

# An evaluation of a group-based motivational intervention for substance misusers in an Irish forensic setting

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**Objective.** The purpose of this pilot study was to evaluate a 12-session group-based motivational intervention for substance misusers in a prison setting. The intervention aimed to increase both participants awareness of problem substance use and motivation to change their substance use behaviour.

**Method.** Participants were recruited for the intervention through active outreach in the prison. Participants of the intervention group completed a structured interview before the group commencing and standardised pre- and post-outcome measures. The results of the intervention group ( $n = 31$ ) were compared with a waiting list control group ( $n = 11$ ).

**Results.** Non-parametric analysis showed retention rates on this programme at 2, 4 and 6 weeks were 88%, 79% and 76%, respectively. Outcome data were consistent with the predicted direction for the treatment group compared with the wait-list control with significant between-group differences found on ambivalence and taking steps scores.

**Conclusion.** This group-based intervention demonstrated positive levels of client engagement and retention. The intervention was also successful in reducing participant ambivalence about their drug use. Implications for service provision are discussed and design limitations of the present study are considered. Overall, findings indicate the potential utility of a group-based motivational intervention for substance misusers in forensic settings.

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**Key words:** Drug treatment, forensic, group programme, motivation.

## Introduction

In 2008, a national survey, with a representative sample of >1000 prisoners reported that 52% of all Irish prisoners had used heroin and over 40% had injected heroin (Lally, 2008). Further, only 26% of sentenced prisoners had neither a drug or alcohol dependency problem.

There is a well-established link between offending behaviour and substance abuse (Ball & Ross, 1991). Consequently, the Irish Prison Service (IPS, 2007: 10) drug policy document, 'Keeping drugs out of prison' recognises 'reducing the demand for drugs in prison as a key task'. The policy proposes that ending prisoner demand for drugs during their time in prison should lead to a reduced demand on their release. The IPS believes that the 'rehabilitation of drug abusers can best be achieved by the putting in place of a comprehensive range of evidence informed treatment options for prisoners' (2007: 10). Core tasks for the IPS to support drug rehabilitation are the identification and engagement of drug users and the provision of treatment options. The development of approaches that emphasise the social and psychological components of substance use

is seen as important in countering a focus on the purely medical aspects of the problem (O'Mahony, 2008).

Engagement and retention of participants in treatment is necessary for positive treatment outcomes (Miller, 1996). However, it is widely recognised that substance misusers are a group who are difficult to engage and retain in treatment (Saunders *et al.* 1995). Recent research into the profile of prisoners found that of a random sample of drug users in Mountjoy Prison, 75% were not engaged with psychosocial services to address their drug problem (Burke, 2008). Using the transtheoretical model of behaviour change (TMBC) (Prochaska & DiClemente, 1984) the study also found that the majority of participants (63%) were considered to be in the pre-contemplation stage of change, that is, they were unaware of their drug problem and/or discouraged about changing their drug use. As problem recognition is a first step in the process of change this would suggest a clear need to develop intervention programmes that focus on building insight into problematic drug use.

## The TMBC

The TMBC proposes that an individual progresses through a series of stages when changing problem behaviour.

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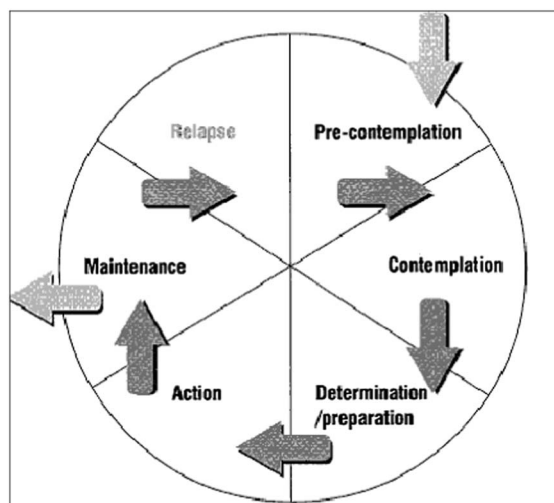


Fig. 1. Transtheoretical model of change.

As illustrated in Fig. 1, change is understood to occur in five distinct stages. In the first stage, Pre-contemplation, individuals do not identify themselves as having a problem and do not seek help. During the second stage, Contemplation, individuals identify a problem but have not yet made any changes. This stage is followed by Preparation, where the individual recognises a problem and starts to make behavioural changes. In the Action stage, individuals have actively changed their behaviour and this change is consistent over a period of time of no less than 6 months. Finally, the Maintenance stage refers to where behaviour change is consistent over a period of time of no less than 2 years. The model is conceptualised as a cycle with most individuals typically relapsing to an earlier stage before eventually reaching the latter stages.

