



PREVALENCE OF
PROBLEM GAMBLING

Prevalence of problem gambling in Victoria

Overall results

The prevalence of problem gambling in the Victorian adult population was measured through the nine-item Canadian Problem Gambling Severity Index (PGSI). In the epidemiological study, every adult gambler in the study was screened for risk for problem gambling (with gambling defined as participation in any activity listed).

Segmentation of the Victorian adult population in terms of risk for problem gambling (along with non-gambling) is presented in Table 9 and Figure 19. Based on scores on the PGSI:

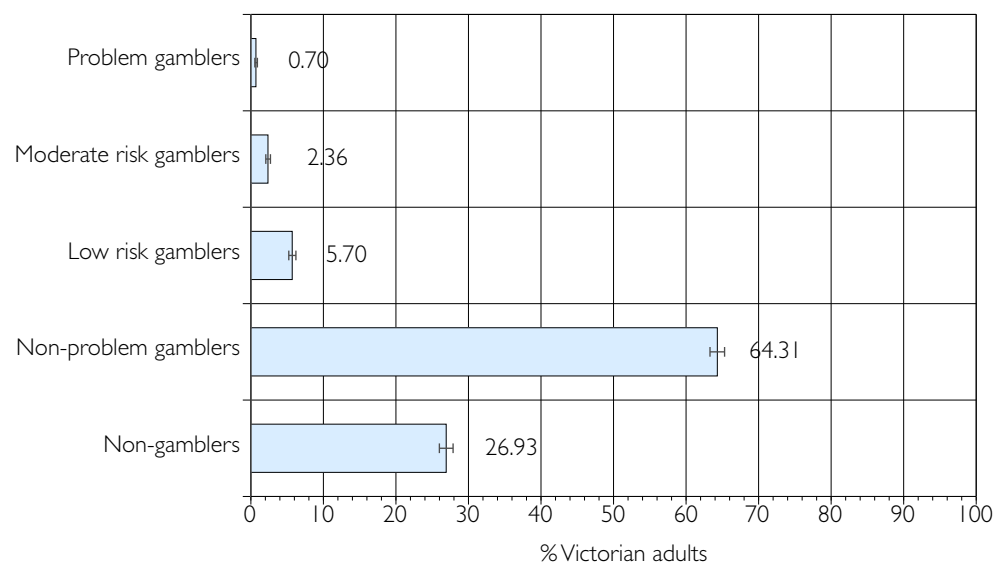
- 0.70% of Victorian adults are problem gamblers (lower CI=0.55, upper CI=0.90)
- 2.36% of Victorian adults are moderate risk gamblers (lower CI=2.06, upper CI=2.70)
- 5.70% of Victorian adults are low risk gamblers (lower CI=5.23, upper CI=6.21)
- 64.31% of Victorian adults are non-problem gamblers (lower CI=63.30, upper CI=65.31)
- 26.93% of Victorian adults are non-gamblers (lower CI=25.99, upper CI=27.88)

Table 9. Prevalence of problem gambling in Victorian adults by Canadian Problem Gambling Severity Index (N=15,000 - July-October 2008)^a

Risk for problem gambling	% Victorian adults			
	%	SE	Lower	Upper
Non-problem gamblers (score of 0)	64.31	0.51	63.30	65.31
Low risk gamblers (score of 1-2)	5.70	0.25	5.23	6.21
Moderate risk gamblers (score of 3-7)	2.36	0.16	2.06	2.70
Problem gamblers (score of 8-27)	0.70	0.09	0.55	0.90
Non-gamblers	26.93	0.48	25.99	27.88

a. Question - Based on Score on Canadian Problem Gambling Severity Index (Base: All Victorian adults)

Figure 19. Prevalence of problem gambling in Victorian adults by Canadian Problem Gambling Severity Index (N=15,000 - July-October 2008)^a



a. Question - Based on Score on Canadian Problem Gambling Severity Index (Base: All Victorian adults)

