HM Prison & Probation Service

An evaluation of a brief intervention to reduce substance use amongst men at HMP Holme House

A randomised control trial

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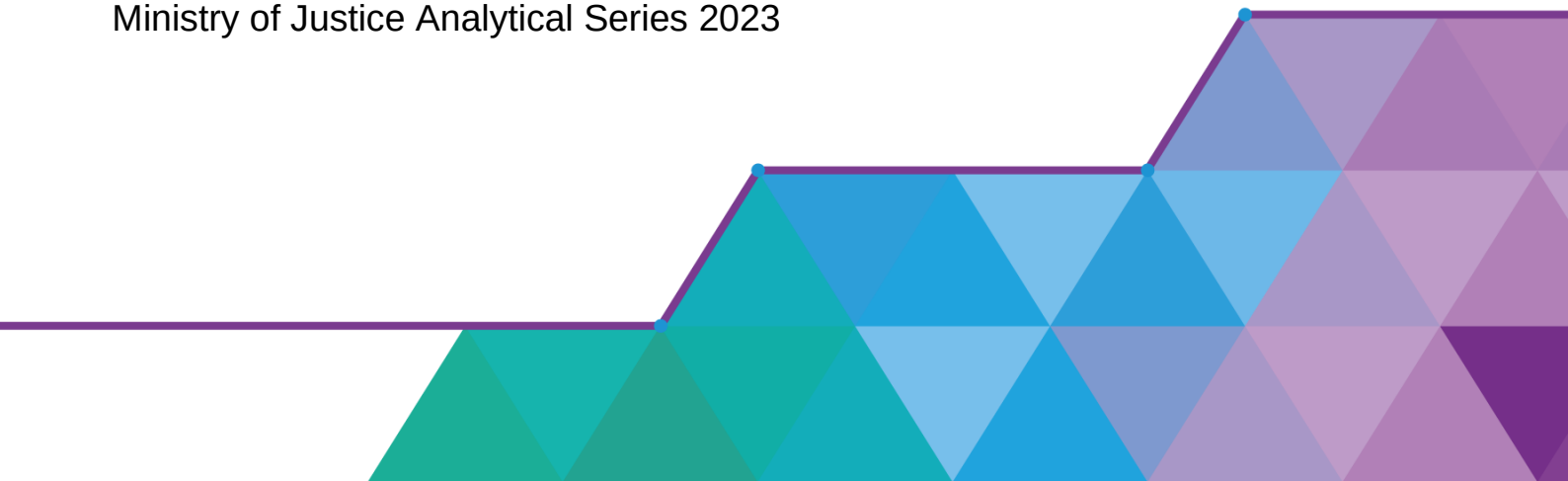

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1. Summary

Aim

This report documents the results of a randomised control trial testing a brief intervention that aimed to reduce substance use among men serving sentences in a category C prison in England.

Method and limitations

Over the course of a year, 200 men agreed to take part in the trial. Participants were randomly assigned to one of three groups. The experimental group completed a short value affirmation task, before reading a health message about the risks associated with psychoactive substance misuse (specifically, synthetic cannabinoid receptor agonists; SCRA), and information on drug support services. The control group completed a control task before reading the same message. The treatment-as-usual group were inducted as normal into the prison, completing neither the experimental nor control tasks, nor receiving the SCRA health message.

Participants completed a range of self-report measures, comprising a self-compassion questionnaire, an implicit association test measuring self-esteem, a set of questions about the information they were presented with regarding drug use (health message), questions on intention to change drug use, and a drug use questionnaire. Participants' recorded prison misconduct was assessed through adjudication administrative data at a three-month follow-up.

The randomised control trial involved a relatively small sample and high levels of participant drop-out meant that the study was underpowered, meaning there was an increased chance of failure to detect any potential impact of the intervention. Furthermore, most of the measures used in the study were self-report, which relies on both the self-awareness and honest responses of participants.

Key results

Results indicate that the brief intervention was not effective in increasing the degree to which participants accepted the drugs health message as relevant or credible. The intervention did not influence behaviour change, namely self-reported illicit drug use

at two-week follow-up, engagement with prison drug services or number of proven instances of prison rule breaking over a three-month follow-up. The health message had no impact on these outcomes either. However, small sample sizes limited the ability of the study to detect any differences between the groups.

Prisoners in all three of the experimental groups self-reported less drug use two weeks after arrival at the prison than in the week prior to their arrival. Those at higher risk of reoffending were more likely to admit to taking illegal drugs in prison. People at higher risk of reoffending, those with longer criminal histories and those who were serving a sentence for an acquisitive crime (a group more likely to have a drug problem requiring treatment) were more likely to engage in drug services in the first three months on arrival to the prison.

Being younger, serving a sentence for an acquisitive offence, having lower levels of self-compassion, higher levels of self-esteem and less intent to change their drug use were all strongly associated with more instances of (proven) prison rule breaking.

Conclusion

This study evaluates a brief intervention designed to increase acceptance of a health message about the risks associated with illicit drug use in prison. The study suggests no impact on measures of participants' intentions to change drug use, self-reported drug misuse, engagement with drug services or proven prison rule breaking over a short follow-up. However, the study was underpowered, limiting the ability to detect significant differences in outcomes between the intervention and control groups.

It is possible that in the face of other, stronger, influences, information that explains the risks of SCRA use in prisons may not have a statistically significant impact on the drug taking behaviour of men in prison. That is not to say that people in prison shouldn't be provided with this information, but that first and foremost we need to attend to other factors that have greater influence on illicit drug taking by restricting supply of drugs, improving the availability of purposeful activity in prisons, and the availability of treatment and support services for those using substances. Further research is required to help understand the conditions under which important

information about the risks of illicit drug use are most likely to be heard, understood and acted upon by people in prisons.

2. Introduction

2.1 Context and Background

Synthetic cannabinoid receptor agonists (SCRA) are chemicals which stimulate the receptors within the body responsible for mediating the pharmacological effects of the active ingredient in cannabis (Advisory Council on the Misuse of Drugs – ACMD, 2020). SCRAs, which are a subset of 'psychoactive substances', affect mental processes, including people's perceptions, and the way they think and feel (WHO, 2014). In prisons in England and Wales, a marked shift towards misuse of SCRAs over other illicit substances was observed from 2014 (Ralphs, Williams, Askew & Norton, 2017), and has presented a substantial problem leading to a number of health and behaviour problems among prisoners (e.g., Centre for Social Justice, 2015; HMIP, 2016). Estimates suggest that between 40–60% of the prison population in England and Wales use illegal drugs (Centre for Social Justice, 2015; Ralphs et al., 2017; User Voice, 2016), and the number of prisoners reporting that they developed a drug problem in prison more than doubled between 2014 and 2019 (HM Prison and Probation Service, 2019). Reported motivations for the use of SCRAs include their potent effects, the fact that they can be difficult to detect in urine samples, they are easy to conceal, and they also have a reputation as powerful and cheap substances which can be used for 'mind-numbing' effects used to deal with the boredom and monotony of prison life (Gray, Ralph, & William, 2020; Ralphs et al., 2017). It is also possible that use of SCRAs is impacted by problems within prisons, including lack of purposeful activity and decreasing staff levels (Duke, 2020).

SCRA use in prisons has been linked to a range of negative outcomes for both prisoners and staff. SCRAs contribute to the illicit economy and debt in prisons (Hammill & Newby, 2015; Wheatley, Stephens & Clarke, 2015), and have been implicated in the rise in recent years in bullying, aggression, unpredictable behaviour among prisoners as well as prison violence (Norman et al., 2020). There has also been a rise in the number of prisoners exposed to high doses of SCRA after others 'spike' them for entertainment (ACMD, 2020). A recent study examining the experiences of people living and working in prisons reported that SCRA use was associated with psychotic events marked by hallucinations, depression, self-harm,

and suicidal ideation, as well as increase in fear, paranoia, and mistrust, which also had a deep impact on many of the staff surveyed (Corazza et al., 2020). In addition, the increase in the number of emergency calls and time spent dealing with the consequences of drug use have a direct impact on prison routines and resources for regular prison activities (EMDCCA, 2018).

Prisons have taken several approaches to tackling illegal drug use, including tougher security measures to restrict supply, deterrents such as drug testing, and the provision of support for recovery from addiction through rehabilitative interventions (Wakeling & Lynch, 2020). The HMPPS drug strategy (2019) sets out the ambition to tackle drug misuse using a three-pronged approach. The first approach is to restrict supply by minimising the entry of drugs into prisons, greater use of searching, intelligence, and drug testing, and by disrupting the trading of drugs within prisons. The second approach is to reduce demand by ensuring that there are the right incentives in prisons to encourage and support prisoners to make good decisions, to provide the right opportunities and positive relationships to support prisoners to move away from drugs, and to engage with families, friends, and peers to help prisoners develop supportive pro-social networks. The third approach is to build recovery by collaborating with health partners to ensure successful commissioning and delivery of services, to build a whole prison recovery focus, and to work with community partners to ensure continuity of care post release. Reports suggest that SCRA users do not often engage with treatment services, and that there is a need to improve the availability and access to treatment for prisoners with problematic drug use including SCRA, while in custody and after release (ACMD, 2020).

At the time of the study, HMP Holme House was a category B local prison holding just under 1,200 prisoners and was one of a group of jails designated as a reform prison, which granted the Governor devolved powers. An inspection in 2017 raised concerns about the level and nature of drug misuse at the jail, where, according to the Inspectorate’s survey, nearly 60% of prisoners felt it was easy to get drugs in the prison, and a quarter reported that they had developed a drug problem while in the jail (HMIP, 2017). On induction to prison, prisoners receive a range of information including that designed to provide health education. As part of the Prison Reform Programme, HMP Holme House commissioned a trial of a brief psychological

intervention that aimed to help people in prison to understand the risks of using SCRA through health education, to determine whether this could have an impact on both demand and uptake of these substances, as well as on wider prison behaviour.

Research suggests that brief, psychologically informed, interventions can provide a promising and resource-effective approach to behaviour change, by targeting specific psychological processes linked to the problem behaviour, in the right context and at the right time (Walton, 2014). If such an intervention were able to impact both on intention to use, and use of, SCRAs at a time of transition from one prison to another, then this could be an effective and efficient addition for prisons to a wider strategy to manage the problem of SCRAs in custodial settings. This report describes the evaluation of the effectiveness of a brief intervention on both intentions to use, and reported use of, SCRAs at one prison in England. A review of the literature on changing substance use behaviour is available in appendix 1.

2.2 Purpose and aims of the study

This randomised control trial aimed to test a brief value-affirmation intervention with men in prison. So far value-affirmation tasks like this have only been tested in health and education settings; this study aimed to determine whether such an approach could be effective in a prison context, augmenting other measures to reduce the demand for and uptake of illegal substances among prisoners. The study aimed to test whether a value-affirmation task (bolstering or restoring a perception of oneself as adaptively and morally adequate) can:

1) Improve message acceptance in relation to the risks of using SCRA, and
2) Result in a reduction in the use of SCRAs, increase in engagement in drug treatment and improved prison behaviour.

