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Getting SMART, SMART Recovery® programs and reoffending

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Abstract

Purpose – *The purpose of this paper is to determine reconviction outcomes for 2,882 male and female offenders with significant alcohol and other drug (AOD) criminogenic needs, serving custodial sentences in New South Wales, between 2007 and 2011, who participated in the Getting SMART and/or the SMART Recovery® programs.*

Design/methodology/approach – *A quasi-experimental research design utilized data from 2,343 offenders attending Getting SMART; 233 attending SMART Recovery® and 306 attending both programs, compared to a propensity score-matched control group of 2,882 offenders. Cox and Poisson regression techniques determined survival times to first reconviction and rates of reconvictions, adjusting for time at risk.*

Findings – *Getting SMART participation was significantly associated with improved odds of time to first reconviction by 8 percent and to first violent reconviction by 13 percent, compared to controls. Participants attending both programs (Getting SMART and SMART Recovery®), had significantly lower reconviction rate ratios for both general (21 percent) and violent (42 percent) crime, relative to controls. Getting SMART attendance was associated with significant reductions in reconviction rates of 19 percent, and the reduction for SMART Recovery® attendance (alone) was 15 percent, the latter figure being non-significant. In all, 20 hours in either SMART program (ten sessions) was required to detect a significant therapeutic effect.*

Practical implications – *Criminal justice jurisdictions could implement this two SMART program intervention model, knowing a therapeutic effect is more likely if Getting SMART (12 sessions of cognitive-restructuring and motivation) is followed by SMART Recovery® for ongoing AOD therapeutic maintenance and behavioral change consolidation. SMART Recovery®, a not-for-profit proprietary program, is widely available internationally.*

Originality/value – *Getting SMART and SMART Recovery® have not previously been rigorously evaluated. This innovative two-program model contributes to best practice for treating higher risk offenders with AOD needs, suggesting achievable reductions in both violent and general reoffending.*

Keywords *Methodology, Propensity score matching, Interventions, Recidivism, AOD programs, Reoffending, SMART Recovery®, Violent offending*

Paper type *Research paper*

Introduction

Problematic use of alcohol and other drugs (AOD) is associated with an increased risk of reoffending (Andrews and Bonta, 2006). Between 2007 and 2008, 70 percent of males and 79 percent of females in custody in New South Wales (NSW) reported they had engaged in illicit substance use in the six months prior to their incarceration; 72 percent of males and 67 percent of females reported that at least one of their current offences was related to use of alcohol and/or other drugs (Kevin, 2010). Corrective Services New South Wales (CSNSW) provides evidence-based group interventions to offenders, aimed at changing behaviors and reducing

rates of reoffending. AOD interventions include self-management and recovery Training (SMART Recovery©) (SMART Recovery©, 2014) and Getting SMART (Compendium of Correctional Programs, 2013; Getting SMART, 2013).

Self-management and recovery training (SMART Recovery)

SMART Recovery Inc. is an international self-help organization, offering a flexible program addressing addictive behaviors, based on cognitive-behavior therapy (CBT) principles. The licence for the SMART Recovery© program in Australia is held by SMART Recovery Australia, an incorporated, not-for-profit organization. The format of SMART Recovery©'s behavioral and motivational strategies (Horvath, 2013), is described in the Facilitator Training Manual (SMART Recovery© Australia, 2011) and by Horvath (2000). SMART Recovery© meetings have an open-rolling-group format and are delivered in custody by CSNSW facilitators trained by SMART Recovery Australia.

Getting SMART

Getting SMART is a 12-session closed-group program based on the same content areas of SMART Recovery. It was developed by CSNSW Offender Programs Unit staff in 2006, for offenders with significant AOD treatment needs and at medium to high risk of reoffending. It aims to equip offenders to subsequently participate in ongoing SMART Recovery meetings. Program uptake was rapid and within a year it was available in all Correctional Centers in NSW. During 2008, the program became available for parolees and those serving supervised community-based orders.

Like SMART Recovery meetings, Getting SMART is CBT-based. Meta-analysis of 44 published studies (Antonowicz and Ross, 1994) showed 75 percent of significantly effective interventions to be CBT-based. Approximately 50 percent of successful programs included role-playing or modeling components, to allow practice of learned skills (Antonowicz and Ross, 1994). Offenders usually complete the 12 week Getting SMART Program (Getting SMART Program, Facilitator Manual, 2013) before progressing to ongoing SMART Recovery meetings to maintain and reinforce skills and learning. Some offenders attend SMART Recovery meetings before attending Getting SMART, depending on local program availability. At June 2013, Getting SMART had been delivered to 5,438 offenders in custody and 2,887 offenders supervised by Community Corrections.

Evaluations. A short-term evaluation (three months) of SMART Recovery demonstrated efficacy with participants making clinically meaningful changes to their alcohol-related problems (Hester *et al.*, 2013), but the effectiveness of Getting SMART, alone or in combination with SMART Recovery, in reducing reoffending has not been evaluated.

Offender programs in NSW

The use of the Risk, Needs, Responsivity (RNR) model (Andrews and Bonta, 2006) in guiding program provision in NSW has been previously described (O'Sullivan *et al.*, 2014). Briefly, the model indicates that programs should target those at higher actuarial risk of reoffending (the risk principle); treatment target dynamic risk factors, also called criminogenic needs (Andrews and Bonta, 2010), associated with offending behaviors (the need principle), and be delivered in ways which maximize the likelihood that participants can respond (the responsivity principle). CSNSW uses the Level of Service Inventory-Revised (LSI-R), (Andrews and Bonta, 1995) to guide risk assessment, program referral and treatment intensity.