Results by gender/age

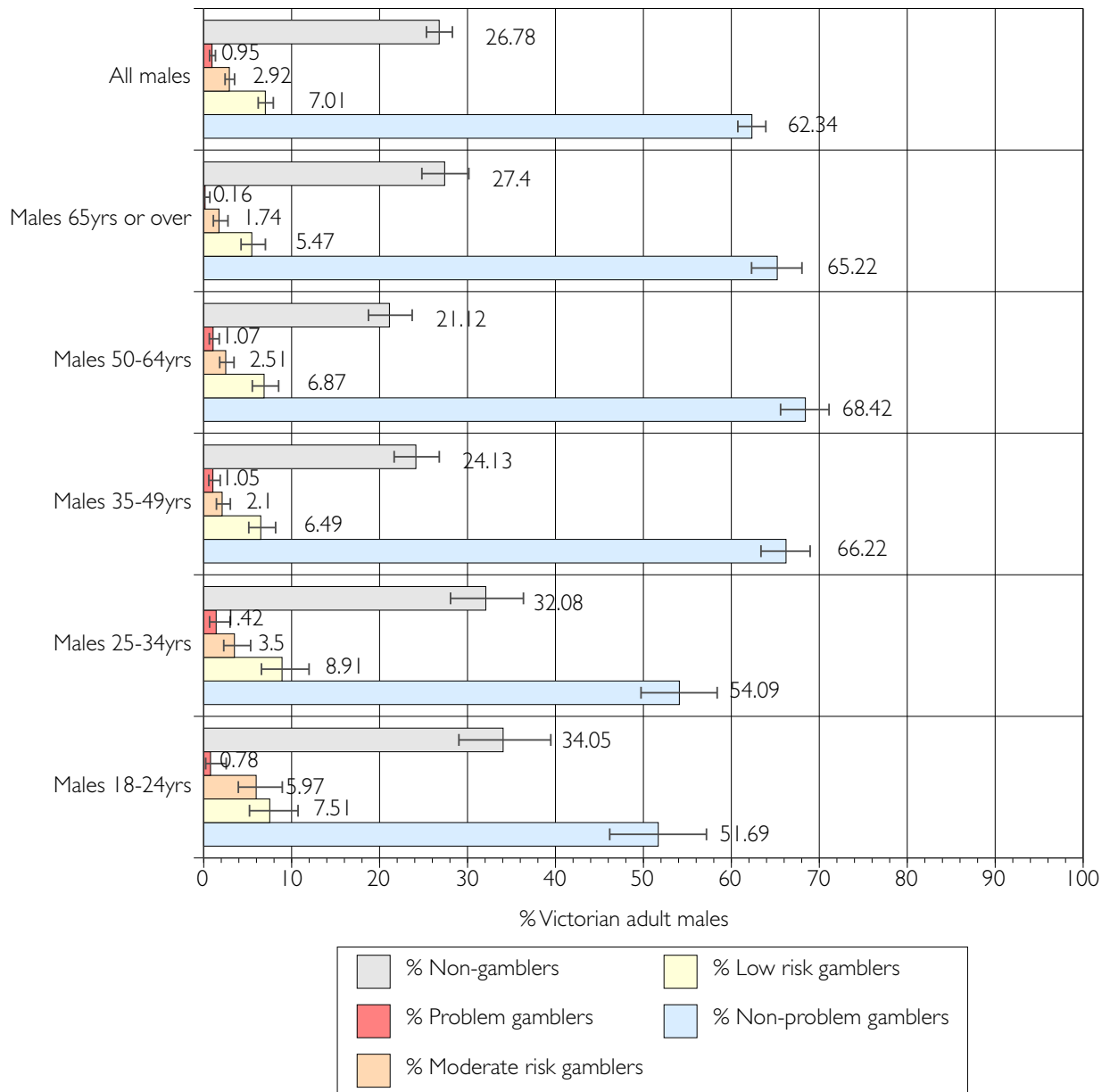
The prevalence of problem gambling by gender for Victorian adults is shown in Table 10 and Figure 20 and Figure 21. Results showed that the rate of problem gambling was markedly lower in females compared to males (OR=0.50, p<.01), with 0.95% of males and 0.47% of females experiencing problem gambling. The rate of moderate risk gambling within males alone was significantly lower in males 65 years compared to males 18-24 years (OR=0.28, p<.001). In addition, within females, the rate of moderate risk gambling was significantly lower in females 25-34 years, compared to females 18-24 years (OR=0.39, p<.03).

Table 10. Prevalence of problem gambling in Victorian adults - by gender and age (N=15,000 - July-October 2008)^a

Risk for problem gambling	Result	% Males						% Females					
		18-24yrs	25-34yrs	35-49yrs	50-64yrs	65yrs or older	All males	18-24yrs	25-34yrs	35-49yrs	50-64yrs	65yrs or older	All females
Non-Problem Gamblers	%	51.69	54.09	66.22	68.42	65.22	62.34	52.31	63.39	71.25	71.18	64.49	66.19
	SE	2.82	2.21	1.43	1.41	1.46	0.81	2.65	1.67	1.00	1.09	1.29	0.64
	Lower	46.17	49.73	63.37	65.60	62.30	60.74	47.11	60.06	69.25	68.99	61.92	64.93
	Upper	57.17	58.39	68.96	71.11	68.03	63.92	57.45	66.60	73.18	73.27	66.98	67.44
Low Risk Gamblers	%	7.51	8.91	6.49	6.87	5.47	7.01	4.81	4.04	3.82	4.94	4.90	4.44
	SE	1.39	1.37	0.77	0.76	0.70	0.44	0.98	0.60	0.39	0.47	0.55	0.25
	Lower	5.21	6.57	5.13	5.53	4.25	6.20	3.22	3.01	3.13	4.10	3.93	3.99
	Upper	10.73	11.98	8.18	8.52	7.02	7.92	7.14	5.41	4.66	5.95	6.10	4.95
Moderate Risk Gamblers	%	5.97	3.50	2.10	2.51	1.74	2.92	2.71	1.09	1.75	2.38	1.38	1.82
	SE	1.25	0.76	0.39	0.41	0.41	0.27	0.90	0.30	0.29	0.36	0.35	0.18
	Lower	3.94	2.28	1.45	1.82	1.10	2.43	1.41	0.64	1.26	1.77	0.84	1.50
	Upper	8.94	5.34	3.03	3.45	2.76	3.51	5.16	1.85	2.41	3.19	2.25	2.21
Problem Gamblers	%	0.78	1.42	1.05	1.07	0.16	0.95	0.34	0.56	0.56	0.55	0.27	0.47
	SE	0.48	0.54	0.31	0.28	0.12	0.16	0.25	0.21	0.15	0.15	0.13	0.08
	Lower	0.23	0.67	0.58	0.64	0.04	0.67	0.08	0.26	0.33	0.32	0.10	0.34
	Upper	2.56	3.00	1.88	1.77	0.70	1.34	1.41	1.17	0.94	0.95	0.69	0.65
Non-Gamblers	%	34.05	32.08	24.13	21.12	27.40	26.78	39.83	30.92	22.62	20.95	28.97	27.07
	SE	2.68	2.12	1.31	1.27	1.36	0.75	2.64	1.63	0.93	1.00	1.22	0.62
	Lower	29.02	28.07	21.66	18.74	24.81	25.33	34.79	27.82	20.83	19.05	26.63	25.88
	Upper	39.47	36.36	26.79	23.71	30.15	28.28	45.09	34.20	24.52	22.98	31.42	28.29