There is good evidence that value-affirmation can reduce defensive bias in message processing, but further research is required into the mechanisms through which this works. This study aims to examine two possible mediators of value-affirmation: self-compassion and implicit self-esteem (Lindsay & Creswell, 2014).

2.3 Research questions and hypotheses

What factors affect the degree to which men in prison accept messages about the risks of SCRA drug use?

What demographic and psychological factors (including self-compassion and implicit self-esteem) are related to the degree to which men in prison accept as valid and relevant information about the risks of SCRA use?

Can a brief value-affirmation intervention improve the degree to which men in prison accept messages about the risks of SCRA use?

Hypothesis a: The brief intervention will improve message acceptance. That is, those who receive the value-affirmation intervention will score more highly on measures of message acceptance about health risks associated with SCRA use compared to those who receive a control intervention.

Can a health message about the risks of SCRA use in prison impact on self-reported drug-use, proven prison rule-breaking and engagement in drug services in prison?

What impact does a health message about the risks of SCRA use in prisons have on self-reported drug use, proven prison rule-breaking and engagement in drug services in prison?

Can a brief value-affirmation intervention impact on levels of self-compassion, implicit self-esteem and motivation or intention to change SCRA use?

Hypothesis b: The brief intervention will improve self-compassion, implicit self-esteem and motivation and intention to change SCRA use. Those who receive the value-affirmation intervention will have higher levels of self-compassion and implicit self-esteem and be more motivated to change their SCRA use, compared to those who receive the control intervention.

Can a brief value-affirmation intervention reduce the use of SCRAs in prison and change prison behaviour?

Hypothesis c: The brief intervention will reduce self-reported substance use in prison and prison rule breaking. Those who receive the value-affirmation intervention will

report lower levels of substance use at a two week-follow up and have lower numbers of proven adjudications for rule-breaking at three-month follow up, compared to those who do not receive the value-affirmation intervention.

What factors influence self-reported drug misuse, engagement in drugs services and proven rule breaking in prison?

What demographic and psychological factors (message acceptance, self-compassion, implicit self-esteem, intention to change, risk of reoffending, age, index offence type) are related to self-reported drug misuse, engagement with drug services and proven rule breaking in prison?

3. Method

An experimental design was used to test the efficacy of a brief intervention with men housed in a category C prison on the following outcomes: message acceptance, intended and actual substance misuse, engagement with drug treatment services and proven prison rule breaking. The study was not double-blind, as staff involved were aware of the conditions to which participants were assigned. However, steps were taken to blind participants to the conditions of the trial (see section 3.4). The study received approval from the Ministry of Justice National Research Committee.

3.1 Sample

The minimum sample size required to detect an effect of the intervention was determined through an apriori power analysis using G*Power 3.1.9.7 (Faul, Erdfelder, Lang & Buchner, 2007); number of proven adjudications was the primary outcome. Based on an estimate of 10% and 30% of the experimental and control groups respectively having an adjudication within three months of entry into the trial,[1] a minimum sample size of 59 per group was required to detect this difference (at 80% power and with a 95% confidence interval). The sample consisted of 200 men starting a period of detention at HMP Holme House between December 2017 and September 2018. Within the first few days of entry into Holme House, prisoners are required to attend the engagement centre daily for a period of two weeks (although in some cases, when there is backlog, engagement centre attendance can take place slightly later). In the first week, the priority is settling the men, and making them feel safe in their new environment. The second week is focussed on assessments for education, work and preparing the men for the rest of their sentence. Drug and alcohol rehabilitation services (DARS) workers are involved in providing a variety of services to men in the engagement centre, which are tailored to individual's self-reported drug and alcohol use. For example, people may be referred to support groups or drug recovery groups, if appropriate.

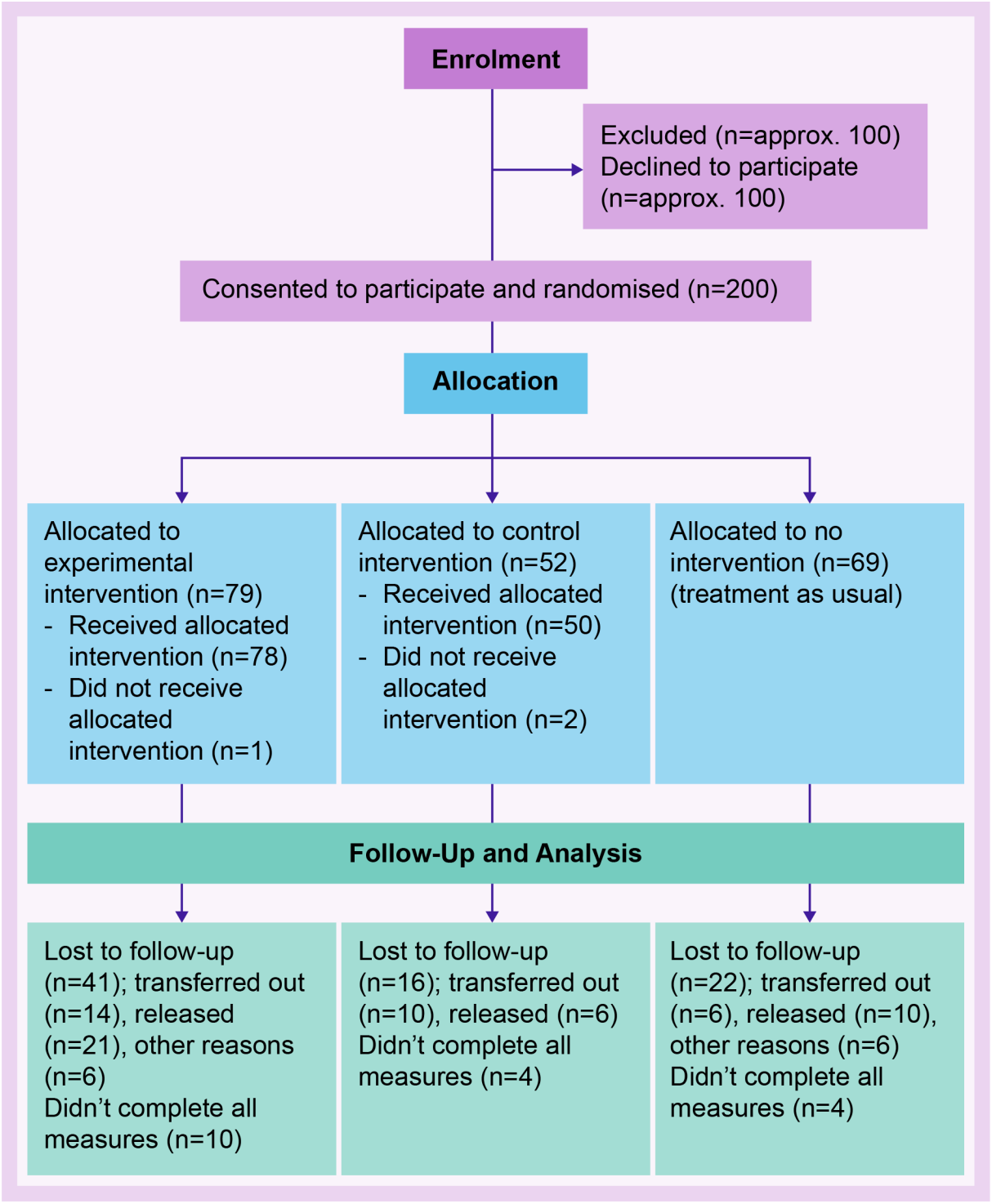
[1] Based on adjudication rates at the establishment in the three months prior to the study

Everyone who came into HMP Holme House and attended the engagement centre during the trial period was eligible to participate. Men who were on the healthcare unit or awaiting transfer to a mental health unit did not attend the engagement centre and were not eligible for the study on the grounds that they may not have been fit to consent or participate. During the 10-month study period all eligible individuals were asked in the first week of prison induction for their consent to take part in the trial. A total of 200 men agreed to take part[2] and were randomly allocated to one of three groups: an experimental group, a control group, or a no-task 'treatment-as-usual', group. Figure 1 provides details of the numbers of men who dropped out at each stage of the trial.

Only three of the men did not complete the allocated tasks. However, in total, 79 men were lost to follow up; 30 were transferred and 37 were released before the end of the follow-up period. Twelve men were lost to follow-up for reasons that were not recorded. A further eight men were followed-up slightly before the end of the three-month follow-up in anticipation of early transfer or release. A greater proportion of the experimental group (52%) were lost to follow-up as a result of transfer out of the prison (*n*=14), release from prison (*n*=21) or another uncited reason *(n*=6), compared to the other two groups (31% for the control group, and 32% for the no intervention group). HMP Holme House was, at the time of the trial, housing some prisoners on remand and as such quite a few men were moved out to other prisons or were released. There is no obvious reason for the difference in loss to follow-up between the experimental groups.

[2] Although the exact numbers of men who didn't consent were not recorded, staff estimated that around 300 men were eligible and asked for consent during the trial period.

Figure 1. Flow diagram of sample attrition at each stage of the trial



The characteristics of the sample are presented in table 1 (appendix 2). The majority of the sample was white, had violent or acquisitive index offences and (of those for whom risk information was obtained) was categorised as having a high risk of reoffending.

3.2 Measures

Participants completed a range of measures, comprising a self-compassion questionnaire, an implicit association test measuring self-esteem, a set of questions about the information they were presented with regarding drug use (health message), questions on intention to change drug use, and a drug use questionnaire. These are detailed in appendix 3.

3.3 Materials

Information about the materials is available in appendices 4–7.

3.4 Procedure

3.4.1 Trial protocol

Men coming into the engagement centre of the prison within their first week of arrival at HMP Holme House were asked to consent to take part in this study. Those who consented were randomly allocated (block randomisation) to an intervention group, a comparison group or a no intervention, treatment-as-usual, group. The intervention and control groups undertook a set of questions to measure self-compassion and baseline measures of self-reported drug use, and they also completed an implicit self-esteem task on a computer, before engaging in the task. The treatment-as-usual group completed the self-report drug use measure only. The intervention group then completed the value-affirmation task, while the control group completed the control task. The treatment-as-usual group did not complete a task. For both the intervention and control groups checks were in place to see whether people had completed the tasks as intended.

Following these tasks, individuals in the intervention and control groups were provided with a health message relating to the risks of SCRA use (see appendix 7). After reading or hearing this message read aloud (depending on levels of literacy), individuals in these two groups were asked to repeat the baseline measures as well as to answer a set of questions relating to message acceptance, and intention to use SCRAs in the future. At the end of their induction period (two weeks later) individuals in all groups (including the no intervention, treatment-as-usual, group) were again

asked to fill in the self-report drug use questionnaire. Individuals from all three groups were followed up for a period of three months to examine any short-term impact, focusing on proven adjudications and engagement in drug services/treatment. The procedure is mapped out in figure 2 (appendix 8). Staff in the engagement centre adapted their practice in accordance with the levels of literacy of the men coming into the centre and read out the questions and health message (if not in the control condition), to those who had problems with reading.

