboriginal (K B-G and T McB). These authors provided cultural guidance and advice, as well as specific knowledge on phrasing and framing about gambling. As local Aboriginal community members employed at VAHS, Darren Lovett, Reg Thorpe, Alan Brown, John Egan and

Chantelle McGuinness also guided the development and implementation of the study, consulted VAHS management about the overall project and approved the submission of this article.

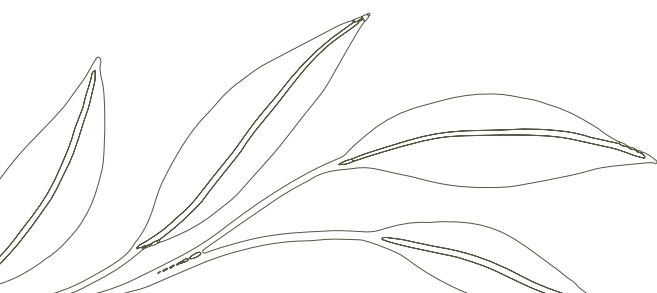
### Community survey

The project-specific online community survey was prepared by the authors with valuable input from VAHS managers and staff, who recommended inclusion of questions comprising the Problem Gambling Severity Index (PGSI; Ferris et al. 1999). These standard questions were used in preference to the adapted Indigenous form (Bertossa et al. 2014) because Aboriginal community members in Victoria generally use standard rather than simplified English. Questions about general demographic details were included to gain information about population subgroups, and these are reported in [Table 1](#). The survey tool that was used is shown in the Appendix. This study was reviewed and approved by La Trobe University's Human Research Ethics Committee (HEC22359). Eligible survey participants were Aboriginal adults aged  $\geq 18$  years who resided in Victoria and had gambled in the past 12 months and were not ex-gamblers.

Participants were invited to participate in the survey, which was promoted using a poster, email, social media and word-of-mouth in 27 Aboriginal health, education units and community service organisations

	Aboriginal adults (ABS)			Survey participants		
	Men	Women	All	Men	Women	All
Greater Melbourne	27%	26%	54%	15%	43%	58%
Rest of Victoria	23%	23%	46%	15%	27%	42%
Age 18 to 33 years	22%	21%	43%	12%	31%	43%
Age 34 to 49 years	13%	14%	27%	12%	16%	28%
Age $\geq 50$ years	14%	16%	30%	6%	24%	30%
Total by gender	50%	50%	100%	30%	69%	100%

**Table 1: Demography of survey participants compared with Victorian Aboriginal population**





across Victoria. The extent of promotion within these organisations is unknown. Participants accessed the survey via a QR code or e-mailed link and completed it using a mobile phone or computer. The survey was open from 22 May to 18 September 2023, at which point data needed to be analysed to meet project timeframes. Participation was anonymous, although all participants who wished to record their e-mail address were forwarded a \$50 shopping voucher as compensation for their time. The participant information document listed support services for people concerned about their own or another person’s gambling.

## Analysis

Anonymous surveys were completed online and returned from the Questionpro platform ([www.questionpro.com](http://www.questionpro.com)) into MS Excel. Duplicate records from the same IP address and those from overseas and interstate were deleted, as were those without responses on gambling frequency or Aboriginality. This left a convenience sample of 89 participants for analysis.

Each participant was allocated a risk category based on responses to the PGSI questions in the survey (Currie et al. 2013). Participants whose PGSI score was 0 to 7 were referred to as gambling at ‘lower risk’, and higher scores indicated ‘high risk’. So that individual PGSI items could be analysed as individual types of harm, PGSI scores were re-calculated for analysis (shown in Table 2) to exclude each subscale being compared.

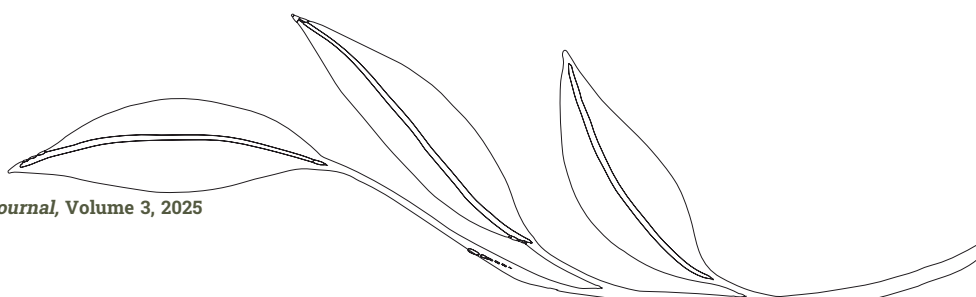
The 2021 Census (Australian Bureau of Statistics 2022) was queried using the Table Builder tool, to gain estimates of the Aboriginal population aged >18 years and in the ranges 18 to 33 years, 34 to 49 years and ≥50 years, as well as gender ratio and proportion of people living in and outside Greater Melbourne. This was used to identify the extent to which the sample reflected the Victorian Aboriginal community, and where specific groups were under-represented in the participant sample.