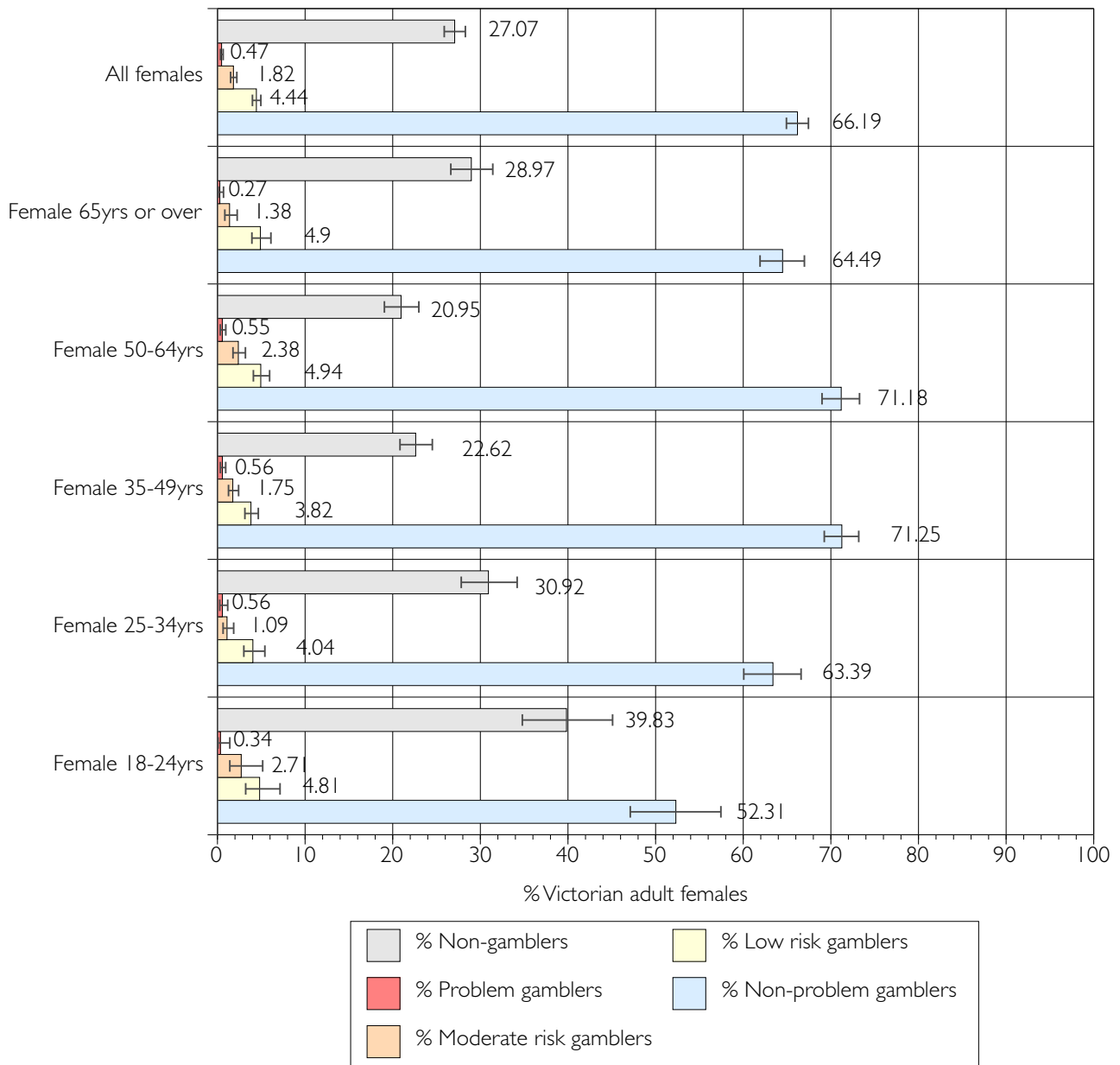
a. Question - Based on Score on Canadian Problem Gambling Severity Index (Base: All Victorian adults)

Figure 20. Prevalence of problem gambling in Victorian adult males - by age
(N=15,000 including 5,850 males - July-October 2008)^a



a. Question - Based on Score on Canadian Problem Gambling Severity Index (Base: Victorian adult males)

Figure 21. Prevalence of problem gambling in Victorian adult females - by age (N=15,000 including 9,150 females - July-October 2008)^a



a. Question - Based on Score on Canadian Problem Gambling Severity Index (Base: Victorian adult females)

Results by region

Risk for problem gambling across Victorian Government regions is presented in Table 11. In comparison to the adult Victorian population (via reference to confidence intervals), risk for problem gambling was significantly lower in Eastern Metropolitan Region (0.25%) and the Grampians Region (0.05%). While confidence intervals were marginally overlapping, risk for problem gambling was highest in North West Metropolitan Region (1.18%).

