



Motivational interviewing with offenders: A systematic review

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Purpose. Offender motivation is one specific responsivity variable in offender treatment and motivational interviewing (MI) is commonly used by corrections personnel. Although evidence for the effectiveness of motivational interviewing is accruing overall, a review of MI specifically with offender populations is required.

Method. Relevant databases and websites were searched using terms relating to MI with offenders.

Results. In total, 13 published studies and 6 dissertation abstracts were identified. MI is most evaluated in relation to substance misusing offenders ($N = 10$). Other applications are with domestic violence offenders ($N = 3$), drink-drivers ($N = 5$), and general offending ($N = 1$). In these populations, MI is used to enhance retention and engagement in treatment, improve motivation for change, and change behaviour.

Conclusions. MI can lead to improved retention in treatment, enhanced motivation to change, and reduced offending, although there are variations across studies. To advance the study of MI with offenders, a theory of change needs to be articulated on which testable hypotheses may be based. The integrity of treatment in its application needs to be assured. Based on these foundations, more outcome research is needed to examine who responds to what type of MI in relation to treatment retention, readiness to change, and reconviction.

Over the past two decades, the three main principles of effective practice in offender rehabilitation, derived from the 'What Works?' literature, have become embodied in the Risk-Needs-Responsivity (R-N-R) model of offender assessment and treatment (Andrews & Bonta, 2003). Put simply, these principles are that, for maximum effect, treatment should be directed at high-risk offenders, focus on needs that relate to criminal behaviour, and be responsive to offenders' characteristics, abilities, and circumstances. Treatments that abide by the risk, needs, and general responsivity

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principles are more effective than those that do not (Andrews & Dowden, 2005). The focus here is on responsivity.

Two aspects of responsivity have been defined: general and specific responsivity. According to Andrews, Bonta, and Wormith (2006), general responsivity 'asserts the general power of behavioural, social learning, and cognitive-behavioral strategies' (p. 7). Specific responsivity relates to treatment that suits offenders' demographic profiles, such as age, gender, and ethnicity; cognitive abilities, e.g. literacy, intelligence, and learning style; motivation; personality traits; and mood states. Andrews *et al.* (2006) admit that specific responsivity is the least well researched of the R-N-R principles.

The findings of one study illustrate the importance of attending to issues relating to specific responsivity. McMurrin and Theodosi (2007) conducted a meta-analysis of cognitive-behavioural offender treatment outcome studies that reported recidivism rates for treatment completers, non-completers, and untreated offenders, including only those studies where offenders were either randomly allocated to treatment/no treatment or where groups were risk matched. Overall, offender treatments reduced recidivism in those who completed them compared with those who did not (effect size $d = .11$). The non-completion rate was 24% overall, with 15% of institutional and 45% of community samples failing to complete treatment. Besides the cost-efficiency implications of these rates of non-completion, there was evidence that non-completers recidivated at a greater rate than did those not offered treatment ($d = -.16$), this effect being more pronounced in community settings ($d = -.23$) than in institutional settings ($d = -.15$). It is important, therefore, to address recruitment to and retention in treatment.

One issue that relates to recruitment, engagement, and retention in treatment is that of offenders' motivation to engage in therapy and change their behaviour. Although the concept of motivation for treatment and behaviour change has attracted criticism as an explanatory fallacy, offering nothing over a description of actual behaviour (e.g. attending sessions, not offending), it is perhaps a shorthand for at least some of the determinants of treatment engagement and behaviour change (Drieschner, Lammers, & van der Staak, 2004). Readiness for treatment and change is determined by a multiplicity of internal and external factors (Ward, Day, Howells, & Birgden, 2004), among which personal goals serve as one way of construing motivation (Karoly, 1993, 1999; McMurrin & Ward, 2004; Michalak & Grosse Holtforth, 2006).

