

ORIGINAL ARTICLE

## Effectiveness of the rehabilitation for addicted prisoners trust (RAPt) programme

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### Abstract

The Rehabilitation for Addicted Prisoners Trust (RAPt) Programme, the largest provider of intensive prison-based drug treatment in the UK, addresses both substance dependence and criminal behaviour through a comprehensive model. This study examined recidivism in a group of male prisoners who completed the RAPt programme ( $n = 352$ ), a group of male prisoners who did not complete ( $n = 355$ ) the programme, and a third comparison group of male prisoners who completed another in-prison drug treatment programme ( $n = 232$ ). 12-month post-release recidivism data for the three groups were assessed with multivariate logistic regression in relation to age, race/ethnicity, length of sentence, prisoners' drugs of choice, and prisoners' primary offence for imprisonment. Results indicated that RAPt completers were less likely to re-offend within one year of prison release compared to the Comparison completers and prisoners who started but did not complete RAPt. Prisoners' drugs of choice were also associated with re-offence with those treated for heroin or cocaine (crack or powder) use being more likely to re-offend compared with those treated for use of any other drugs. Finally, the type of offence for which prisoners were convicted was also a prominent factor with those sentenced for a property offence more likely to reoffend within one year compared to those convicted of a non-property offence. These findings demonstrate the effectiveness of the RAPt programme and identify prisoners with heroin or cocaine dependence at highest risk for recidivism. Programme enhancements may address the additional risk among prisoners who identified heroin or cocaine use as their primary drug of choice.

### Keywords

Addiction, crime, treatment

### History

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### Introduction

In 2010 the British Government reoriented its drug treatment strategy to focus on attainment of the best possible outcomes for all who suffer from substance dependency, especially those involved in the criminal justice system (Office UK, 2010). This strategy emphasised treatment through concentration on comprehensive solutions “centred around each individual, with the expectation that full recovery is possible and desirable (p. 2)”. This approach encompasses the nation's efforts to reduce drug misuse and related criminal behaviour.

One major challenge associated with the implementation of this strategy is to provide evidence demonstrating the effectiveness of drug treatment programmes striving to enhance recovery. Treatment options should be rigorously evaluated to determine not only if they currently reduce future criminal behaviour, but also how they may be enhanced

further to achieve optimal outcomes. There is a well-known gap between the science of drug misuse treatment and current practices (Miller et al., 2006). Thorough review and evaluation of these types of programmes can help to inform more effective practices. This evaluation was undertaken to move toward this objective through the assessment of the RAPt programme relative to a comparison programme to better inform future practices in the largest prison-based drug treatment provider in the UK.

### Background of the Rehabilitation for Addicted Prisoners Trust (RAPt) Programme

The RAPt programme was founded in 1991 to address substance dependence in prisons and began serving clients in 1992 at HMP Downview in Surrey. RAPt operated continuously from this point forward, earned accreditation in 2001, and was expanded shortly thereafter. RAPt has been active for over 21 years, currently encompasses a total of 35 services across 27 prisons, and engages with over 20 000 people annually (RAPt, 2014).

The RAPt programme is based on the fundamental principle that substance dependence represents a chronic

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condition and that drug misusers may be at high risk for multiple substance addiction. Therefore, this programme adheres strictly to the abstinence-based model of substance use treatment and requires that random urinalysis drug screen (UDS) findings be collected throughout the duration of the treatment programme.

The RAPt programme is managed and implemented by paid staff, many of whom have a personal history of substance dependence and have been abstinent from substance use for a minimum of three years. Some staff may have a prior criminal history or custodial record. There are also many volunteers, all of whom are either qualified counsellors or nearing the completion of their counselling training. Staff and volunteers typically work in teams, which vary in size by facility, from three to ten. Peer supporters (i.e. prisoners who have completed the treatment programme and have been approved to work with the RAPt unit rather than assigned to a traditional work unit in the prison facility) also provide active roles in the programme. Additionally, participation in the RAPt programme is viewed as a full-time commitment and those who engage are not expected to be involved in any other prison work at the same time as they matriculate through treatment.