Table 11. Victorian Government regions by Canadian Problem Gambling Severity Index (N=15000, July-October 2008)^a

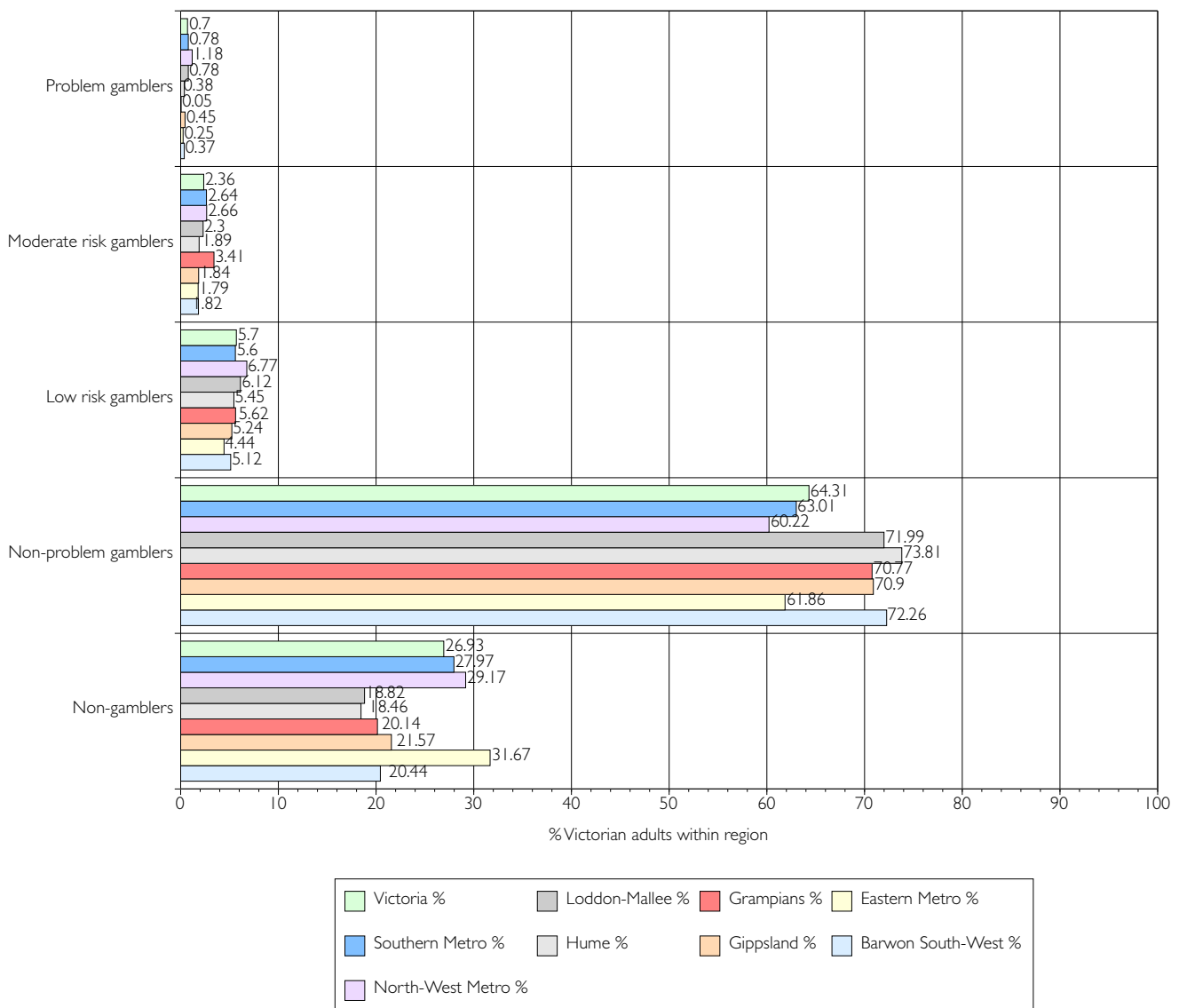
Victorian Government Regions	% adults by type of gambler (including non-gamblers)					
	Result	Non-problem gamblers	Low risk gamblers	Moderate risk gamblers	Problem gamblers	Non-gamblers
Barwon S/W	%	72.26	5.12	1.82	0.37	20.44
	SE	1.70	0.84	0.50	0.19	1.55
	Lower	68.80	3.70	1.06	0.13	17.57
	Upper	75.47	7.04	3.09	1.04	23.65
Eastern Metro	%	61.86	4.44	1.79	0.25	31.67
	SE	1.30	0.60	0.34	0.09	1.25
	Lower	59.29	3.40	1.23	0.12	29.26
	Upper	64.36	5.78	2.59	0.52	34.18
Gippsland	%	70.90	5.24	1.84	0.45	21.57
	SE	2.31	1.02	0.53	0.26	2.20
	Lower	66.18	3.56	1.05	0.14	17.58
	Upper	75.22	7.64	3.20	1.42	26.18
Grampians	%	70.77	5.62	3.41	0.05	20.14
	SE	2.32	1.10	1.12	0.05	2.03
	Lower	66.02	3.82	1.71	0.01	16.45
	Upper	75.11	8.21	6.68	0.35	24.42
Hume	%	73.81	5.45	1.89	0.38	18.46
	SE	2.43	1.22	0.75	0.19	2.18
	Lower	68.78	3.50	0.87	0.14	14.57
	Upper	78.29	8.40	4.08	1.00	23.12
Loddon-Mallee	%	71.99	6.12	2.30	0.78	18.82
	SE	2.09	1.12	0.69	0.49	1.87
	Lower	67.71	4.25	1.26	0.23	15.43
	Upper	75.90	8.72	4.13	2.64	22.75
North-West Metro	%	60.22	6.77	2.66	1.18	29.17
	SE	0.88	0.45	0.29	0.22	0.83
	Lower	58.48	5.94	2.14	0.82	27.58
	Upper	61.93	7.71	3.30	1.69	30.82
Southern Metro	%	63.01	5.60	2.64	0.78	27.97
	SE	1.06	0.51	0.35	0.19	1.011
	Lower	60.9	4.67	2.03	0.48	26.04
	Upper	65.08	6.68	3.43	1.26	30.00

