

CRIME AND JUSTICE BULLETIN

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The effectiveness of alcohol interlocks in reducing repeat drink driving and improving road safety

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APPENDIX

Validity of regression discontinuity approach

Table A1. Relevance of high range PCA threshold

Outcome	(1) Issued a MAIO	(2) Issued a MAIO	(3) Issued a MAIO	(4) Issued a MAIO	(5) Issued a MAIO
Estimate	0.889*** (0.010)	0.889*** (0.010)	0.889*** (0.010)	0.890*** (0.010)	0.889*** (0.011)
Observations	43,196	43,189	43,186	43,186	43,186
Effective observations	7,635	7,635	7,632	7,632	18,454
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.11 - 0.19	0.09 - 0.21
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Outcome	(6) Started MAIP	(7) Started MAIP	(8) Started MAIP	(9) Started MAIP	(10) Started MAIP
Estimate	0.630*** (0.017)	0.632*** (0.017)	0.630*** (0.017)	0.635*** (0.016)	0.627*** (0.019)
Observations	43,196	43,189	43,186	43,186	43,186
Effective observations	6,896	6,896	6,449	6,449	14,315
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.13 - 0.17	0.13 - 0.17	0.13 - 0.17	0.12 - 0.18	0.10 - 0.20
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular

Standard errors in parentheses

*** $p < .001$, ** $p < .01$, * $p < .05$

KEYWORDS

Driving offences

Alcohol

Regression discontinuity

Difference-in-differences

Table A2. Tests of continuity (randomisation) at the high range PCA threshold

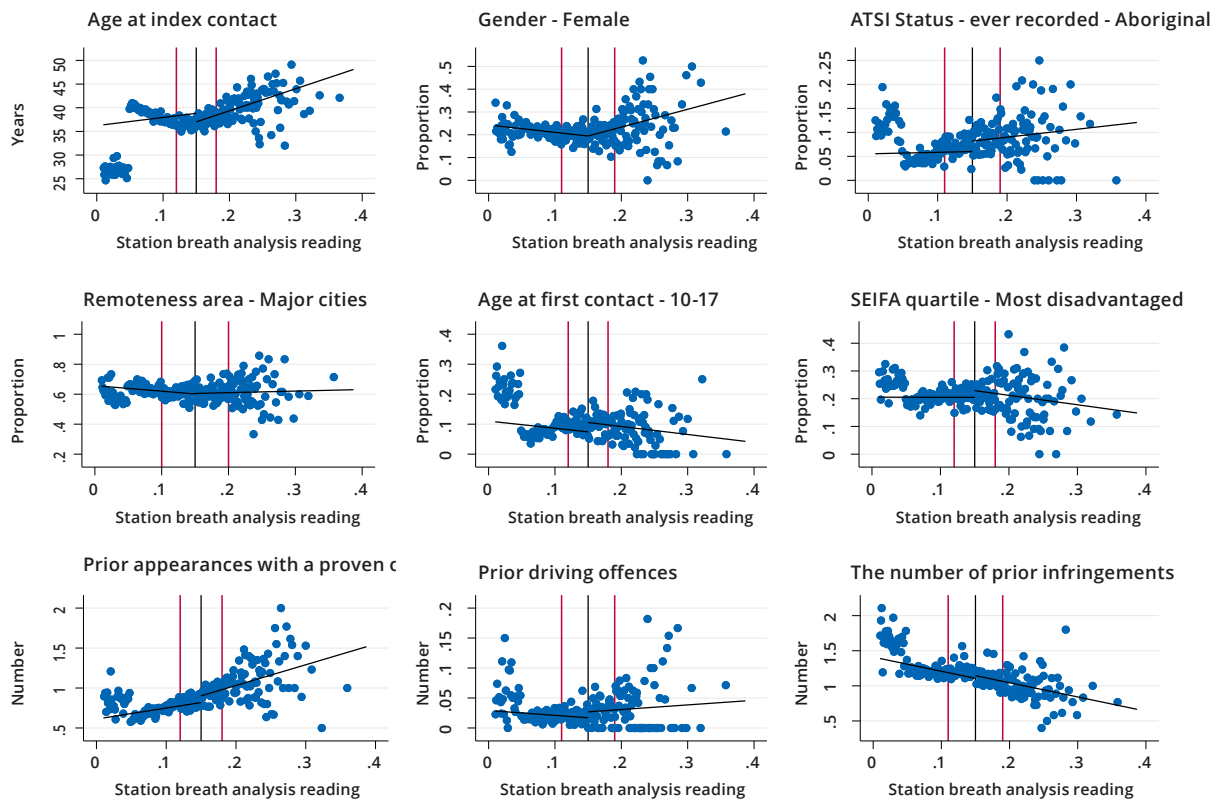
	(1)	(2)	(3)
Outcome	Age at index contact	Gender - Female	ATSI Status - ever recorded - Aboriginal
Estimate	-0.028 (0.667)	-0.004 (0.018)	-0.001 (0.013)
Observations	43,195 6189	43,196 8,149	43,196 6,452
Bandwidth	(0.13 - 0.17)	(0.12 - 0.18)	(0.13 - 0.17)
	(4)	(5)	(6)
Outcome	Remoteness area - Major cities	SEIFA quartile - Most disadvantaged	Age at first contact - 10-17
Estimate	0.0232 (0.025)	0.001 (0.016)	-0.015 (0.015)
Observations	43,196 6,452	43,196 10,800	43,189 5,940
Bandwidth	(0.13 - 0.17)	(0.11 - 0.19)	(0.13 - 0.17)
	(7)	(8)	(9)
Outcome	Prior appearances with a proven offence	The number of prior infringements	Prior driving offences
Estimate	0.0641 (0.049)	-0.0539 (0.051)	-0.002 (0.007)
Observations	43,196 7,635	43,196 7,879	43,196 8,149
Bandwidth	(0.12 - 0.18)	(0.12 - 0.18)	(0.12 - 0.18)

Estimates obtained from sharp regression discontinuity analyses with a uniform kernel without controls and fixed effects

Standard errors in parentheses

*** $p < .001$, ** $p < .01$, * $p < .05$

Figure A1. Continuity around the 0.15 BAC thresholds, sample limited to BAC readings between 0.12 and 0.18



Lines represent range within optimally-selected bandwidth around BAC cutoff for each outcome