Treatment intensity and dosage. Effective programs require sufficient intensity and duration to facilitate effective cognitive and behavioral changes (Mc Guire, 2008). They must ensure lower risk offenders are not negatively affected by exposure to high intensity programs and/or higher risk offenders (Andrews, Bonta and Hoge, 1990). Recidivism outcomes improve if more factors and cognitions are targeted (Przybylski, 2008). Andrews and Bonta (2010) identify eight pivotal factors for targeting of which three are addressed in Getting SMART: first, problematic use

of alcohol and/or drugs; second, presence of pro-criminal vs pro-social thinking; and third, emotional/mental well-being.

In the course of the sentence, offenders may participate in a range of programs besides Getting SMART and SMART Recovery. Treatment dosage need not come from a single program as additional programs can increase treatment intensity by targeting similar, or a range of different criminogenic needs (Polaschek, 2011). It is thus important to not only address the effects of single programs, but also the contribution made by each of those and their cumulative effects. The NSW offender programs are described in the CSNSW Compendium of Programs (Compendium of Correctional Programs, 2013).

Research aims

The present study addresses the following experimental hypotheses relating to the SMART programs:

- that Getting SMART and SMART Recovery participation is associated with reduced recidivism, compared to those who do not attend;
- that a minimum number of SMART sessions are needed to achieve a significant therapeutic treatment effect;
- that there may treatment benefits if both Getting SMART and SMART Recovery are attended; and
- that reoffending outcomes for Getting SMART are similar to those for SMART Recovery.

Research methodology

The interventions

SMART Recovery meetings address four main AOD recovery content areas: motivation to abstain; coping with urges; problem solving skills; and lifestyle balance. Cognitive behavioral exercises and handouts are employed. Meetings last approximately 90 minutes. Participants can start at any time and attend for as long as they choose (open-rolling-group format). Getting SMART is based on Risk-Needs-Responsivity theoretical models and addresses the four content areas of SMART Recovery described above, with similar exercises and handouts. The 12 closed-group sessions last two hours and are delivered once to twice per week. Program completion is defined as attending a minimum ten of the 12 sessions.

Study design

A quasi-experimental, pseudo-prospective study design was employed to compare a group participating in a SMART intervention to a matched control group. This methodology sought to control for known potentially biasing risk factors, which could threaten the explanatory power of the study.

Study participants

Selection of treatment and control groups. The Offender Services and Programs (OS&P) database provided details of all offenders in custody in NSW between August 1, 2007 and April 29, 2011, who participated in any programs or services delivered by OS&P staff ($n = 24,845$). The Re Offending Database (ROD) maintained by the NSW Bureau of Crime Statistics and Research (BOCSAR) provided conviction data for the ten years prior to each offender's index incarceration and follow up reconviction data for all but ten not able to be adequately cross-identified, leaving 24,835 in the pool to identify a SMART treated group and a control group.

The CSNSW Offender Integrated Management System provided details of all entries to and exits from custody and institutional misdemeanors. Offenders not released prior to April 29, 2011 were removed from the data, leaving 24,638. Offenders with AOD criminogenic needs related to their

offending, attending either, or both Getting SMART and SMART Recovery programs, were extracted, providing a treated group of 3,962 offenders. The residual untreated pool of 20,676 became the potential control pool for matching purposes. Data audit excluded 653 offenders from the SMART treated group and 7,634 offenders from the potential control group due to incomplete demographic data and/or LSI-R risk assessments not completed within the index custodial period. This left 3,309 treated SMART participants and a pool of 13,042 potential control subjects.

Outcome variables and derivation of the study groups

Time to first reconviction. The date of first release from custody after the start of SMART treatment was defined as the “measurement start date.” For the potential control group, the date of first release from custody between August 1, 2007 and April 29, 2011 became their “measurement start date.” Setting the release date cut-off at April 29 permitted offenders to have at least two months free in the community to reoffend, before the study cut-off date of June 30, 2011.

Offending and custodial histories. Numbers of convictions and incarcerations in the ten years prior to each participant’s index custodial episode entry date were extracted. Convictions for the most serious offence (MSO) only were sorted into eight offence categories using the Australian Standard Offence Classification (ASOC) (2008) Codes. These offence categories were: violent, sexual, driving, property crime, drug related, order /institutional breaches, fraud and public order offences.

Reconviction definitions. “General” reconvictions included all types of crime (violent and non-violent) for the MSO recorded, if several convictions were finalized on the same day. Violent offences are classified under ASOC (Australian Bureau of Statistics, 2008) codes 101-399 and include homicide, assaults against a person, sexual assault or violence order breaches. “Violent” reconvictions in this study were defined by codes 111-132, 211-299, 311, 611, but acquisitive crimes such as aggravated robbery and non-assaultive sexual offences were excluded from the “violent crime” definition (classification 032).

Calculating time at risk. The treated cohort had a shorter maximum follow up (days at risk) relative to the control group. This maximum was 1,111 days. To achieve greater time at-risk comparability between the two groups, controls with any days at risk, or reconvictions occurring beyond the 1,111 day maximum follow up period, had these days and reconvictions removed from the data. Days offenders spent in custody, or in police cells, from the release date were subtracted from the total time at risk, to provide a more accurate measure of time free in the community to commit a re-offence.

Measuring reconvictions. To allow time for any outstanding charges to be finalized in court after the study cut-off date of June 30, 2011, reconvictions were counted for another six months from the study cut-off of June 30, 2011, up to December 31, 2011 (end of the available ROD court reconviction data).

Measuring time to first reconviction and reconviction rates. Survival analysis was selected to compare days to first reconviction for the treated and untreated cohorts. This analysis does not depend on equal at risk follow up times in the community. Poisson regression techniques were used to calculate rates of reconvictions, with an offset variable used to adjust for differences in time at risk in the community.

Propensity score matching process. Propensity score matching (Rosenbaum and Rubin, 1983; Rosenbaum and Rubin, 1985; Duwe and Goldman, 2009; Jones, 2009) was utilized to select a control group that matched the treatment group. This process matched a control to a treated participant with highly similar scores on risk factors empirically associated with reoffending (Rosenbaum and Rubin, 1983; Andrews and Bonta, 2006; Hollin and Palmer, 2003; Gendreau *et al.*, 1996). This matching process attempts to control for risk factors that could introduce a source of bias and to minimize potential differences between the treated and untreated control group (Duwe and Goldman, 2009).