Treatment outcomes have been found to be enhanced by matching people to appropriate stage of change interventions (Ryan *et al.* 1995). Client motivation is also widely recognised to be a key factor in treatment outcomes (Miller & Rollnick, 2002). Particularly in the earlier stages of change, lack of problem recognition and ambivalence are major obstacles to early help seeking. Problem recognition is viewed as a necessary condition for change, whereas ambivalence about change – ‘I want to, but I don’t want to’ – must also be resolved for this change to occur.

Motivational interviewing (MI) has been described as ‘a client-centred directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence’ (Burke *et al.* 2003). Motivational interventions are based on the premise that motivation is a variable that can be influenced positively and can thus facilitate the process of change. Relatively brief motivational interventions (one to four sessions) have shown moderate to large effects and good maintenance

of changes over time in the areas of alcohol and drug problems (Zweben & Zuckoff, 2002).

High retention and completion rates are also important outcomes to consider as significant relationships have been found between treatment retention and treatment effectiveness (Hollin, 1989).

A serious concern in relation to correctional interventions, including substance abuse programmes, is high non-completion rates as non-completers were found to be more likely to reoffend in comparison with both treated and untreated offenders. Furthermore, low retention and completion rates are a financially costly problem for treatment providers.

### Objectives of the intervention

In response to the policy document and Burke’s findings, a motivational intervention, based on the TMBC and principles of MI, was developed in an effort to identify and engage with substance users in the earlier stages of change, to address their drug use.

The hypotheses were that following the intervention, participants in the intervention group, compared with the wait-list control group, would demonstrate:

- increased recognition of their problem behaviour;
- decreased ambivalence towards their drug use;
- positive behaviour change in relation to their drug use.

### Method

#### Design

A mixed  $3 \times 2 \times 2$  design was used to examine the present pilot study. The within-subjects factor was time that had two levels (pre- and post-intervention). The between-subjects factors were group (intervention and wait-list control) and standardised outcome measures (problem recognition, ambivalence and change-orientated actions).

#### Participants

In view of the difficulties in engaging drug users in treatment, active efforts were made to identify potential participants for the programmes by placing information leaflets throughout the prison, and seeking referrals from prison staff including prison officers, teachers, nurses, probation officers, doctors and chaplains. Prisoners could also self refer to the programme.

Participants were accepted for the group in order of referral date (least recent) and were assigned to the motivational programme on the basis of the intake assessment. The inclusion criterion was current substance use disorder. Clinical judgement was used to assess participant’s ability to give informed consent and participants were excluded if there was evidence of active psychiatric illness or a release date earlier than programme finish date.

A total of 76 referrals were received of which 44 were offered a place on the programme. In total, 38 participants started the programme with 31 completing the programme. The reasons for non-completion ranged from participants declining to attend, not meeting inclusion criteria, being transferred to another prison or being moved to a protection landing.

A wait-list control group ( $n = 11$ ) was used for comparison purposes. A wait-list control group was appropriate to ensure access to treatment for those participants following the intervention.

### Procedure

The intervention was delivered on four separate occasions to a total of 31 substance users in the early stages of change in Mountjoy Prison over a 12-month period. Mountjoy Prison is a large committal prison on Dublin's north inner city with an average inmate population of 600.

### Initial assessment

All subjects who were referred for the intervention were met for assessment interviews where the programme was discussed with them and informed consent sought and agreed. All referrals completed a semi-structured interview and the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) (Miller & Tonigan, 1996). The semi-structured interview recorded participant's basic demographic information, sentence details, drug use history, risk behaviour and current engagement with treatment services.

The SOCRATES is a 19-item self-report scale that yields information in relation to the client's readiness to change. Scores are obtained in relation to three domains that are associated with change behaviour: problem recognition, ambivalence and taking steps. This was the primary outcome measure for treatment effectiveness and was conducted before and after each group programme.

A handwritten note was sent to each participant following the screening assessment summarising the findings from the intake assessment and offering the person a place on the programme. This is a motivational enhancement strategy aimed at increasing retention rates.

### Intervention

The *Stages-of-Change Therapy Manual* (Velasquez *et al.* 2001) and *Motivational Enhancement Therapy Manual* (Miller *et al.* 1995) were used as primary sources in the development of the intervention. The content of the sessions included the following:

1. *The stages of change*: clients learn about the stages of change and determine their own current stage.