Regression discontinuity tables

Sharp regression discontinuity estimates

Table A3. Sharp RD estimates at the 0.15 threshold, main sample

	(1)	(2)	(3)	(4)	(5)
Panel A: PCA offending in initial disqualification period					
Estimate	-0.012	-0.010	-0.0121*	-0.010	-0.008
Standard error	(0.006)	(0.006)	(0.006)	(0.005)	(0.006)
Observations	43,196	43,189	43,186	43,186	43,186
Effective N	7,148	7,633	7,377	10,273	20,251
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	Yes	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.11 - 0.19	0.08 - 0.22
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Panel B: PCA offending in interlock period					
Estimate	-0.066***	-0.064***	-0.064***	-0.065***	-0.067***
Standard error	(0.009)	(0.008)	(0.008)	(0.007)	(0.011)
Observations	43,196	43,189	43,186	43,186	43,186
Effective N	8,708	11,421	11,420	16,135	15,230
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.11 - 0.19	0.11 - 0.19	0.10 - 0.20	0.10 - 0.20
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Panel C: PCA offending in 24 months after interlock period					
Estimate	-0.021**	-0.020*	-0.018*	-0.020**	-0.022**
Standard error	(0.008)	(0.008)	(0.008)	(0.007)	(0.008)
Observations	43,196	43,189	43,186	43,186	43,186
Effective N	7,380	6,450	7,145	9,711	16,797
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.13 - 0.17	0.12 - 0.18	0.12 - 0.18	0.09 - 0.21
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Panel G. Number of traffic infringements in the 36 months following finalisation					
Estimate	-0.240***	-0.261***	-0.292***	-0.232***	-0.207**
Standard error	(0.067)	(0.058)	(0.059)	(0.060)	(0.079)
Observations	27,648	27,643	27,643	27,643	27,643
Effective N	4,718	5,575	5,214	6,020	7,970
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.11 - 0.19
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular

Table A3. Sharp RD estimates at the 0.15 threshold, main sample (*continued*)

	(1)	(2)	(3)	(4)	(5)
Panel H. Probability of an alcohol-related crash					
Estimate	-0.006	-0.006	-0.002	-0.006	-0.012
Standard error	(0.004)	(0.004)	(0.003)	(0.004)	(0.007)
Observations	27,648	27,643	27,643	27,643	27,643
Effective N	6,022	6,556	9,150	7,468	6,878
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.11 - 0.19	0.10 - 0.20	0.11 - 0.19	0.11 - 0.19
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Panel I. Probability of a crash involving an injury or fatality					
Estimate	-0.003	-0.005	-0.006	-0.005	-0.004
Standard error	(0.006)	(0.006)	(0.007)	(0.007)	(0.008)
Observations	27,648	27,643	27,643	27,643	27,643
Effective N	7,307	6,703	6,020	7,113	11,973
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.11 - 0.19	0.11 - 0.19	0.12 - 0.18	0.11 - 0.19	0.09 - 0.21
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular

Standard errors in parentheses

*** $p < .001$, ** $p < .01$, * $p < .05$

Main estimates and additional specifications

Table A4. Main fuzzy regression discontinuity estimates

	(1)	(2)	(3)	(4)	(5)
Panel A: PCA offending in initial disqualification period					
Estimate					
Standard error	-0.018	-0.0252*	-0.0208*	-0.0175*	-0.017
	(0.010)	(0.010)	(0.009)	(0.008)	(0.010)
Observations	43,196	43,189	43,186	43,186	43,186
Effective N	6,896	5,940	7,377	10,518	10,518
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.13 - 0.17	0.13 - 0.17	0.12 - 0.18	0.11 - 0.19	0.09 - 0.21
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Panel B: PCA offending in interlock period					
Estimate	-0.105***	-0.103***	-0.110***	-0.102***	-0.108***
Standard error	(0.014)	(0.014)	(0.016)	(0.012)	(0.019)
Observations	43,196	43,189	43,186	43,186	43,186
Effective N	9,715	8,705	6,893	14,315	14,315
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.13 - 0.17	0.10 - 0.20	0.10 - 0.20
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular

Table A4. Main fuzzy regression discontinuity estimates (continued)

	(1)	(2)	(3)	(4)	(5)
Panel C: PCA offending in 12 months after interlock period					
Estimate	-0.0378*	-0.0263	-0.0307*	-0.0314**	-0.0354**
Standard error	(0.016)	(0.014)	(0.013)	(0.012)	(0.013)
Observations	43,196	43,189	43,186	43,186	43,186
Effective N	4,343	5,940	6,449	9,443	9,443
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	No	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.13 - 0.17	0.13 - 0.17	0.13 - 0.17	0.12 - 0.18	0.09 - 0.21
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Panel D. Number of traffic infringements in the 36 months following finalisation					
Estimate	-0.432***	-0.374***	-0.354**	-0.352***	-0.339**
Standard error	(0.101)	(0.102)	(0.108)	(0.099)	(0.119)
Observations	27,648	27,643	27,643	27,643	27,643
Effective N	5,215	4,883	4,397	5,575	5,575
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	Yes	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.13 - 0.17	0.12 - 0.18	0.10 - 0.20
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Panel E. Probability of an alcohol-related crash in the 36 months following finalisation					
Estimate	-0.009	-0.010	-0.002	-0.017	-0.021
Standard error	(0.007)	(0.006)	(0.005)	(0.009)	(0.011)
Observations	27,648	27,643	27,643	27,643	27,643
Effective N	5,577	6,556	8,362	4,555	4,555
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	Yes	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.11 - 0.19	0.10 - 0.20	0.12 - 0.18	0.11 - 0.19
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular
Panel F. Probability of a crash involving an injury in the 36 months of finalisation					
Estimate	-0.003	-0.008	-0.006	-0.010	-0.010
Standard error	(0.011)	(0.011)	(0.011)	(0.013)	(0.015)
Observations	27,648	27,643	27,643	27,643	27,643
Effective N	5,399	5,739	5,575	4,883	4,883
Controls	No	Yes	Yes	Yes	Yes
Fixed effects	No	Yes	Yes	Yes	Yes
Polynomial	1	1	1	1	2
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.10 - 0.20
Kernel	Uniform	Uniform	Uniform	Triangular	Triangular

Standard errors in parentheses

*** $p < .001$, ** $p < .01$, * $p < .05$

Regression discontinuity robustness checks

Falsification test: Sharp regression discontinuity estimates at various thresholds