Frequency of gambling was collapsed into two categories: weekly or more versus less than once per

Type of gambling harm (% of 89 participants)	Age (older)	Gender (male)	Rurality (Melb)	Risk level (PGSI)	Any gambling freq	Poker machine freq	Other venue freq	Online freq
Bet more than could afford to lose (68%)	ns	ns	ns	<0.001	<0.001	<0.001	ns	<0.001
Felt guilty about own gambling or its effects (56%)	ns	0.028	0.031	<0.001	<0.001	ns	ns	ns
Been criticised or told they had a gambling problem (55%)	ns	<0.001	ns	<0.001	<0.001	<0.001	0.044	0.001
Needed to spend more to get the same feeling of excitement (54%)	ns	0.003	ns	<0.001	<0.001	<0.001	0.002	<0.001
Returned another day to try to win back lost money (48%)	ns	<0.001	ns	<0.001	<0.001	<0.001	0.01	<0.001
Negatively affected by own gambling (47%)	ns	0.009	ns	<0.001	<0.001	ns	ns	<0.001
Health problems, stress or anxiety (46%)	0.009	0.028	0.001	<0.001	<0.001	<0.001	ns	0.009
Borrowed money or sold something to gamble (46%)	ns	0.028	ns	<0.001	<0.001	<0.001	0.021	0.022
Financial problems for self or household (46%)	0.001	ns	0.02	<0.001	<0.001	<0.001	ns	0.002
Felt they might have a problem with gambling (45%)	ns	ns	ns	<0.001	<0.001	ns	ns	<0.001
Ran out of money (27%)	ns	ns	ns	<0.001	<0.001	0.002	ns	0.017
Took time away from children or family (22%)	ns	ns	ns	<0.001	0.003	0.031	ns	0.003
Conflict with family (20%)	ns	0.032	ns	<0.001	0.004	0.018	ns	0.042
Felt out of control (18%)	ns	ns	ns	<0.001	<0.001	<0.001	ns	<0.001
Felt isolated (15%)	ns	ns	ns	<0.001	0.007	0.035	ns	ns

Freq, gambling frequency weekly or more versus less than once per week; Ns, not significant.

**Table 2: Harm from own gambling by demographic variable and gambling behaviour**





week. Based on previous work by [Rockloff et al. \(2020\)](#) and due to its strong association with harms, poker machine use was separately analysed. Other venue-based gambling was grouped as: other casino games, Bingo, Keno, Totalizator Agency Board (TAB), races trackside, or other sport betting at a venue. Forms of ticket-based gambling were combined, specifically lotteries scratch tickets, raffles, sweeps and TattsLotto.

Categorical frequency data were tested for associations in SPSS (Version 30, IBM, Armonk, NY, USA) using Chi-square and Fisher's Exact test (two sided). Categories were organised as pairs, apart from age, for which other age groups were compared with the reference group: those aged >50 years. Frequencies, number of cases and proportions were reported, as not all questions were answered in all included records.

## Results

### Participants

Eighty-nine Aboriginal adults living in Victoria participated in the survey. The survey population and estimated state population have similar ratios of Melbourne residents to people living in regional and rural parts of Victoria, and similar age composition ([Table 1](#)). Men were under-represented in the survey (30%, while comprising 50% of the estimated Aboriginal adult population in Victoria).

### Gambling types and risk stratification

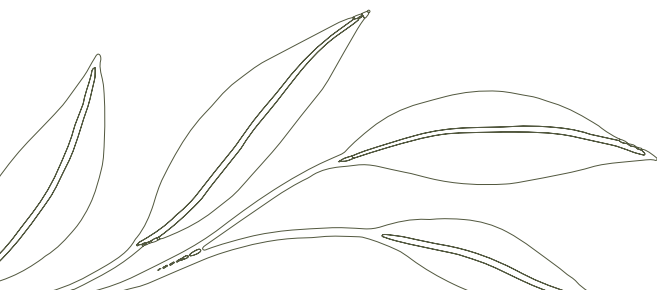
Forty-six per cent of survey participants fell into the high-risk category under the PGSI ([Table 3](#)). Of younger people aged 18 to 33 years and those aged 34 to 49 years, around 40 per cent identified gambling at a level that placed them at high risk of harm. In contrast, the older group had 65 per cent of people gambling at higher risk, and this difference between age groups was statistically significant ( $P < .05$  under Fisher's Exact test; [Table 3](#)).