Table 11. Victorian Government regions by Canadian Problem Gambling Severity Index (N=15000, July-October 2008)^a

Victorian Government Regions	% adults by type of gambler (including non-gamblers)					
	Result	Non-problem gamblers	Low risk gamblers	Moderate risk gamblers	Problem gamblers	Non-gamblers
Victoria	%	64.31	5.70	2.36	0.70	26.93
	SE	0.51	0.25	0.16	0.09	0.48
	Lower	63.30	5.23	2.061	0.55	25.99
	Upper	65.31	6.21	2.70	0.90	27.88

a. Based on the nine item Canadian Problem Gambling Severity Index risk category (Base: All Victorian adults)

Figure 22. Victorian Government regions by Canadian Problem Gambling Severity Index (N=15000, July-October 2008)^a



a. Based on the nine item Canadian Problem Gambling Severity Index risk category (Base: All Victorian adults)

Results by
spend band

Table 12 shows the risk for problem gambling across the three Electronic Gaming Machine (EGM) spend bands within each Victorian Government region. Consistent with the sampling frame design intent (ie. to focus sampling in locations where there is likely to be increased risk for problem gambling), findings revealed that the odds of problem gambling was significantly higher in medium EGM spend bands (OR=16.10, p<.001) and high EGM spend bands (OR=15.54, p<.001), compared to lower EGM spend band regions.

The relationship didn't hold quite as well for moderate risk gambling, as compared to low EGM spend bands, the association between moderate risk gambling and high EGM spend bands was only tending towards significance (OR=1.75, p=.07). Similarly worth noting, the chance of being a non-gambler was significantly less in a high EGM spend band, compared to a low spend band (OR=0.79, p<.01)

Table 12. Victorian Government regions split into EGM spend bands by Canadian Problem Gambling Severity Index (N=15000, July-October 2008)

Victorian Government Region Electronic Gaming Machine (EGM) expenditure bands ^a	% adults by type of gambler						Local Government Areas in Victoria
	Result	Non-problem	Low risk	Moderate risk	Problem gamblers	Non-gamblers	
Barwon S/W High	%	70.87	5.62	2.14	0.53	20.85	Queenscliffe Greater Geelong Warrambbool
	SE	2.07	1.05	0.66	0.28	1.89	
	Lower	66.65	3.88	1.16	0.19	17.38	
	Upper	74.77	8.07	3.91	1.49	24.8	
Barwon S/W Low	%	74.24	2.67	1.30	0.00	21.80	Moyn Corangamite Surf Coast
	SE	4.70	1.80	0.93	0.00	4.43	
	Lower	64.04	0.70	0.32	0.00	14.35	
	Upper	82.34	9.67	5.17	0.00	31.68	
Barwon S/W Medium	%	76.73	5.36	0.86	0.00	17.05	Colac-Otway Glenelg Southern Grampians
	SE	3.39	2.03	0.67	0.00	2.90	
	Lower	69.45	2.53	0.19	0.00	12.08	
	Upper	82.7	11.03	3.90	0.00	23.51	
Eastern Metro High	%	63.7	4.895	2.328	0.41	28.66	Knox Maroondah Monash
	SE	1.24	0.61	0.42	0.17	1.16	
	Lower	61.23	3.83	1.64	0.18	26.44	
	Upper	66.11	6.24	3.30	0.91	31.00	
Eastern Metro Low	%	56.71	4.65	1.22	0.00	37.42	Boroondara Yarra Ranges
	SE	3.26	1.60	0.72	0.00	3.20	
	Lower	50.25	2.35	0.38	0.00	31.39	
	Upper	62.94	9.01	3.83	0.00	43.87	
Eastern Metro Medium	%	64.75	3.49	1.58	0.28	29.90	Whitehorse Manningham
	SE	2.30	0.86	0.70	0.22	2.19	
	Lower	60.12	2.145	0.65	0.06	25.79	
	Upper	69.12	5.64	3.75	1.33	34.37	
Gippsland High	%	71.62	4.96	2.163	0.54	20.71	East Gippsland Bass Coast Wellington Latrobe
	SE	2.66	1.16	0.63	0.32	2.54	
	Lower	66.13	3.13	1.22	0.17	16.18	
	Upper	76.54	7.79	3.80	1.69	26.13	

Table 12. Victorian Government regions split into EGM spend bands
by Canadian Problem Gambling Severity Index (N=15000, July-October 2008)