Figure A2. Sharp regression estimates at 0.14, 0.16, and 0.18 thresholds

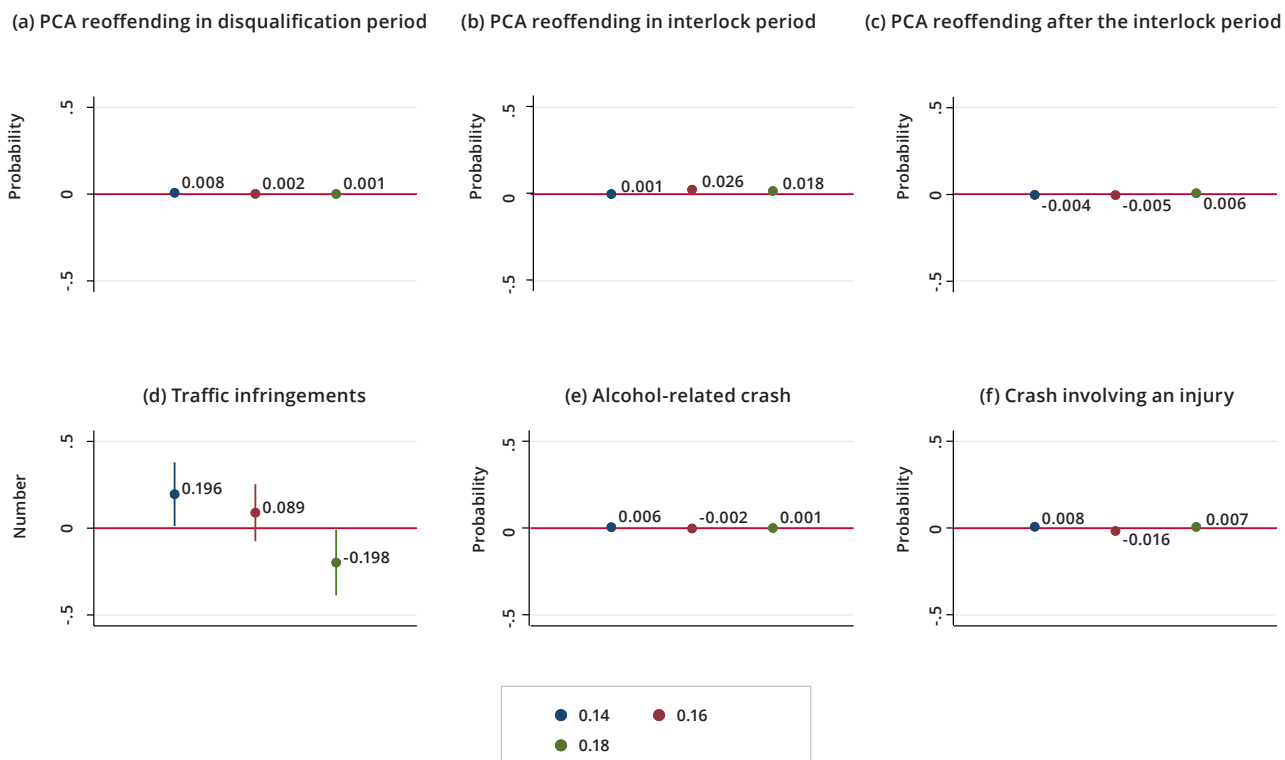


Table A5. Sharp RD estimates at 0.14, 0.16, and 0.18 thresholds

Outcome	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
	PCA reoffence in disqualification period	0.008 (0.007)	PCA reoffence in disqualification period	0.002 (0.007)	PCA reoffence in disqualification period	0.001 (0.009)	PCA reoffence in disqualification period	0.001 (0.014)	PCA reoffence in disqualification period	0.026 (0.014)	PCA reoffence in disqualification period	0.018 (0.013)	PCA reoffence in disqualification period	-0.004 (0.009)	PCA reoffence in disqualification period	-0.005 (0.009)	PCA reoffence in disqualification period	0.006 (0.014)
Estimate	43,186		43,186		43,186		43,186		43,186		43,186		43,186		43,186		43,186	
Standard error	12,825		109,38		6,899		12,825		6,115		4,447		13,146		8,590		6,018	
Observations	0.14		0.16		0.18		0.14		0.16		0.18		0.14		0.16		0.18	
Effective N	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Threshold	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Controls	2		2		2		2		2		2		2		2		2	
Fixed effects	0.09 - 0.19		0.11 - 0.21		0.13 - 0.23		0.10 - 0.18		0.12 - 0.20		0.15 - 0.21		0.10 - 0.18		0.11 - 0.21		0.13 - 0.23	
Polynomial																		
Bandwidth																		
Kernel																		
Outcome	(10)		(11)		(12)		(13)		(14)		(15)		(16)		(17)		(18)	
	Number of traffic infringements	0.196* (0.094)	Number of traffic infringements	0.089 (0.084)	Number of traffic infringements	-0.198* (0.096)	Number of traffic infringements	0.006 (0.005)	Alcohol-related crash	-0.002 (0.005)	Alcohol-related crash	0.001 (0.005)	Crash involving an injury or fatality	0.008 (0.007)	Crash involving an injury or fatality	-0.0161* (0.007)	Crash involving an injury or fatality	0.007 (0.009)
Estimate	27,643		27,643		27,643		27,643		27,643		27,643		27,643		27,643		27,643	
Standard error	5,762		4,916		2,894		10,119		8,835		6,982		12,194		8,456		4,948	
Observations	0.14		0.16		0.18		0.14		0.16		0.18		0.14		0.16		0.18	
Effective N	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Threshold	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Controls	2		2		2		2		2		2		2		2		2	
Fixed effects	0.10 - 0.18		0.12 - 0.20		0.15 - 0.21		0.10 - 0.18		0.12 - 0.20		0.12 - 0.24		0.10 - 0.18		0.11 - 0.21		0.13 - 0.23	
Polynomial																		
Bandwidth																		
Kernel																		

Estimates from sharp RD without controls or fixed effects, uniform kernel and polynomial of order 2

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.01$, * $p < 0.05$

Falsification test: Sharp regression discontinuity estimates, prior to the introduction of MAIP