	N (%)	Proportion		P value Fisher's Exact test
		High risk	Lower risk	
Men	27 (31)	55%	45%	
Women	59 (69)	44%	56%	.359
Age 50 years plus	26 (30)	65%	35%	reference
Age 34 to 49 years	24 (28)	38%	63%	.088
Age 18 to 34 years	37 (43)	38%	62%	.042*
Age 18 to 49 years	61 (70)	38%	62%	.016*
Living in Metropolitan Melbourne	50 (58)	56%	44%	
Living in regional cities or towns	36 (42)	36%	64%	.067
Gambling alone	10 (12)	40%	60%	
Gambling with other people	76 (88)	51%	49%	.614
Any gambling less than once a week	29 (34)	41%	59%	
Any gambling weekly or more	57 (66)	51%	49%	.404
Poker machines less than once a week	63 (73)	46%	54%	
Poker machines weekly or more	23 (27)	48%	52%	.614
Online gambling less than once a week	61 (71)	48%	52%	
Online gambling weekly or more	25 (29)	48%	52%	.969
Ticket gambling** less than once a week	66 (77)	48%	51%	
Ticket gambling weekly or more	20 (23)	45%	55%	.784
Other venue*** less than weekly	68 (79)	47%	53%	
Other venue gambling weekly or more	18 (21)	50%	50%	.824
Negatively affected by others' gambling	45 (52)	44%	56%	
Not negatively affected by others	41 (48)	52%	48%	.530
Did not seek help from organisations	61 (77)	39%	61%	
Sought help from organisations	18 (23)	67%	33%	.060

\*statistically significant difference in proportion compared with the reference group, those aged 50 years plus. \*\*lotteries, scratch tickets, raffles, sweeps. \*\*\*gambling other than poker machines at a venue (i.e. Keno, Bingo, TAB, trackside or other sports venue, casino games).

**Table 3: Population and participation characteristics by gambling risk category**

Two-thirds of participants gambled weekly or more often, with 21 to 29 per cent of participants engaging in each of gambling online; with poker machines; venue gambling other than poker machines; or ticket-based





gambling (Table 3). None of these modes of gambling was statistically associated with risk category (Table 3). Most gambling was commercial, with few people reporting gambling in card games at private homes.

Most participants living in regional or rural areas and women were classified as gambling at low risk (although this was not statistically significant; Table 3). Conversely, most people who gambled weekly or more, most men and most people living in Melbourne reported gambling that placed them in the high-risk category. These are trends that did not show statistical significance under Fisher's Exact test.

## Harms and enjoyment

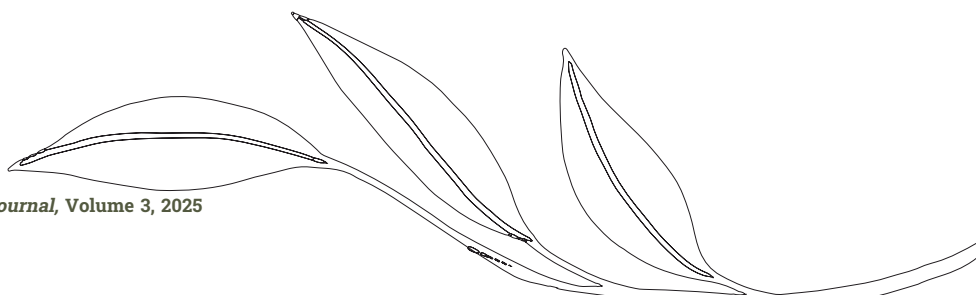
Eighty-four per cent of people who participated in the survey experienced negative effects from their own gambling, and 52 per cent reported negative effects from the gambling of others (Table 3). Gambling once per week or more was statistically associated with each of the types of harm considered in this study (Table 2). Weekly or more frequent gambling with poker machines or online were also statistically associated with most types of harm, whereas gambling at Keno, Bingo, TAB or sports venues correlated with fewer harms (Table 2). On most of the harm measures in the survey, men were significantly more likely to report harms from gambling than women. These harms were: feeling guilty; being criticised; needing to spend more money to get the same feeling; returning another day to win back lost money; being negatively affected by own gambling; health problems, stress or anxiety; borrowing money or selling items to gamble; or conflict with family (Table 2). People aged >50 years and people living in Melbourne noted more health problems associated with their gambling, and financial problems for self or household (Table 2). The two variables that showed no

statistical association with any type of harm from gambling were gambling alone; and weekly or more ticket-based gambling (lotteries, scratch tickets, raffle tickets, sweeps).