Victorian Government Region Electronic Gaming Machine (EGM) expenditure bands ^a	% adults by type of gambler						Local Government Areas in Victoria
	Result	Non-problem	Low risk	Moderate risk	Problem gamblers	Non-gamblers	
Gippsland Medium	%	67.20	6.66	0.15	0.00	25.99	South Gippsland Baw Baw
	SE	3.83	2.00	0.15	0.00	3.57	
	Lower	59.31	3.66	0.02	0.00	19.63	
	Upper	74.22	11.83	1.06	0.00	33.55	
Grampians High	%	70.75	6.62	2.54	0.09	20.01	Rural Ararat Northern Grampians Ballarat
	SE	2.87	1.55	1.14	0.09	2.53	
	Lower	64.82	4.15	1.04	0.01	15.5	
	Upper	76.05	10.38	6.04	0.66	25.43	
Grampians Low	%	58.75	8.96	5.95	0.00	26.34	Golden Plains Hindmarsh Pyrenees West Wimmera Yarriambiack
	SE	7.00	3.52	5.03	0.00	6.10	
	Lower	44.71	4.05	1.074	0.00	16.18	
	Upper	71.50	18.65	26.94	0.00	39.85	
Grampians Medium	%	78.37	1.637	3.49	0.00	16.51	Hepburn Moorabool Rural Horsham
	SE	4.02	1.24	1.60	0.00	3.65	
	Lower	69.48	0.37	1.40	0.00	10.52	
	Upper	85.22	7.02	8.39	0.00	24.94	
Hume High	%	70.49	5.50	2.84	0.60	20.57	Rural Benalla Mitchell Greater Shepparton
	SE	2.60	1.11	1.522	0.33	2.22	
	Lower	65.15	3.69	0.98	0.20	16.56	
	Upper	75.33	8.13	7.932	1.749	25.27	
Hume Low	%	72.57	4.12	1.50	0.00	21.82	Indigo Moirra Towong Murrindindi Strathbogie Mansfield
	SE	6.24	3.02	1.08	0.00	5.85	
	Lower	58.86	0.95	0.36	0.00	12.47	
	Upper	83.02	16.11	6.007	0.00	35.34	
Hume Medium	%	80.16	6.83	0.90	0.46	11.64	Alpine Rural Wodonga Rural Wangaratta
	SE	3.70	2.37	0.71	0.46	2.935	
	Lower	71.92	3.41	0.19	0.06	7.00	
	Upper	86.45	13.19	4.17	3.25	18.73	
Loddon-Mallee High	%	73.88	6.681	2.013	0.53	16.89	Rural Swan Hill Rural Mildura Greater Bendigo Central Goldfields
	SE	2.26	1.53	0.68	0.27	1.83	
	Lower	69.22	4.24	1.03	0.20	13.60	
	Upper	78.06	10.37	3.88	1.44	20.80	
Loddon-Mallee Low	%	65.12	5.31	2.86	0.00	26.70	Buloke Loddon Gannawarra
	SE	5.34	2.88	1.88	0.00	4.85	
	Lower	54.07	1.80	0.78	0.00	18.31	
	Upper	74.75	14.68	9.99	0.00	37.20	

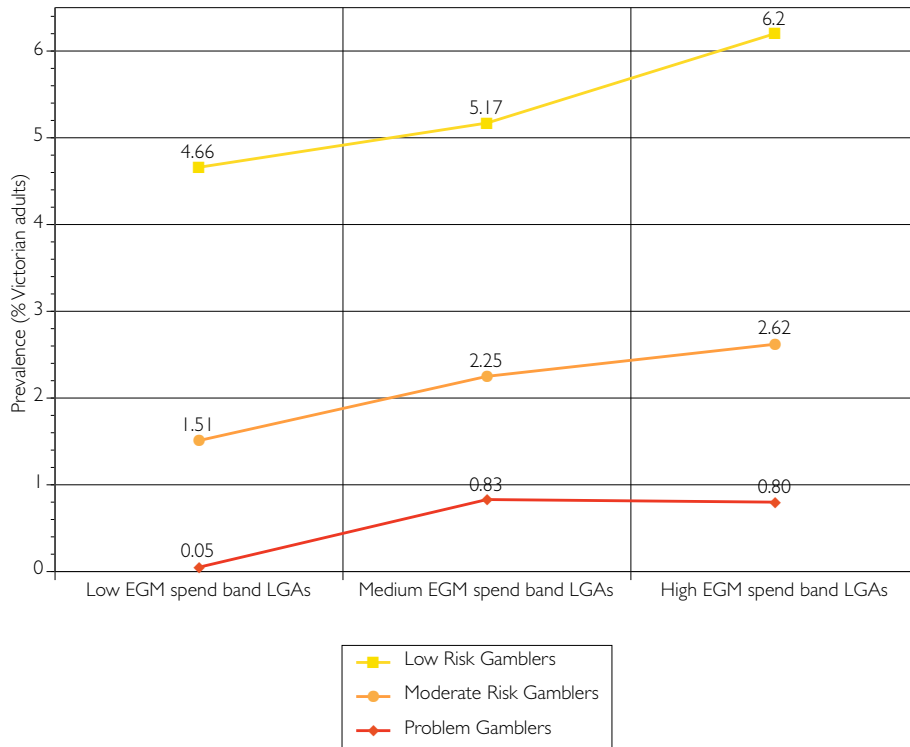
Table 12. Victorian Government regions split into EGM spend bands by Canadian Problem Gambling Severity Index (N=15000, July-October 2008)