Binary logistic regression was used to identify variables that predicted membership of the treatment group. In total, 25 significant variables were retained, including the number of prior criminal convictions and incarcerations in the previous ten years, the actuarially assessed level of risk on the LSI-R risk and the AOD domain score (Andrews and Bonta, 1995), participation in nine other treatment programs and demographic factors such as age, gender, Aboriginal and Torres Strait Islander (ATSI) status and non-English speaking background (NESB).

Matching a control to a SMART treatment subject. A stepwise logistic model was used to generate propensity scores. A single propensity score figure (between 0 and 1) was calculated for each participant. Treated participants were sorted randomly and sequentially matched to the control pool participant with a propensity score closest to their own and then removed from the pool and the process repeated. If ties occurred, randomization was used to select one match. After matching, the propensity scores of each pair were compared. Where the difference was higher than 0.1, the pair was removed from the data. Due to the large number of factors ($n = 25$) (including similar AOD risk scores), used to generate propensity scores for matching and the low tolerance limit criteria (≤ 0.1 acceptable difference), a control subject was not always able to be identified to be match against a SMART participant. In total, 854 participants not meeting matching criteria were excluded, leaving a final cohort of 5,764 matched participants, or 2,882 in each group.

Results of the matching procedure. A residual bias assessment was used (Rosenbaum and Rubin, 1985) to assess the degree to which the matching process reduced differences between the treatment and control groups. This quantifies the standardized mean difference between treated and untreated groups on the matching variables, before and after matching. A score of 20 or more indicated that a variable was substantially unbalanced (Duwe and Goldman, 2009). Table I summarizes changes in the propensity scores (the observed bias reduction), prior to and after the matching procedure. The total propensity score difference between groups was -1.829 . No matching variables exceeded Rosenbaum and Rubin's (1985) suggested value of 20.

The number of treatments needed for a therapeutic effect. To assess the treatment dosage needed for a therapeutic treatment effect, a second propensity score-matched control group was extracted from the cohort of eligible offenders, using the same methodology described above. Equal numbers of 367 offenders were obtained for four program attendance categories (1-6 sessions, 7-9, 10-11 and 12+ sessions; $n = 1,468$) to compare against a matched control group of 367, providing a subsample cohort of 1,835 offenders.

Results

Cohort characteristics

The majority of the treatment group attended Getting SMART only (81 percent), 8 percent attended SMART Recovery only and 11 percent attended both programs. In terms of program participation, 37 percent attended ≥ 12 sessions, 19 percent attended 9-11 sessions, 14 percent attended 6-8 and 30 percent attended 1-5 sessions. Maximum Getting SMART sessions attended was 39 and 49 for SMART Recovery.

The cohorts were predominantly male (68 percent); 27 percent were of ATSI status; 44 percent of NESB. The majority were in either the LSI-R "medium risk" of reoffending category (40 percent), or "medium-high" risk (26.5 percent). Of the remainder, 9.5 percent were "high" risk and 24 percent were in the combined "low and low-medium" risk categories. There were equal numbers (50 percent) in the treatment and control groups for gender, ATSI and NESB status and the "medium" LSI-R risk category (maximum difference of 0.04 percent). The control group had slightly higher proportions in the "low" and "high" risk category (53.3 and 55.5 percent, respectively), but a lower proportion in the "medium-high" risk category (46.5 percent).

Number of unadjusted reconvicitions. Without adjusting for duration of time at risk, controls committed more offences with a mean of 3.9 compared to 2.6 for the SMART participants and more violent offences (mean of 0.59 compared to 0.34 for SMART participants).

Table I Propensity score matching and covariate balance between treated and untreated participants before and after matching procedure

Variable name	Unmatched			Matched			Reduction	
	Control mean	SMART mean	Bias ^a	Control mean	SMART mean	Bias ^a	Bias reduction	Absolute bias change
Propensity score	0.16107	0.36516	111.296	0.31122	0.30771	-1.829	101.644	98.357
Number of prior offences								
Violent	2.13	2.26	5.211	2.27	2.22	-1.817	134.873	65.127
Sexual	0.15	0.11	-6.527	0.13	0.11	-2.906	55.468	55.468
Driving	3.17	2.98	-5.818	3.06	2.98	-2.296	60.548	60.548
Property crime	2.84	3.55	22.112	3.33	3.37	1.531	93.076	93.076
Drug related	0.95	1.30	18.586	1.26	1.24	-1.006	105.412	94.588
Order breach/institutional	2.11	2.06	-1.981	2.04	2.07	1.317	166.465	33.535
Fraud	0.53	0.52	-0.880	0.47	0.53	4.334	592.679	-392.679
Public order	1.82	1.89	2.891	1.89	1.90	0.425	85.286	85.286
Number of times in custody	3.13	3.7628	25.550	3.484	3.625	5.667	77.822	77.822
LSI-R AOD domain Score	2.72	3.1529	26.626	3.054	3.076	1.413	94.693	94.693
Total LSI-R-score	27.31	29.88	28.450	29.26	29.40	1.583	94.434	94.434
Age at release (years)	32.78	32.86	0.835	32.87	32.96	0.968	-15.847	-15.847
Gender (1 = female)	0.098	0.1206	7.373	0.13	0.13	-0.314	104.257	95.743
ATSI status	0.226	0.2795	12.241	0.271	0.276	1.090	91.094	91.094
Non-english speaking background	0.103	0.0885	-4.930	0.092	0.090	-0.845	82.849	82.849
Treatment participation								
Alcoholics anonymous	0.07	0.20	36.973	0.16	0.16	-0.573	101.551	98.449
Narcotics anonymous	0.02	0.11	34.926	0.06	0.06	-0.301	100.863	99.137
Drug and alcohol abuse program	0.02	0.04	9.484	0.04	0.04	-0.715	107.539	92.461
Literacy/vocational programs	0.39	0.81	93.086	0.79	0.78	-3.970	104.265	95.735
Individual psychologist intervention	0.07	0.14	21.610	0.12	0.12	-0.962	104.437	95.563
Managing emotions	0.01	0.06	26.952	0.04	0.04	-0.186	100.692	99.308
CALM program	0.01	0.05	26.977	0.01	0.01	-1.901	107.045	92.955
Violent offenders therapeutic program	0.01	0.05	20.697	0.03	0.03	0.415	97.995	97.995
CUBIT sex offender treatment	0.02	0.02	2.917	0.03	0.02	-2.405	182.441	17.558
Readiness programs	0.10	0.22	34.072	0.20	0.19	-2.024	105.941	94.059
<i>n</i>	13,042	3,309		2,882	2,882			