One important intervention that aims to encourage people to commit to goals for change, and which is commonly used by corrections personnel, is motivational interviewing (MI). MI was developed by Miller and Rollnick (1991, 2002), originally as a technique for motivating substance abusers to change. In MI, the strategy is to elicit 'change statements' through the use of techniques such as expressing empathy, avoiding arguing for change, and working on ambivalence to strengthen commitment to change. Evidence for the effectiveness of motivational interviewing is accruing, with meta-analyses of treatment outcome studies supporting its use, both as a stand-alone treatment and a prelude to more intensive interventions, particularly for excessive drinking and drug use (Burke, Arkowitz, & Menchola, 2003; Rubak, Sandbæk, Lauritzen, & Christensen, 2005; Vasilaki, Hosier, & Cox, 2006). Substance misuse is a problem that is highly prevalent in offender populations; around 50% of prisoners have been identified as drug dependent with 60% male prisoners and 40% of female prisoners identified as hazardous drinkers (Singleton, Farrell, & Meltzer, 1999). Hence, MI has a role as an evidence-based treatment for offenders with drink and drug problems.

However, MI is used more generally in offender treatment as a basic approach to facilitate change. For instance, the induction programme for the UK Probation Service

Officers specifies 'Understanding the key principles of Motivational Interviewing' (National Probation Service, 2005) as part of initial training, and MI has been promoted as a general approach among US Probation Officers (Clark, Walters, Gingerich, & Meltzer, 2006; Walters, Clark, Gingerich, & Meltzer, 2007). This may be argued on the grounds that offending has commonalities with substance abuse in that they are behaviours that are indulged in for their short-term rewards despite their longer-term adverse effects. If MI works for drinkers and drug users, then it may work with offending.

Given the prevalence of MI as a general style and also as a specific technique of working with offenders, the evidence regarding the effectiveness of MI with offenders needs to be collated and studied. Other scholars have noted that the applications of MI have proliferated (e.g. to weight loss, safe sex practices, diabetes control, adherence to exercise regimes) and the popularity of MI may have outstripped the evidence for its effectiveness (Dunn, Deroo, & Rivara, 2001). This caution applies in the offender treatment field, hence a review is needed to clarify the empirically supported benefits of MI. This information may be used to direct practice and should also identify gaps in knowledge that need to be addressed to develop MI effectively. The aim here was to examine the research literature for offender treatment outcome evaluations that specifically focused upon MI and a variant called Motivational Enhancement Therapy (MET), which is a brief motivational assessment and feedback (Miller, Zweben, DiClemente, & Rychtarik, 1992).

Method

Objectives

The aim was to systematically review the evidence of the impact of MI or MET with offender populations. Studies that focused upon other interventions conducted in a motivational style were excluded. Both published and unpublished materials were solicited on any offender sample (i.e. any offence type; probationer, prisoner and mentally disordered offender; men and women; juvenile, youth, and adult), working on any problem (e.g. substance use or offending) and measuring any outcome (e.g. treatment engagement, behaviour change, reconviction). All empirical studies were eligible for inclusion, and were rated for methodological quality on the Maryland Scientific Methods Scale (SMS; Sherman, Farrington, Welsh, & MacKenzie, 2002). This identifies five categories: (1) correlational studies that report a correlation denoting the strength of the relationship between an intervention and its outcome; (2) before and after studies of a target group only, with no control group; (3) comparison group, where before and after measures are compared for the target group and a comparable control group; (4) controlled trial, where before and after measures are compared for the target group and a comparable control group, as in (3), but potentially confounding variables are controlled; (5) randomized controlled trial, where there is random allocation to target and control groups.

Search strategy

Relevant databases were searched using terms relating to MI with offenders (motivation; motivational interviewing; motivational enhancement). The databases searched were Cochrane Library, Embase, Medline, PsycInfo, ProQuest (Dissertations and Theses), Sociological Abstracts, National Criminal Justice Reference Service, and Web of

Knowledge, for information up to October 2007. In addition, the bibliography on the motivational interviewing website was accessed (www.motivationalinterviewing.org) and a message was posted on the motivational interviewing trainers' web page. The US National Institute of Health's Computer Retrieval of Information on Scientific Projects (CRISP) website was accessed. Information was solicited via an international web-based Forensic Network, and from known researchers in the field. Reference lists from all retrieved studies were examined for further studies.

Results

In total, 13 published studies and 6 dissertation abstracts were identified. These are described below in their domains of application. In general, MI is best evaluated in substance misuse treatments, and this too was the most common application with offenders, although treatment populations of perpetrators of domestic violence, driving while intoxicated, and general offending also featured. Overall, the aims varied from increasing treatment engagement, readiness to change, reducing substance misuse, and desistance from crime.