Participants reported harm from both their own gambling and from the gambling of others, and these frequencies were, respectively: running out of money (32%, 24%); conflict with family (24%, 17%); taking time that could be spent with children or family (23%, 17%); feeling out of control (19%, 15%); feeling isolated (15%, 12%); other (provided as an option for participants who felt that available categories did not reflect an aspect of their experiences) (4%, 4%). Alongside this range of reported harms, around 90 per cent of participants indicated positive experiences associated with gambling. Specifically, these were: feeling rewarded when winning (50% of respondents); financial reward (48%); enjoyment anticipating the result (45%); relief from stress and boredom (40%); enjoying the venue experience (37%); forgetting life problems (33%); strengthening connection and identity with community (9%); and having fun (6%). While gambling, participants reported liking to be alone (27%), drinking alcohol (22%), drinking and socialising (15%), socialising without a drink (15%), and eating or having coffee together (6%). Gambling for most participants was a social rather than a solo activity, with a minority (12%) of participants gambling alone (Table 3).

## Seeking support

A minority of participants (23%) had approached an organisation for support regarding gambling-related problems, and these tended to be those at higher risk according to PGSI scores (Table 4). This was statistically associated with gambling weekly or more on any platform; on poker machines; online; and with ticket-based gambling (Table 4;  $P < .05$  under two-tailed





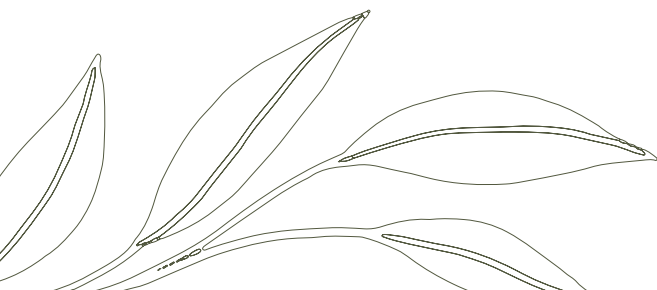
	N (%)	proportion seeking help from an organisation		P value Chi-square test,
		yes	no	
Men	27 (31)	26%	74%	
Women	59 (69)	20%	80%	.566
Age 50 years plus	26 (30)	27%	73%	reference
Age 34 to 49 years	24 (28)	21%	79%	
Age 18 to 34 years	37 (43)	16%	84%	.594
Living in Metropolitan Melbourne	47 (59%)	28%	72%	
Living in regional cities or towns	32 (41%)	16%	84%	.278
Gambling alone	10 (12)	30%	70%	
Gambling with other people	76 (88)	21%	79%	.521
Any gambling less than once a week	29 (34)	3%	97%	
Any gambling weekly or more	57 (66)	32%	68%	.007*
Poker machines less than once a week	63 (73)	16%	84%	
Poker machines weekly or more	23 (27)	39%	61%	.021*
Online gambling less than once a week	61 (71)	16%	84%	
Online gambling weekly or more	25 (29)	36%	64%	.047*
Ticket gambling** less than once a week	66 (77)	15%	85%	
Ticket gambling weekly or more	20 (23)	45%	55%	.007*
Other venue*** less than weekly	68 (79)	19%	81%	
Other venue gambling weekly or more	18 (21)	33%	67%	.196
Not negatively affected by own gambling	24 (16)	17%	83%	
Negatively affected by own gambling	75 (84)	27%	73%	.230
Not negatively affected by others gambling	41 (48)	20%	80%	
Negatively affected by others gambling	45 (52)	24%	76%	.581
No help from family or community	54 (63)	26%	74%	
Help from family or community	32 (37)	16%	84%	.266
Alone without help from a service	38 (44)	18%	82%	
Not addressed gambling alone	48 (56)	25%	75%	.465
Lower risk PGSI	43 (54)	14%	86%	
High risk PGSI	36 (46)	33%	67%	.059

\* $P < .05$  under Chi-square analysis, 1 degree of freedom. \*\*lotteries, scratch tickets, raffles, sweeps. \*\*\*gambling other than poker machines at a venue, ie Keno, bingo, TAB, trackside or other sports venue, casino games.

**Table 4: Seeking support from organisations regarding problems with gambling**

Chi-square test with 1 degree of freedom). Seeking help from an organisation was not statistically associated with being harmed by one's own or the gambling of another person (Table 4). Reasons selected by the 61 participants who did not attempt to get professional support for problems with gambling included that they did not need help (62%); shame about gambling (18%); discomfort confronting the problem (11%); anticipation that it would not be helpful (11%); lack of time (8%); and lack of personal capacity (5%).

Family and community had helped 37 per cent of respondents reduce or stop gambling (Table 4). A larger proportion (44%) of participants had taken their own steps to reduce or stop gambling, without help from others (Table 4). The types of support participants wanted were accessible Aboriginal-specific services; de-stigmatisation of gambling; cultural safety and leadership; and decreased gambling product availability and advertising.