Figure A3. Sharp RD estimates between 01 February 2012 to 01 February 2015

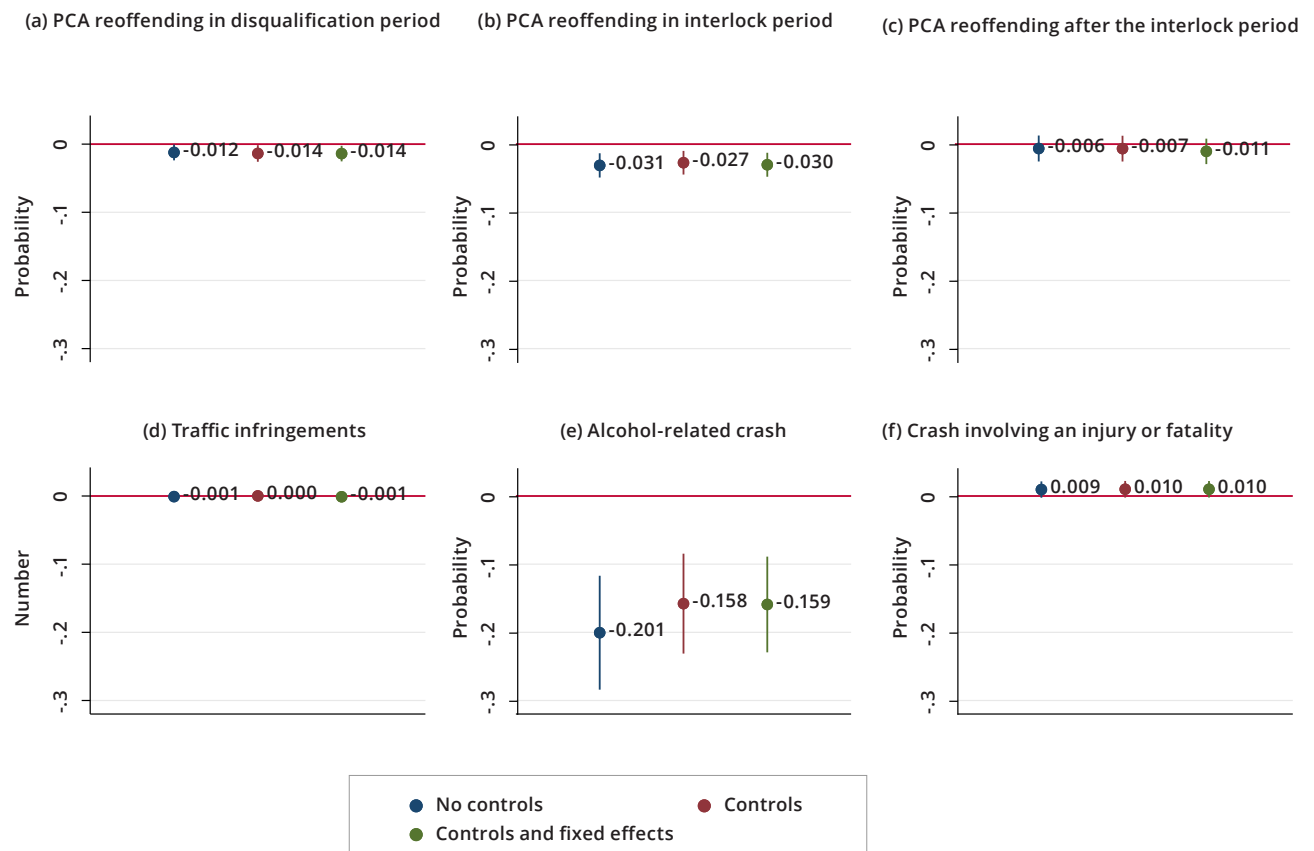


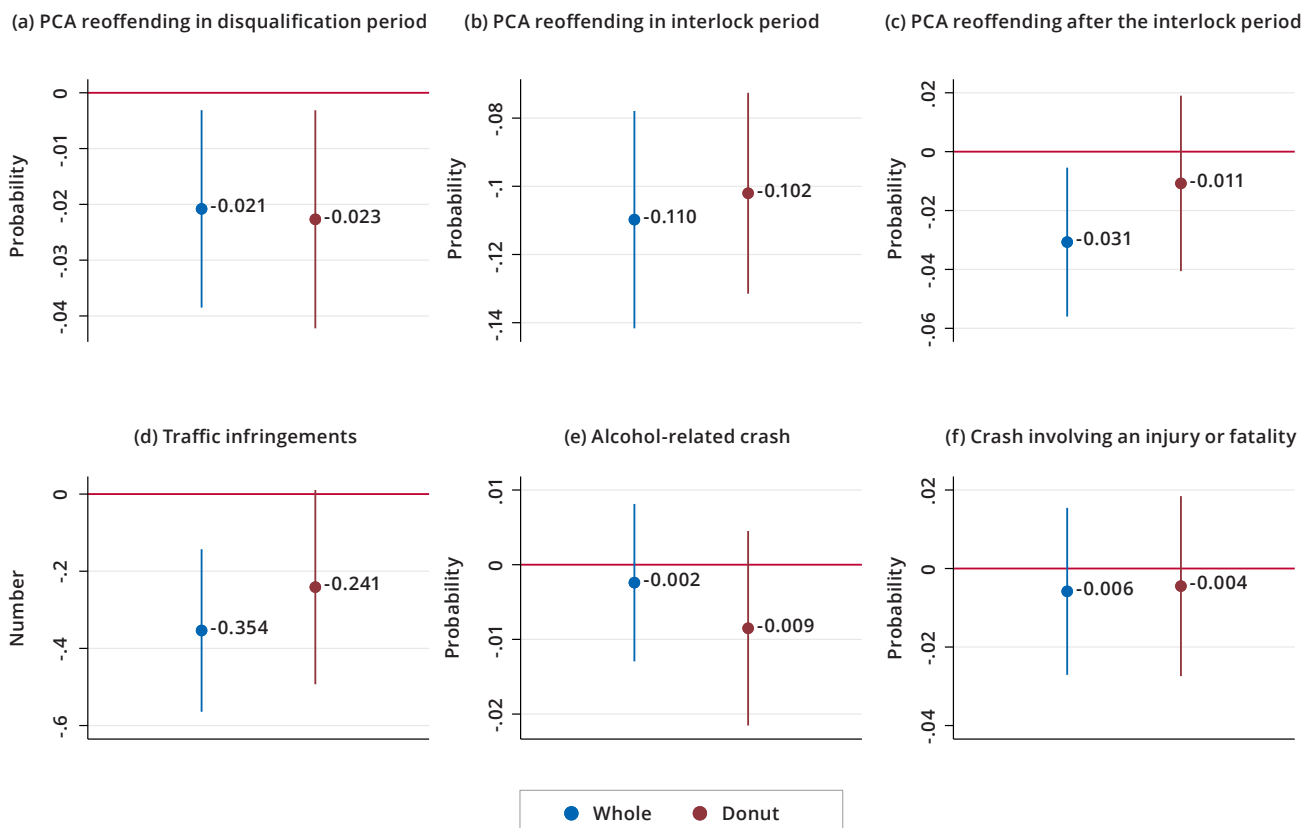
Table A6. Sharp RD estimates, between 01 February 2012 to 01 February 2015