Note: ^aValues greater than 20 indicate a significant level of bias

Survival time to first reconviction

General reconvictions. Time to first “any” reconviction from release date was measured using a Cox regression with a stepwise log-rank method. Only significant factors and the three SMART variables of interest were retained in the final model. No other programs attended reached significance. Getting SMART participation (at least one session) was significantly associated with a longer time to first reconviction, relative to controls (see Table II), reducing the risk by approximately 8 percent (hazard ratio of 0.918, CIs.848-0.995, $p \leq 0.05$). Although the reduction in risk for both SMART Recovery participation and attendance at both programs (Getting SMART and SMART Recovery) were estimated to be 13 and 8 percent, respectively, neither was statistically significant. The Getting SMART treatment group took 77 days longer than the control group to reach the point where 50 percent had a reconviction. Times to first reconviction for men and women were not significantly different.

Six criminal history factors were significantly associated with survival time to first reconviction: the number of violent, driving, property crime, institutional offences, breaches of orders and custodial episodes in the previous ten years. Three elevated LSI-R domain scores (AOD, Criminal Attitudes and Leisure scores (Andrews and Bonta, 1995)), were significantly associated with shorter times

Table II Cox Regression model for survival time to first “general” reconviction

Variable	Hazard ratio	95% Confidence interval	
		Lower	Upper
No. 10-year prior offences			
Violent offences	1.056**	1.039	1.073
Driving offences	1.013*	1.001	1.024
Property crime	1.109**	1.095	1.123
Order breach/institutional violations	1.052**	1.035	1.070
No. times in custody	1.065**	1.048	1.083
LSI-R AOD score	1.057**	1.030	1.086
LSI-R attitude score	1.035*	1.008	1.062
LSI-R leisure score	1.076**	1.027	1.127
Literacy/vocational training programs	0.598**	0.551	0.649
Getting SMART	0.918*	0.848	0.995
SMART Recovery	0.874	0.714	1.070
Getting SMART + SMART Recovery	0.919	0.758	1.113

Notes: * $p < 0.05$; ** $p < 0.0$

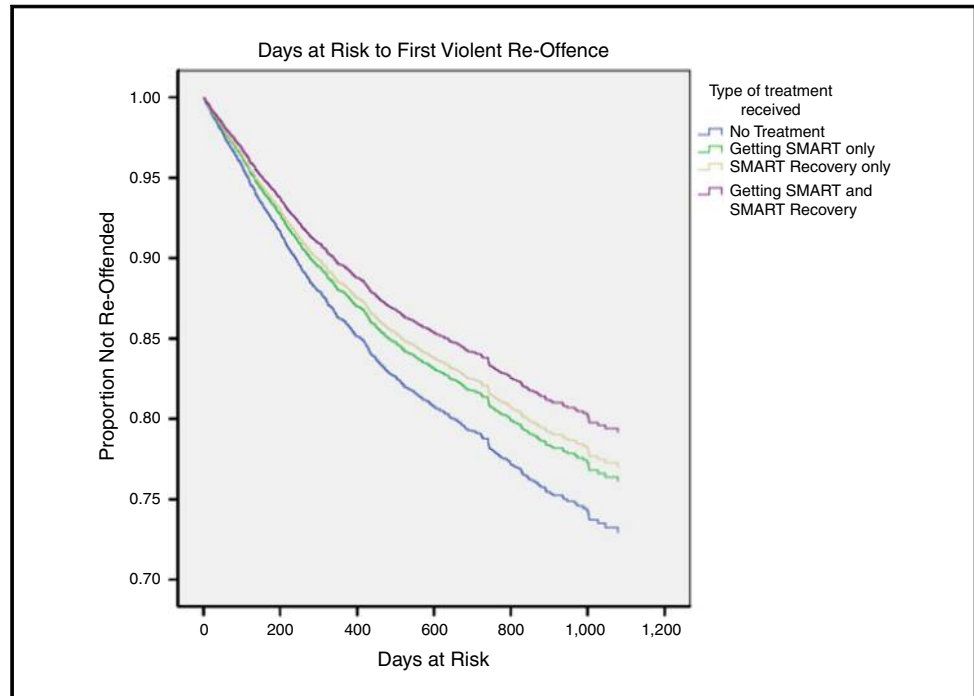
to first reconviction. Participation in literacy/vocational training programs, provided a significant protective effect, reducing risk by approximately 40 percent.

Time to first violent reconviction. After adjusting for time free in the community post-release date and controlling for other significant factors, Getting SMART participants survived approximately 13 percent longer to first violent reconviction, compared to controls (hazard ratio of 0.867, CIs of 0.763 and 0.985, $p \leq 0.05$). This 13 percent improvement in survival to first violent crime compared favorably to survival improvement to first general crime, which was 8 percent (see Table I). SMART Recovery and Getting SMART + SMART Recovery participation reduced hazard ratios by approximately 16 and 25 percent, respectively, but neither was significant. Survival curves for the three treatment categories and controls are presented in Figure 1.