Regular checks were required to ensure that the trial was proceeding as intended. Once the protocol started, the experimental and control conditions remained unchanged, as did the process for group allocation and outcome measurement. The same member of staff (the on-site research manager) administered the assessments pre- and post-intervention, under the same conditions.

Further information about the procedure is available in appendix 9.

3.5 Analysis

Wherever possible, analysis of results proceeded on an ‘intent to treat’ basis. All participants were included in the analyses whether or not they completed the intervention. Analyses involving scores of message acceptance, self-compassion, implicit self-esteem or intention to change excluded those in the treatment-as-usual group, who did not complete these measures.

The characteristics of the three groups were examined for differences in demographics and to check whether randomisation had been successful.

To answer the research questions, we performed a series of statistical significance tests to determine whether there were any differences between those in the different experimental groups on measures of message acceptance, self-compassion, implicit self-esteem, intention to change and number of proven adjudications at three-month follow-up. Bonferroni corrections were applied to take account, because of multiple comparisons, of the increased likelihood of finding a significant effect by chance. Non-parametric tests were used when appropriate. Correlations were computed to

determine which variables had significant relationships with other variables. We also used logistic and multiple regressions to explore which factors predicted self-reported drug use at two week-follow up, and engagement in drug services and number of adjudications at the three-month follow-up.

3.6 Limitations

Randomised control trials provide a robust approach to evaluation. However, the strength of this approach depends on design and implementation, and there are several factors which limit to a greater or lesser degree, the confidence we can place in the findings.

First, the study was conducted in just one prison so it is not possible to determine whether the intervention would have the same effect in other settings with other participants. Furthermore, the population of HMP Holme House has changed considerably since the study took place, as a result of a re-roll. Replication of this or similar research is required before we can generalise the findings to other populations and contexts. Second, this study relied heavily on self-report which relies on both the self-awareness and honest responses of participants. It is entirely possible that participants were not inclined to be honest about their substance use, due to fear of repercussions stemming from mistrust that this information would remain confidential. In addition, the self-report measure of drug use was adapted from a measure validated on alcohol misuse. While the method of measurement was designed to elicit more reliable reports of alcohol use, this has not been tested on substance misuse.

Third, the trial involved a relatively small sample which decreased the power to detect any effects. In addition, the high levels of attrition meant that the study was underpowered, which increases the chances of failure to detect any potential impact of the intervention. This is particularly relevant to those analyses involving potential mediators of some of the outcomes of interest – self-compassion and implicit self-esteem – which were only captured for two of the three experimental groups.

Fourth, while we used random allocation to reduce the likelihood that factors other than the experimental condition would have an impact on the outcomes of interest, it is difficult to achieve entirely comparable groups through randomisation of what is a relatively small sample, so it is possible that the results were influenced by unmeasured differences between the three experimental groups. And finally, it should be noted that this research was conducted in 2018, since which several changes aiming to address safety and decency have been made at the prison. This may limit the generalisability of the findings to the current prison environment.

4. Results

4.1 Efficacy of randomisation

Comparison of those assigned to the experimental, control and no-task (treatment-as-usual; TAU) conditions confirmed that randomisation was largely successful. A series of one-way ANOVAS and independent samples Kruskal-Wallis-H tests indicated that the three groups did not differ in age[3] nor on number of previous convictions.[4] There were also no statistical differences between the three groups in risk level,[5] ethnicity,[6] index offence type,[7] or sentence length.[8]

Table 2. Characteristics of those in the treatment as usual, experimental and control conditions

	Treatment as usual (*n* = 69) Mean *(SD)*	**Experimental (*n* = 79) Mean *(SD)***	**Control (*n* = 52) Mean *(SD)***
Age	34.13 (9.37)	33.41 (10.95)	34.33 (9.76)
Sentence length (months)	33.77 (33.41)	34.75 (33.00)	47.73 (34.42)
Number of previous convictions	25.66 (20.97)	22.59 (23.14)	27.14 (25.39)
	n (%)	***n (%)***	***n (%)***
Risk Level			
Low	6 (8.7)	8 (10.1)	10 (19.2)
Medium	14 (20.3)	15 (19.0)	8 (15.4)
High	25 (36.2)	24 (30.4)	17 (32.7)
Not recorded	24 (34.8)	32 (40.5)	17 (32.7)
Ethnicity			
White	67 (97.1)	74 (93.7)	51 (98.1)
Black	0 (0)	1 (1.3)	1 (1.9)
Asian	0 (0)	3 (3.8)	0 (0)
Mixed Ethnic Group	2 (2.9)	1 (1.3)	0 (0)

[3] (F *(2,197)* = 0.16, p = .85, ηp = 0.00)

[4] (H = (2) 1.10, p = .58, d = 0.17)

[5] (c^2 (2, N = 127) = 3.41, p = .49, v = 0.16)

[6] (c^2 (5, N = 200) = 7.57, p = .27, v = 0.20)

[7] (c^2 (5, N = 188) = 5.63, p = .47, v = 0.17)

[8] (F (2,179) = 2.93, p = .06, ηp = 0.03).

	Treatment as usual (*n* = 69) Mean *(SD)*	Experimental (*n* = 79) Mean *(SD)*	Control (*n* = 52) Mean *(SD)*
Index Offence[9]			
Acquisitive	26 (37.7)	26 (32.9)	12 (23.1)
Sexual	7 (10.1)	7 (8.9)	10 (19.2)
Violent	21 (30.4)	21 (26.6)	19 (36.5)
Other	13 (18.8)	16 (20.3)	10 (19.2)
Not recorded	2 (2.9)	9 (11.4)	1 (1.9)

4.2 Efficacy of Implementation

We examined how many of those in the experimental condition completed the value-affirmation task as intended. Fifty-six out of 79 (70.9%) completed the task and adhered to the guidance. Twenty men in this condition were not deemed to have adhered to the task (25.3%).[10] Only three men (3.8%) did not complete the task at all. Of those in the control condition, 49 out of 52 (94.2%) completed the control task.[11] Three of the 52 (5.8%) did not complete enough questions or left all questions blank and were therefore classed as non-completers.

4.3 Attrition

The value-affirmation task was very brief, and as expected, the rates of attrition were low (3.8% failed to complete the task). However, a small proportion of the sample (*n* =18, 9% of total sample) did not complete all psychometric measures (*n* varies by measure), and a larger proportion were lost to follow up (*n* =79, 39.5%) the majority of these either being transferred (*n* =30, 38%), or released (*n* =37, 47%) from the prison after the first phase of the trial.

[9] Offences which fell into the drugs, motoring, and robbery categories were incorporated into other categories, as there were too few in each category to keep separate. For the purpose of this table and future analyses, drugs and motoring offences were classed as ‘other’, and robbery offences were classed as ‘violent’ offences. There were only nine men with a ‘drugs’ index offence.

[10] Failed to provide an example as required by a positive (‘yes’) response to any question or responded ‘no’ to all questions. If they answered ‘yes’ to more than one question but only provided one example they were deemed to have adhered to the task

[11] Defined as providing answers to 8 out of the 10 questions in the task.

4.4 Impact of the health message

Did the message about the risks of SCRA use in prison influence self-reported drug use, engagement in drug services and proven prison-rule breaking?

There was no difference in the self-reported drug use of those in the two groups that received the message about the risks of SCRA drug use (experimental and control), and the group that did not (c^2 (1, N = 174) = 0.06, p =.81 d = 0.04), suggesting that exposure to the message did not make a difference to this outcome. While there was a difference between these groups in engagement in drug services (c^2 (2,200) = 4.44, p < .05, d = 0.15) – a greater proportion of those who did not receive a message engaged in drug services – this difference was not significant when applying the Bonferroni correction. There was no difference in the number of proven adjudications received in the three-month follow-up between these groups (U = 1617.00, p = .36, d = 0.00). It was not possible to compare these groups on intention to change as the treatment as usual group did not complete this measure.

A series of regression analyses were performed to determine whether receiving the message had an impact on the three main research outcomes, self-reported drug use, engagement with drug services and number of adjudications. Variables were entered in the model that were associated with each outcome (see sections 4.7–4.9).

A logistic regression model predicting self-reported drug use was significant, (c^2 (4,174) = 12.28, p < .05), -2LL = 89.92, and the NagelKerke R square statistic indicated that this model accounted for 15% of the variance in predicting self-reported illicit substance use at follow-up. However, none of the predictor variables including whether people had received the health message significantly predicted self-reported illicit drug use at follow-up.

A further logistic regression model significantly predicted engagement in drug services, (c^2 (8,130) = 25.34, p <.01). -2LL = 149.64). The NagelKerke R square statistic indicated that this model accounted for 24% of the variance in this outcome. However, the only variable to significantly predict engagement in drug services in prison was risk of reoffending level; whether people had received the message did not significantly predict engagement in drug services.

A final multiple regression exploring the impact of age, message received and offence type on adjudications was significant (F (5,121) = 3.06, $p < .05$), and explained 12% of the variance in adjudication outcome. However, none of the variables significantly predicted number of adjudications at three-month follow-up, including whether individuals had received the message or not.

4.5 Message acceptance

What influenced the degree to which participants accepted the message about the risks associated with psychoactive substance misuse?

To explore whether the success of psychoeducational messages about drug (SCRA) misuse were, at least in part, related to the degree to which people accepted these messages as valid and credible, and that this would be influenced by both implicit self-esteem and self-compassion, we performed a series of correlations. Correlations indicated that overall message acceptance was not significantly related to age ($r = .11$, $p = .21$), sentence length ($r = -.05$, $p = .65$), number of previous convictions ($r = -.08$, $p = .47$), implicit self-esteem ($r = .11$, $p = .34$), or self-compassion ($r = -.03$, $p = .79$). When applying the Bonferroni correction, neither higher numbers of previous convictions ($r = -.26$, $p < .05$), nor lower levels of self-compassion ($r = -.24$, $p < .05$) were significantly related to poorer perceptions of the quality of the message. However, age was related to message processing; that is, as age increased so did the processing of the message ($r = .23$, $p < .01$).

Did the degree to which people accepted the message about the risks of SCRA misuse in prisons make a difference to intention to change drug use, self-reported drug-use, engagement in drug services and proven prison rule-breaking?

Although the correlation between overall message acceptance and intention to change was not-significant ($r = .02$, $p = .81$), correlational analysis indicated that, of the subcomponents of message acceptance, message derogation and defensive avoidance were both significantly related to intention to change drug use ($r=.25$, $p<.01$; $r=-.27$, $p<.01$ respectively). The more participants felt the message had greater worth, the greater their intentions to change drug use were. However, the greater participants' acceptance of the message, the lower their intentions to change

drug use. Independent sample t-tests found that there was no difference in overall message acceptance between those who did and those who did not engage in drug services (t (123) = -1.01, equal variances not assumed, p = .32, d = 0.18), and between those who reported illegal drug use at time 2 and those that did not (t (106) = -.75, equal variances not assumed, p = .47, d = 0.26). A further correlation found that overall message acceptance was not significantly related to total number of adjudications in the three months of follow-up (r = .08, p = .54).