### Programme eligibility criteria

An inmate can apply for participation in the RAPt treatment programme, which can include an application for transfer to another prison if the programme is not available at the prison where the inmate currently resides. The British prison system implemented Prison Service CARAT (counselling, assessment, referral, advice, and throughcare) teams in 1999 which generally must endorse an inmate for them to be admitted to the RAPt programme (for more detailed discussions of CARAT teams, see Harman & Paylor, 2005; McSweeney et al., 2008). In 2012 the former CARAT and substance misuse programmes were integrated under the new Department of Health commissioning system to facilitate seamless assessment and treatment pathways. The criteria for admission to the current version of the programme includes a history of substance dependence (American Psychiatric Association, 1994), a history of a failure to control drug use, having a propensity toward multiple and often simultaneous drug use, and evidence of a link between drug use and offending (i.e. clients self-report the number of crimes committed (a) to fund substance use; or (b) under the influence of substances). Programme inclusionary criteria also contain a requirement that prisoners have a sentence which would allow them to fully complete all programme elements prior to their release date and must be abstinent from all psychoactive substances prior to programme entry.

### The nature and content of the programme

RAPt is a 16-to-21-week prison-based, 12-step substance dependence treatment programme. The term rapt, which is defined as ‘fully absorbed’, or ‘engrossed’ (Abate, 1997), is a suitable acronym for the RAPt substance dependence treatment programme given its comprehensive approach to treatment and recovery. It is built on an intensive and all-inclusive model combining several different, yet

complementary evidence-based approaches designed to address substance dependence. The programme begins with the provision of Motivational Enhancement Therapy and Cognitive-Behavioral Therapy (CBT) skills based on empirical evidence supporting the use of these techniques in correctional settings (Bahr et al., 2012; Brown et al., 2006; Pearson & Lipton, 1999; Gendreau & Goggin, 1997; Malinowski, 2003; McMurrin, 2007). The programme continues with a 12-step Narcotics Anonymous (NA) treatment plan, which has also been shown to have significant positive outcomes including long-term abstinence from several drugs (e.g. Gossop et al., 2007). Prisoners are required to progress through the first five steps of the programme while contributing to group therapy sessions. Prisoners are also encouraged to find a sponsor and continue through the remaining steps while engaging in individual counselling sessions for the duration of the programme that concludes with provision of a comprehensive care plan and relevant referrals (e.g. residential rehabilitation programmes) so that participants can access aftercare once released from the facility.

To date, there have been two preliminary evaluations of the RAPt programme's ability to reduce subsequent offending. The first, conducted by Martin and Player (2000), provided a descriptive overview of RAPt completers and participants who started but failed to complete the programme. This report determined RAPt graduates were less likely to be reconvicted after release from prison compared to non-completers, but failed to control for relevant covariates, such as length of prison sentence, type of offence, or drug of choice. The second evaluation of the RAPt programme compared reconviction data from those who completed the programme relative to a comparison group who participated in an alternative substance dependence treatment programme (Martin et al., 2003) and found that 25% of RAPt completers were reconvicted within 1 year of release from prison. Drug of choice was identified as a key factor in reconviction with 30% of those who reported opiates as their primary drug of choice reconvicted in this time period and 20% of those who preferred crack/cocaine were reconvicted. Another crucial indicator of reconviction was the type of offences treatment completers committed. The largest proportions of those convicted were sentenced for shoplifting (20%) or burglary (19%), followed by participants who were convicted of drug-related offences (16%).

In sum, these preliminary findings shed some light on the nature and extent of post-programme offending among RAPt graduates, non-completers, and prisoners who participated in a comparative drug misuse treatment programme, but they did not provide more than basic descriptive results. Most importantly, these early RAPt reports overlooked relevant confounds that may have impacted the observed findings, including offence history, preferred drug(s) of choice, and length of sentence. One strength of these two reports was their assessment of RAPt participants relative to either RAPt drop-outs and those who did not have treatment (Martin & Player, 2000) or a comparison group (Martin et al., 2003). Given what is currently known from prior work examining the RAPt programme, the main objective of the present study was to conduct a more extensive evaluation of the effectiveness of

the RAPt programme to reduce reoffending based on a tri-group comparison between RAPt completers, RAPt non-completers, and a third group who received treatment-as-usual in an alternative prison-based programme.