2. *A day in the life*: clients increase their awareness of the quantity and frequency of their drug use and any patterns of drug use that may exist.
3. *Physiological effects of drugs*: clients learn about the various ways that drugs can harm the body physiologically.
4. *Expectations*: clients learn about their expectations and beliefs about their drug use, and learn alternative behaviours to achieve them.
5. *Expressions of concern*: clients discuss ways in which others have expressed concern about their drug use and whether they have any concerns of their own.
6. *Values*: clients identify their personal values and how they are discrepant with their substance using behaviour.
7. *Pros and cons*: clients learn how to identify the pros and cons of behaviour.
8. *Relationships*: clients learn that behaviour can affect other people.
9. *Roles*: Clients identify the roles they have in life and how their substance use has affected those roles.
10. *Confidence and temptation*: clients identify situations in which they are most tempted to use drugs and assess how confident they are in those situations.
11. *Problem solving*: clients learn ways to think through a problem without acting impulsively.
12. *Setting goals and preparing to change*: clients learn about setting appropriate goals and draw up a plan to meet those goals.

Four programmes were completed in total. Each programme took place twice a week for 6 weeks and sessions were of 1.5-hour duration. The Psychology Service was the lead agency and the Addiction Counselling Services co-facilitated delivery of the programme.

### Post-group evaluation

Participants completed the SOCRATES questionnaire following programme completion to reassess levels of recognition, awareness and action. They were then met for a final individual session to receive feedback on the outcome measures and on their participation on the group.

### Data analysis

All data were entered and analysed on SPSS 14.

### Results

Demographic data are shown in Tables 1 and 2 and were compared using independent *t*-test and  $\chi^2$  analysis. No significant differences were found between the experimental and control groups.

From this we can see that the mean ages of participants in the treatment and control groups were 30 and 26, respectively.

Current offences were grouped into violent (e.g. armed robbery and murder), non-violent (e.g. fraud and burglary), violent drug (e.g. drunk and disorderly) and non-violent drug (e.g. possession with intent to supply). The majority of prisoners in the treatment group had current convictions for violent offences (35%) and non-

violent drug offences (39%), whereas the control group had mainly non-violent drug offences (55%).

The main problem drug identified by both the treatment and control groups was opiates (71% and 64%, respectively). However, a significant proportion of the treatment group identified cocaine (16%) as their main problem drug. In the control group 18% of prisoners identified alcohol as their main problem drug.

From Table 2 we can see that injecting was the favoured route of use of participants in the treatment and control groups (48% and 64%, respectively), and that cannabis was the first drug used by both groups (39% and 50%, respectively). Other differences between the groups include age first used main drug (18 and 15 years old, respectively) and age first used any drug (13 years old for both groups). In total, 74% of the treatment group report ever having injected with a corresponding figure of 64% for the control group.

The outcome data were found to be non-normally distributed and so non-parametric tests were used (Field, 2009). These were:

1. *Between-group effects*: Kruskal–Wallis test and Bonferroni-corrected Mann–Whitney tests.
2. *Within-subjects effects*: Wilcoxin signed-rank test.

Retention rates of participants at 2, 4 and 6 weeks were 88%, 79% and 76%.

Between-group effects measured using the Kruskal–Wallis test revealed there was a significant difference between post-intervention measures for the treatment and control groups.

**Table 1.** Demographic and treatment information

Variables	Treatment group ( <i>n</i> = 31)	Control group ( <i>n</i> = 11)	<i>t</i> obs value
<b>Age</b>			
Mean	30.93	26.9	1.703
S.D.	7.08	5.53	
<b>Current offence</b>			
Violent	11(35%)	1(9%)	
Non-violent	3(10%)	2(18%)	
Violent drug	5(16%)	2(18%)	
Non-violent drug	12(39%)	6(55%)	
<b>Main drug used</b>			
Alcohol	1(3%)	2(18%)	
Benzodiazepines	1(3%)	0(0%)	
Cannabis	2(6%)	1(9%)	
Cocaine	5(16%)	1(9%)	
Opiates	22(71%)	7(64%)	

**Table 2.** Demographic and treatment information continued

Variables	Treatment group ( <i>n</i> = 31)	Control group ( <i>n</i> = 11)	<i>T</i>
<b>Route of use</b>			
Inject	15(48%)	7(64%)	0.096
Smoke	12(40%)	1(9%)	
Snort	2(6%)	0(0%)	
Oral	2(6%)	2(18%)	
<b>First drug used</b>			
Alcohol	9(29%)	4(40%)	
Benzodiazepines	3(10%)	0(0%)	
Cannabis	12(39%)	5(50%)	
Glue/aerosols	1(3%)	1(10%)	
Opiates	5(16%)	0(0%)	
Speed/ecstasy	1(3%)	1(10%)	
<b>Age first used main drug</b>			
Mean	18.6	15.7	0.147
S.D.	6.27	2.4	
<b>Age first used any drug</b>			
Mean	13.6	13.1	0.0551
S.D.	2.92	2.3	
Ever injected	23(74%)	7(64%)	