Outcome	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
	PCA offence within disqualification	period	PCA offence within disqualification	period	PCA offence within disqualification	period	PCA reoffence within interlock	period	PCA reoffence within interlock	period	PCA reoffence within interlock	period	PCA offence following interlock	period	PCA offence following interlock	period	PCA offence following interlock	period
Estimate	-0.0122*		-0.0137*		-0.0139*		-0.0312***		-0.0273**		-0.0303***		-0.006		-0.007		-0.011	
Standard error	(0.006)		(0.006)		(0.006)		(0.009)		(0.009)		(0.009)		(0.010)		(0.010)		(0.010)	
Observations	40,059		40,056		40,055		40,059		40,056		40,055		40,059		40,056		40,055	
Effective N	10,359		9,134		10,088		10,359		10,925		10,358		8,609		8,609		8,609	
Controls	No		Yes		Yes		No		Yes		Yes		No		Yes		Yes	
Fixed effects	No		No		Yes		No		No		Yes		No		No		Yes	
Polynomial	1		1		1		1		1		1		1		1		1	
Bandwidth	0.11 - 0.19		0.12 - 0.18		0.11 - 0.19		0.11 - 0.19		0.11 - 0.19		0.11 - 0.19		0.12 - 0.18		0.12 - 0.18		0.12 - 0.18	
Kernel	Uniform		Uniform		Uniform		Uniform		Uniform		Uniform		Uniform		Uniform		Uniform	
Outcome	(10)		(11)		(12)		(13)		(14)		(15)		(16)		(17)		(18)	
	Number of traffic infringements	period	Number of traffic infringements	period	Number of traffic infringements	period	Crashes involving alcohol	period	Crashes involving alcohol	period	Crashes involving alcohol	period	Crash involving an injury or fatality	period	Crash involving an injury or fatality	period	Crash involving an injury or fatality	period
Estimate	-0.201***		-0.158***		-0.159***		-0.001		0.000		-0.001		0.000		0.000		0.000	
Standard error	(0.043)		(0.037)		(0.036)		(0.003)		(0.003)		(0.003)		(0.001)		(0.001)		(0.001)	
Observations	40,053		40,050		40,049		40,053		40,050		40,049		40,053		40,050		40,049	
Effective N	10,085		12,582		13,438		10,629		9,567		10,085		16,112		14,679		12,283	
Controls	No		Yes		Yes		No		Yes		Yes		No		Yes		Yes	
Fixed effects	No		No		Yes		No		No		Yes		No		No		Yes	
Polynomial	1		1		1		1		1		1		1		1		1	
Bandwidth	0.11 - 0.19		0.11 - 0.19		0.10 - 0.20		0.11 - 0.19		0.12 - 0.18		0.11 - 0.19		0.10 - 0.20		0.10 - 0.20		0.11 - 0.19	
Kernel	Uniform		Uniform		Uniform		Uniform		Uniform		Uniform		Uniform		Uniform		Uniform	

Standard errors in parentheses
***, $p < 0.01$, ** $p < 0.01$, * $p < 0.05$

Robustness check: Donut regression discontinuity

Figure A4. Regression discontinuity estimates omitting readings within 0.002 points of the high range PCA threshold



**Table A7. Regression discontinuity estimates omitting readings within 0.002 points of the high range
PCA threshold**

	(1) PCA offence within disqualification period	(2) PCA offence within disqualification period	(3) PCA reoffence within interlock period	(4) PCA reoffence within interlock period	(5) PCA offence following interlock period	(6) PCA offence following interlock period
Panel A. PCA offending						
Estimate	-0.0208* (0.0090)	-0.0227* (0.0100)	-0.110*** (0.0163)	-0.102*** (0.0150)	-0.0307* (0.0129)	-0.0108 (0.0152)
Observations	43,186	42,843	43,186	42,843	43,186	42,843
Effective observations	6,896	8,364	9,715	6,552	4,343	5,271
Specification	Whole	Donut	Whole	Donut	Whole	Donut
Controls	No	No	No	No	No	No
Fixed effects	No	No	No	No	No	No
Polynomial	1	1	1	1	1	1
Bandwidth	0.13 - 0.17	0.12 - 0.18	0.12 - 0.18	0.13 - 0.17	0.13 - 0.17	0.13 - 0.17
Kernel	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform
	(7) Number of traffic infringements	(8) Number of traffic infringements	(9) Alcohol-related crash	(10) Alcohol-related crash	(11) Crash involving an injury or fatality	(12) Crash involving an injury or fatality
Panel B. Traffic outcomes						
Estimate	-0.354** (0.1080)	-0.241 (0.1280)	-0.002 (0.0054)	-0.008 (0.0066)	-0.006 (0.0109)	-0.004 (0.0117)
Observations	27,643	27,430	27,643	27,430	27,643	27,430
Effective observations	5,215	4,185	6,022	3,037	7,115	3,571
Specification	4397	3369	8362	5362	5575	5362
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Polynomial	1	1	1	1	1	1
Bandwidth	0.13 - 0.17	0.13 - 0.17	0.10 - 0.20	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18
Kernel	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform

Standard errors in parentheses

*** $p < .001$, ** $p < .01$, * $p < .05$

Difference-in-differences analyses

Tests of common trends

Figure A5. Event study estimates of impact of the introduction of MAIP on study outcomes

