



Supplemental Materials for
A meta-analysis of the effect of violence intervention programs on
general and violent recidivism

<https://doi.org/10.35502/jcswb.308>

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Listing of Supplemental Material(s):

- **Supplemental Table I:** Key descriptive data for studies included in the meta-analyses for general and violent recidivism
- **Supplemental Table II:** Results of meta-regressions with single covariates for general and violent recidivism

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Supplemental Table I: Key Descriptive Data for Studies Included in the Meta-Analyses for General and Violent Recidivism

Author (year)	Study Outcome	Country	Sample	Gender	M age	Tx group (n) used in analysis	Comparison group (n) used in analysis	Recidivism Measure used in analysis	Outcomes used in analysis	Estimated tx duration	Session format	Estimated follow-up (months)
Arbour (2021)	GR VR	Canada	Incarcerated violent offenders	100% men ¹	NR	<i>Parcours</i> (cognitive-behavioural) (147)	Untreated (770)	Readmission	Completers	24 hr	Group or individual	36
Barnes et al. (2017)/ Hyatt (2013) * †	GR VR	US	Offenders on probation, receiving intensive community supervision (92.7% of the sample had previously committed a violent offence)	100% men	30	<i>Choosing to Think, Thinking to Choose</i> + TAU (cognitive-behavioural) (457)	TAU (447)	Reoffense	ITT	28 hr	Group	12
Berry (1999, 2003) * †	VR	New Zealand	Violent offenders under community supervision	100% men	28	<i>Montgomery House Violence Prevention Programme</i> (cognitive-behavioural) (62)	Untreated (62)	Reconviction	Completers	470 hr	Group	M= 17
Bowes et al. (2014) *	GR VR	UK	Incarcerated offenders with at least three incidents of alcohol-related violence in the previous 2 years	100% men	24	<i>Control of Violence for Angry, Impulsive Drinkers</i> + TAU (cognitive-behavioural) (52)	TAU (57)	Reconviction	ITT	24 hr	Group + individual	M= 17
Capellan et al. (2022)	GR	Honduras	Offenders placed on conditional release (meta-analysis uses data from violent offenders within the sample)	94% men ¹	34 tx/ 37 control	<i>Previniendo el Riesgo de Reincidencia Delictiva a Través de la Terapia Cognitiva Conductual</i> (“Preventing Recidivism Through Cognitive Behavioral Therapy”) (8)	Untreated (7)	Reoffense	ITT ²	3 hr biweekly x 4 months	Group	15

Dowden et al. (1999)/ Dowden & Serin (2001) * †	GR VR	Canada	Incarcerated violent offenders	100% men	36	<i>Anger and Emotions Management</i> (110)	Untreated (110)	Reconviction	Completers	50 hr	Group	36
Hatcher et al. (2008) * †	GR	UK	Violent offenders under community supervision	100% men	27	<i>Aggression Replacement Training</i> (53)	Untreated (53)	Reconviction	ITT ²	32 hr	Group	10
Henning & Frueh (1996) * †	GR VR	US	Incarcerated violent offenders (90.8% of tx group and 77.3% of control group had previously committed a violent offence)	100% men	28	<i>Cognitive Self-Change Program</i> (cognitive-behavioural) (28)	Untreated (96)	Reoffense	ITT	M= 9.8 months (~300 hr)	Group	24
Higgs et al. (2019)/ Cortoni et al. (2006) ³ * †	GR VR	Canada	Incarcerated violent offenders	100% men	33	<i>Violence Prevention Program</i> (cognitive-behavioural) (345)	Untreated (338)	Reconviction	ITT	188 hr	Group	M= 36
Hughes (1993) * †	GR VR	Canada	Incarcerated violent offenders (97% of the sample had previously committed a violent offence)	100% men	NR	<i>Anger Management Program</i> (52)	Untreated (27)	Reoffense	Completers	24 hr	Group	48
Kingston et al. (2018)	GR VR	Canada	Incarcerated offenders with serious mental illness (94% of the sample had previously committed a violent offence)	100% men	48 tx/ 49 control	<i>Reasoning and Rehabilitation 2: Short Version for Adults</i> (cognitive-behavioural) (44)	TAU (36)	GR- Readmission VR- Reoffense	ITT	21 hr	Group	M= 18
Kubiak et al. (2016) *	GR	US	Incarcerated violent offenders	100% women	34	<i>Beyond Violence</i> (trauma-informed mental health intervention for women, targets anger and substance use) (19)	TAU (16)	Reoffense	Completers	40 hr	Group	12