Table 3. Mean message acceptance scores for different subgroups

	Message Acceptance Mean (*SD*)
Reported illicit substance use at two-week follow-up (n = 9)	4.64 (0.70)
Reported no illicit substance use at two-week follow-up (n = 97)	4.28 (0.75)
Engaged in prison drug services (n = 62)	4.34 (0.89)
Did not engage in prison drug services (n = 61)	4.20 (0.67)

4.6 Impact of the intervention

Did the intervention affect message acceptance?

A series of independent samples t-test were conducted to determine whether there were differences between the experimental and control groups for the different components of message acceptance and overall message acceptance (table 4). There were no statistically significant differences between the experimental and control groups in message derogation (t (87.95) = -.43, p = .67, d = 0.08 equal variances not assumed), perceived message quality (t (120) = -1.34, p = .18, d = 0.26), defensive avoidance (t (120) = .32, p = .75, d = 0.06), perceived threat (t (119) = -0.50, p = .62, d = 0.09), message processing (t (120) = -.86, p = .39, d = 0.16), or overall message acceptance (t (120) = -.93, p = .36, d = 0.17).

Table 4. Message Acceptance and Intention to Change for Experimental and Control Groups

Message Acceptance	**Experimental Group Mean (SD), *n* =73**	**Control Group Mean (*SD*), *n* =49**
Message Derogation	5.09 (1.16)	5.19 (1.43)
Perceived Quality of Message	4.21 (1.29)	4.53 (1.35)
Defensive Avoidance	3.71 (2.09)	3.59 (1.92)
Perceived Threat	3.48 (1.88)	3.66 (1.97)

Message Acceptance	Experimental Group Mean (SD), *n* =73	Control Group Mean (*SD*), *n* =49
Message Processing	4.59 (1.18)	4.78 (1.15)
Overall message acceptance	4.21 (0.72)	4.35 (0.88)
Motivation and Intention to change drug use	5.98 (1.63)	6.20 (1.60)

Did the intervention have an impact on levels of self-compassion or implicit self-esteem?

Table 5 shows the self-compassion and implicit self-esteem scores of those in the experimental and control groups at times 1 and 2 (the treatment-as-usual group didn't undertake these assessments). Independent samples t-tests indicated small but non-significant differences between those in the experimental and control group in initial (pre-task) scores on the measure of self-compassion (t (1, 117) = -1.05, p = .30, d = 0.20), and implicit self-esteem (t (1, 92) = -1.44, p = .15, d = 0.31). At time 2 there were no differences between groups in self-compassion scores (t (1, 109) = -.90, p = .42, d = 0.18), but the experimental group had significantly higher implicit self-esteem than the control group (t (1, 84) = -2.08, p < .05, d = 0.46, equal variances not assumed). Two 2x2 repeated measures ANOVAs were performed to examine change in self-compassion and self-esteem over time. There was no change in self-compassion (F (1,67) = .08, p = .77, ηp = .001) or self-esteem (F (1,67) = .09, p = .77, ηp = .001) overall between time 1 and time 2, and no effect of experimental group on self-compassion (F (1,67) = .05, p = .82, ηp = .001) nor on self-esteem (F (1,67) = .42, p = .52, ηp = .006).

Did the intervention impact on intention to change drug use in prison?

Table 4 provides the mean scores for those in the experimental and control task groups on the measure of motivation and intent to change drug use. There was no difference between the experimental and control groups on this measure, indicating that the intervention did not influence participants' intentions to change their drug use in prison (t (118) = -.74, p = .46, d = 0.14).

Table 5: Self-esteem and Self-compassion scores at Time 1 and Time 2

Scores	Whole Sample Mean (*SD*)	Experimental Group Mean (*SD*)	Control Group Mean (*SD*)
Time 1			
Implicit self-esteem	0.39 (0.39)	0.34 (0.40)	0.46 (0.39)
Self-compassion	3.10 (0.52)	3.06 (0.50)	3.16 (0.56)
Time 2			
Implicit self-esteem	0.39 (0.38)	0.33 (0.42)	0.48 (0.28)
Self-compassion	3.06 (0.51)	3.02 (0.47)	3.10 (0.56)

NOTE: Lower scores equate to higher levels of implicit self-esteem

Correlational analysis indicated that the only variable with a significant relationship with intention to change drug use was implicit self-esteem ($r = 0.27$, $p < .05$); lower implicit self-esteem was related to increased intention to change behaviour. However, after applying Bonferroni corrections this relationship was no longer significant.

Did the intervention impact on self-reported drug use in prison?

Chi square tests were conducted to determine if there were any associations between self-reported substance use (no substance use, or some illegal substance use)[12] and group (experimental, control or treatment as usual). No differences were found between the groups at time 1 (c^2 (2, 189) = 1.02, $p = .60$, $v = 0.07$) or time 3 (two weeks later; c^2 (2,161) = 0.05, $p = .97$, $v = 0.02$).

Table 6: Self-reported Substance Use at Time 1 and Time 3

Substance Use Reported	Whole Sample N (%)	Experimental Group N (%)	Control Group N (%)	Treatment as Usual Group N (%)
Time 1				
No substance use	129 (64.5%)	46 (58.2%)	34 (65.4%)	49 (71.0%)
Some illegal substance misuse	60 (30.0%)	26 (32.9%)	14 (26.9%)	20 (29.0%)
Medication only	8 (4.0%)	7 (8.9%)	1 (1.9%)	-
Missing	3 (1.5%)	-	3 (5.8%)	-

[12] The medication only group were not included due to small samples size.

Substance Use Reported	Whole Sample N (%)	Experimental Group N (%)	Control Group N (%)	Treatment as Usual Group N (%)
Time 3				
No substance use	146 (73.0%)	56 (70.9%)	37 (71.2%)	53 (76.8%)
Some illegal substance misuse	15 (7.5%)	6 (7.6%)	4 (7.7%)	5 (7.2%)
Medication only	13 (6.5%)	6 (7.6%)	2 (3.8%)	5 (7.2%)
Missing	26 (13.0%)	11 (13.9%)	9 (17.3%)	6 (8.7%)

Looking at change over time (table 6), however, there was an increase of 12.7% (*n* = 10) of people in the experimental group who reported abstaining from substance use (no substance use of any kind) from time 1 to time 3, compared with an increase in abstinence of 5.8% in both the control (*n*=3) and treatment as usual (*n* = 4) groups. Similarly, a greater proportion of people in the experimental (25.3%, n = 20) group reported that they had stopped taking illegal substances from time 1 to time 3, than people in the control (19.2%, n = 10) or treatment as usual (21.8%, n = 15) groups.

To further examine differences in change over time in self-reported substance use, including those who reported taking legal medications only at time 1 or time 3, participants were placed in a *reduced or no illegal substance use* group (for those who reported that they maintained abstinence from substance use or stopped taking illegal substances from time 1 to time 3), or in an *increased or sustained illegal substance use* group (for those who started or continued to take illegal substances from time 1 to time 3; see table 7).

Table 7. Number and proportion of people in each group reporting reduce or no illegal substance use or increased or sustained illegal substance use over the course of the trial

Substance use change group	Whole Sample N (%)	Experimental Group N (%)	Control Group N (%)	Treatment as Usual Group N (%)
Reduced or no illegal substance use	159 (91.4%)	62 (91.2%%)	39 (90.7%)	58 (92.1%)
Increased or sustained illegal substance use	15 (8.6%)	6 (8.8%)	4 (9.3%)	5 (7.9%)

Chi square analyses found there was no significant association between substance use categories and experimental condition (experimental, control or treatment as usual) (c^2 (2, 174) = 0.07, p = .97, v = *0.02*).

Did the intervention impact on proven prison rule breaking?

Table 8 shows the total number of proven adjudications given to participants in each of the experimental groups over the three-month follow-up period.

Table 8. Number of proven adjudications and engagement in drug services in a three-month follow-up period by experimental group

	Whole Sample *N*=122	Experimental Group *n*=38	Control Group *n*=38	Treatment as Usual Group *n*=47
Total number of adjudications	124	45	31	48
	N (%)	**N (%)**	**N (%)**	**N (%)**
Proportion of people with at least one adjudication	41 (33.6%)	18 (47.4%)	10 (27.0%)	13 (27.7%)
Engagement in drug services				
Yes	110 (55.0%)	43 (54.4%)	22 (42.3%)	45 (65.2%)
No	90 (45.0%)	36 (45.6%)	30 (57.7%)	24 (34.8%)

There was no difference between the groups in the total number of proven adjudications (H (2) = 3.44, p = *.18, d* = 0.17) received during that time, or the proportion of people with at least one adjudication (c^2 (2, 122) = 4.69, p = .10, v = *0.11*).

Did the intervention impact on engagement in prison drug services?

There was a significant association between engagement with drug services and group membership (c^2 (2, 200) = 6.31, p < .05, v = 0.18); a smaller proportion of the control group engaged with drug services and a greater proportion of the treatment-as-usual group engaged with drug services at follow-up (see table 8). This association, however, was not significant when applying the Bonferroni correction for multiple comparisons.

4.7 Factors influencing self-reported drug use

The majority of the sample (64.5%) reported that they were not using any illicit substances at the start of the study; just under a third (30%) reported some illegal substance misuse (with or without additional medication), and 4% reported use of medication only (see Table 6). Two weeks later (at time two), a greater proportion (almost three quarters; 73.0%) of the sample reported no substance misuse, and far fewer than at time 1 (7.5%) reported any illegal substance use. There was a slight increase in the proportion of the sample reporting use of medication (6.5%).

To determine what influenced self-reported drug use at follow-up, we examined differences between those who admitted and those who did not admit to taking illicit substances at the two-week follow-up (table 9).

Table 9. Characteristics of those who did and those who did not report illicit drug use at a two-week follow-up

	Reported illicit drug use at follow-up (n = 15) ***M (SD)***	**Reported no illicit drug use at follow-up (n = 159)** ***M (SD)***
Age	34.02 (9.51)	33.60 (9.30)
Sentence length (months)	32.50 (28.24)	39.01 (34.40)
Number of previous convictions	33.64 (19.42)	24.70 (23.99)
Intention to change	5.56 (1.57)	5.97 (1.70)
Message Acceptance score	4.46 (0.70)	4.28 (0.75)
Time 2 Implicit self-esteem score	0.32 (0.38)	0.40 (0.38)
Time 2 Self-compassion score	2.92 (0.20)	3.07 (0.47)
	n (%)	***n (%)***
Risk Level		
Low	0 (0)	21 (12.1%)
Medium	5 (33.3%)	31 (19.5%)
High	9 (60.0%)	52 (32.7%)
Not recorded	1 (6.7%)	55 (34.6%)
Ethnicity		
White	13 (86.7%)	155 (97.5%)
Black	-	-
Asian	-	-
Mixed Ethnic Group	-	-
Other	-	-

	Reported illicit drug use at follow-up (n = 15) *M (SD)*	Reported no illicit drug use at follow-up (n = 159) *M (SD)*
Index Offence[13]		
Acquisitive	10 (66.7%)	53 (33.3%)
Sexual	-	23 (14.5)
Violent	-	52 (32.7)
Other	-	27 (17.0)
Not recorded	0	4 (2.5%)

NOTE: Where fewer than five people were in a group the data is suppressed, to protect the confidentiality of potentially sensitive data about participants.