## Methods

### Sample characteristics

Demographic characteristics, offence history, and primary substance of choice data are included in Table 1, stratified by treatment group.

The current study was based on a three-cohort comparison of male prisoners who met criteria to be included in one of three groups. The first group, which will be referred to as ‘‘RAPt completers’’ in the context of the current evaluation, completed the 16-to-21-week 12-step substance dependence treatment programme while incarcerated. The second group, labeled ‘‘Comparison completers’’, completed a treatment programme of lower intensity and shorter duration while incarcerated. This intervention required attendance at 20 sessions, each lasting two and a half hours, over a four week period. This substance misuse programme is based on a Cognitive Behavioural Therapy (CBT) and Harm Minimisation Model. Participants were only included in the Comparison completer group if they were serving minimum 18-week sentences to match the inclusion requirement of the RAPt Substance Dependence Treatment Programme (SDTP). The third group, labeled ‘‘RAPt non-completers’’, initiated the same SDTP as the first group, but did not complete the programme. The reasons most frequently cited for programme

non-completion among RAPt non-completers were either: (1) voluntary disengagement by the participant (30%), (2) repeated positive results on voluntary drug tests (25%), or (3) misconduct relating to a prison security issue (21%).

An application was made by RAPt administrators to the Offender Management and Sentencing – Analytical Services Unit (OMSAS) of the Ministry of Justice to obtain access to data derived from the Police National Computer (PNC) records for the purpose of this study. This application was approved and the data was provided to RAPt’s Research Team in 2011 by the Justice Statistics Analytical Services (JSAS) in the Ministry of Justice. In order for the JSAS to extract the relevant PNC data for each individual in the sample RAPt provided them with each participant’s name, PNC ID and date of release from prison (after serving the sentence during which participants engaged with either of the aforementioned programmes). The JSAS then extracted the offending records for each individual, anonymized the records (replaced names and PNC IDs with a unique ID) and returned this data securely to the RAPt Research Team. PNC records could not be matched to the details of 4% (16) of the original sample of 374 RAPt completers, 5% (14) of the 280 Comparison completers and 2% (7) of the 375 RAPt non-completers and therefore these individuals were excluded from the sample. Prisoners were also excluded from the final study sample if they were missing data on the main offence for which they were incarcerated while engaging with the RAPt or comparison intervention (8 (2%) RAPt non-completers) or their current length of sentence (6 (2%) RAPt completers, 5 (1%) RAPt non-completers, and 34 (13%) Comparison completers). Each participant in the three cohorts must have been released from prison between November 2004 and March 2010 for a minimum of 1-year to be eligible for inclusion in this study. PNC offending records were obtained for each released inmate to assess re-offending within this post-release period. There was a 6-month lag between the end of this 1-year period and the time when PNC records were updated. Permission was granted by OMSAS for the PNC data to be shared with the researchers in the Department of Criminology and Criminal Justice at Western Carolina University for the purpose of this study.

The total sample was comprised of 939 male prisoners with a mean age of 30.8 years ( $SD = 6.9$ ). The RAPt completer group consisted of 352 prisoners ( $M^{age} = 31.4$  years,  $SD = 6.9$ ) who served a mean prison sentence of 43.4 months ( $SD = 23.5$ ). Approximately half (50%) of RAPt completers were sentenced for property-related offences and the vast majority (78%) reported either heroin or cocaine as their primary drug of choice. The Comparison completers included 232 prisoners ( $M^{age} = 29.5$  years,  $SD = 6.8$ ) served an average of 24.7 months ( $SD = 20.2$ ) in prison. About two-thirds (66%) of prisoners in the Comparison completer group reported heroin or cocaine as their primary drug of choice and the largest proportion (38%) were sentenced for property-related offences. The 355 RAPt non-completers ( $M^{age} = 31.1$  years,  $SD = 7.0$ ) served an average prison sentence of 45.1 months ( $SD = 24.1$ ) with the largest proportion (54%) of the group sentenced for property-related offences. The majority (79%) of prisoners who did not complete the RAPt

Table 1. Descriptive and bivariate statistical comparisons of treatment groups.