## Discussion

Victorian Aboriginal leaders identified gambling and its marketing among key concerns for community health and wellbeing (Crocetti et al. 2024). As found in earlier work in Victoria (Langham et al. 2016), the current study reports that Aboriginal gamblers experienced harms to their finances, relationships and health from their gambling. Gambling once per week or more was strongly associated with each type of harm (Table 2), indicating that the need for gambling prevention, services and mutual aid for Aboriginal Victorians remains high. More frequent participation in gambling correlated with more types of harm in the current study and earlier work by Hing et al. (2014).

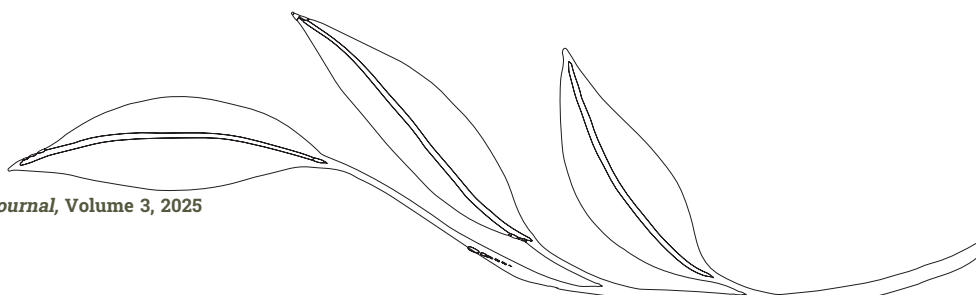
Among the participants gambling at high risk of harm, one-third had accessed formal support from a service, mainly because they did not feel they needed it. Bond et al. (2022) summarised the reasons why Australian gamblers have low rates of participation in treatment programs: preference for informal or self-help; denial or not realising the extent to which gambling is problematic; feelings of embarrassment and shame; perceived stigma regarding mental health and gambling problems; and lack of awareness of effective programs. Together with the high rates of harm recorded in the current sample, this indicates a need to communicate to community that services are available and welcoming, to help people better manage gambling.

This cross-sectional study identified some demographic characteristics of those who scored highly on the PGSI. This study found that Aboriginal people aged  $\geq 50$  years had higher risk of gambling harm than younger Aboriginal people. Men reported experiencing more harm than women, on a range of measures.

It seems that gambling usually occurs with other people and that this is part of the enjoyment it offers. Gambling alone was rarely reported among study participants (13%; Table 1). Interestingly, a sizeable group (27%) indicated that they wished to be alone when gambling. Qualitative evidence that was collected as part of this study (not reported here) suggests that this may be to avoid scrutiny of or comments about their gambling from others (Bancroft-Gardiner et al. 2025).

Money is often a shared resource in Aboriginal households (Brimble and Blue 2013), so losing money to gambling affects the household as well as the person who gambles. Rockloff (2020) applied the Short Harm Scale for Concerned Significant Others to reveal that 23 per cent of Victorian Aboriginal people in their survey had negative impacts from the gambling of another person. Fifty per cent of participants in the current study reported harm from the gambling of others. Previous studies have also found harms from gambling extending to family and community among general populations of Australians (Browne et al. 2016; Langham et al. 2016).

The financial, social and emotional consequences endured by families from gambling can be important motivators in helping a person to control gambling (Ferland et al. 2022). Gamblers can benefit from sharing problems. This was evident in the current survey, where almost 40 per cent of participants received help from family and friends to control their gambling, in preference to accessing formal services. The value of help from family and extended family of the gambler has been noted for Aboriginal people in Northern Australia (Holdsworth et al. 2013). This indicates an important need for services to support friends and family members caring for people who gamble.





As previously reported for Aboriginal people who gamble (MacLean et al. 2020; Maltzahn et al. 2018), the current study showed that gambling offered potential financial gain, distraction from life's problems and opportunities to socialise. The current investigation indicated that gambling also offered 'me time', where people enjoyed the venue experience and being away from home and work. However, problems associated with gambling included conflict arising from money foregone; loss of personal control; and undermining of cultural and family obligations, in the form of time taken away from children and families; this has also previously been observed (Hing et al. 2014).

In accordance with preferences outlined in the survey, services should be offered within Aboriginal community-controlled organisations (Gee et al. 2014). Welcoming and evidence-based therapeutic community activities, including yarning circles and lunches, may help to engage those who do not believe that they need support to manage their gambling (Gibson et al. 2024). Services for families and others affected by another person's gambling could be extended both to minimise harms and increase the effectiveness of their support for their friend or relative who gambles. Community is clearly the preferred site for help in controlling harms from gambling (Bancroft-Gardiner et al. 2025), so the capacity of the community to do so should be supported and resourced.