Statistical analyses suggest no difference between the two groups on age (t (172) = -0.23, p = .82, d = *0.06*), or sentence length (t (161) = 0.69, p = .49, d = 0.19) though there was a difference in the number of previous convictions by group (U = 1027.50, p < .05, d = 0.38), with those who reported no illicit drug use at follow up having fewer previous convictions. However, this was no longer significant when applying Bonferonni corrections. Chi square analysis suggested that risk level was associated with self-reported drug use at follow-up; higher risk of reoffending was associated with admitting to drug use at the two-week follow-up (c^2 (3, 174) = 9.48, p < .05, v = 0.23), though again this did not remain significant after applying Bonferroni corrections. A greater proportion of those who reported no drug use at follow-up were White, compared to those who admitted some drug use at time 2 (c^2 (3, 174) = 13.28, p < .01, v = 0.28). Index offence was not significantly associated with self-reported drug use at follow-up (c^2 (4, 174) = 7.56, p = .11, v = 0.12), although some of the offence groups were very small, limiting the confidence we can have in this analysis. Independent samples t-tests indicated no difference between those who self-reported drug use at follow-up on time 2 total scores on the measures of self-compassion (t (94) = 0.94, p = .35, d =0.33), and implicit self-esteem (t (75) = 0.54, p = .06, d = 0.20). Neither message acceptance (t (104) = -0.71, p = .48, d = 0.25) nor intention to change differed between those who did or did not self-report drug use at follow-up (t (102) = 0.71, p = .48, d =0.25).

[13] Offences which fell into the drugs, motoring, and robbery categories were incorporated into other categories, as there were too few in each category to keep separate. For the purpose of this table and future analyses, drugs and motoring offences were classed as ‘other’, and robbery offences were classed as ‘violent’ offences. There were only nine men with a ‘drugs’ index offence.

To determine whether the experimental condition influenced self-reported drug use a logistic regression was computed, in which experimental condition and risk level (as this was somewhat associated with self-reported drug use) were predictors (using the treatment as usual group and high risk groups as the reference categories), and whether people reduced or stopped substance use (reported no illicit drug use at follow-up) or increased or sustained illicit substance use (reported drug use at follow-up), was the dependent variable (Table 10). This analysis included only those variables on which we gathered information for all three experimental groups, in order to maximise the sample size and therefore power to detect any effect of the intervention.

Table 10. Summary of logistic regression analysis to examine whether experimental condition predicted reported drug use at follow-up, taking into account participants' risk of reoffending

	b	Std. Error	Exp (B) (95% CI)	Wald	*p*
(Constant)	-2.09	0.57	0.12 (-)	13.22	.001
Risk category	-	-	-	0.11	.99
Low risk	-19.52	8744.10	0.00	0.00	.99
Medium risk	-0.06	0.60	0.94 (0.29-3.07)	0.01	.92
Experimental condition	-	-	-	0.64	.73
Experimental group	0.47	0.69	1.60 (0.41-6.20)	0.46	.50
Control group	0.55	0.76	0.12 (0.39-7.75)	0.52	.47

The model was not significant, (c^2 (4,118) = 6.56, p = .53). -2LL = 79.39, and the NagelKerke R square statistic indicated that this model accounted for only 11% of the variance in predicting self-reported illicit substance use at follow-up. None of the variables included in the analysis significantly predicted self-reported illicit drug use at follow-up.

4.8 Factors associated with engagement with services for drug use in prison

The characteristics of those who engaged with drug treatment services were compared to those who did not engage in such services in prison during the three-month follow-up period (Table 11).

Table 11. Characteristics of those who engaged in drug services and those who did not at three-month follow-up

	Engagement in drug services at follow-up (*n*=110) ***M (SD)***	**No engagement in drug services at follow-up (*n*=90)** ***M (SD)***
Age	33.57 (8.11)	34.29 (12.10)
Sentence length (months)	37.47 (31.70)	38.38 (35.78)
Number of previous convictions	29.65 (22.11)	18.88 (23.55)
Intention to change	5.85 (1.76)	6.25 (1.45)
Time 2 Implicit self-esteem	0.34 (0.40)	0.43 (0.35)
Message Acceptance score	4.34 (0.89)	4.20 (0.67)
Time 2 Self-compassion score	2.99 (0.48)	3.13 (0.53)
	n (%)	***n (%)***
Risk Level		
Low	6 (5.5%)	18 (20.0%)
Medium	25 (22.7%)	12 (13.3%)
High	47 (42.7%)	19 (21.1%)
Not recorded	32 (29.1%)	41 (45.6%)
Ethnicity		
White	108 (98.2%)	84 (93.3%)
Black	-	-
Asian	-	-
Mixed Ethnic Group	-	-
Other	-	-
Not recorded	0	0
Index Offence[14]		
Acquisitive	46 (41.8%)	18 (20.0%)
Sexual	7 (6.4%)	17 (18.9%)
Violent	36 (32.7%)	25 (27.8%)
Other	16 (14.5%)	23 (25.36%)
Not recorded	5 (4.5%)	7 (7.8%)

NOTE: Where fewer than five people were in a group the data is suppressed, to protect the confidentiality of potentially sensitive data about participants.

[14] Offences which fell into the drugs, motoring, and robbery categories were incorporated into other categories, as there were too few in each category to keep separate. For the purpose of this table and future analyses, drugs and motoring offences were classed as 'other', and robbery offences were classed as 'violent' offences. There were only nine men with a 'drugs' index offence.

Independent samples t-tests indicated no difference between the two groups in age (*t* (198) = -.50, *p* = .62, *d* = -0.01), or sentence length (*t* (178) = -0.18, *p* = .86, *d* = -0.03), but those who engaged in drug services in the three-months following participation in the study had a greater number of previous convictions than those who did not (*U* = 2838.00, *p* < .001, *d* = 0.47). Chi square analysis indicated a significant association between engagement in drug services and index offence (c^2 (4, 200) = 18.17, *p* < .001, *v* = 0.30), with a greater proportion of those with an index offence of an acquisitive crime engaging in drug services, and less of those with all other offence types. There was also a significant association between engagement in drug services and risk category with greater proportions of those assessed as medium or high risk of reoffending engaging in services, than those deemed low risk of reoffending (c^2 (3, 200) = 21.77, *p* < .001, *v* = 0.33).

Independent samples t-tests indicated no difference between those who did and those who did not engage in drug services at the three-month follow-up on time 2 total scores on the measures of self-compassion (*t* (110) = -1.56, *p* = .12, *d* = 0.30), implicit self-esteem (*t* (64) = -1.05, *p* = .30, d = 0.23), message acceptance (*t* (113.263) = -1.01, *p* = .31, *d* = 0.18, equal variances not assumed), or in intention to change (*t* (119) = -1.35, *p* = .18, *d* = 0.25).

A logistic regression examined whether experimental condition, number of previous convictions, index offence category and risk level (with the exception of experimental condition, all of which were associated with engagement in prison drug services) were predictors of whether people engaged in drug services at a three-month follow-up (Table 12).

Table 12. Summary of logistic regression analysis predicting engagement in drug services in prison

	b	**Std. Error**	**Exp (B) (95% CI)**	**Wald**	***p***
(Constant)	0.48	0.76	1.62 (-)	0.41	.52
Previous convictions	0.00	0.01	1.00 (0.98-1.02)	0.01	.93
Risk level	-	-	-	6.36	.04
Medium risk	-1.69	0.76	0.18 (0.04-0.81)	5.00	.03
High risk	-0.04	0.55	0.96 (0.33-2.82)	0.01	.94

	b	Std. Error	Exp (B) (95% CI)	Wald	*p*
Offence type	-	-	-	1.75	.63
Violent offence	0.62	0.64	1.86 (0.53-6.55)	0.93	.34
Sexual offence	0.16	0.87	1.18 (0.21-6.49)	0.03	.85
Other offence	0.73	0.63	2.08 (0.61-7.08)	1.38	.24
Experimental condition	-	-	-	1.55	.46
Control group	0.08	0.50	1.08 (0.41-2.89)	0.03	.87
Treatment as usual (TAU) group	-0.54	0.53	0.58 (0.21-1.64)	1.06	.30

The model significantly predicted engagement in drug services, (c^2 (8,117) = 18.00, p <.05). -2LL = 135.88. The NagelKerke R square statistic indicated that this model accounted for 20% of the variance in this outcome. The only variable to significantly predict engagement in drug services in prison was risk of reoffending level; compared to the low-risk group the medium risk of reoffending group were more likely to engage in drug services.

4.9 Factors associated with adjudications

The characteristics of those who had at least one proven adjudication during the three-month follow-up period were compared to those had none (Table 13).

Table 13. Characteristics of those who received at least one proven adjudication and those who had no adjudications at three-month follow-up

	No adjudication in follow-up period (n=81) *M (SD)*	Adjudications during follow-up period (n=41) *M (SD)*
Age	34.13 (9.37)	31.85 (8.08)
Sentence length (months)	46.05 (37.82)	47.44 (27.75)
Number of previous convictions	20.19 (21.89)	28.23 (23.41)
Intention to change	6.43 (1.31)	5.41 (1.92)
Message Acceptance score	4.21 (0.66)	4.33 (0.88)
Time 2 Implicit self-esteem	0.47 (0.33)	0.24 (0.34)
Time 2 Self-compassion	3.13 (0.47)	2.89 (0.41)
	n (%)	***n (%)***
Risk Level		
Low	18 (22.2%)	5 (12.2%)
Medium	20 (24.7%)	12 (29.3%)
High	26 (32.1%)	21 (51.2%)

	No adjudication in follow-up period (n=81) *M (SD)*	Adjudications during follow-up period (n=41) *M (SD)*
Not recorded	17 (21%)	3 (7.3%)
Ethnicity		
White	79 (97.5%)	39 (95.1%)
Black	-	-
Asian	-	-
Mixed Ethnic Group	-	-
Other	-	-
Index Offence[15]		
Acquisitive	20 (24.7%)	19 (46.3%)
Sexual	19 (23.5%)	-
Violent	26 (32.1%)	18 (43.9%)
Other	16 (19.6%)	-

NOTE: Where fewer than five people were in a group the data is suppressed, to protect the confidentiality of potentially sensitive data about participants.

Statistical analyses indicated that there was no difference between those who received a proven adjudication within the three-month follow-up and those who did not in sentence length (t (115) = 0.21, p = .84, d =0.04), but they did differ in number of previous convictions (U = 1686.00, p < .05, d = 0.36) and they also differed significantly in age (t (120) = -2.13, p = .04, d =-0.41); those who had a proven adjudication over this time were younger than those who did not and had fewer previous convictions. However, these differences were not significant when applying the Bonferroni correction.