Substance-focused motivational intervention studies

Ten studies addressed the effects of MI on substance misusers and are summarized in Table 1. Of these 10 studies, two aimed at reducing substance use and assessed changes in substance use as an outcome measure. Miles, Duthiel, Welsby, and Haider (2007) evaluated a substance abuse treatment programme for mentally disordered offenders in a secure unit. This programme consisted of motivational interviewing, education, and relapse prevention followed by a support group. Of 18 patients who received treatment, 15 were drug free after treatment. However, longer term abstinence was not predicted by treatment; it was predicted by the support group in the community. A study by Carroll *et al.* (2006) compared two individually applied treatments - motivational enhancement therapy (MET) with cognitive behavioural skills training (CBT) and drug counselling (DC) - with and without contingency management (CM). In the CM, participants received vouchers to the value of \$25 for session 1, rising by \$5 *per session* up to session 8, and vouchers to the value of \$50 for the first clear urine sample rising by \$5 for each subsequent clear sample. Attendance was best for MET/CBT plus CM, followed by MET/CBM only, then DC plus CM, and DC only. Those who were assigned to CM were abstinent for longer time than those not assigned to CM, but there was no differential effect of treatment type (i.e. MET/CBT or DC). Overall, results somewhat favoured MET/CBT plus CM over the other three interventions.

One study, that by Sinha, Easton, Renee-Aubin, and Carroll (2003), aimed to improve probation-referred marijuana users' attendance at MET by adding a CM element in the form of vouchers to the value of \$25, \$35, and \$45 for attending sessions one, two, and three, respectively. Those who received MET + CM ($N = 37$) attended more sessions than those who received MET only ($N = 28$). At 1-month follow-up, both groups had reduced marijuana use, reported fewer problems, and had improved motivation for change, but there was no differential effect of the two treatments.

Two of the 10 studies aimed to improve recruitment to and retention in standard treatment. Lincourt, Kuettel, and Bombardier (2002) worked with offenders who were court mandated to out-patient substance abuse treatment, comparing 75 who received

Table 1. Substance-focused motivational intervention studies

| SMS | Author | Target population | Aim | Intervention | Sample size | Outcome measure(s) | Length of follow-up | Outcome |
|-----|-------------------------------|---|--|---|--|---|---------------------|--|
| 2 | Miles <i>et al.</i> (2007) | UK adult mentally disordered offenders in a secure unit referred to substance use treatment programme | Change beliefs about problems and ability to change; reduce craving for cannabis | Group MI (12 weeks) + psychoeducation (12 weeks) | 19 | Drug use | 6 months | 15 participants drug free |
| 5 | Carroll <i>et al.</i> (2006) | US adult marijuana users; referred to out-patient treatment by probation services; 90% male | Improve retention in treatment; reduce marijuana use | T ₁ : Individual MET/CBT – eight sessions T ₂ : Individual MET/CBT + CM – eight sessions T ₃ : Individual drug counselling (DC) – eight sessions T ₄ : Individual DC + CM – eight sessions | T ₁ : 33 T ₂ : 34 T ₃ : 35 T ₄ : 33 | Session attendance; self-reported marijuana use + urine tests | 6 months | Attendance MET/CBT + CM > MET/CBT > DC + CM > DC Marijuana use CM > no CM |
| 5 | Sinha <i>et al.</i> (2003) | US adult marijuana users; referred to out-patient treatment by probation services; 93% male | Improve treatment attendance | T ₁ : MET – three sessions T ₂ : MET + CM – three sessions | T: 28 C: 37 | Session attendance; marijuana use; Addiction severity index; SOCRATES | 1 month | MET + CM attended more sessions and more completed treatment; both groups reduced marijuana use, reduced problems, and improved motivation |
| 4 | Lincourt <i>et al.</i> (2002) | US clients age ≥ 16 mandated to out-patient substance abuse treatment programme; 86% male | Improve participation in standard treatment | T: Six-session MI group T: Standard treatment | T: 75 C: 92 | Treatment completion | – | Controlling for confounds, MI group membership predicted successful completion |