Variable	Comparison completers ( <i>n</i> = 232) <i>M</i> ( <i>SD</i> ) or %	RAPt completers ( <i>n</i> = 352) <i>M</i> ( <i>SD</i> ) or %	RAPt non-completers ( <i>n</i> = 355) <i>M</i> ( <i>SD</i> ) or %
Age (years)	29.5 (6.8)	31.4 (6.9)	31.1 (7.0)
Current sentence length	24.7 (20.2)	43.4** (23.5)	45.1** (24.1)
Race			
White	78%	62%	75%
Black	10%	10%	12%
Asian	7%	3%	5%
Multiracial	5%	4%	6%
Other	–	20%	3%
Primary crime			
Crime against person	24%	19%	17%
Drug crime	21%	23%	18%
Property-related crime	38%	50%**	54%**
Other crimes	17%	8%**	11%*
Primary drug of choice			
Heroin or cocaine	66%	78%**	79%**
Other	34%	22%**	21%**
Secondary drug of choice	6%	38%**	48%**
Reoffended within 1 year	49%	31%**	48%

Differences between treatment groups were tested using chi-square tests for categorical variables and *t*-tests for continuous variables.

\* $p < 0.05$ ; \*\* $p < 0.01$

programme also reported heroin or cocaine as their primary drug of choice.

### Data analysis

Several variables were considered to assess the RAPt programme's effectiveness in the reduction of re-offending after release from prison relative to the other two treatment groups (i.e. RAPt non-completers and Comparison completers). Race was recorded with a series of dummy variables to document prisoners' self-reported racial background (i.e. Black, Asian, Multiracial, and Other, with White as the reference group).

Another consideration was prisoners' primary crime related to their imprisonment. Prisoners were grouped according to whether they were convicted of (a) a crime against another person (e.g. assault), (b) a property-related crime (e.g. theft, fraud), (c) a drug-related crime, or (d) other crimes (e.g. disorderly conduct, breach offences, weapons offences, and sexual offences). A series of dummy-coded variables were generated with drug-related crimes serving as the reference group.

In addition, prisoners' primary drug of choice was reported as (a) heroin, (b) cannabis, (c) alcohol, (d) crack/cocaine, or (e) another drug such as ketamine, amphetamines, or benzodiazepines. Given the disproportionate number of participants who reported heroin or crack/cocaine as their primary drug of choice (75% of the aggregate sample), and existing knowledge about how these drugs contribute to offending, a dichotomous measure was coded "1" to indicate heroin or crack/cocaine as the primary drug of choice and "0" for other substances. Another binary variable was created to indicate whether or not participants had a second drug of choice (coded "1" and those who did not have a second drug of choice were coded "0").

Multivariate logistic regression analyses were utilized to assess the associations between these independent variables and the primary outcome for the present study: whether or not the inmate had been reconvicted in a 12-month period following release from prison, as indicated through official PNC records. Prisoners were coded "0" if they had not been reconvicted within 1 year of release and "1" if they had been reconvicted within 1 year of release.

### Results

Descriptive statistics for the three treatment groups are presented in Table 1. The RAPt completer group was sentenced, on average, to longer ( $t = 9.95$ ,  $df = 582$ ,  $p < 0.01$ ) prison terms compared to the Comparison completer group. The RAPt non-completer group was also sentenced to longer periods of imprisonment, on average ( $t = 10.64$ ,  $df = 585$ ,  $p < 0.01$ ), compared to the Comparison completer group.

A preliminary examination was also conducted to test the distribution of offence types across the treatment groups (Table 1). Relative to the Comparison completer group, the RAPt non-completer group was comprised of significantly more prisoners who were convicted of a property crime ( $\chi^2 = 11.09$ ,  $df = 1$ ,  $p < 0.01$ ). Significant associations were also observed between the RAPt completer group and the

Comparison completer group with a larger proportion of inmates in the RAPt completer group convicted of a property-related crime ( $\chi^2 = 6.82$ ,  $df = 1$ ,  $p < 0.01$ ) compared to the Comparison completer group. However, fewer prisoners in the RAPt completer group were convicted of other crimes ( $\chi^2 = 21.22$ ,  $df = 1$ ,  $p < 0.01$ ) compared to the Comparison completer group. A larger number of inmates in the Comparison completer group were also convicted of other types of crime relative to inmates in the RAPt non-completer group ( $\chi^2 = 4.34$ ,  $df = 1$ ,  $p < 0.05$ ).