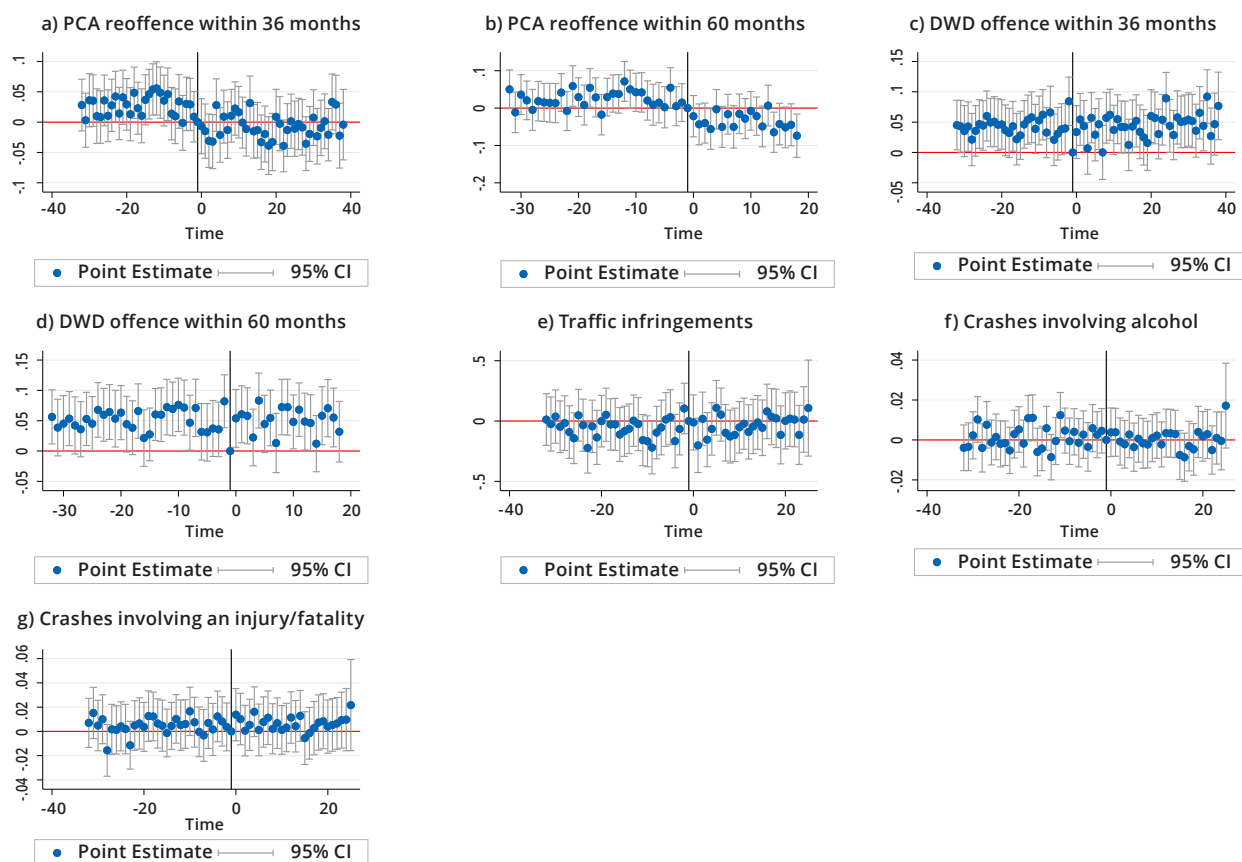


Table A8. Tests of joint significance of event study lags

	(1)	(2)	(4)	(5)
	PCA reoffence within 36 months	PCA reoffence within 60 months	DWD offence within 36 months	DWD offence within 60 months
Panel A. PCA and DWD offending				
F-statistic	1.10	1.30	1.08	1.24
p-value	.324	.125	.342	.167
Number of leads	31	31	31	31
	(6)	(7)	(8)	
	Traffic infringements	Crashes involving alcohol	Crash involving an injury or fatality	
Panel B. Road safety outcomes				
F-statistic	1.05	1.67	0.79	
p-value	.384	.011	.795	
Number of leads	31	31	31	

Standard errors in parentheses

*** $p < .001$, ** $p < .01$, * $p < .05$

Table A9. Difference-in-differences estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	PCA reoffence within 36 months	PCA reoffence within 36 months	PCA reoffence within 36 months	PCA reoffence within 60 months	PCA reoffence within 60 months	PCA reoffence within 60 months	DWD offence within 36 months	DWD offence within 36 months	DWD offence within 36 months	DWD offence within 60 months	DWD offence within 60 months	DWD offence within 60 months
Panel A. PCA and DWD offending												
Estimate	-0.035*** (0.004)	-0.034*** (0.004)	-0.034*** (0.004)	-0.059*** (0.006)	-0.060*** (0.006)	-0.060*** (0.006)	0.002 (0.004)	0.005 (0.004)	0.005 (0.004)	0.001 (0.005)	0.002 (0.005)	0.002 (0.005)
Standard error												
Observations	98,501	98,489	98,483	73,208	73,200	73,194	98,501	98,489	98,483	73,208	73,200	73,194
R-squared	0.002	0.026	0.028	0.003	0.036	0.039	0.003	0.066	0.069	0.003	0.085	0.088
Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Fixed effects	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Panel B. Traffic infringements												
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)			
	Traffic infringements	Traffic infringements	Traffic infringements	Crashes involving alcohol	Crashes involving alcohol	Crashes involving alcohol	Crash involving an injury or fatality	Crash involving an injury or fatality	Crash involving an injury or fatality			
Estimate	0.0188 (0.019)	0.0264 (0.019)	0.0262 (0.019)	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)			
Standard error												
Observations	80,271	80,256	80,254	80,271	75,796	75,796	80,265	75,790	75,790			
R-squared	0.015	0.099	0.108	0.001	0.002	0.004	0.001	0.004	0.006			
Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes			
Fixed effects	No	No	Yes	No	No	Yes	No	No	Yes			

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.01$, * $p < 0.05$

Main difference-in-differences estimates

Negative binomial and logistic regressions

Table A10. Marginal effects estimated from logistic and negative binomial regressions of the impact of MAIP

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	PCA reoffence within 36 months	PCA reoffence within 36 months	PCA reoffence within 36 months	PCA reoffence within 60 months	PCA reoffence within 60 months	PCA reoffence within 60 months	DWD offence within 36 months	DWD offence within 36 months	DWD offence within 36 months	DWD offence within 60 months	DWD offence within 60 months	DWD offence within 60 months
Panel A. PCA and DWD offending												
Estimate	-0.040*** (0.004)	-0.041*** (0.004)	-0.042*** (0.004)	-0.062*** (0.006)	-0.064*** (0.006)	-0.064*** (0.006)	0.002 (0.003)	0.006 (0.003)	0.006 (0.004)	0.001 (0.005)	0.004 (0.005)	0.004 (0.005)
Observations	98,501	93,016	93,014	73,208	69,018	69,016	98,501	93,016	92,871	73,208	69,018	68,963
Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Fixed effects	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Panel B. Traffic infringements												
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)			
	Traffic infringements	Traffic infringements	Traffic infringements	Crashes involving alcohol	Crashes involving alcohol	Crashes involving alcohol	Crashes involving an injury or fatality	Crashes involving an injury or fatality	Crashes involving an injury or fatality			
Estimate	0.028 (0.026)	0.045 (0.053)	0.036 (0.040)	-0.002 (0.001)	-0.002 (0.001)	-0.002 (0.001)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)			
Observations	80,271	75,796	75,796	80,265	75,790	68,493	80,265	75,790	73,601			
Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes			
Fixed effects	No	No	Yes	No	No	Yes	No	No	No			