Table 1. (Continued)

| SMS | Author | Target population | Aim | Intervention | Sample size | Outcome measure(s) | Length of follow-up | Outcome |
|-----|--|--|--|---|--|---|---------------------|--|
| 5 | Stein <i>et al.</i> (2006a) | US juvenile prisoners; drinkers or marijuana users; 90% male | Enhance engagement in subsequent substance abuse treatment | T: 90 minutes MI C: 90 minutes relaxation training | T: 65 C: 65 | Staff ratings of engagement in substance abuse treatment; Staff and participant completion of treatment participation questionnaire | 2 months | M1 less negative engagement (ES .24) |
| 5 | Ginsberg (2000); Ginsberg <i>et al.</i> (2000) | Canadian male alcohol-dependent federal inmates | Enhance treatment motivation | T: MI group C: No treatment | T: 42 C: 41 | RCQ; URICA; SOC-RATES | 1 week | M1 showed greater change in problem recognition (ES .22) and greater move from pre-contemplation to contemplation (ES .45) |
| 2 | Mendel and Hipkins (2002) | UK adult men with learning disability and alcohol problems; secure setting | Improve motivation to change drinking | Group MI | 7 | RCQ; Self-rating of self-efficacy | 2 weeks | Most (6) advanced stage of change; four improved self-efficacy |
| 5 | Vanderberg (2003) | Canadian federal inmates with drug problems | Enhance readiness for change; improve recruitment to treatment | T = MI (45–60 minutes) C ₁ = Control interview (45–60 minutes) C ₂ = No interview | T: 32 C ₁ : 32 C ₂ :32 | RCQ; URICA; SOC-RATES; Recruitment to substance use treatment | 1 week and 7 weeks | M1 enhanced readiness to change; M1 group made greater gains in subsequent treatment |
| 2 | Slavet <i>et al.</i> (2005) | US juvenile prisoners and parent; seven boys; alcohol or marijuana use | Feasibility study. Measured motivation and confidence | Single session family check-up | 10 | Contemplation ladder; Brief situational confidence questionnaire adolescent and parent versions | 1 session | No significant change on contemplation ladder (ES .35); significant improvements in confidence for adolescent (ES.57) and parent (ES.77) |

Table 1. (Continued)

| SMS | Author | Target population | Aim | Intervention | Sample size | Outcome measure(s) | Length of follow-up | Outcome |
|-----|-------------------------|---|--|--|--|--------------------|---------------------|--|
| 3 | Harper and Hardy (2000) | UK adult probationers with drug or alcohol problems; 85% male | Change offender attitudes to drugs, alcohol, and offending | T: Offenders with MI-trained probation officer C: Offenders with non-MI-trained probation officer | T: Before = 36, After = 19 C: Before = 29, After = 16 | CRIME-PICS II | 16.5 months | MI improved on more CRIME-PICS II scales; reported significant decrease of drug and alcohol problems |

Note. SMS, Scientific Methods Scale (Sherman et al., 2002); MI, motivational interviewing; MET, motivational enhancement therapy; CBT, cognitive behavioural therapy; CM, contingency management; T, Treatment; C, Control; RCQ, Readiness to Change Questionnaire (Rollnick et al., 1992); URICA, University of Rhode Island Change Assessment (McConaughy et al., 1983, 1989); SOCRATES, Stage of Change Readiness and Treatment Eagerness Scale (Miller & Tonigan, 1996).

MI with 92 who received standard treatment only. Significantly more of the MI group completed treatment, with twice as many completing as compared with the standard treatment group. Working with incarcerated adolescents, Stein *et al.* (2006a) used MI to prepare inmates for a standard substance misuse psychoeducation programme. They randomized 130 adolescents to MI, lasting 60–90 minutes, or relaxation training. Following the treatment, those adolescents who had MI were significantly less negatively engaged in the substance misuse programme. Negative engagement in groups is a risk when treating adolescents; instead of benefiting from the treatment message, peers in aggregate can reinforce delinquent behaviours and antisocial attitudes (Dishion, McCord, & Poulin, 1999). There was no effect on positive engagement.

Three studies aimed to improve motivation and confidence to reduce substance use as a result of MI. In a randomized trial with 83 alcohol-dependent federal inmates, (Ginsberg 2000; Ginsberg, Weekes, & Boer, 2000) used an MI of 90–120 minutes duration compared with a control group for offenders with drinking problems. He used three measures of motivation: the Readiness to Change Questionnaire (Rollnick, Heather, Gold, & Hall, 1992); the University of Rhode Island Change Assessment (URICA; McConaughy, DiClemente, Prochaska, & Velicer, 1989; McConaughy, Prochaska, & Velicer, 1983); and the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES; Miller & Tonigan, 1996). Ginsberg found that those who received MI showed greater problem recognition and consideration of change on the SOCRATES, but not the URICA, and he questioned the value of the URICA with offender populations.