Lardén et al. (2018)	GR VR	Sweden	Incarcerated offenders (94.3% had previously committed a violent offence)	97.1% men and 2.9% women	26	<i>Aggression Replacement Training (ART)</i> (931)	Untreated (2,890)	Reconviction	ITT ²	30 hr	Group	12
Lugo et al. (2019)	GR	US	Incarcerated violent offenders (data for sub-sample of offenders in programs relating to desistance from violence and matched control groups were included in the meta-analysis)	100% men	32	<i>Thinking for a Change</i> (cognitive-behavioural) (1,022) <i>Responsible Family Life Skills</i> (communication, taking responsibility) (405) <i>Cage Your Rage</i> (anger management) (397) <i>Victim Awareness</i> (effects of crime on victims) (581)	Untreated (1,022)	Reoffense	ITT ²	NR	Group	36
Motiuk et al. (1996) * †	GR VR	Canada	Incarcerated violent offenders	100% men	35	<i>Intensive Program for Violent Offenders</i> (cognitive-behavioural) (60)	Untreated (60)	Reconviction	Completers	8 months	Group	M= 24
O'Brien & Daffern (2016) [*]	VR	Australia	Incarcerated violent offenders	100% men	32	<i>Violence Intervention Program</i> (Moderate or high intensity) (cognitive-behavioural) (67)	Untreated (30)	Reoffense	Completers	99- 201 hr (~ 70% received 99 hr)	Group	M= 42
Polaschek et al. (2005) ^{* †}	GR VR	New Zealand	Incarcerated violent offenders	100% men	24	<i>Violence Prevention Unit Program</i> (cognitive-behavioural) (22)	TAU (60)	Reconviction	Completers	330 hr	Group + individual	42
Polaschek (2011) [*]	GR VR	New Zealand	Incarcerated violent offenders	100% men	28	<i>Violence Prevention Unit Program</i>	TAU (112)	Reconviction	Completers	330 hr	Group + individual	M= 42

						(cognitive-behavioural) (112)							
Polaschek et al. (2016) *	GR VR	New Zealand	Incarcerated violent offenders	100% men	33	<i>High-Risk Special Treatment Units</i> (cognitive-behavioural) (121)	TAU (154)	Reconviction	Completers	250 hr	Group	12	
Rahman et al. (2018)	GR VR	Australia	Incarcerated violent offenders	100% men	NR	<i>Violent Offender Treatment Program</i> (cognitive-behavioural) (266)	Untreated (321)	Reoffense	ITT ²	3 x 2-hr sessions weekly for 9- 12 months	Group	24	
Robinson (1995) *	GR	Canada	Incarcerated violent offenders	100% men	30	<i>Cognitive Skills Training</i> (cognitive-behavioural) (1,444)	Untreated (379)	Readmission	Completers	72 hr	Group	M= 22	
Seewald et al. (2018)	VR	Switzerland	Offenders court-mandated to treatment (meta-analysis uses data from violent offenders within the sample)	100% men ¹	39	<i>Risk-Need-Responsivity-based treatment program</i> (RNR) (85)	Untreated (140)	Reoffense	Completers	4.5 years	Group	M= 94.8	
Serin et al. (2009) *	GR VR	Canada	Incarcerated violent offenders	100% men	32	<i>Persistently Violent Offender Program</i> (cognitive-behavioural) (60)	TAU (85) ⁴	Readmission	Completers	144 hr	Group + individual	M= 49	
Wong et al. (2012) *	GR VR	Canada	Psychopathic offenders (PCL-R ≥ 25) residing in a forensic psychiatric hospital within the Correctional Service of Canada	100% men	38	<i>Aggressive Behavior Control</i> (cognitive-behavioural) (32)	TAU (32)	Reconviction	Completers	8- 9 months	Group + individual	M= 88	

Notes: * = included in meta-analysis by Papalia et al. (2019); † = included in meta-analysis by Jolliffe & Farrington (2007); GR= general recidivism; VR= violent recidivism; NR= not reported. ¹ Descriptive statistics for Arbour (2021), Capellan et al. (2022), and Seewald et al. (2018) include the full study sample. ² ITT used in analysis; data for completers also reported in the original study. ³ Higgs et al. (2019) reported outcome data for the same sample as Cortoni et al. (2006), which was included in the analyses by Papalia et al. (2019) and Jolliffe & Farrington (2007). These two publications were treated as one study, with the outcome data from the newer publication (Higgs et al., 2019) used in the meta-analysis. ⁴ Serin et al. (2009) report data for three groups: PVO, PVO plus TAU, and TAU. The present analysis compares data from the PVO (treatment) and TAU (control group).