Significant factors were associated with a shorter survival time to first violent reconviction: increased violent crimes (hazard ratio (HR) of 1.108, CIs 1.079-1.138, $p \leq 0.01$) and custodial episodes in the previous ten years (HR of 1.098, CIs 1.070-1.128, $p \leq 0.01$); breaches of orders/institutional offences (HR of 1.053, CIs 1.026-1.082, $p \leq 0.01$); public order offences (HR of 1.041, CIs of 1.013-1.069, $p \leq 0.01$); a younger age on release (HR of 0.974, CIs 0.603-0.907, $p \leq 0.01$); NESB status (HR of 1.028, CIs 1.007-1.049, $p \leq 0.01$) and a high LSI-R Education domain risk score (HR of 1.028, CIs 1.007-1.049, $p \leq 0.01$). Some reconviction categories were associated with a longer time to first violent reconviction: driving offences (HR of 0.980, CIs of 0.963-0.998, $p \leq 0.05$) and fraud offences (HR of 0.903, CIs of 0.849-0.959, $p \leq 0.01$). Literacy/vocational program participation in the index custodial episode, significantly improved survival to first violent reconviction by approximately 33 percent (HR of 0.673, CIs 0.593-0.765, $p \leq 0.01$), as was being female (HR of 0.769, CIs 0.626-0.946, $p \leq 0.05$).

Rates of reconvictions for general and violent crime types

Rates of general reconvictions. A Poisson regression testing for differences in reconviction rates for the three SMART treatment groups and the control group, are presented in Table III. Measured over the 1,111 day follow up period post-release and adjusting for time free at risk, both Getting SMART and Getting SMART + SMART Recovery participation was associated with significantly reduced reconviction rates, compared to the control group. Getting SMART participation was estimated to reduce the rate by approximately 19 percent (HR of 0.808, CIs of 0.747-0.875, $p \leq 0.01$), and by 22 percent if both Getting SMART + SMART Recovery were attended (HR of 0.784, CIs of 0.647-0.950, $p \leq 0.05$). Participation in SMART Recovery alone did not reach significance.

Figure 1 Survival time to first “violent” reconviction**Table III** Poisson regression model – rate of “general” reconvictions for getting SMART, SMART Recovery and getting SMART + SMART recovery participation

Variable	B	SE	Rate ratio	95% Confidence interval	
				Lower	Upper
(Intercept)	-0.887	0.1210	0.412**	0.325	0.522
Convictions 10 yrs prior					
Violent offences	0.023	0.0090	1.023*	1.005	1.041
Driving offences	0.017	0.0057	1.017**	1.005	1.028
Property crime offences	0.035	0.0070	1.036**	1.022	1.050
Drug offences	-0.010	0.0100	0.990	0.971	1.010
Order breach/institutional offences	0.027	0.0088	1.027**	1.010	1.045
Public order	-0.003	0.0093	0.997	0.979	1.015
Age at release (years)	-0.016	0.0025	0.984**	0.979	0.989
No. times in custody (10-years prior)	0.055	0.0092	1.057**	1.038	1.076
Literacy/vocational programs	-0.366	0.0421	0.693**	0.638	0.753
Total LSI-R-score	0.017	0.0027	1.017**	1.012	1.022
Getting SMART + SMART Recovery	-0.243	0.0978	0.784*	0.647	0.950
SMART Recovery	-0.168	0.1031	0.846	0.691	1.035
Getting SMART	-0.213	0.0406	0.808**	0.747	0.875

Notes: * $p < 0.05$; ** $p < 0.01$

Several risk factors were significantly associated with higher general reconviction rates; an elevated LSI-R total score, a lower age at custodial release, higher numbers of custodial sentences and higher violent, driving, property crime convictions, order breaches and institutional violations in the previous ten years. Participation in literacy/vocational training programs in custody, was significantly protective; with an approximate reduction in reconviction rates of 30 percent (HR of 0.693, CIs 0.638-0.753, $p \leq 0.01$).

Rates for violent reconvictions. The Poisson regression model testing for differences in violent reconvictions rates between the three treated groups were significantly lower relative to the control group, estimated to be 30 percent lower for Getting SMART and 42 percent for the Getting SMART + SMART Recovery group. The rate ratio for Getting SMART participation was 0.704, CIs of 0.621-0.799, $p \leq 0.01$ and the Getting SMART + SMART Recovery ratio was 0.578 (CIs 0.407-0.821, $p \leq 0.01$), see Table IV). Some significant factors in this model were similar to those predicting general reconvictions, namely, higher total LSI-R risk scores, a lower age at release and higher numbers of violent offences, order breaches and institutional violations in the previous ten years. Literacy/vocational program participation was significantly protective, associated with a reduced violent reconviction rate of approximately 41 percent ($p \leq 0.01$).

Number of sessions required for a therapeutic effect

A significant therapeutic effect did not occur until 10-11 SMART sessions were completed, in either one or both SMART programs, when the reconviction rate reduced by approximately 25 percent relative to the control group (HR of 0.764, CIs of 0.612-0.953, $p \leq 0.05$). Completing ≥ 12 more sessions reduced the hazard by approximately 20 percent, but this and the remaining attendance categories were non-significant. Survival curves for those attending 1-6 sessions mirrored the control group, suggesting brief exposure as ineffective as no exposure at all (see Figure 2).

Other significant factors included higher numbers of order breaches and/institutional offences, property offences and incarcerations in the previous ten years, a lower age at release and higher LSI-R AOD and family risk scores. Educational and vocational program participation provided a significant protective effect ($p \leq 0.01$).