Mendel and Hipkins (2002) reported an evaluation of an MI group treatment for alcohol problems with seven men together with mild learning disabilities, who were detained in a medium secure residential unit. After the three-session intervention, five of the men improved on the RCQ and self-rated self-efficacy to change alcohol consumption. Vanderberg (2003) randomly assigned 96 federal inmates with drug problems to one of three conditions: a 45–60 minute MI as a pre-treatment primer for a substance abuse treatment programme; a 45–60 minute control interview; and no interview. The MI group showed most improvement on RCQ action scores pre- to post-interview, but there were no differences on URICA or SOCRATES. Again problems with stage-of-change measures were noted. Slavet *et al.* (2005) used MI in the form of a family check-up with 10 families whose adolescent sons or daughters were incarcerated. The intervention improved adolescents' confidence in resisting substance use in risky situations and improved parents' confidence in impacting on their adolescents' lives to reduce delinquency.

Finally, one study aimed to change offenders' attitudes. Harper and Hardy (2000) compared the outcomes of 18 MI-trained probation officers with 18 non-MI-trained probation officers working with offenders (85% men) with drug and alcohol problems. After an average order lasting 16.5 months, the offenders whose probation officers were MI trained showed significant improvement on more scales of the CRIME-PICS II (Frude, Honess, & Maguire, 1998), a measure of antisocial attitudes, and a significant decrease in self-reported drug and alcohol problems. However, the comparisons made were for 35 treatment completers with pre-intervention scores for 65 starters, thus creating a selection bias in both groups.

Offence-focused motivational intervention studies

There were nine studies targeting offence behaviours (Table 2). Of these, three were studies of perpetrators of domestic violence. One study aimed to measure change in

Table 2. Offence-focused motivational intervention studies

| DV | SMS | Author | Target population | Aim | Intervention | Sample size | Outcome measure(s) | Length of follow-up | Outcome |
|----|-----|----------------------|--|---|---|---|---|---------------------|--|
| | 5 | Kistenmacher (2000) | US court-mandated male DV offenders | Improve motivation to change; improve stage of change; lessen external blame; reduce recidivism | T: MI (two sessions) C: No intervention | Total = 33 | Motivation to change abusive behaviour; stage of change; violence | Not started | No differences in motivation to change; MI more improved stage of change; MI more decreased self-report external blame but not staff rating; no effect on recidivism |
| | 5 | Kennerley (1999) | US male DV offenders in community treatment | Improve treatment completion | T: Single session pre-therapy MI C: Single session pre-therapy psychoeducation | Total = 83 | Retention in treatment; engagement in treatment | Not started | No differences in completion rates |
| | 2 | Easton et al. (2000) | US male DV offenders court-mandated to community treatment | Improve readiness to change substance use | T: One session MI C: One session anger management | T: Before = 22, After = 19 C: Before = 19, After = 9 | Self-reported motivation to change | 1 session | MI improved motivation post session Control—insufficient data for analysis |

Table 2. (Continued)

| | SMS | Author | Target population | Aim | Intervention | Sample size | Outcome measure(s) | Length of follow-up | Outcome |
|-----|-----|-----------------------|---|---|---|------------------|---|-----------------------|--|
| DWI | 5 | Woodall et al. (2007) | US incarcerated first-time DWI offenders; 87% male; 77% Native American; 16% anti-social personality disorder | Reduce drinking and DWI convictions | T: MI approach to psychoeducational programme conducted during 28 day sentence C: 28 days imprisonment | T: 177 C: 128 | Self-reported drinking and drink-related problems; DWI arrests | 24 months | MI fewer drinking days and consumed less alcohol; No differences in DWI arrests |
| DWI | 5 | Stein et al. (2006b) | US prisoners, aged 14–19; males and females | Reduce risky driving | T: MI C: Relaxation training | T: 59 C: 45 | Self-reported drink driving; driving under the influence of marijuana; passenger in car with driver under the influence of alcohol or marijuana | 3 months post-release | MI reduces risk more than C for those low on depression; no difference for participants high on depression |
| DWI | 4 | Marques et al. (1999) | Canadian DWI offenders in 2 sites | Reduce blood alcohol warnings on a car ignition interlock | T: Interlock plus motivational enhancement along with education and support C: Interlock only | T: 589 C: 720 | Interlock failures | 12 months | Controlling for vehicle use, the treatment site participants showed fewer interlock failures |