Standard errors in parentheses
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Subgroup analyses

Penalty groups

Table A11. Difference-in-differences estimates, PCA offending within disqualification period, within interlock period, and following interlock period, by penalty group

	(1) PCA offence within disqualification period	(2) PCA offence within interlock period	(3) PCA offence following interlock period	(4) DWD offence within disqualification period	(5) DWD offence within interlock period	(6) DWD offence following interlock period	(7) Traffic infringements	(8) Crashes involving alcohol	(9) Crashes involving an injury or fatality
Panel A. Repeat low range PCA offenders									
Estimate	-0.005	-0.008	-0.0299**	-0.0128	0.0208*	0.012	-0.127*	0.001	-0.003
Standard error	(0.005)	(0.006)	(0.009)	(0.007)	(0.009)	(0.009)	(0.053)	(0.004)	(0.006)
Observations	77,391	77,391	73,877	77,391	77,391	73,877	63,028	63,034	63,028
R-squared	0.015	0.014	0.021	0.024	0.042	0.049	0.104	0.005	0.006
F-statistic	2.37	1.04	1.19	2.21	1.71	1.41	1.00	2.49	1.57
p-value	.000	.412	.215	.000	.008	.065	.465	.000	.022
Panel B. Repeat mid range PCA or first time refuse breath test									
Estimate	-0.006*	-0.030***	-0.028***	-0.004	0.007*	0.006	0.040*	-0.002	0.002
Standard error	(0.002)	(0.003)	(0.004)	(0.003)	(0.003)	(0.004)	(0.020)	(0.001)	(0.002)
Observations	92,478	92,478	86,424	92,478	92,478	86,424	75,266	75,272	75,266
R-squared	0.016	0.02	0.019	0.038	0.045	0.034	0.109	0.005	0.006
F-statistic	1.09	0.85	8.37	0.65	2.59	2.56	24.70	1.69	1.74
p-value	.329	.707	.000	.935	.000	.000	.000	.010	.006
Panel C. Repeat high range PCA or refuse breath test									
Estimate	0.00319	-0.048**		0.004	0.039*		0.110**	-0.003	0.004
Standard error	(0.008)	(0.015)		(0.008)	(0.018)		(0.038)	(0.002)	(0.003)
Observations	76,402	52,023		76,402	52,023		62,204	62,210	62,204
R-squared	0.017	0.034		0.049	0.075		0.108	0.005	0.007
F-statistic	1.947	1.822		1.013	5.063		8.369	0.627	0.631
p-value	.001	.003		.445	.000		.000	.947	.944

Standard errors in parentheses
*** $p < .001$, ** $p < .01$, * $p < .05$

Demographics and criminal history

Table A12. Regression discontinuity estimates, PCA reoffending in interlock period, various subgroups

Group	(1) ATSI Status - ever recorded - Aboriginal	(2) ATSI Status - ever recorded - Non-Aboriginal	(3) ATSI Status - ever recorded - Unknown	(4) Gender - Female	(5) Gender - Male	(6) Age categories - 18-24	(7) Age categories - 25-34	(8) Age categories - 35-44	(9) Age categories - 45-54	(10) Age categories - 55+
Estimate	-0.184* (0.078)	-0.110*** (0.019)	-0.062*** (0.018)	-0.096** (0.029)	-0.103*** (0.016)	-0.066* (0.032)	-0.108*** (0.027)	-0.103*** (0.027)	-0.134*** (0.031)	-0.106** (0.041)
Observations	2,665	26,379	14,142	9,391	33,795	8,392	12,292	9,346	7,348	5,808
Effective N	630	5464	2351	1714	6731	1586	2651	1854	1423	931
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Polynomial	1	1	1	1	1	1	1	1	1	1
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18
Kernel	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform
Group	(11) - Most disadvantaged	(12) - More disadvantaged	(13) - Less disadvantaged	(14) - Least disadvantaged	(15) Remoteness area - Major cities	(16) Remoteness area - Outside major cities	(17) Prior court appearances - No prior court appearances	(18) Prior court appearances - 1 or more prior appearances	(19) Prior infringements - No	(20) Prior infringements - Yes
Estimate	-0.128*** (0.034)	-0.147*** (0.028)	-0.0718** (0.025)	-0.0852** (0.028)	-0.104*** (0.018)	-0.110*** (0.024)	-0.0897*** (0.018)	-0.122*** (0.022)	-0.0535 (0.032)	-0.111*** (0.016)
Observations	8,929	11,430	10,710	9,873	26,982	13,965	24,799	18,387	8,153	35,033
Effective N	1,789	2,376	2,166	1,706	5,123	2,916	4,446	3,999	1,591	6,854
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Polynomial	1	1	1	1	1	1	1	1	1	1
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18
Kernel	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform

Standard errors in parentheses
*** $p < .001$, ** $p < .01$, * $p < .05$

Table A13. Regression discontinuity estimates, PCA offending in 24 months after interlock period, various subgroups