### Limitations and strengths

The small number of survey respondents, particularly men, limited the generalisability of findings. Promoting the survey to staff and clients at Aboriginal services, health and education organisations biased participation toward people engaged in health, social support or education. The strength of the study was in its support and oversight by VAHS staff, so that survey

design, implementation and interpretation were influenced by well-informed key staff, who are also mostly Aboriginal community members.

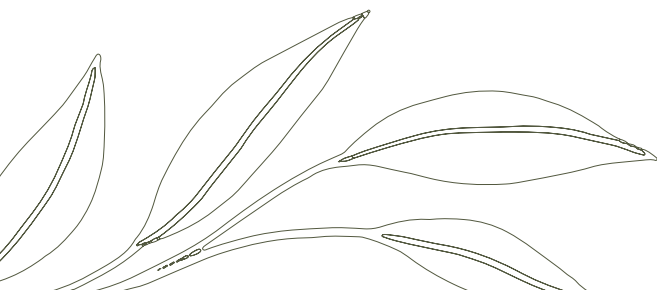
### Recommendations

The authors recommend increasing funding for and awareness of available community-based support services for people who wish to limit harm from gambling, with a focus on older Aboriginal people and reducing harm from gambling among men. This could entail expanding and promoting evidence-based therapeutic programs, such as yarning circles. Responses are also required for those affected by other people's gambling and/or who support family or friends who are experiencing gambling harm. To address gambling harm, preferred services should be in Aboriginal community settings.

The low uptake of formal support and high correlation between harm and frequency of gambling shown in this small study indicate that primary prevention of gambling participation is an important part of the overall response (Livingstone et al. 2019). Hence, it is critical to regulate gambling to prevent harm to Aboriginal people from extractive gambling industries.

### Conclusion

Low participation and method of recruitment limited how comparable and generalisable these findings are. However, the study identified a high-risk group for the experience of personal and social harm from gambling among Aboriginal adults in Victoria. Survey participants aged  $\geq 50$  years were more likely to report gambling at high risk than younger participants. Most study participants reported harm; this was more likely among those who engaged in regular poker machine and online gambling and among men. Few participants accessed formal support to help manage gambling, instead relying on themselves and family.





Given the extent of gambling harm in the Victorian Aboriginal community and the mix of pleasures and harms it brings, the need for gambling regulation, services and support for Aboriginal Victorians remains high.

## Author contributions

M. Cincotta: Conceptualisation, methodology, software, validation, formal analysis, investigation, data curation, writing - original draft, writing - review and editing. K. Gardiner-Bancroft: Conceptualisation, methodology, software, validation, investigation, writing - review and editing. S. MacLean: Conceptualisation, methodology, investigation, writing - review and editing, supervision, project administration, funding acquisition. T. McBean: Conceptualisation, methodology, writing - review and editing.

## Declaration of interests and funding

Sarah MacLean reports that financial support was provided to Victorian Aboriginal Health Service by Victorian Responsible Gambling Foundation; La Trobe University was subcontracted to conduct the study. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Biographies

Marion Cincotta's ancestors are colonists from Ireland and Sicily. She has worked in primary healthcare, hospitals, university research and teaching. She has also worked in Aboriginal community-controlled health organisations, mainly focusing on public health.

Kye Bancroft-Gardiner is employed at La Trobe University as an Aboriginal Research Fellow. Kye is a Gumbaynggirr and Bundjalung descendant. He has a strong interest in working with community to build on

strengths and to address social problems such as gambling.

Sarah MacLean is a professor in social work and social policy and is affiliated with the Centre for Alcohol Policy Research at La Trobe University. Her ancestors hail from the United Kingdom. She has extensively published on alcohol and inhalant use and, in recent years, on gambling. During 2019–22 she was joint Editor in Chief of *Health Sociology Review*. Sarah's approach is strongly collaborative and she has long-term partnerships with staff in community agencies.

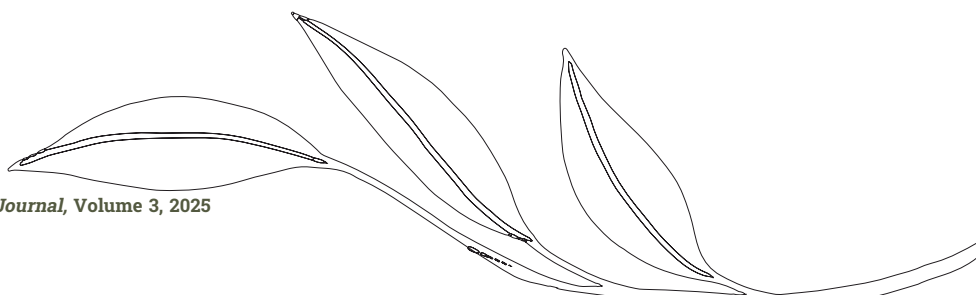
Tahnee McBean is a Kuyani woman working on Wurundjeri Country. She is a registered clinical psychologist and board-approved supervisor with experience working in Aboriginal community-controlled organisations and mainstream organisations. Tahnee currently works as the Clinical Lead of Family Counselling Services at the Victorian Aboriginal Health Service. She is also a Director on the Board of the Australian Indigenous Psychologists Association. Tahnee is passionate about accessible, holistic and culturally informed therapeutic care, self-determination and decolonising healthcare.