Table 2. (Continued)

| | SMS | Author | Target population | Aim | Intervention | Sample size | Outcome measure(s) | Length of follow-up | Outcome |
|-----------|-----|--------------------------------|---|---|---|----------------|--|----------------------|---|
| DWI | 5 | Ferguson (1997) | US court mandated DWI offenders who declined treatment | Alcohol intake | T: MI C: Attention placebo | Not stated | Alcohol intake self-report | 6 months | No difference in alcohol intake |
| DWI | 2 | Stein and Lebeau-Craven (2002) | US minimum-security prisoners who had completed a chemical dependency treatment programme; 88% male | Motivate to avoid relapse | Individual MI + 8 × 90 minute group relapse prevention sessions | 13 | Relapse avoidance plan | 5 weeks | Improved coping skills (ES 1.40) |
| Offending | 4 | Anstiss (2005) | NZ prisoners | Improve motivation; reduce reconviction | T: MI programme C: Treatment as usual | T: 58 C: 58 | Criminogenic needs inventory; Reconviction | 4 years post-release | MI group 21% lower reconviction and 17% lower re-imprisonment; mixed results for motivation |

Note. SMS, Scientific Methods Scale (Sherman et al., 2002); DV, Domestic violence; DWI, Driving while intoxicated; T, Treatment; C, Control.

actual violence. Kistenmacher (2000) randomly assigned 33 male perpetrators of domestic violence to two sessions of MI or treatment as usual. The MI group showed more acceptance of blame and more improvement of stage of change, but there was no significant difference between groups on violence, although this was attributed to a floor effect. One study evaluated changes in motivation and retention in standard treatment after MI. Kennerley (1999) randomly allocated 83 male perpetrators of domestic violence referred by a local agency to a single session pre-therapy MI group or a single group psychoeducation session. The expectation was that the pre-therapy MI session would improve retention in treatment, but this was not found. Finally, Easton, Swan, and Sinha (2000) examined the effectiveness of MI in motivating offenders to change the substance use in 41 men referred for out-patient treatment after a domestic violence arrest. The standard treatment included a discussion of substance use and violence, and this was compared with MI. The MI group showed improved motivation to change substance use post-treatment, however comparisons with the control group were not possible owing to sample attrition (only 9 of 19 gave post-treatment data).

Five studies were with Driving While Intoxicated (DWI) offenders. Two studies examined effects of drink-driving offences. Woodall, Delaney, Kunitz, Westerberg, and Zhao (2007) compared an MI approach used to deliver a broad treatment for first time DWI offenders sentenced to 28 days in prison with imprisonment only in a randomized controlled trial with a 24-month follow-up. Of the 305 people recruited, those who received the motivationally delivered intervention reduced their drinking significantly more than those in the comparison group, but there were no significant differences in reconviction. Stein *et al.* (2006b) conducted a randomized trial comparing MI ($N = 59$) and relaxation training ($N = 45$) with incarcerated adolescents to reduce alcohol and marijuana-related driving events (i.e. driving under the influence or being a passenger in a car whose driver was under the influence). Those who received MI had lower rates of risky driving events, only if they had low levels of depression; for those with high levels of depression, MI and RT were equally effective.

Marques, Voas, Tippetts, and Beirness (1999) compared a combined motivational interviewing, education, support, and counselling intervention with no extra intervention for DWI offenders whose vehicles were fitted with a Breath Alcohol Ignition Interlock. The interlock requires the driver to provide a satisfactory breath alcohol test before the engine can be started, with a rolling retest (i.e. periodic retests when the engine is running) to prevent driver circumvention. Comparing those who received the intervention ($N = 589$) with those who did not ($N = 720$) over a 1-year period, members of the intervention group were less likely to have failed breath alcohol levels. Overall, there were too few recidivism events to examine the differences in reconviction.