Victorian Government Region Electronic Gaming Machine (EGM) expenditure bands ^a	% adults by type of gambler						Local Government Areas in Victoria
	Result	Non-problem	Low risk	Moderate risk	Problem gamblers	Non-gamblers	
Loddon-Mallee Medium	%	70.09	5.26	2.68	1.42	20.54	Mount Alexander Campaspe Macedon Ranges
	SE	4.70	1.87	1.66	1.41	4.44	
	Lower	60.16	2.60	0.79	0.20	13.17	
	Upper	78.44	10.37	8.74	9.39	30.59	
North-West Metro High	%	59.78	7.4	3.11	1.213	28.5	Hobsons Bay Wyndham Darebin Whittlesea Moonee Valley Hume Brimbank Maribymong Melbourne
	SE	1.06	0.57	0.39	0.27	0.99	
	Lower	57.68	6.36	2.43	0.78	26.61	
	Upper	61.84	8.59	3.98	1.86	30.47	
North-West Metro Low	%	73.28	4.37	1.29	0.72	20.34	Nillumbik
	SE	2.28	1.05	0.68	0.45	2.04	
	Lower	68.60	2.72	0.45	0.21	16.63	
	Upper	77.50	6.95	3.61	2.41	24.63	
North-West Metro Medium	%	59.68	5.46	1.68	1.15	32.03	Yarra Melton Moreland Banyule
	SE	1.75	0.79	0.40	0.42	1.69	
	Lower	56.22	4.10	1.052	0.56	28.81	
	Upper	63.05	7.24	2.68	2.36	35.42	
Southern Metro High	%	64.6	5.60	2.476	0.8075	26.52	Glen Eira Mornington Peninsula Frankston Kingston Greater Dandenong
	SE	1.16	0.54	0.40	0.24	1.08	
	Lower	62.3	4.62	1.80	0.45	24.45	
	Upper	66.84	6.767	3.39	1.43	28.69	
Southern Metro Low	%	65.23	4.65	1.09	0.00	29.03	Bayside Stonnington
	SE	3.42	1.51	0.55	0.00	3.30	
	Lower	58.26	2.44	0.41	0.00	23.01	
	Upper	71.6	8.68	2.90	0.00	35.90	
Southern Metro Medium	%	59.35	6.04	3.65	1.12	29.84	Cardinia Port Phillip Casey
	SE	2.16	1.10	0.84	0.45	2.056	
	Lower	55.05	4.21	2.32	0.50	25.97	
	Upper	63.51	8.59	5.71	2.46	34.02	
Victoria	%	64.31	5.70	2.36	0.70	26.93	All LGAs
	SE	0.51	0.25	0.16	0.09	0.48	
	Lower	63.30	5.23	2.06	0.55	25.99	
	Upper	65.31	6.210	2.70	0.90	27.88	

a. These were used for sampling within Victorian Government regions. Note that some areas like Gippsland did not have a low expenditure band.

The prevalence of different at-risk segments for problem gambling is shown in Figure 23. This illustrates the previously stated trend for there to be a greater likelihood of risk for problem gambling in the high and medium EGM expenditure band samples.

Figure 23. Prevalence of at-risk gambling by EGM expenditure bands (N=1249, July-October 2008)^a



a. Based on the nine item Canadian Problem Gambling Severity Index risk category (Base: All Victorian adults)

Lifetime risk for problem gambling

Overall results

As part of the epidemiological study, lifetime risk for problem gambling was measured through use of the NODS-CLiP2 scale. This scale presents an efficient and high validity method for measuring an individual's lifetime risk for problem gambling through a small number of questions. Analysis showed that 1217 respondents maximum out of 12292 respondents went on to complete some questions past the fifth NODS-CLiP2 questions (equivalent to only 9.90% of screened respondents). It should also be considered that only respondents ever reporting having gambled were screened.

The risk for lifetime problem gambling by the Canadian Problem Gambling Severity Index risk segments for the Victorian adult population is presented in Table 13 and Figure 24. Overall results for Victorian adults are also presented.

As measured by the NODs-CLiP2, lifetime problem gambling refers to the occurrence of problem gambling at any point throughout the life span. Different categories of risk are defined by the NODS-CLiP2 including lifetime non-problem gambling, lifetime at-risk gambling, lifetime problem gambling and lifetime pathological gambling.

An estimated 1.13% of Victorian adults were classified as 'lifetime pathological gamblers', 1.18% were classified as 'lifetime problem gamblers' and 4.57% as 'lifetime at-risk problem gamblers'. In contrast, 93.12% were classified as 'lifetime non-problem gamblers' using the NODS-CLiP2 scale.

Combination of the higher risk NODS-CLiP2 point estimates for lifetime problem gambling risk revealed that a total of 6.88% of the Victorian adult population show some indication of lifetime risk for problem gambling. In this context, it is interesting that a combined 8.76% of Victorian adults show some level of 'at-risk' current problem gambling using the Canadian Problem Gambling Severity Index. This is undoubtedly a reflection of different measurement approaches used in the scale, with the NODS-CLiP2 largely reflecting more clinically-oriented definitions of problem gambling (based on the DSM-IV).

It is similarly interesting that a higher percentage of problem gamblers, as defined by the Canadian Problem Gambling Severity Index (57.30%), are classified as 'lifetime pathological gamblers' and still a relatively large percentage (31.56%) as 'lifetime problem gamblers'. This gives some weight to the idea that problem gambling may be a state that is endured across a lifetime and is likely to be quite resistant to change over time. Comparisons with the other risk segments also reveals that segments such as current low risk and moderate risk gamblers (measured by the PGSI) have comparatively very few 'lifetime' problem or pathological gamblers'.

Table 13. Lifetime risk for problem gambling (NODS-CLiP2) by Canadian Problem Gambling Severity Index risk status (N=15000 including non-gamblers, July-October 2008)^a