Discussion

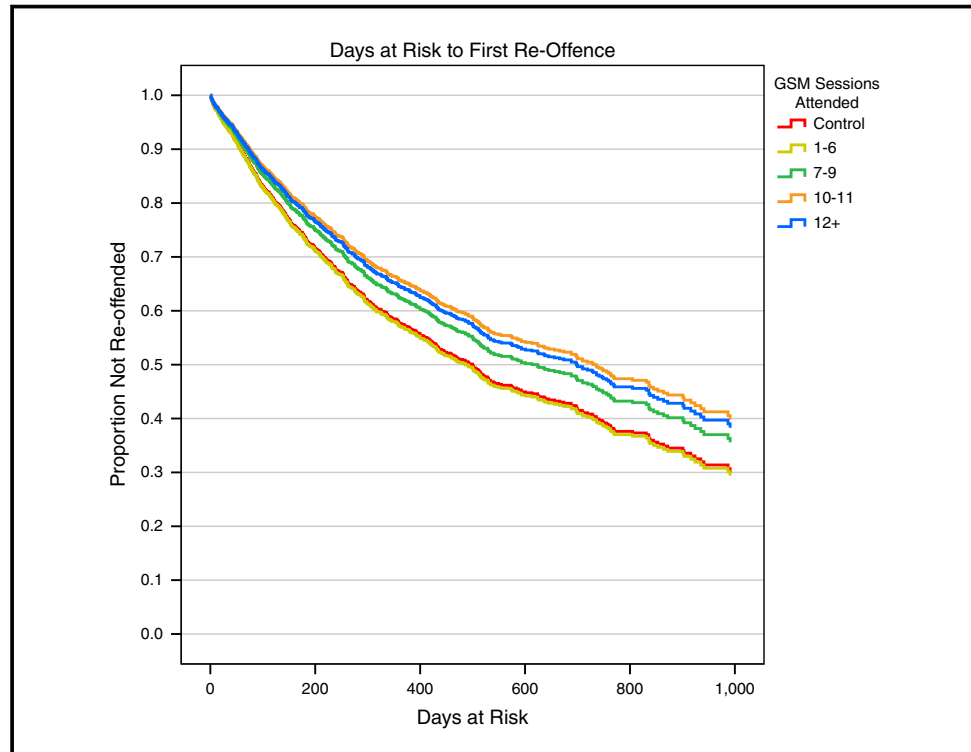
This study provides support for the therapeutic efficacy of the Getting SMART program for crime desistance. The findings also support a synergy between Getting SMART and SMART Recovery, by first introducing participants to the concepts, tools and techniques learnt in Getting SMART that can then be practised and reinforced in follow up SMART Recovery meetings. Getting SMART participation was associated with both improvements in survival times to first reconvictions and reductions in reconviction rates. Survival times to first general reconviction were longer by about 8 percent, relative to controls, and to a first violent reconviction were longer by 13 percent. There were also improvements in the rates of reconvictions: 30 percent for violent crimes compared to controls and 19 percent for "any" crime compared to controls.

Table IV Poisson regression model – rate of "violent" reconvictions for getting SMART, SMART recovery and getting SMART + SMART recovery

Variable	B	SE	Rate ratio	95% Confidence interval	
				Lower	Upper
(Intercept)	-1.518	0.1828	0.219**	0.153	0.313
Convictions 10 yrs prior					
Violent offences	0.112	0.0122	1.118**	1.092	0.145
Order breach or institutional offences	0.053	0.0126	1.054**	1.028	1.080
Age at release (years)	-0.027	0.0038	0.974**	0.966	0.981
Literacy/vocational training programs	-0.533	0.0639	0.587**	0.518	0.665
Total LSI-R-score	0.026	0.0039	1.026**	1.018	1.034
Getting SMART + SMART Recovery	-0.548	0.1787	0.578**	0.407	0.821
SMART Recovery	-0.345	0.1815	0.708	0.496	1.011
Getting SMART	-0.350	0.0646	0.704**	0.621	0.799

Notes: * $p < 0.05$; ** $p < 0.01$

Figure 2 Survival time to first reconviction for four categories of SMART attendance and control group



The additional therapeutic benefits obtained when both Getting SMART and SMART Recovery were attended, give support to the two-program intervention model. While general reconviction rates reduced by 19 percent relative to controls if only Getting SMART was attended, the reduction was approximately 21 percent if both programs were attended. This observation also held true for violent reconviction rates; attending Getting SMART on its own was associated with reduced violent crimes rates of 30 percent, but if both programs were attended, the rates reduced by 42 percent.

Although the survival times to first reconviction for SMART Recovery enrollees were not significantly different from controls, the survival curves for both general and violent reconvictions mirrored those for Getting SMART. Non-significance could possibly be due to reduced power, as the SMART Recovery sample was relatively small ($n = 233$) compared to the Getting SMART sample ($n = 2,345$).

The finding that SMART participation was associated with improvements in survival times for violent reconvictions, was not anticipated, as neither Getting SMART nor SMART Recovery specifically target violent behaviors. These outcomes may reflect the nexus between drug and alcohol abuse and violent behaviors, as well as the generic benefits of the CBT principles used in the programs, which foster positive behavioral changes by addressing the relationship between cognitions, feelings and attitudes, and offending behaviors. If SMART program content facilitates more balanced and considered judgements, it is possible offenders' lifestyles may become less impulsive and chaotic, with less reliance on drugs and alcohol, greater control over interpersonal conflicts and reduced engagement in violent behaviors and crime.

The finding that offenders attending only 1-6 SMART sessions had survival outcomes no better than their matched controls, and that no significant therapeutic benefits were apparent until 10-11 sessions ("program completion"), highlights the need to identify minimum therapeutic intensities, for all rehabilitative interventions. Of concern is that only 45 percent of offenders

completed a SMART program, which suggests considerable barriers to program attendance and completion. While some disruptions may be unavoidable due to illness, court appearances or misdemeanors, systemic issues possibly exist in custodial settings which impact on program attendance, such as lockdowns, inter-custodial movements, programming conflicts and insufficient custody time remaining to complete programs. These disruptions need to be identified and addressed, in order to maximize program completions and minimize waste of scarce resources.