There were also statistically significant differences found for the prisoners' reported primary drug of choice when the RAPt groups were individually compared to the Comparison completer group. For instance, larger numbers of prisoners in the RAPt completer group reported heroin or crack/cocaine as their primary drug of choice compared to prisoners in the Comparison completer group ( $\chi^2 = 10.76$ ,  $df = 1$ ,  $p < 0.01$ ). A similar association in the disproportionate distribution of those who reported heroin or crack/cocaine as their first drug of choice was observed between the RAPt non-completer group and the Comparison completer group ( $\chi^2 = 14.11$ ,  $df = 1$ ,  $p < 0.01$ ) with a larger proportion of prisoners who reported heroin or crack/cocaine as their primary drug of choice in the RAPt non-completer group. A significant association was also observed in the distribution of prisoners who reported a secondary drug of choice across treatment group. There were larger numbers of prisoners who positively endorsed a secondary drug of choice in the RAPt completer group ( $\chi^2 = 79.27$ ,  $df = 1$ ,  $p < 0.01$ ) and the RAPt non-completer group ( $\chi^2 = 116.92$ ,  $df = 1$ ,  $p < 0.01$ ) relative to the Comparison completer group.

Significant differences were also observed between the RAPt completer group and the Comparison completer groups according to the proportions of prisoners who were reconvicted within 1-year of their initial release from prison. There was a disproportionately smaller number of prisoners reconvicted in the RAPt completer group compared to the Comparison completer group ( $\chi^2 = 18.68$ ,  $df = 1$ ,  $p < 0.01$ ). There were no significant differences between the RAPt non-completer group and the Comparison completer group in the proportions of prisoners who were reconvicted ( $\chi^2 = 0.04$ ,  $df = 1$ ,  $p < 0.85$ ).

A multivariate logistic regression model was used to assess predictors of post-release re-offence. The Comparison completer group served as the reference group (Table 2). In this model, longer prison sentences were associated with significantly lower odds ( $OR = 0.98$ ,  $SE = 0.01$ , 95%  $CI = 0.98-0.99$ ) of post-release reconviction.

Prisoners' main offence type was also a significant predictor of post-treatment reconviction. Specifically, relative to prisoners who were convicted of a drug-related offence, those convicted of a property-related offence were more than two and a half times more likely to experience post-treatment reconviction ( $OR = 2.85$ ,  $SE = 0.57$ , 95%  $CI = 1.93-4.20$ ). Prisoners convicted of other types of offences were nearly two times more likely ( $OR = 1.94$ ,  $SE = 0.52$ , 95%  $CI = 1.14-3.28$ ) to have been reconvicted compared to those who were originally convicted of a drug-related crime.

Primary drug of choice was also significantly associated with post-treatment reconviction. Prisoners who reported their

Table 2. Logistic regression results predicting re-offence within 1 year of treatment.

Variable	$\beta$ (SE)	Wald's $\chi^2$	<i>p</i>	OR	95% CI	
					Lower	Upper
Age	−0.04(0.01)	1.03	0.311	0.99	0.97	1.01
Race/ethnicity						
Black	0.04(0.31)	1.31	0.253	1.31	0.82	2.08
Multiracial	0.01(0.37)	0.12	0.726	1.12	0.59	2.12
Asian	−0.03(0.26)	0.76	0.382	0.73	0.36	1.48
Other	−0.09(0.16)	4.70	0.030	0.53	0.29	0.94
Current sentence length	−0.20(0.01)	21.44	0.000	0.98	0.98	0.99
Main offence						
Offence against person	−0.02(0.23)	0.11	0.740	0.92	0.57	1.50
Property offence	0.26(0.57)	27.87	0.000	2.85	1.93	4.20
Other offences	0.10(0.52)	6.03	0.014	1.94	1.14	3.28
Drug of choice						
Heroin or cocaine	0.12(0.31)	9.49	0.002	1.73	1.22	2.46
Additional drug of choice	0.10(0.26)	6.77	0.009	1.55	1.11	2.15
Treatment group						
RAPt completer	−0.16(0.11)	9.79	0.002	0.51	0.33	0.78
RAPt non-completer	−0.02(0.20)	0.13	0.716	0.93	0.61	1.40