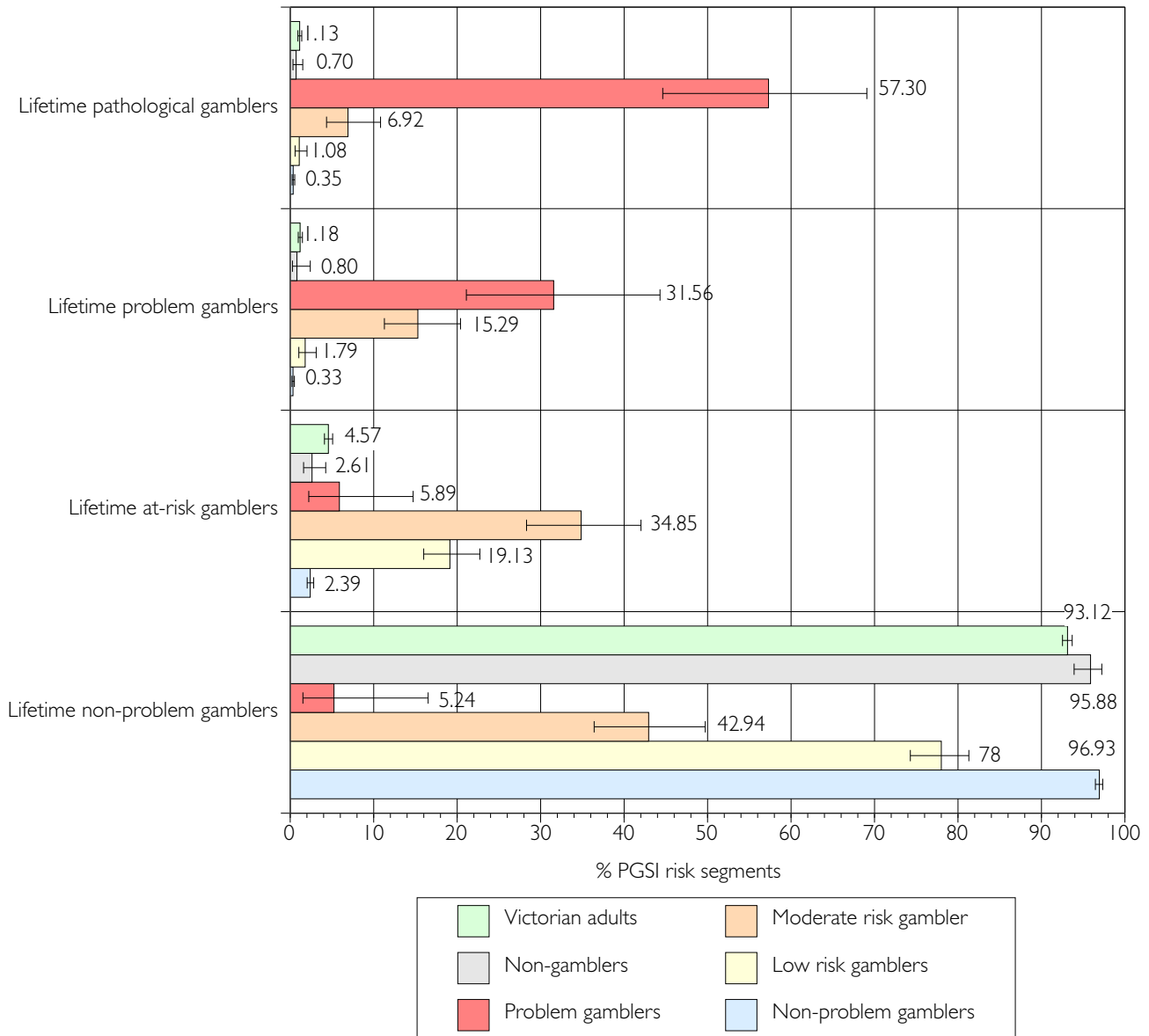
Type of gamblers as defined by the Canadian Problem Gambling Severity Index	Gambler type as defined by NODS-CLiP2 (Measure of Lifetime Problem Gambling) (%)				
	Result	Lifetime non-problem gamblers	Lifetime at-risk gamblers	Lifetime problem gamblers	Lifetime pathological gamblers
Non-problem gamblers	%	96.93	2.39	0.33	0.35
	SE	0.22	0.20	0.07	0.07
	Lower	96.46	2.03	0.21	0.23
	Upper	97.34	2.81	0.50	0.54
Low risk gamblers	%	78.00	19.13	1.79	1.08
	SE	1.79	1.72	0.51	0.34
	Lower	74.29	15.99	1.03	0.58
	Upper	81.30	22.72	3.11	2.01

Table 13. Lifetime risk for problem gambling (NODS-CLiP2) by Canadian Problem Gambling Severity Index risk status (N=15000 including non-gamblers, July-October 2008)^a

Type of gamblers as defined by the Canadian Problem Gambling Severity Index	Gambler type as defined by NODS-CLiP2 (Measure of Lifetime Problem Gambling) (%)				
	Result	Lifetime non-problem gamblers	Lifetime at-risk gamblers	Lifetime problem gamblers	Lifetime pathological gamblers
Moderate risk gambler	%	42.94	34.85	15.29	6.92
	SE	3.42	3.52	2.32	1.61
	Lower	36.41	28.31	11.28	4.35
	Upper	49.72	42.02	20.40	10.82
Problem gamblers	%	5.24	5.89	31.56	57.30
	SE	3.23	2.87	6.00	6.36
	Lower	1.52	2.22	21.10	44.63
	Upper	16.52	14.72	44.30	69.08
Non-gamblers	%	95.88	2.61	0.80	0.70
	SE	0.83	0.65	0.45	0.27
	Lower	93.91	1.60	0.27	0.33
	Upper	97.23	4.25	2.40	1.50
Victorian adults	%	93.12	4.57	1.18	1.13
	SE	0.30	0.25	0.12	0.12
	Lower	92.52	4.10	0.96	0.92
	Upper	93.68	5.08	1.46	1.38

a. Question - Based on score on Canadian Problem Gambling Severity Index & lifetime risk for problem gambling measured by NODS-CLiP2 (Base: All Victorian adults)

Figure 24. Lifetime risk for problem gambling (NODS-CLiP2) by Canadian Problem Gambling Severity Index risk status (N=15000, July-October 2008)^a



a. Question - Based on score on Canadian Problem Gambling Severity Index & lifetime risk for problem gambling measured by NODS-CLiP2 (Base: All Victorian adults)