## Supplementary material

Supplementary material associated with this article can be found in the online version at <https://doi.org/10.1016/j.fnhli.2025.100082>.

## References

- Adams, P.J., 2009. Redefining the gambling problem: The production and consumption of gambling profits. *Gambling Res* 21 (1), 51–54.
- Armstrong, A., Thomas, A., Abbott, M., 2018. Gambling participation, expenditure and risk of harm in Australia, 1997–1998 and 2010–2011. *J Gambl Stud* 34 (1), 255–274. <https://doi.org/10.1007/s10899-017-9708-0>.



- 
- Australian Bureau of Statistics, 2022. Census of Population and Housing 2021. Accessed on 2 December 2024 at: <https://www.abs.gov.au/statistics/microdata-tablebuilder/available-microdata-tablebuilder#people>.
- Bancroft-Gardiner, K., Cincotta, M., MacLean, S., VAHS Family Counselling Services – Financial Wellbeing and Adult Mental Health Managers and staff, 2025. Staying stronger: Victorian Aboriginal community perspectives and responses to gambling and gambling harms. Victorian Department of Justice. Accessed on 2 December 2024 at: <https://files.justice.vic.gov.au/2025-03/Staying-Stronger-Victorian-Aboriginal-Community-perspectives-and-responses-to-gambling-and-gambling-harms-2025.pdf>.
- Bertossa, S., Harvey, P., Smith, D., Chong, A., 2014. A preliminary adaptation of the Problem Gambling Severity Index for Indigenous Australians: Internal reliability and construct validity. *Aust N Z J Public Health* 38 (4), 349–354. <https://doi.org/10.1111/1753-6405.12254>.
- Bond, K.S., Cottrill, F.A., Morgan, A.J., Chalmers, K.J., Lyons, J.N., Rossetto, A., Kelly, C.M., Kelly, L., Reavley, N.J., Jorm, A.F., 2022. Evaluation of the conversations about gambling mental health first aid course: Effects on knowledge, stigmatising attitudes, confidence and helping behaviour. *BMC Psychol* 10 (1), 78.
- Breen, H., Gainsbury, S., 2013. Aboriginal gambling and problem gambling: A review. *Int J Ment Health Add* 11, 75–96.
- Brimble, M., Blue, L., 2013. Tailored financial literacy education: An indigenous perspective. *J Financ Serv Mark* 18 (3), 207–219. <https://doi.org/10.1057/fsm.2013.16>.
- Browne, M., Langham, E., Rawat, V., Greer, N., Li, E., Rose, J., Rockloff, M., Donaldson, P., Thorne, H., Goodwin, B., 2016. Assessing gambling-related harm in Victoria: A public health perspective. Victorian Responsible Gambling Foundation. Accessed on 2 December 2024 at: <https://responsiblegambling.vic.gov.au/documents/69/Research-report-assessing-gambling-related-harm-in-vic.pdf>.
- Chamberlain, C., Mohamed, J., 2023. Time for a First Nations-led health and wellbeing research renaissance. *First Nations Health and Wellbeing - The Lowitja Journal* 1.
- Crocetti, A.C., Walker, T., Mitchell, F., Sherriff, S., Hill, K., Paradies, Y., Backholer, K., Browne, J., 2024. Making big business everybody's business: Aboriginal leaders' perspectives on commercial activities influencing Aboriginal health in Victoria, Australia. *Globalization Health* 20 (1), 33. <https://doi.org/10.1186/s12992-024-01038-8>.
- Currie, S.R., Hodgins, D.C., Casey, D.M., 2013. Validity of the problem gambling severity index interpretive categories. *J Gambl Stud* 29, 311–327.
- David, B., Barker, B., McNiven, I.J., 2006. *The Social Archaeology of Australian Indigenous Societies*. Aboriginal Studies Press, Canberra, Australia.
- Ferland, F., Blanchette-Martin, N., Côté, M., Tremblay, J., Kairouz, S., Nadeau, L., Savard, A.-C., L'Espérance, N., Dufour, M., 2022. Do the consequences experienced by the people in the life of a problem gambler differ based on the nature of their relationship with the gambler? *J Gambl Stud* 38 (3), 1075–1092. <https://doi.org/10.1007/s10899-021-10058-7>.
- Ferris, J.A., Wynne, H.J., Single, E., 1999. Measuring problem gambling in Canada: Final report, phase 1, Inter-Provincial Task Force on Problem Gambling. Canadian Centre on Substance Abuse, Ottawa, Canada.
- Francis, L., Livingstone, C., 2021. Discourses of responsible gambling and gambling harm: Observations from Victoria, Australia. *Addict Res Theory* 29 (3), 212–222.
- Gee, G., Dudgeon, P., Schultz, C., Hart, A., Kelly, K., 2014. Aboriginal and Torres Strait Islander social and emotional wellbeing. In: Dudgeon, P., Milroy, H., Walker, R. (Eds.), *Working together: Aboriginal and Torres Strait Islander mental health and wellbeing principles and practice*, Edition 2. Department of the Prime, Minister Cabinet, West Perth, pp. 55–68.
- Gibson, M., Rolls, C., Robson, M., Ward, R., Stuart, J., Lambden, D., 2024. Project Yarn Circle: Development and pilot evaluation of a cultural connection suicide prevention program for Aboriginal and Torres Strait Islander young people. *Aust Psychol* 59 (6), 508–522. <https://doi.org/10.1080/00050067.2024.2404977>.
- 