primary drug of choice was heroin or crack/cocaine were significantly more likely to have been reconvicted ( $OR = 1.73$ ,  $SE = 0.31$ ,  $95\%$   $CI = 1.22–2.46$ ) compared to those whose primary drug of choice was not heroin or crack/cocaine (e.g. cannabis, alcohol, amphetamines). Additionally, prisoners who reported a secondary drug of choice were 55% more likely to be reconvicted compared to those who did not report a secondary drug of choice ( $OR = 1.55$ ,  $SE = 0.26$ ,  $95\%$   $CI = 1.11–2.15$ ).

The last set of variables in the model indicated the treatment condition prisoners were exposed to treating the Comparison completer group as the reference group. After controlling for age, race, sentence length, offence type, and drug of choice-related items, prisoners who completed RAPt were about 49% less likely ( $OR = 0.51$ ,  $SE = 0.11$ ,  $95\%$   $CI = 0.33–0.78$ ) to be reconvicted compared to prisoners in the Comparison completer group. Prisoners who started but did not complete the RAPt programme (i.e. RAPt non-completers) were no more or less likely ( $OR = 0.93$ ,  $SE = 0.20$ ,  $95\%$   $CI = 0.61–1.40$ ) to be reconvicted in the initial 12-months following release from prison compared to prisoners in the Comparison completer group.

Follow-up analyses were also conducted to examine the effects of sentence length, offence type, and drug of choice within the RAPt completer group to determine which factors could be addressed in future delivery of the programme to further reduce recidivism. Offence type was significantly associated with reconviction in the RAPt completer group. Property offenders were significantly more likely to be reconvicted ( $OR = 2.03$ ,  $SE = 0.71$ ,  $95\%$   $CI = 1.03–4.01$ ) compared to drug offenders. Drug of choice was also significantly associated with reconviction given those who reported either heroin or crack/cocaine as their primary drug of choice were nearly three times as likely to be reconvicted ( $OR = 2.98$ ,  $SE = 1.30$ ,  $95\%$   $CI = 1.27–6.97$ ) compared to

those who reported any other primary drug of choice. There were no additional significant associations with reconviction within the RAPt completer group, indicating RAPt completers' offence type and primary drug of choice were the two most important factors to address in subsequent efforts aimed at recidivism reduction.

## Discussion

This evaluation was conducted to assess the effectiveness of the RAPt programme in reducing 12-month criminal recidivism among those who completed the programme relative to two comparison groups. Other studies which have focused on prison-based drug treatment programmes outside the UK (mainly concentrated on programmes in the US correctional system) have found programmes can reduce recidivism (Daley et al., 2004; Inciardi et al., 1997; Knight et al., 1997), but the RAPt programme is the only UK prison-based drug treatment programme currently known to publicly share its programme effects as they relate to reconviction of its clients. Evidence clearly demonstrated the RAPt programme was superior to a comparison treatment programme in recidivism reduction, especially for drug-involved prisoners who completed the RAPt programme. There were also several specific results which may inform future practices for the RAPt programme with emphasis on prisoners' primary offence type, primary drug of choice, secondary drug of choice, and fostering programme completion to achieve the lowest levels of recidivism.

The most important finding of the current study was that RAPt completers were significantly less likely to be reconvicted after treatment. Research has shown incarceration-based drug misuse treatment programmes can effectively reduce recidivism, with as many as 83% of these types of programmes yielding reductions in reoffending relative to a comparison group (Mitchell et al., 2007), but this research was not conducted in a recent UK context and should be interpreted accordingly. The RAPt programme can be counted among these effective programmes because prisoners who completed the programme were significantly less likely to be reconvicted. In fact, the RAPt completers unequivocally fared better than the Comparison completers and the RAPt non-completers given only 31% of RAPt completers were reconvicted within 1-year compared to 49% of Comparison completers and 48% of RAPt non-completers who were reconvicted in the same time frame.