Supplemental Table II: Results of Meta-Regressions with Single Covariates for General and Violent Recidivism

Moderators	General Recidivism					Violent Recidivism				
	<i>k</i>	<i>B</i> (95% CI)	<i>p</i> -value b/w	<i>Q</i> (<i>df</i>)	<i>p</i>	<i>k</i>	<i>B</i> (95% CI)	<i>p</i> -value b/w	<i>Q</i> (<i>df</i>)	<i>p</i>
Methodology Characteristics										
Analysis				0.00(1)	0.98				6.32(1)	0.01**
ITT (reference)	10					12				
Completers	11	-0.00 (-0.30, 0.31)				7	-0.35 (0.63, 0.08)			
Recidivism measure				2.99(2)	0.22				1.16(2)	0.56
Reconviction (reference)	10					10				
Reoffence	7	0.01 (0.40, 0.41)				7	0.02 (0.37, 0.41)			
Readmission	4	0.37 (0.08, 0.83)				2	0.37 (0.31, 1.06)			
Publication year GR (1993- 2021) VR (1993- 2021)	21			0.32(1)	0.57	19			7.15(1)	0.01**
Geographic location				4.08(4)	0.40				7.64(4)	0.11
Canada (reference)	9					8				
New Zealand	3	-0.43 (0.97, 0.12)	0.12			4	-0.42 (0.86, 0.02)	0.06		
US	4	-0.05 (0.46, 0.36)	0.81			2	0.17 (0.31, 0.65)	0.48		
UK	2	-0.52 (1.20, 0.17)	0.14			1	-0.36 (1.22, 0.51)	0.42		
Other ¹	3	-0.12 (0.56, 0.32)	0.59			4	0.12 (0.20, 0.45)	0.46		
Sample size in analysis GR (<i>M</i> = 820, <i>SD</i> = 1627, R: 15-6810) VR (<i>M</i> = 466, <i>SD</i> = 859, R: 64- 3821)	21			11.32(1)	0.00***	19			7.54(1)	0.01**
Quality				2.86(2)	0.24				2.63(2)	0.27
MSMS= 3 (reference)	7					9				
MSMS= 4	8	0.28 (0.05, 0.60)	0.10			7	0.27 (0.09, 0.62)	0.14		
MSMS= 5	6	0.12 (0.26, 0.49)	0.55			3	0.31 (0.18, 0.81)	0.22		
Follow-up period (months) GR (<i>M</i> = 30, <i>SD</i> = 19, R: 10-88) VR (<i>M</i> = 35, <i>SD</i> = 23, R: 12-95)	21			1.73(1)	0.19	19			2.18(1)	0.14
Intervention Characteristics										
Setting				1.22(2)	0.54				0.13(2)	0.94
Correctional (reference)	15					15				
Community ²	4	-0.01 (0.39, 0.37)	0.96			2	0.09 (0.43, 0.60)	0.33		
Inpatient forensic MH	2	0.51 (0.41,1.43)	0.27			2	0.08 (0.89, 1.04)	0.16		

	General Recidivism			Violent Recidivism				
Program type			1.62(2)	0.44		1.26(2)	0.53	
CBT (reference)	15				15			
Anger management	4	0.03 (0.34, 0.40)	0.86		3	0.05 (-0.34, 0.43)	0.81	
Other	2	0.29 (0.16, 0.75)	0.20		1	-0.57 (1.61, 0.47)	0.29	
Duration (hours) GR (<i>M</i> = 125, <i>SD</i> = 118, R: 21- 330) VR (<i>M</i> = 161, <i>SD</i> = 145, R: 21- 470)	18		5.05(1)	0.02*	16		4.49(1)	0.03*
Duration (weeks) GR (<i>M</i> = 20, <i>SD</i> = 12, R: 4- 43) VR (<i>M</i> = 21, <i>SD</i> = 13, R: 4- 43)	17		3.08(1)	0.08	15		0.20(1)	0.66
Format			0.11(1)	0.74			0.04(1)	0.84
Group (reference)	15				13			
Group + individual	6	-0.09 (0.62, 0.44)			6	-0.04 (0.46, 0.37)		
Participant risk level			0.48(1)	0.49			0.17(1)	0.68
High risk (reference)	8				8			
Mixed risk	8	-0.11 (-0.42, 0.20)			9	-0.07 (0.39, 0.26)		

Notes: *k*, number of studies; *B*, unstandardized regression coefficient, *CI*, confidence interval, *p-value b/w*, between-groups *p*-value for categorical moderator comparing subgroup effect size to the effect size for the reference category; *Q*, test of heterogeneity comparing moderator variable to the pooled effect; *df*, degrees of freedom, **p* ≤ .05; ***p* ≤ .01; ****p* ≤ .001; ¹ General recidivism: Australia (1), Honduras (1), and Sweden (1); violent recidivism: Australia (2), Sweden (1), and Switzerland (1); ² Robinson (1995) reported results from the delivery of the intervention in an institution and in the community; these results were combined to create one effect size for the for meta-analysis. For the meta-regression, this study has been counted as being delivered in the community.