- Gordon, A., Breen, H., 2023. Counselling approaches for gambling disorder: Gambling interventions for Indigenous peoples. In: Zangeneh, L.R. (Ed.), *Problem Gambling Counseling and Treatment Approaches*. CDS Press, Ontario, Canada.
- Hing, N., Breen, H., Gordon, A., Russell, A., 2014. Risk factors for problem gambling among Indigenous Australians: An empirical study. *J Gambl Stud* 30, 387–402. <https://doi.org/10.1007/s10899-013-9364-y>.
- Holdsworth, L., Breen, H., Hing, N., Gordon, A., 2013. One size doesn't fit all: Experiences of family members of Indigenous gamblers. *Aust Aborig Stud* 2013 (1), 73–84.
- Kolandai-Matchett, K., Langham, E., Bellringer, M., Siitia, P., 2017. How gambling harms experienced by Pacific people in New Zealand amplify when they are culture-related. *Asian J Gambl Issues Public Health* 7 (1), 1–20. <https://doi.org/10.1186/s40405-017-0026-3>.
- Langham, E., Thorne, H., Browne, M., Donaldson, P., Rose, J., Rockloff, M., 2016. Understanding gambling related harm: A proposed definition, conceptual framework, and taxonomy of harms. *BMC Public Health* 16 (1), 80. <https://doi.org/10.1186/s12889-016-2747-0>.
- Livingstone, C., Rintoul, A., de Lacy-Vawdon, C., Borland, R., Dietze, P., Jenkinson, R., Livingston, M., Room, R., Smith, B., Stoove, M., Winter, R., Hill, P., 2019. Identifying effective policy interventions to prevent gambling-related harm. Victorian Responsible Gambling Foundation. Accessed on 2 December 2024 at: <https://responsiblegambling.vic.gov.au/documents/640/Livingstone-identifying-effective-policy-interventions-June-2019.pdf>.
- MacLean, S., Maltzahn, K., Thomas, D., Atkinson, A., Whiteside, M., 2020. Gambling in two regional Australian Aboriginal communities: A social practice analysis. *J Gambl Stud* 35 (4), 1331–1345. <https://doi.org/10.1007/s10899-019-09858-9>.
- Maltzahn, K., Vaughan, R., Griffin, T., Thomas, D., Stephens, R., Whiteside, M., MacLean, S., 2018. Pleasures and risks associated with bingo playing in an Australian Aboriginal community: Lessons for policy and intervention. *J Gambl Stud*. <https://doi.org/10.1007/s10899-018-9779-6>.
- National Health and Medical Research Council, 2018. *Ethical conduct in research with Aboriginal and Torres Strait Islander Peoples and communities: Guidelines for researchers and stakeholders* (2018). Commonwealth of Australia, Canberra, Australia.
- Rockloff, M., Browne, M., Hing, N., Thorne, H., Russell, A., Greer, N., Tran, K., Brook, K., Sproston, K., 2020. Victorian population gambling and health study 2018–2019.
- Schwab, R., 2018. *The calculus of reciprocity: principles and implications of Aboriginal sharing*. Centre for Aboriginal Economic Policy Research (CAEPR). Canberra, Australia.
- Smith-Morris, C., 2019. *Indigenous communalism: Belonging, healthy communities, and decolonizing the collective*. Rutgers University Press, New Brunswick, NJ, USA.