Group	(1) ATSI Status - ever recorded - Aboriginal	(2) ATSI Status - ever recorded - Non-Aboriginal	(3) ATSI Status - ever recorded - Unknown	(4) Gender - Female	(5) Gender - Male	(6) Age categories - 18-24	(7) Age categories - 25-34	(8) Age categories - 35-44	(9) Age categories - 45-54	(10) Age categories - 55+
Estimate	-0.113 (0.066)	-0.045** (0.015)	-0.003 (0.008)	-0.024 (0.021)	-0.040** (0.013)	-0.043* (0.017)	-0.040* (0.019)	-0.088*** (0.022)	0.016 (0.029)	0.031 (0.027)
Observations	2,665	26,379	14,142	9,391	33,795	8,392	12,292	9,346	7,348	5,808
Effective observations	630	5,464	2,351	1,714	6,731	1,586	2,651	1,854	1,423	931
Controls	No	No	No	No	No	No	No	No	No	No
Fixed effects	No	No	No	No	No	No	No	No	No	No
Polynomial	1	1	1	1	1	1	1	1	1	1
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18
Kernel	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform
Group	(11) SEIFA - Most disadvantaged	(12) SEIFA - More disadvantaged	(13) SEIFA - Less disadvantaged	(14) SEIFA- Least disadvantaged	(15) Remoteness area - Major cities	(16) Remoteness area - Outside major cities	(17) Prior court appearances - No prior court appearances	(18) Prior court appearances - 1 or more prior appearances	(19) Prior infringements - No	(20) Prior infringements - Yes
Estimate	-0.054* (0.022)	-0.041* (0.021)	-0.055* (0.023)	0.0162 (0.021)	-0.031* (0.014)	-0.041* (0.019)	-0.021 (0.012)	-0.046* (0.018)	-0.002 (0.026)	-0.039** (0.012)
Observations	8,929	11,430	10,710	9,873	26,982	13,965	24,799	18,387	8,153	35,033
Effective observations	1,789	2,376	2,166	1,706	5,123	2,916	4,446	3,999	1,591	6,854
Controls	No	No	No	No	No	No	No	No	No	No
Fixed effects	No	No	No	No	No	No	No	No	No	No
Polynomial	1	1	1	1	1	1	1	1	1	1
Bandwidth	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18	0.12 - 0.18
Kernel	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform	Uniform

Standard errors in parentheses
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table A14. Difference-in-differences estimates, PCA offending within 36 months of finalisation, various groups

Group	(1) ATSI Status - ever recorded - Aboriginal	(2) ATSI Status - ever recorded - Non-Aboriginal	(3) ATSI Status - ever recorded - Unknown	(4) Gender - Female	(5) Gender - Male	(6) Age categories - 18-24	(7) Age categories - 25-34	(8) Age categories - 35-44	(9) Age categories - 45-54	(10) Age categories - 55+
Estimate	-0.0374* (0.016)	-0.0366*** (0.005)	-0.0253*** (0.006)	-0.0334*** (0.008)	-0.0344*** (0.004)	-0.0251** (0.010)	-0.0392*** (0.007)	-0.0368*** (0.008)	-0.0367*** (0.009)	-0.0240* (0.009)
Standard error										
Observations	7,140	63,988	27,355	20,671	77,812	18,984	28,506	22,032	16,583	12,378
R-squared	0.041	0.017	0.014	0.040	0.026	0.040	0.033	0.036	0.041	0.036
F-statistic on leads	1.08	0.96	1.71	0.82	1.16	0.90	0.74	1.03	1.01	1.01
p-value	.349	.532	.008	.741	.247	.632	.849	.423	.452	.452
Group	(11) SEIFA - Most disadvantaged	(12) SEIFA - More disadvantaged	(13) SEIFA - Less disadvantaged	(14) SEIFA- Least disadvantaged	(15) Remoteness area - Major cities	(16) Remoteness area - Outside major cities	(17) Prior court appearances - No prior court appearances	(18) Prior court appearances - 1 or more prior appearances	(19) Prior infringements - No	(20) Prior infringements - Yes
Estimate	-0.045*** (0.008)	-0.035*** (0.007)	-0.032*** (0.008)	-0.021** (0.008)	-0.029*** (0.005)	-0.043*** (0.007)	-0.035*** (0.006)	-0.034*** (0.005)	-0.025* (0.010)	-0.037*** (0.004)
Standard error										
Observations	20,815	26,320	24,177	22,264	61,277	32,308	50,326	48,157	13,449	85,034
R-squared	0.031	0.034	0.032	0.026	0.026	0.031	0.028	0.022	0.039	0.029
F-statistic on leads	1.748	1.060	1.357	1.056	1.064	1.745	0.624	1.183	0.687	1.080
p-value	.006	.376	.089	.382	.370	.006	.949	.223	.903	.348

Standard errors in parentheses
*** $p < .001$, ** $p < .01$, * $p < .05$

Table A15. Difference-in-differences estimates, PCA offending within 60 months of finalisation, various groups

Group	(1) ATSI Status - ever recorded - Aboriginal	(2) ATSI Status - ever recorded - Non-Aboriginal	(3) ATSI Status - ever recorded - Unknown	(4) Gender - Female	(5) Gender - Male	(6) Age categories - 18-24	(7) Age categories - 25-34	(8) Age categories - 35-44	(9) Age categories - 45-54	(10) Age categories - 55+
Estimate	-0.096*** (0.023)	-0.062*** (0.007)	-0.035*** (0.009)	-0.047*** (0.012)	-0.063*** (0.006)	-0.059*** (0.014)	-0.059*** (0.010)	-0.062*** (0.012)	-0.063*** (0.013)	-0.065*** (0.014)
Standard error										
Observations	5,375	47,983	19,836	15,348	57,846	14,091	21,147	16,559	12,348	9,049
R-squared	0.049	0.020	0.015	0.050	0.037	0.059	0.045	0.042	0.053	0.060
F-statistic on leads	0.95	1.16	1.90	0.95	1.19	0.78	0.93	0.93	1.49	1.45
p-value	.554	.248	.002	.549	.220	.800	.585	.586	.038	.050
Group	(11) SEIFA - Most disadvantaged	(12) SEIFA - More disadvantaged	(13) SEIFA - Less disadvantaged	(14) SEIFA- Least disadvantaged	(15) Remoteness area - Major cities	(16) Remoteness area - Outside major cities	(17) Prior court appearances - No prior court appearances	(18) Prior court appearances - 1 or more prior appearances	(19) Prior infringements - No	(20) Prior infringements - Yes
Estimate	-0.085*** (0.012)	-0.054*** (0.011)	-0.056*** (0.011)	-0.044*** (0.012)	-0.057*** (0.007)	-0.067*** (0.010)	-0.050*** (0.008)	-0.064*** (0.008)	-0.058*** (0.015)	-0.061*** (0.006)
Standard error										
Observations	15,394	19,423	18,026	16,838	45,860	23,829	37,304	35,890	7,720	65,474
R-squared	0.044	0.043	0.044	0.037	0.036	0.042	0.037	0.026	0.063	0.039
F-statistic on leads	1.702	1.047	1.738	0.961	1.396	1.447	1.026	1.204	1.165	1.246
p-value	.009	.395	.007	.529	.070	.051	.427	.202	.242	.163

Standard errors in parentheses
*** $p < .001$, ** $p < .01$, * $p < .05$