There was a moderate difference in the risk of reoffending levels of those who did and did not receive adjudications at the three-month follow-up (c^2 (3,122) = 7.36, p = .06, v = 0.25); although this was not statistically significant. However, index offence was strongly associated with proven adjudication (c^2 (3.122) = 15.08, p < .01, v = 0.35), with a greater proportion of those sanctioned for breaking prison rules

[15] Offences which fell into the drugs, motoring, and robbery categories were incorporated into other categories, as there were too few in each category to keep separate. For the purpose of this table and future analyses, drugs and motoring offences were classed as ‘other’, and robbery offences were classed as ‘violent’ offences. There were only nine men with a ‘drugs’ index offence.

having an index offence for an acquisitive crime than of those who had no proven adjudications during the follow-up period.

Independent samples t-tests indicated no significant difference between those who did and those who did not have at least one proven adjudication at the three-month follow-up in message acceptance scores *t* (67) = -0.67, *p* = .51*, d* = 0.17). However, there were large and significant differences between these groups on time 2 total scores on the measures of self-compassion (*t* (62) = -2.14, *p* < .05, *d* = 0.55), implicit self-esteem (*t* (48) = -2.32 *p* <.05*,* d = 0.69), and in intention to change drug use (*t* (66) = -2.58, *p* < .05*, d* = 0.66). Those who had an adjudication had lower levels of self-compassion, higher levels of implicit self-esteem and reported a lower level of intent to change their drug using behaviour, than those who had no adjudications at the three-month follow-up. However, after applying Bonferroni corrections none of these analyses remained significant.

A multiple regression was conducted to examine whether age, experimental condition (experimental group as the reference category), and index offence type (violent offence as the reference category) were predictors of number of adjudications participants received at follow-up (Table 14).

Table 14. Summary of regression analysis predicting number of adjudications at three-month follow-up

	Unstandardised Coefficients				
	***B* (95% CI)**	**SE**	**β**	***t***	***p***
(Constant)	2.11 (0.70-3.53)	0.71	-	2.97	.00
Age	-.03 (-0.06-0.01)	0.02	-0.14	-1.54	.13
Control condition	-0.04 (-0.97-0.89)	0.47	-0.01	-0.09	.93
No task condition	-0.06 (-0.92-0.80)	0.43	-0.01	-0.13	.90
Acquisitive index offence	0.54 (-0.34-1.41)	0.44	0.13	1.22	.23
Sexual index offence	-1.00 (-2.06 - 0.06)	0.54	-0.18	-1.86	.07
Other index offence	-0.83 (-1.90 – 0.25)	0.54	-0.15	-1.52	.13

While the model was significant (F (6,121) = 2.53, *p* < .05), it explained only 17% of the variance in adjudication outcome. None of the variables significantly predicted number of adjudications at three-month follow-up.

5. Discussion and implications

This randomised control trial examined whether a brief intervention had an impact on prisoners' intentions to use and reported use of drugs (including SCRAs), as well as engagement in drug-related services and number of proven adjudications for prison rule breaking at one prison in England. The trial ran broadly as planned and almost everyone in the experimental group completed the brief intervention, although a quarter did not adhere faithfully to the instructions. However, rates of attrition during the follow-up period were high, which means the study is underpowered. This means that the study may have failed to detect any differences in the outcomes between groups, due to small sample sizes.

The results indicate that neither receiving information about the risks associated with SCRA use, nor an intervention designed to increase acceptance of that information as credible and relevant, had an impact on intention to use SCRA or self-reported drug misuse, nor on engagement in drug services or proven rule-breaking in prison over a three-month follow-up. Indeed, it appears that a greater proportion of the group that received no health message about the risks of drug misuse engaged in drug services during the follow-up period, than of those who received the message.

Those who were asked to complete the value-affirmation exercise had greater levels of implicit self-esteem immediately after completion of this task than those who were allocated a control task. However, further analysis indicated that there was no significant change in participants' implicit self-esteem after doing the affirmation task, suggesting that it was not the task that made the difference but rather existing differences in levels of implicit self-esteem between the experimental and control groups. Similarly, while there was a greater reduction in the proportion of those who reported taking illicit drugs in prison and a greater increase in those reporting abstinence from drugs in prison among those allocated to the value-affirmation condition than to the control condition, this effect disappeared when taking into account those who were taking legal medication. There was no difference overall in self-reported drug misuse between those in the experimental and control groups.

A key limitation of this study, however, was the use of a self-report measure to capture drug use in prison. Self-report measures rely both on the self-awareness and honesty of respondents; a lack of either (or both) can undermine the reliability of the data gathered through self-report. In addition, the self-report measure was adapted from a measure intended to capture alcohol misuse and may not have the same validity when applied to substance misuse. It is also important to note that, due to high levels of attrition of the sample during follow-up, the study was underpowered. This means we do not know whether a failure to detect an effect was because there was no effect of the intervention or was the result of having too few people in the sample to enable detection of such an effect.

Further analysis identified factors that influenced drug-related outcomes among those participating in this study. The results suggested that higher risk of reoffending was associated with both self-reported drug misuse in prison, and engagement in prison drug services. This could be a function of the way in which people are allocated to drug services in prison, as people at higher risk of reoffending are prioritised for places. Alternatively, it could be that those who are higher risk of reoffending are more likely than those who are in lower risk groups to have a drug misuse problem that requires treatment. Serving a sentence for an acquisitive offence was associated with both engagement in prison drug services and receiving a proven adjudication for prison rule-breaking over the three-month follow-up period. There is an established relationship between drug misuse and acquisitive crime, with some studies suggesting up to 45% of these types of crimes (excluding fraud) are committed by people who use Class A drugs at least once a week (Home Office, 2013), so we might expect to see a greater level of need for drug treatment among those convicted of this type of offending. These higher rates of drug use among those who engage in most types of acquisitive offending could also explain the greater number of incidences of prison rule breaking seen in this group, as drug use has been implicated in prison violence, involvement in the illicit economy and debt (Hammill & Newby, 2015).

Proven prison rule-breaking was also associated with lower levels of intent to change drug misuse, lower levels of self-compassion and higher levels of implicit self-esteem. The association between self-compassion and prison rule breaking fits

with research that has suggested a negative relationships between self-compassion and criminality, on the basis that higher levels of self-compassion have been linked to decreased aggression, better emotional regulation, better social connectedness and better self-control among prisoners (Morley, 2015; Morley et al., 2016). Some recent, albeit very small-scale, studies from America and Iran suggest that interventions that increase self-compassion may reduce levels of criminal impulsivity (using a measure of self-control linked to offending and reoffending) and criminal thinking among people in prison (Morley, 2018; Rezapour-Mirsaleh, Shafizadeh, Shomali, & Sedaghat, 2021). This is an area that could benefit from further research with men and women held in prisons in the UK.

There are several possible reasons for the finding that higher self-esteem was linked to (proven) prison rule breaking. Research into the relationship between self-esteem and criminality suggests a possible explanation. Several studies have indicated that narcissism moderates this relationship, with high self-esteem being linked to violence among those who are also high in narcissism, but not among those who have low scores on measures of this construct (e.g., Sullivan & Geaslin, 2001). It is possible that in this sample the rule breakers with high self-esteem (as measured using the implicit association test) were also high in trait narcissism. However, there is also research to suggest that for people in prison, self-esteem consists of two parts – global self-esteem, which is thought to be relatively context-independent – a general and persistent sense of self-worth – and prison self-esteem, which is judged against a different set of norms, rules and beliefs that run counter to those valued in the community (Debowska, Boduszek & Sherretts, 2016). A national cross-sectional study of Polish prisoners found that, in contrast to personal (global) self-esteem, prison self-esteem was associated with stronger antisocial attitudes, spending longer in prison, and higher odds of a longer history of violent reoffending (Debowska et al., 2016). It is possible that the implicit measure of self-esteem used in the study was measuring the context dependent prison self-esteem, rather than more global and persistent self-esteem. The fact that lower levels of self-reported intent to change drug use in prison was related to higher levels of implicit self-esteem further supports this interpretation of the findings.

5.1 Conclusion

A brief intervention designed to increase acceptance of a health message about the risks associated with illicit drug use in prison had no impact on measures of intentions to change drug use, self-reported drug misuse, engagement with drug services or proven prison rule breaking over a short follow-up. However, the study was underpowered which means we cannot be confident that there was no intervention effect. Providing people in prison with information about the risks of drug misuse is common. This study does not support the idea that this practice will impact on people's drug use in prison, regardless of the degree to which such information is viewed as threatening, credible or relevant. That is not to say that people in prison shouldn't be provided with this information, but that first and foremost we need to attend to other factors that have greater influence on illicit drug taking and create environments in which these messages can be heard, understood, and acted on. For example, this could include restricting supply of drugs, improving the availability of purposeful activity in prisons, as well as the availability of treatment and services for those using substances (e.g., Duke 2020).

Since this research was conducted there have been several developments at the prison designed to improve levels of safety and decency, in addition to the publication of the Prisons Strategy White Paper (MoJ, 2021). As such, the trial may have yielded different results had it taken place at the present time, in an environment that may be more conducive to the acceptance of health-related messages.

The brief intervention trialled here has been successful in increasing message acceptance in other settings. However, prisons are unique and complex environments, and we cannot assume that findings from research with the general population in the wider community will apply in the same way to people detained in custody. Previous research in prisons has identified a range of characteristics of those prisons struggling with high rates of substance misuse. This included a perception among staff and prisoners that substance misuse had reached epidemic proportions in the jail and that such misuse was widespread and unstoppable, suggesting strong social norms normalising this behaviour (Wakeling & Lynch, 2020).

Research in English and Welsh prisons also suggests that SCRA misuse is commonly used as a form of escapism, a way of coping with boredom, helping time to pass quickly, to avoid difficult thoughts and feelings, lessen the pains of imprisonment, or gain status in the prison community (Wakeling & Lynch, 2020; UserVoice, 2016). Given the perceived potential benefits of drug misuse in prisons, and strong messages that this behaviour is widespread, information about potential risks of this behaviour might have little influence on either intentions or action to reduce or avoid it. Further research is required to help understand what information or which messages are most influential in motivating change or sustained abstinence from illicit substances and encouraging and enabling access to drug treatment where required among people in prison, under what conditions, and with whom. This will help us better understand how information can be used to augment and enhance wider efforts to reduce demand for drugs in prisons, alongside important efforts to restrict supply and build environments that support recovery from addiction (HMPPS, 2019).

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Appendix 1
A review of research on changing substance use behaviour

The behavioural and social sciences indicate that there are a range of psychological, environmental and social factors that influence how we act. These 'behavioural insights' have been applied to a range of public health issues, from reducing tobacco use to tackling obesity (Public Health England, 2018). An approach rooted in behavioural science differs to traditional public health approaches by i) focusing on providing health education in a way that people are most likely to take in and act on, ii) using behavioural tools that support healthy behaviour and bridge any gap between people's intentions and actions, and iii) testing any intervention using the most robust evaluation methods (Behavioural Insights Team, 2018). This approach takes what we've learned about how we as humans understand and respond to our world and uses it to develop strategies and tools that are most likely to help us change our behaviour in positive ways.

Alcohol and drug use are complex behaviours, influenced by a range of factors which can get in the way of change. These include: *individual level factors*, like genetic variations in the way our bodies process and respond to substances, or our knowledge of the harms of, and attitude towards, substance use; *social factors*, like the people in our social networks and how they behave, or what we think they approve and disapprove of; and *environmental or structural factors,* like where we live and the opportunities that are easily available to us in our local area.