The second noteworthy finding indicated longer sentences were associated with prisoners' lower likelihood of reconviction within 1-year of their release. This effect was relatively small in the sense that a one-month increase in sentence length was associated with 2% lower odds of reconviction holding all the variables constant and was largely driven by RAPt participants, both completers and non-completers. This is consistent with the literature that reports higher reconviction rates for UK prisoners that were released from shorter custodial sentences (Ministry of Justice, 2010). RAPt participants were sentenced to longer periods of confinement, potentially giving them the ability to get more out of their treatment experience, which likely contributed to the reduced likelihood of being reconvicted. Sentence length was an

important contributing factor to reconviction, but the programme effects of RAPt participation had a much larger effect relative to the substantively minor influence of sentence length.

The third important finding indicated prisoners who reported heroin or crack/cocaine use as primary drugs of choice were significantly more likely to be reconvicted, and those who were convicted of property crimes were also more likely to recidivate, which is consistent with prior research (e.g. Bennett & Holloway, 2005; Cross et al., 2001). This finding is directly connected to the high prevalence of these two drugs in the UK general adult population with cocaine holding the lead position as the illicit drug with the highest rate of past-month use, and heroin was ranked as the fourth most prevalent drug used in the past month (Hoare & Moon, 2010). Interestingly, observed estimates regarding the proportions of prisoners in the present study reporting cocaine or heroin as their primary substance of choice ranged from 66 to 79% (based on treatment group), which is quite comparable to national estimates (62% of users of class A drugs; Hoare & Moon, 2010).

The prominence of heroin or crack/cocaine use and property offences as key indicators of recidivism are likely interconnected because many persistent heroin or crack/cocaine users have been known to engage in high rates of property crime. This is consistent with the highly addictive nature of these drugs and the probability of such offenders being highly dependent on these substances (or – in the terminology of the new *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5; American Psychiatric Association, 2013) diagnostic criteria – having a severe heroin or cocaine use disorder). Persons with such addictions are likely to have difficulty funding their substance use needs. For example, data from the New English and Welsh Arrestee Drug Abuse Monitoring (NEW-ADAM; Bennett & Holloway, 2005) programme have shown those who reported heroin use in the past year were significantly more likely to have shoplifted compared to those who had not used the drug. Another study conducted in the Netherlands supported this assertion with evidence that 71% of heroin users in a treatment programme self-reported shoplifting and the most frequently stolen items were clothing or shoes (van der Zanden et al., 2007). Most notably, many of the prisoners in the study conducted by van der Zanden and colleagues reported their shoplifting was an important source of income.

Similar findings have been demonstrated among cocaine users. In fact, prior work has demonstrated that those involved in cocaine use were nearly 17 times more likely than non-frequent drug users to report illegal income from stealing (Cross et al., 2001). In addition to property crime involvement, the National Treatment Outcome Research Study (NTORS), which focused on individuals who participated in community-based drug treatment programmes, has shown that regular heroin users and regular cocaine users compared to less frequent users were significantly more likely (11 times for heroin and 3 times for cocaine) to be classified as high-rate offenders given their increased involvement in criminal activities (Stewart et al., 2000). Drug dependence is a compelling reason why a sizeable number of property

offenders come into contact with the criminal justice system and this type of specialized treatment, such as that which is offered in the RAPt programme, can substantially reduce future offending (Kopak & Hoffmann, 2014; Kopak et al., 2014).

The prevalence of heroin or crack/cocaine use is so prominent among prisoners it has been estimated that nearly half of prisoners in British prisons may have been dependent on either one or a combination of the two prior to their incarceration (Marshall et al., 2000). These patterns of drug use, along with the property offending patterns of prisoners, need to be among the highest priorities in pre-programme assessment. One implication of these findings may involve augmentation of RAPt assessment procedures and subsequent programme assignment to better address heroin use, crack/cocaine use, and provide ample training to participants to help create alternatives to property offending once released back into their communities.