**Table 3.** Current treatment

Variables	Treatment group (n = 31)	Control group (n = 11)
Detoxification	8(26%)	1(9%)
Methadone maintenance	20(65%)	6(55%)
Psychosocial	17(55%)	6(55%)
Education/training	21(68%)	9(82%)

*Post hoc* Mann–Whitney tests showed a significant difference for problem recognition ( $U = 75$ ,  $r = 0.42$ ); ambivalence ( $U = 58.5$ ,  $r = 0.5$ ) and taking steps ( $U = 96$ ,  $r = 0.33$ ). Bonferroni corrections were applied so all effects are reported at the 0.0167 level of significance.

Within-subjects effects were measured using the Wilcoxin signed-rank test. Ambivalence scores for the treatment group were significantly lower from Time 1 to Time 2 ( $T = 40$ ,  $p < 0.05$ ,  $r = 0.48$ ).

Taking steps scores were significantly reduced for the control group from Time 1 to Time 2 ( $T = 15.5$ ,  $p < 0.05$ ,  $r = 0.22$ ).

Large effect size in changes to problem recognition ( $r = 0.55$ ) in the treatment group were noted but these were not statistically significant.

Table 3 shows the current treatment options engaged in by the treatment and control group. Detoxification refers to either short-term (21 days) or long-term (up to 6 months) gradual reduction in daily methadone dose under medical supervision. Methadone Maintenance Treatment involves the daily administration of a long-acting opioid drug (methadone) as a substitution treatment for opiate dependence. Psychosocial treatment refers to prisoners who are accessing either the psychology or addiction counselling service and the figures are equivalent for both groups. Education/training refers to prisoners who are engaged in either the prison-based education service (Junior/Leaving Certificate, FETAC courses) or the prison-based vocational training workshops (carpentry, computer skills). From the figures above we can see a high proportion of clients in both the treatment and control group are engaged with services and that some prisoners are engaged with more than one treatment option.

## Discussion

This intervention was characterised by high levels of participant retention and completion, fulfilling the stated aim of ‘identifying and engaging with drug misusers with a view to addressing their addiction’.

The outcome data were consistently in the predicted direction for the treatment group who demonstrated a

significant reduction in ambivalence about their drug misuse. This is a most significant finding as resolving ambivalence is a key task in changing problem behaviour. Indeed, once ambivalence is resolved little else may be required for change to occur. Non-significant effect sizes in a positive direction were also detected in changes to ‘problem recognition’ scores within the treatment group.

Interestingly, the control group showed a reduction in taking steps or change actions that emphasises the importance of accessible treatment options. There is evidence here we feel for the deleterious effect of waiting list placement for substance misusers seeking support services.

Some of the strengths of the study were:

- the use of trained experienced facilitators;
- the use of a manualised programme to ensure consistency and programme integrity;
- the use of an internationally validated outcome measurement scale (SOCRATES).

Some of the limitations of the study include:

- the relatively small sample size. In future studies it would be important to have larger numbers of participants in both arms of the study;
- lack of a randomised or a treatment-as-usual control group;
- reliance on self-report measures alone as outcome measures.

Though it was not possible in the present study owing to limited resources, use of a treatment-as-usual group in future could provide a stronger comparison than that of a wait-list control. Furthermore, future studies could use urinalysis or longitudinal follow-up of recidivism rates to corroborate these findings.

As we see that participants in both the treatment and control group had relatively high levels of pre-existing contact with prison services, it is likely that this would indicate a degree of motivation. Further efforts are therefore required to identify participants who are not engaged with any services.

Further evaluation of interventions, particularly in terms of cost-effectiveness, could examine whether feedback alone would lead to the same outcomes as feedback plus a motivational intervention as some researchers have found. Moreover, it would be interesting to know what ‘dose of treatment’ is most effective and whether briefer interventions are as effective as longer ones.

In conclusion, there is evidence that this intervention was successful in engaging and retaining participants in treatment and in significantly reducing client’s ambivalence towards their drug use. However, future studies should address design limitations discussed above and consider the overall cost-effectiveness for services implementing this programme.



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