In prisons, reducing illicit drug use involves both reductions in supply, through searching, intelligence and mandatory drug testing, to create an environment in which opportunities for psychoactive substance (including SCRA) misuse are diminished, and reduction in demand, through provision of targeted interventions that address individual-level factors that support recovery from addiction in custody and reintegration into the community. Peer support and creating drug free or recovery-based communities help to address social influences on substance use, while health

education hopes to reduce demand by increasing individual-level motivation to reduce or abstain from harmful drug use.

Traditional public health approaches to addressing problematic alcohol and drug consumption through health education have tended to focus on deterrence, emphasising the risks associated with these behaviours. Research suggests, however, that some deterrence-based messages risk normalising unsafe levels of use by implying that it's a problem that affects lots of people (Moss et al., 2015), and that invoking fear without building people's belief in their ability to change or invoking too much emotion, can backfire, making it *less* likely that people will cut down, or worse, actually increase, consumption (Witte & Allen, 2000; Leshner, Bolls & Wise, 2011). Health education that raises awareness of the risks of problem levels of use appears to be most effective when it also helps people feel they can do something to change their behaviour, and provides a call to action, focussing people on the positive changes they can make to address the problem (Behavioural Insights Team, 2014).

A 2018 study by the Behavioural Insights Team (BIT) tested the efficacy of health messages that aimed to reduce binge drinking among young adults (18–25 year olds) from disadvantaged backgrounds in New Zealand. While the study was too small to be conclusive, it found that messages that highlighted immediate or short-term costs to alcohol use combined with those that challenged social norms about how common binge drinking is among people of this age, were those most likely to change the young adults' alcohol use (BIT, 2018). In contrast, health messages which focussed on improving knowledge of safe levels of drinking, or on increasing intentions to change behaviour were less successful, acting as poor predictors of behaviour change.

There is also a growing body of research that suggests that the way in which people respond to information relevant to personal health risks can be influenced by how threatening these messages are perceived to be to an individual's self-image (e.g., Sherman & Cohen, 2006; Wakefield et al., 2006). These studies indicate that people tend to dismiss health messages if they are perceived to question their competence or integrity. As human beings we're strongly motivated to see ourselves as adequate

and moral people who can keep ourselves and those we love safe and well; this helps to keep us psychologically healthy (Fiske, 2014). Messages which imply criticism of our decision making or choices can prompt defensive reactions, and lead to rejection of those messages (Harris & Epton, 2009). However, several studies suggest that engaging in simple acts of “self-affirmation” can reduce the risk that we feel threatened by perceived criticism. Self-affirmation is the act of strengthening or restoring the perception of oneself as an adequate person, both morally and adaptively (Steele, 1988). Self or value affirmation exercises are (very) brief psychological interventions that focus people on personal values, those things that are most important to them, and can be effective in reducing resistance to health recommendations (Ehret & Sherman, 2014). A meta-analysis of the impact of self-affirmation change, based on 41 studies (and 144 separate tests of the effects of self-affirmation on different outcomes) concluded that activities that affirmed people’s view of themselves as adequately competent human beings made it more likely that people would accept, intend to act on, and change their behaviour, in response to a persuasive health message (Epton et al., 2015). In the studies included in the analysis, self-affirmation increased responsiveness to a range of personally relevant health-risk messages, including information about poor diet, smoking, problematic alcohol use and caffeine consumption.

This study aimed to test a brief value-affirmation intervention with men being inducted into a category C prison, to determine whether this could improve the impact of health education messages about the risks of SCRA use. Specifically, we aimed to examine the influence of coupling a value-affirmation task with a health-related message regarding SCRA use to determine whether an affirmation task impacted on the degree to which people accepted the message, intended to change, and did change their, behaviour.

Appendix 2

Table 1. Characteristics of the sample

Table 1. Characteristics of those who participated in the research

	Total Sample (*N* = 200) *Mean (Standard deviation)*	**Range (Minimum-Maximum)**
Age	33.90 (10.08)	18–70
Sentence length (months)	37.86 (33.41)	2–174
Number of previous convictions	25.35 (23.22)	0–116
	***n* (%)**	
Ethnicity		
White	192 (96%)	
Black	2 (1.0%)	
Asian	3 (1.5%)	
Mixed Ethnic Group	3 (1.5%)	
OGRS 3 Risk of Reoffending Level		
Low	24 (12.0%)	
Medium	37 (18.5%)	
High	66 (33.0%)	
Not recorded	73 (36.5%)	
Index offence		
Acquisitive	64 (32.0%)	
Drugs	9 (4.5%)	
Motoring	10 (5.0%)	
Robbery	11 (5.5%)	
Sexual	24 (12.0%)	
Violent	50 (25.0%)	
Other	20 (10.0%)	
Not recorded	12 (6.0%)	

NOTE: OGRS-3: Offender Group Reconviction Score – 3 – see section 3.2.8. for further information on this measure

Appendix 3
Measures

Self-Compassion

Self-compassion was measured using a 26-item self-report scale, developed initially by Neff (2003; 2015). Responses for the scale are on a five-point Likert scale, with a score of one for *almost never* and a score of five for *almost always*. Questions include, "*When times are really difficult, I tend to be tough on myself" (*reverse scored) and "*When something upsets me, I try to keep my emotions in balance*". Overall scores are calculated by taking the mean of the 26 items, so can range between 1 and 5, with higher scores reflecting greater self-compassion. The scale is made up of six subscales: self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identified, all of which are comprised of four or five items each. The Self-Compassion scale has demonstrated good internal consistency, with Cronbach's alpha ranging from.92 -.97 (Neff, 2003; Neff & Germer, 2013), as well as good test–retest reliability (*r* =.93) over a three-week interval (Neff, 2003). For the purpose of this research full-scale scores were used.

Implicit Self-esteem

Self-esteem was measured using the implicit association test (IAT) (Greenwald, McGhee, & Schwartz, 1998) which consists of a double computerized discrimination task in which participants are required to classify a single stimulus as fast as possible to a pair of target categories. The IAT relies on the assumption that participants will be faster to categorize a stimulus when the two concepts sharing the same response key are associated in their mind. The IAT procedure has demonstrated good psychometric properties, with good internal consistency (Cronbach's alpha ranging from .78 -.88. Cunningham, Preacher, & Banaji, 2001; Bosson, Swann, & Pennebaker, 2000), adequate test-retest (*r* = .69) reliability (Bosson et al., 2000) and good construct validity (Bosson et al., 2000; Lane, Banaji, Nosek, & Greenwald, 2007). The IAT was administered via standalone laptops provided by HMP Holme House. The overall IAT score was used as a self-esteem score (Greenwald, Nosek, & Banaji, 2003), with lower scores indicative of greater self-esteem.

Intention to change

Intention to change was captured using a measure developed by Harris and Napper (2005) to measure intention to reduce alcohol consumption, which correlated strongly $r(80) = .86$. The two items were used to determine intention to change behaviour in relation to using psychoactive substances, or more specifically the drug commonly known as Spice, which was the most prevalent psychoactive substance in prisons at the time of the trial: '*I'm going to cut down on my use of Spice or I am not going to take Spice at all while I'm at HMP Holme House*' (*strongly disagree-strongly agree)* and '*Do you intend to stay away from Spice or cut down on the amount of Spice you take while at HMP Holme House' (definitely do not intend to – definitely intend to)*, with responses on a seven-point scale ranging from 1–7. Higher scores equate to greater intentions not to use Spice.

Message Acceptance

Message acceptance was measured using a variety of items used in previous studies but translated into plain English to make them more accessible and readily understandable to the men taking part. Message processing was measured using Armitage and Talibudeen's (2010) two items *'How much of the note did you read*?' and *'How much of the information do you think you will be able to recall in a week*?', to which participants responded on a six- point scale: *none, a bit, some, most, almost all,* and *all*. Higher scores indicated better message processing. Message derogation was measured using adaptations of Jessop et al.'s (2009) four items. Participants were presented with the item: *'What did you think about the information you just read? Did you think it...*' to which they were asked to respond on four scales (i) *was not at all over the top - very over the top,* (ii) *didn't make Spice seem worse than it is - very much made Spice seem worse than it is,* (iii) *did not try to make me feel a certain way-very much tried to make me feel a certain way,* (iv) *did not stretch the truth at all- very much tried to stretch the truth*). All responses used a seven-point scale, and scores were reversed so that higher scores represented a belief that the information was not over the top or exaggerated.

Perceived quality of the message was measured using adaptations of Jessop et al.'s (2009) two items, to read '*Do you think it gave a good argument not to take Spice*?' and '*Do you think that taking part in these tasks will stop people taking Spice*?'.

Responses were on a seven-point scale, where one was '*not at all'*, and seven '*very much'*. Higher scores represented greater perceived message quality.

Defensive avoidance was measured using Jessop et al.'s (2009) item, *'when I read the information about X my first reaction was that I didn't want to think about it*', answered on a seven-point scale from *strongly disagree* to *strongly agree*. Scores were reversed so that higher scores represented greater acceptance (or less avoidance) of the message. Perceived threat was measured using Witte's (2010) five items *'The information made me feel*...' (*not at all frightened-very frightened, not at all anxious-very anxious, not at all worried-very worried, not at all scared-very scared, not at all threatened-very threatened*), on a seven-point scale. Higher scores represent greater perceived threat of the message.

High internal reliability has been found for all the items adapted from previous research (Cronbach's alphas ranged from .92 -.97). An overall message acceptance score was computed by obtaining the mean of the responses from the five subcomponents: message derogation, message processing, perceived quality, defensive avoidance and perceived threat. Higher scores equated to greater message acceptance (range: 1–7).

Drug use self-report

A self-report measure developed and validated on alcohol use was adapted for this study (Armitage, Harris & Arden, 2011). This measure was designed to reduce errors in memory by using a modified timeline back technique, asking respondents to think back over the last week, and describe in detail the type and amount of substances they had consumed. Responses on this measure have corresponded highly with biomarkers or alcohol use in previous studies in situations in which responses were anonymous and in non-clinical settings (Babor, Steinberg, Antnon & Del Boca, 2000). Confining answers to drug use in the last week ensured that participants were responding about substance use in custody, and not in the community. Participants were provided with a space for a response for each day of the week and asked about use of a wide range of different drugs.

Engagement in drug services

At the three-month follow-up, information about whether participants had engaged in drug services was collected from the prison management information systems. Participants were coded as either Yes (1) or No (0). They were coded as having engaged in drug services at HMP Holme House if they were on the active caseload of the Drugs Alcohol Rehabilitation Team (i.e., they were involved in group work, one-to-one work, in-cell work and/or on prescribed medication for the purposes of drug rehabilitation).

Proven prison rule-breaking

The number of proven adjudications (proven breaches of prison rules) of all participants were taken from prison management information systems three months after they started the trial. The use of the broader outcome of any proven adjudication was used (as opposed to drug-related adjudications) for several reasons. First, it is difficult to identify, reliably, those adjudications which relate to drugs (or even more specifically, psychoactive substances). Second, drug use can be associated with other infractions of prison rules, such as fighting, possession of illegal property, and disobeying orders, so we would expect any reduction in drug use to result in a concomitant reduction in general antisocial behaviour in prisons. Third, any adjudications occur at a higher rate than drug-related adjudications alone, and meant we had greater statistical power to detect any effect of the intervention.