Another important discussion point is related to the recognition of the complexity of challenges associated with treating drug addiction, especially to heroin. Neurobiological research has shown the neurochemical makeup of people who experience addiction adapts to the regular presence of drugs (Volkow et al., 2003). These physiological changes can influence a person's ability to control intentional actions, decision-making, and other important cognitive processes (Hester & Garavan, 2004). The repeated use of drugs may contribute to an amalgamation of physiological changes which should be simultaneously yet specifically addressed relative to one another. Failure to address the physiological responses associated with discontinued drug use may influence the likelihood of relapse and the inability to disinhibit illegal behaviour. The most favorable treatment outcomes, whether it is within the RAPt programme or another prison-based treatment programme, will not be realized unless prisoners are appropriately evaluated and subsequently treated for use. This condition requires prognostic attention, especially to achieve maximum reduction in post-release recidivism.

The final notable finding was that the presence of a secondary drug of choice significantly increased the likelihood of reconviction within 1-year of release from prison. This is likely a proximal indicator of polysubstance use, which has been directly connected to offending and special treatment needs (Loza, 1993). Likewise, reports of a secondary drug of choice may be a proximal indicator of more severe addictions and pervasive substance use disorders. Researchers have found, in a community-based sample within the US, polysubstance users (who reported any combination of use of heroin, cocaine, hallucinogens, amphetamines, or barbiturates, alcohol, or marijuana) exhibited persistent offending behaviour over time compared to users of alcohol only, marijuana only, or non-drug users (Menard et al., 2001). In addition, those who reported use of multiple substances, which may have included alcohol, were more likely to report use immediately prior to illegal behaviour and reported greater involvement in violence compared to nonusers (Menard & Mihalic, 2001). These results confirm the need to appropriately assess and treat polysubstance use to further reduce reoffending among users of multiple drugs.

Exploring the potential reasons for the differential retention rates in programme completion between the RAPt completers and non-completers may provide additional clues for improving treatment outcomes. Completion rates of clients who initiated the RAPt programme have been rising, increasing from 64% in 2008–2010 to 73% in 2011–2013. The increased completion rates may be attributed to amendments to the programme's de-selection procedures that were implemented in 2010. The treatment staff were trained and supported to manage behavioural issues, positive drug tests, and other breaches of the rules and expectations with more therapeutic approaches. These strategies included placing participants on a 'lay-down' period and/or asking them to re-complete the first phase of the programme or an appropriate assignment to reflect on their behaviour rather than removing from the programme. These approaches also encourage participants with a positive drug test to explore this with the group and with their focal counsellor while continuing in treatment. For more severe behavioural issues or continued drug use, there is a revised procedure for verbal and written warnings before a participant is removed from the programme.

Despite these rising completion rates, the question remains whether initial differences among prisoners can be addressed to further enhance the likelihood that those who start the programme will successfully complete it. The two RAPt groups were similar on factors, such as age, length of sentence, and the primary substance of use, but the non-completers were more likely to have a secondary substance indicating the possibility of a more pervasive addiction profile. The fact that more of the non-completers are white and more of the completers list "other" for race suggests the possibility of subcultural factors influencing completion as well. Other potentially productive areas of exploration may be the consideration of other co-occurring mental health conditions, levels of social supports identified prior to release from prison, and other personality or motivational indications upon entry into the RAPt programme. Unfortunately, data related to these areas were not available for all three cohorts in the current study and should be examined in future studies of the programme.

Subsequent evaluations of the RAPt programme might also consider addressing some of the limitations of this study. The data available for this assessment included only male prisoners (data was not available from female prisoners in the Comparison completer programme) and should be interpreted accordingly. A subsequent evaluation of the RAPt programme needs to be conducted to determine if these same factors are salient for female prisoners to ensure the programme is addressing their treatment needs. This study also lacked clinical data from the Comparison programme related to other well-known co-occurring disorders related to substance dependence and criminal activity. Future data collection efforts among Comparison programme cohorts should take these factors into account to examine the effectiveness of RAPt to address other issues which are likely to influence recidivism.

Overall, completion of the RAPt programme was unquestionably the most effective of the three programmatic options in reducing the probability of prisoners' post-treatment

reconviction. Further study needs to concentrate on ways to alleviate offending among heroin, crack/cocaine users, and property offenders. Effectively addressing these specific types of drug use and offending is likely to further enhance the efficacy of this empirically supported treatment programme.

## Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

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