Ferguson (1997) studied effects on alcohol consumption. In a randomized trial, DWI offenders unwilling to accept treatment were given either an MI or an attention placebo. No group differences in alcohol consumption were observed at 6-month follow-up, although outcomes varied depending on initial stage of change, alcohol problems, and defensiveness. Stein and Lebeau-Craven (2002) examined motivation to avoid relapse as an outcome, comparing the DWI offenders who received MI and relapse prevention with those who received standard treatment. They found that MI and relapse prevention were viewed more favourably and led to greater improvements in coping skills than those in standard treatment.

Finally, one study focused on reducing general offending. Anstiss (2005) reported successful reduction of re-conviction and re-imprisonment with an MI treatment

programme for prisoners. Compared with matched controls, the MI group had a 21% lower reconviction rate and a 17% lower re-imprisonment rate 4 years after release. A more detailed description of this study is in preparation (Anstiss, Polaschek, & Wilson).

Discussion

This systematic review identified 19 evaluated applications of MI with offenders, of which 10 were randomized controlled trials. A meta-analysis of the effects of these studies is not warranted, however, because of the variation among these studies in treatment populations (substance users, domestic violence perpetrators, and drink-drivers) and the variation in treatment targets (treatment attendance, treatment engagement, readiness to change, stage of change, drinking, and risky driving). Hence, no overall definitive conclusion about the effectiveness of MI with offenders can be drawn. However, these randomized studies, along with studies of less robust design, do offer some direction for both research and practice. Before considering these, it is worth pointing out some limitations of this review. First, many offender treatment programmes, for substance use and other issues, are conducted in a motivational style, yet these have not been included here. The focus here was on studies that specifically evaluated MI so that its unique effects might begin to be identified. Second, it may be that some studies have escaped identification and, indeed, some ongoing projects were identified but data not accessed, for example work in progress in Swedish correctional services (Carl Åke Farbring, personal communication, 22 October 2008). Nonetheless, it is likely that the studies reported here adequately represent the present state of MI research with offender populations. Finally, MI can mean many things and, in this preliminary examination of the evidence, differences in the content of MI between studies have not been analysed. This is an important issue that does require attention, however it was deemed appropriate to paint an overall picture first.

MI is used with three main purposes in mind: (1) to enhance retention and engagement in treatment; (2) to improve motivation for change; and (3) to change behaviour. First, regarding retention in treatment, results look promising for substance misusing populations (Carroll *et al.*, 2006; Lincourt *et al.*, 2002; Sinha *et al.*, 2003; Vanderberg, 2003), although not perhaps for perpetrators of domestic violence (Kennerley, 1999). The need to address motivation so that offenders are retained in treatment is evident from high non-completion rates, particularly in community programmes, and the knowledge that non-completers are more likely to recidivate than untreated offenders (McMurran & Theodosi, 2007). MI can improve engagement in programmes, however, it seems that more concrete inducements to remain in treatment may have greater impact. In the studies by Carroll *et al.* (2006) and Sinha *et al.* (2003), financial rewards kept people in treatment, and contingency management predicted reduced drug use whereas treatment type did not.

Second, in enhancing motivation for treatment, the evidence here suggests that MI can lead to improvements on measures of readiness or motivation to change (Easton *et al.*, 2000; Ginsberg, 2000; Ginsberg *et al.*, 2000; Kistenmacher, 2000; Mendel & Hipkins, 2002; Sinha *et al.*, 2003; Stein *et al.*, 2006a; Vanderberg, 2003), although there were exceptions (Anstiss, 2005; Slavet *et al.*, 2005). Interestingly, changes in motivation and behaviour change were not always associated (Anstiss, 2005; Kistenmacher, 2000; Woodall *et al.*, 2007). One major problem here is that of measurement. The stages of change model has been criticized generally as flawed in that change does not occur in

genuine stages, it focuses too much on decision-making and not enough on implicit processes (e.g. when stimuli trigger responses outside conscious awareness), and it may misdirect interventions (West, 2005). In relation to changing offending, the model quite simply has not been empirically validated. Hence, measures based upon the stages of change model likely have poor construct validity. More recently, the broader concept of readiness to change has gained currency, both in substance misuse and offender treatment fields, and measures of this may prove more fruitful (Casey, Day, Howells, & Ward, 2007).