Covariates

In addition to these measures, information was collected on participants' age, number of previous convictions (as recorded on official prison management information systems) and risk of reoffending as assessed by the Offender Group Reconviction Score - 3; OGRS-3 (Howard, Francis, Soothill & Humphreys, 2009), which forms part of the Offender Assessment System (OASys; Home Office, 2006), the assessment of risk and needs related to offending for men and women under the care of HMPPS in England and Wales. OGRS-3 is an actuarial risk of any proven reoffending assessment that combines information on the age, sex and criminal history of people convicted of crime to estimate the percentage likelihoods of proven reoffending (any conviction or caution for a new offence) committed within one and two years of the start of a community sentence or discharge from custody.

Appendix 4
Materials

Value-affirmation Task

The value-affirmation task was developed by Reed and Aspinwall (1998) and has demonstrated a positive effect on both alcohol consumption and acceptance of messages about the dangers of smoking (Armitage et al, 2011; Armitage 2008). The task consists of 10 questions that encourage respondents to recall and give examples of past acts of kindness (e.g., *'have you ever put another person's interests before your own*? *yes/no*). When participants endorse an item, they are asked to provide specific examples of this behaviour. The kindness task was chosen for its suitability for those who may not have good writing skills (many other affirmation tasks require individuals to write essays about what values are important to them and why) and to prevent the risk of individuals inadvertently choosing values which might promote undesired behaviours (e.g., sensation seeking, or aggression). It was expected that conducting the value-affirmation task would have an impact on message acceptance, intention to change drug using behaviour and self-reported illicit drug use.

Control Task

The control task was a slight adaptation of that used for this purpose in previous value-affirmation studies (Armitage et al., 208; Armitage et al., 2011), which contained no statements relevant to personal values, and which was not expected to have an impact on message acceptance, intention to change behaviour, or behaviour change. The task required participants to give their opinions on ten issues unrelated to any of the variables with which we intended to intervene, including *'I think that winter is the best season of the year, yes/no'*. As in the value-affirmation task, when respondents said '*yes*' they were also asked to elaborate on their reasons for endorsing that item.

Health Message

A health message was developed for the purpose of this study, which outlined the key risks to individuals of using SCRAs in prison (see appendix 1). The message

contained information about the health problems associated with taking SCRAs, the fact that engaging in substance use can make people an easier target and more vulnerable to exploitation in prison, the fact that the effects of SCRAs are unpredictable, and that taking substances can be harmful for peoples' progression through their prison sentence. The message also included information about how to access drug treatment services. One of the criteria for the message content was that it must not convey that most people in the prison were using SCRAs, which could promote unhelpful social norms.

A small pilot of the assessments and tasks was conducted with around 10 prisoners, to identify and rectify any issues with these. As a result, the instructions to participants were amended slightly into plainer English.

Appendix 5
Value affirmation task

Please answer these questions about **times that you have been kind**. For each question, answer yes or no by **circling your answe**r, and then give a quick example. You don't have to mention anything that might make you uncomfortable or that you would find difficult.

1. Have you ever forgiven another person when they have hurt you?

   Yes No

   If yes, give an example:

2. Have you ever been concerned with the happiness of another person?

   Yes No

   If yes, give an example

3. Have you ever been generous and selfless to another person?

   Yes No

   If yes, give an example

4. Have you ever tried not to hurt the feelings of another person?

   Yes No

   If yes, give an example

5. Have you ever gone out of your way to help a friend even at the expense of your own happiness?

   Yes No

   If yes, give an example

6. Have you ever found ways to help another person who wasn't as lucky as you?

   Yes No

   If yes, give an example

7. Have you ever been considerate of another person's feelings?

   Yes No

   If yes, give an example

8. Have you ever put another person's interests before your own?

   Yes No

   If yes, give an example

9. Have you ever attended to the needs of another person?

   Yes No

   If yes, give an example

10. Have you ever felt good when you have helped another person?

    Yes No

    If yes, give an example

Appendix 6
Control Task

Please answer these questions about **your opinions on different things**. For each question, answer yes or no by **circling your answe**r, and then give a quick example. You don't have to mention anything that might make you uncomfortable or that you would find difficult.

1. I think the colour blue is the nicest colour.

   Yes No

   If yes, why?

2. I think that chocolate is the best flavour for ice cream.

   Yes No

   If yes, why?

3. I think that winter is the best season of the year.

   Yes No

   If yes, why?

4. I think that dogs are better than cats

   Yes No

   If yes, why?

5. I think that cooking is an important skill to have.

   Yes No

   If yes, why?

6. I think that plants help to brighten up a place.

   Yes No

   If yes, why?

7. I think that reading is an important skill to have.

   Yes No

   If yes, why?

8. I think that the beach is a good place to go for a walk

   Yes No

   If yes, why?

9. I think that the bus is the best form of transport.

   Yes No

   If yes, why?

10. I think that fruit is the best dessert.

    Yes No

    If yes, why?

Appendix 7
Psychoactive Substances Health Message

We Care
At Holme House we care about the safety of everyone who lives and works here. We know that some people take psychoactive substances, often called Spice, in prison. Drugs like Spice can seriously damage your health, and we want to help make sure that you don't get hurt.

Things to consider when thinking about using Spice:

Making yourself an easy target
- Taking Spice can get you in debt.
- It could give other people something to hold against you.
- People can take advantage of you when you're taking Spice.

Unpredictable
- The effects of Spice can be strong and unexpected.
- Every batch is different – you never know what you're letting yourself in for. Even people sharing the same spliff can react differently.

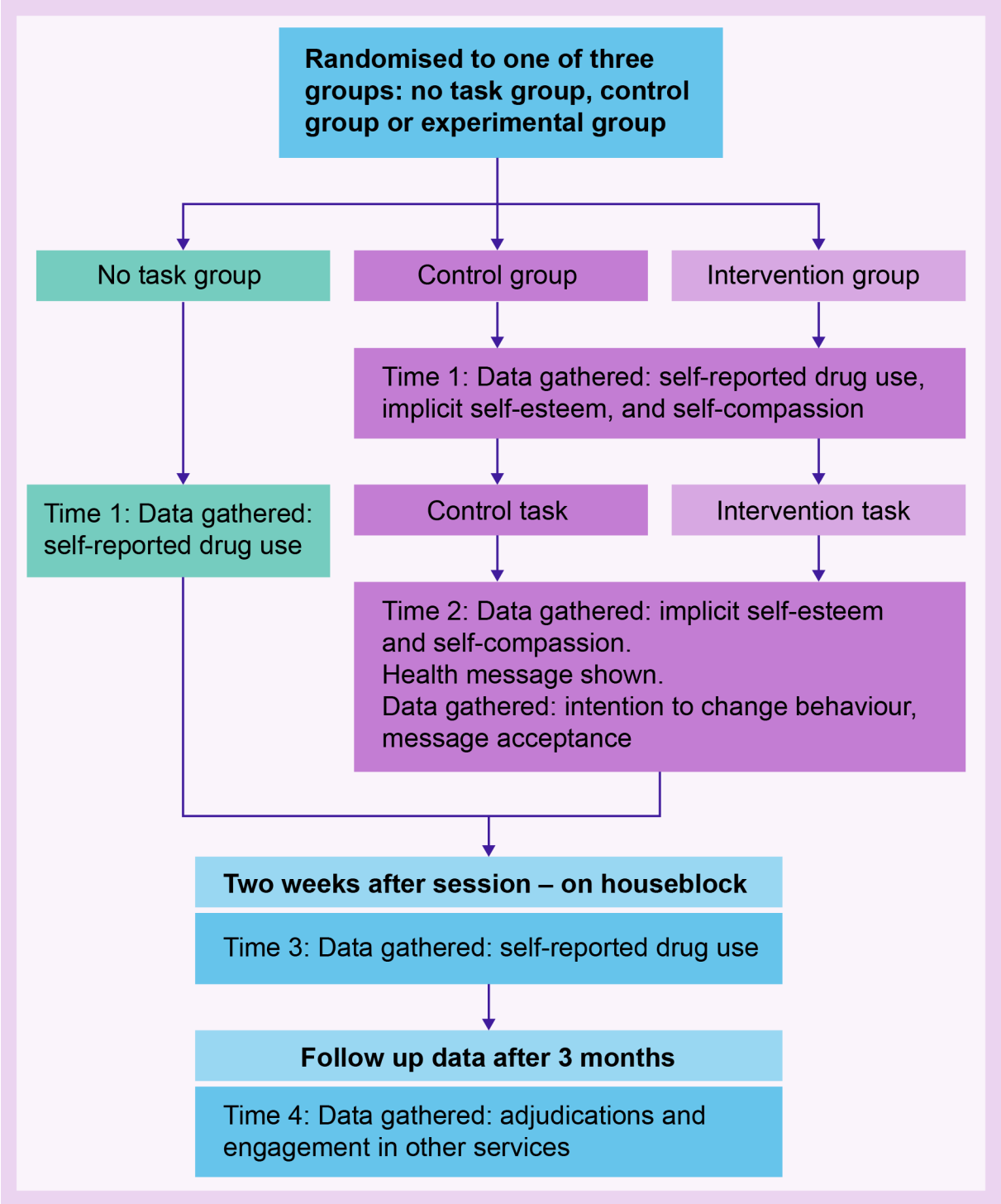
Controlling your future
- Some people end up feeling addicted to Spice, and find it really hard to stop.
- Using Spice could stop you doing other things in prison that can help you to build a better future.

Health Problems
- Spice can give you heart problems, make breathing difficult, make you angry and aggressive, and give you fits.
- Spice can also have a big impact on your mental health. It can make you depressed and anxious, paranoid, and some people end up seeing and hearing things that aren't there.
- These are just some of the effects, and they can last a long time.

If you would like support with your drug use, DART are here to help at any point during your time in custody

Appendix 8
Study Protocol Flow Diagram

Figure 2. Study protocol



Appendix 9
Further information on trial procedure

Random allocation

As the study used a small to moderate sample size, a block randomisation technique was applied to ensure a roughly equal number of participants in each group. A prespecified number of people (varying randomly between 2–5) were allocated to either the control, treatment-as-usual or intervention conditions; the next block were then allocated to a different group. For example, the first five men who consented to take part were allocated to the control condition, the next three to treatment as usual, and the next four to the experimental condition. The randomly assigned number of people in each block and associated experimental group were provided to the research manager on site by the study authors.

Blinding

Those involved in the research were not all blind to the conditions of the study. However, the on-site research manager was instructed not to indicate which condition the groups were in and to brief all men taking part in the same way. Staff distributing the tasks/measures were not told which tasks formed the experimental and which formed the control conditions. The research manager at HMP Holme House labelled the tasks arbitrarily as A and B and was the only person to know which was the intervention and which the control condition. During analysis, the authors were blind to which intervention condition the condition participants were in.