The finding that attending more than 12 sessions was not associated with additional therapeutic benefits, is difficult to interpret, as it is reasonable to assume higher SMART program dosages would improve outcomes. It is possible that offenders failing to successfully engage in, or complete a SMART program, may subsequently be re-enrolled in another program. Alternatively, as offenders can attend as many SMART Recovery sessions they choose, those serving longer sentences could attend more sessions than those with shorter sentences. Offenders serving longer sentences may well be of higher risk and more dysfunctional than those with shorter sentences. Future analyses could ascertain whether and how the risk characteristics and criminal histories of offenders attending > 12 SMART sessions, differ from those successfully completing 10-11 sessions.

The therapeutic effectiveness of SMART participation may be underestimated. Including "dropouts" in the treated cohort, some attending only one session, introduces a conservative bias, as empirically "dropouts" are known to be at higher risk of reoffending (Thurby *et al.*, 2011; Aydin *et al.*, 2011). Conversely, excluding "dropouts," can introduce selection biases that inflate positive outcomes. Including non-completers, enabled a more rigorous testing of treatment outcomes and importantly, also enabled identification of a minimum number of sessions needed for therapeutic benefit.

The results of the present study are consistent with several meta-analyses of similar CBT programs. An average 6 percent reduction in reoffending was reported by Aos *et al.* (2006) over a range of programs, but Lipsey *et al.* (2007), reported larger reductions in both general reoffending (25 percent) and violent reoffending (19 percent). A more direct comparison of an AOD program is offered by Thurby, Kevin (2010), with results from another CSNSW program (the Drug and Alcohol Addictions Program). These participants returned to custody at rates 5-6 percent lower than the untreated controls.

A number of future studies are suggested. Investigating the optimal time to attend Getting SMART and SMART Recovery, in respect to release from custody, could ascertain whether completing a program closer to release date, is more effective than earlier in a sentence. Second, Aos *et al.* (2006) reported both custodial and community-based AOD programs effective, but custodial more cost-effective, whereas MacKenzie (2006) reported the opposite, favouring community-based for improved efficacy. Comparing outcomes for offenders attending Getting SMART in custody, followed by SMART Recovery post-release, against attending both programs in custody, could establish which treatment protocol provides better therapeutic and cost effectiveness. The strength of the association of literacy and vocational training programs with reduced reoffending, warrants a specific examination and comparison of the intensity, type and timing of these several programs. Other areas of research interest concern participants from ATSI and NESB backgrounds and whether their outcomes are comparable to the remaining cohort.

Conclusion

This first outcome study of Getting SMART and SMART Recovery used a rigorous methodology and a large sample of 5,764 offenders equally distributed between a treated cohort and a control group, matched on major reoffending risk factors. The findings suggest Getting SMART participation, particularly when followed by SMART Recovery for therapeutic maintenance, can extend time to a first reconviction, and reduce reconviction rates for both general and violent re-offences. Results support the continued delivery of Getting SMART and SMART Recovery to offender populations in custodial settings.

Implications for practice

Several implications for correctional practice could flow from this research:

- Getting SMART can be delivered to offenders in custody with AOD criminogenic needs with reasonable confidence that it will contribute to reduced reoffending.
- It can be reasonably anticipated that both general and violent reconvictions, may be prevented, when AOD interventions use CBT and RNR approaches.
- Other jurisdictions may wish to further study the efficacy of a two-program linked-model targeting offenders with AOD issues associated with offending behaviors.
- The minimum of number of sessions required to achieve any therapeutic benefits requires identification for all offender interventions.
- Custodial jurisdictions need to identify and address systemic factors preventing program participation to improve completion rates and outcomes.
- Research addressing the efficacy of providing SMART programs to offenders on parole, or serving community-based orders, needs completion.
- Providing offenders with poor literacy and skill levels opportunity to attend concurrent educational programs may improve the odds of not reoffending.

References

- Andrews, D. and Bonta, J. (1995), *LSI-R: The Level of Service Inventory – Revised*, Multi-Health Systems, Toronto.
- Andrews, D. and Bonta, J. (2006), *The Psychology of Criminal Conduct*, 4th ed., Anderson, Cincinnati, OH.
- Andrews, D. and Bonta, J. (2010), *The Psychology of Criminal Conduct*, ISBN: 1437778984, 9781437778984, 5th ed., Routledge, Cincinnati, OH, May 26.
- Andrews, D., Bonta, J. and Hoge, R. (1990), "Classification for effective rehabilitation: rediscovering psychology", *Criminal Justice Behaviour*, Vol. 38 No. 7, pp. 19-52.
- Antonowicz, D. and Ross, R. (1994), "Essential components of successful rehabilitation programs of offenders", *International Journal of Offender Therapy and Comparative Criminology*, Vol. 38 No. 2, pp. 97-104, available at: www.wsipp.wa.gov/rptfiles/06-01-1201.pdf (accessed December 2009).
- Aos, S., Miller, M. and Drake, E. (2006), *Evidence Based Adult Corrections Programs: What Works and What Does Not*, Washington State Institute for Public Policy, Olympia, WA, available at: www.wsipp.wa.gov/rptfiles/06-01-1201.pdf (accessed November 21, 2014).
- Australian Standard Offence Classification (ASOC) (2008), *Australian Bureau of Statistics*, 2nd ed., ASOC, Canberra, available at: www.abs.gov.au/AUSSTATS/abs@.nsf/allprimarymainfeatures/98B6005C8EB5F1B7CA2578A200143106?opendocument (accessed January 8, 2008).
- Aydin, E., Kevin, M., Xie, Z. and Perry, V. (2011), "Evaluation of the getting SMART program. Study one: factors impacting on program completion", Research Publication No. 53, Corporate Research Evaluation and Statistics, NSW Department of Corrective Services, Sydney.
- Compendium of Correctional Programs (2013), *Corrective Services New South Wales*, Sydney, available at: www.correctiveservices.justice.nsw.gov.au/_data/assets/pdf_file/0012/439896/CSNSW-Compendium-of-Programs-revised-25-Nov-2013.pdf (accessed March 1, 2014).
- Duwe, G. and Goldman, R. (2009), "The impact of prison-based treatment of sex-offender recidivism: evidence from Minnesota", *Sex Abuse*, Vol. 21 No. 3, pp. 279-306.
- Gendreau, P., Little, T. and Goggin, C. (1996), "A meta-analysis of predictors of adult offender recidivism: what works!", *Criminology*, Vol. 34 No. 4, pp. 401-33.
- Getting SMART Program, Facilitator Manual (2013), *Offender Services and Programs Branch*, Corrective Services New South Wales, Sydney.