Third, regarding behaviour change, the effects of MI are equivocal. There is mixed evidence for a reduction in substance use, with some positive outcomes (Harper & Hardy, 2000; Miles *et al.*, 2007; Sinha *et al.*, 2003) and others negative (Carroll *et al.*, 2006). There is also mixed evidence for reduced offending, with positive effects on general offending (Anstiss, 2005), mixed results for drink-driving (Marques *et al.*, 1999; Woodall *et al.*, 2007), and no effect on domestic violence (Kistenmacher, 2000). These results may be explained in part because both the MI and comparison groups reduce re-offending and thus group differences are not evident due to floor effects (Kistenmacher, 2000; Marques *et al.*, 1999; Woodall *et al.*, 2007). One concern is that, although MI can effect change, the effects may not always be sustained in the longer term, and if it does persistence of change may be attributable to other influences, such as community support (Miles *et al.*, 2007). Follow-up times in the studies reported here were mostly short. Additionally, because MI is often combined with other treatment components, its unique effects are hard to tease out.

Where to now with MI for offenders? There are a number of issues that require attention if MI is to be satisfactorily developed within the repertoire of evidence-based offender interventions. These are theory, integrity, and research.

First, as for MI in general, a sound theoretical base needs to be articulated as a foundation for the development of testable hypotheses that will facilitate clinical discovery (Allsop, 2007). Recently, MI has been framed within Deci and Ryan's (2000) self-determination theory (Markland, Ryan, Tobin, & Rollnick, 2005; Vansteenkiste & Sheldon, 2006). The self-determined behaviour is intrinsically reinforced by satisfaction of innate needs for autonomy, competence, and relatedness. MI fits well with this, given its spirit of encouraging the client to argue for change rather than the professional foisting change upon the client. MI may have the power to move people along a continuum from extrinsic motivation, i.e. where behaviour is controlled by external contingencies, to intrinsic motivation, i.e. where behaviour is self-determined (Deci & Ryan, 2000). Clarification of a theory will help identify the processes that underpin motivation to change and so facilitate clinical development of MI.

The integrity of delivery of MI, as other therapies, is crucial. The practitioners must know what they are aiming to do through MI, e.g. motivate offenders for treatment or effect behaviour change or both. They must also know how this is to be done. Training courses in MI have flourished, but training does not always lead to tangible changes in practitioners' behaviour. Miller and Mount (2001) found that professionals trained in MI showed their learning well on paper-and-pencil tests, but observations of their practice in the clinical setting did not show them to be as proficient as they claimed. In fact, the professionals' confidence outstripped their skills, inoculating them against further learning. Much work has been done to develop ways of assessing the fidelity of MI in practice, including clinical session rating protocols, skills assessments, and a treatment integrity scale (see review by Madson & Campbell, 2006). Training, support and practice monitoring all need to be researched to identify how best to teach

MI, who can learn MI, and how MI can be implemented with integrity. This is true in correctional settings as in other settings.

Finally, more and better research into MI with offenders is required. We need to know what sort of MI is effective, with whom and for what. The parameters of MI that need to be investigated include how it should be designed in relation to theory, the optimum duration, and how it is most effectively administered (e.g. individual vs. group; at what point in the offender's criminal justice contact; who delivers MI most effectively). Oddly, there was no evidence of any rigorous evaluation of MI with sexual offenders, although single case studies provide some support for its effectiveness in persuading an offender to admit his offence and enter a treatment programme (Mann & Rollnick, 1996), encouraging a potential dropout to remain in treatment, and dissuading an offender from inappropriate release plans (Mann, 1996, cited in Mann, Ginsberg & Weekes, 2002). Differential benefits from MI were noted in Ferguson's (1997) and Stein *et al.*'s (2006b) research, relating to defensiveness and depression, respectively, and further investigation of the individual characteristics of offenders in relation to MI outcomes is required.

Whether MI works to recruit offenders into treatment, to retain offenders in treatment, to reduce offending, and, if so, what types of offending all need to be empirically examined using robust and appropriate methods in adequately powered studies. Comparisons with other emerging motivational approaches, such as personal goal setting (Sellen, McMurrin, Cox, Theodosi, & Klinger, 2006; Theodosi & McMurrin, 2006), in randomized controlled trials would be one way forward. Given the success of MI in other clinical areas, and the promise shown in many of the studies reviewed here, the MI is one intervention that deserves the allocation of sufficient resources to develop its evidence base in offender treatments.

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