- Hester, R., Lenberg, K., Campbell, W. and Delaney, H. (2013), "Overcoming addictions, a web-based application, and SMART Recovery, an online and in-person mutual help group for problem drinkers, part 1: three-month outcomes of a randomized controlled trial", *Journal of Medical Internet Research*, Vol. 15 No. 7, p. e134, available at: <http://dx.doi.org/10.2196%2Fjmir.2565>
- Hollin, C. and Palmer, E. (2003), "Level of service inventory-revised profiles of violent and nonviolent prisoners", *Journal Interpersonal Violence*, Vol. 18 No. 9, pp. 1075-86.
- Horvath, T. (2000), "SMART Recovery®: addiction recovery support from a cognitive-behavioral perspective", *Journal Rational-Emotive and Cognitive-Behavior Therapy*, Vol. 18 No. 3, pp. 181-91.
- Horvath, T. (2013), "SMART Recovery-self help for substance abuse and addiction", available at: <http://blog.smartrecovery.org> (accessed December 2013).
- Jones, C. (2009), *Does Forum Sentencing Reduce Reoffending? Crime Justice Bulletin*, Vol. 129, NSW Bureau of Crime Statistics and Research, Sydney.
- Kevin, M. (2010), "Drug-related patterns and trends in NSW inmates: summary of the 2007-2008 biennial data collection. Research Bulletin No. 27, Corporate Research, Evaluation and Statistics", NSW Department of Corrective Services, Sydney.
- Lipsey, M., Landenberger, N. and Wilson, S. (2007), *Effects of Cognitive-Behavioural Programs for Criminal Offenders*, The Campbell Collaboration Library, Crime and Justice Group, Vol. 3 No. 3, available at: www.campbellcollaboration.org/doc-pdf/lipsey_CBT_finalreview.pdf (accessed December 9, 2015).
- McGuire, J. (2008), "A review of effective interventions for reducing aggression and violence", *Philosophical Transactions of the Royal Society B*, Vol. 363 No. 1503, pp. 2577-97.
- MacKenzie, D. (2006), *What Works: Reducing the Criminal Activities of Offenders and Delinquents*, Cambridge University Press, New York, NY, pp. 345-6 (accessed November 21, 2014).
- O'Sullivan, K., Blatch, C. and Toh, M. (2014), "A review of the creative group work training program for facilitators", *Journal Specialists in Group Work*, pp. 1-20. doi: 10.1080/01933922.2014.891682 (accessed March 16, 2014).
- Polaschek, D. (2011), "High-intensity rehabilitation for violent offenders in New Zealand: reconviction outcomes for high-and medium-risk prisoners", *Journal Interpersonal Violence*, Vol. 26 No. 4, pp. 664-82.
- Przybylski, R. (2008), *What Works. Effective Recidivism Reduction and Risk-Focused Prevention Programs*, RKC Group, Division of Criminal Justice. Colorado Department of Public Safety, Denver, CO.
- Rosenbaum, P. and Rubin, D. (1983), "The central role of the propensity score in observational studies for causal effects", *Biometrika*, Vol. 70 No. 1, pp. 41-55.
- Rosenbaum, P. and Rubin, D. (1985), "Constructing a control group using multivariate matched sampling methods that incorporate the propensity score", *The American Statistician*, Vol. 39 No. 1, pp. 33-8.
- SMART Recovery© Australia (2011), "SMART Recovery, Australia Ltd, Facilitator Training Manual", Sydney, available at: www.smartrecoveryaustralia.com.au (accessed November 19, 2014).
- SMART Recovery© (2014), "Self management and recovery training", Mentor, OH, available at: www.smartrecovery.org/?gclid=CN_AmomliMICFReWwQod-wOALQ (accessed November 19, 2014).
- Thurby, B., Kevin, M. and Xie, Z. (2011), "Evaluation of community offender service's drug and alcohol addiction and relapse prevention – three years out", Research Bulletin No. 33, Corporate Research Evaluation and Statistics, NSW Department of Corrective Services, Sydney, September.

Further reading

- Bridgeland, J., Dilulio, J. and Morrison, K. (2006), "The silent epidemic: perspectives of high school dropouts-calculations based on Harlow, C.W. (Revised 2003)", Education and Correctional Populations. Bureau of Justice Statistics Special Report, Department of Justice, Washington, DC, available at: www.ojp.usdoj.gov/bjs/pub/pdf/ecp.pdf (accessed January 2015).
- Howells, K., Watt, B., Hall, G. and Baldwin, S. (1997), "Developing programmes for violent offenders", *Legal and Criminological Psychology*, Vol. 2 No. 1, pp. 1117-128.

Polaschek, D., Wilson, N., Townsend, M. and Daly, L. (2005), "Cognitive-behavioural rehabilitation for violent offenders; an outcome evaluation of the violence prevention unit", *Journal Interpersonal Violence*, Vol. 20 No. 12, pp. 1611-27.

Serin, R. and Preston, D. (2000), "Programming for violent offenders", *Forum on Corrections Research*, Correctional Services Canada, Vol. 2 No. 12, pp. 45-8, available at: www.csc-scc.gc.ca/text/index-eng.shtml

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