

# The Effectiveness of Motivational Interviewing with Offenders: An Outcome Evaluation

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This research evaluated the effectiveness of an adaptation of motivational interviewing (the Short Motivational Programme) to enhance motivation to change in a high risk offender sample. The Short Motivational Programme (SMP) aimed to increase offenders' motivation to change prior to their release from prison. An outcome evaluation was conducted using a quasi-experimental repeated measures within-group design. Participants consisted of 38 male offenders, deemed to be at a high risk of recidivism, from two New Zealand prisons. Offenders' motivation to change significantly increased from pre- to post-SMP and a follow-up group showed this change was maintained 3-12 months after the programme. The results provided preliminary evidence for the effectiveness of SMP to increase the motivation to change of high risk offenders.

Systematic interest in motivation to change emerged from the addictions field due to low rates of treatment compliance. This was commonly conceptualised as a motivational problem (Hettema, Steele, & Miller, 2005) and viewed as a stable personality trait (Miller, 1985). In the late 1970s this paradigm shifted following research that demonstrated clients' intrapsychic characteristics played a minor role compared to therapist variables in predicting client motivation and subsequent treatment outcome (Miller, 1985). These studies redirected interest in the therapist's ability to foster client motivation to change. Interest was stimulated in other fields, including correctional rehabilitation, where offenders were viewed as lacking the requisite motivation to change their harmful behaviour.

Within the correctional rehabilitation field, and parallel to this burgeoning interest in motivation, a number of studies were accumulating that supported the effectiveness of rehabilitation to reduce recidivism

(Andrews, 1995; Dowden & Andrews, 1999; 2000; MacKenzie, 2006). From these studies, three principles for effective correctional rehabilitation emerged. The first of these principles, risk, posits that offenders who are more likely to re-offend benefit from intensive highly resourced interventions, while those who are less likely to re-offend benefit from less intensive interventions. The second principle states that effective correctional programmes focus on offenders' needs. These needs are a component of an offender's risk of recidivism; they are malleable and can be either rehabilitative (predictive of offending) or not rehabilitative. The final principle, responsivity, states that correctional intervention needs to be delivered in a style and mode that is commensurate with the offender's ability and method of learning (Andrews & Bonta, 2010). Whilst the responsivity principle incorporates a number of constructs, motivation is one of its key precepts (Day & Howells, 2007). Within the growing correctional rehabilitation literature, motivation was identified

as an important factor in offender engagement and, in turn, improved treatment outcome (Ginsburg, Mann, Rotgers, & Weekes, 2002; Harper & Hardy, 2000; Levesque, 1998; McMurrin, 2002; McMurrin, Tyler, Hogue, Cooper, Dunseath, & McDaid, 1998; Murphy & Baxter, 1997). This has paralleled a growing realisation of the ubiquity of low motivation to change among prison populations (Polaschek, Anstiss, & Wilson, 2010). As such, the re-conceptualisation of motivation as an interpersonal process (Miller, 1985) and the correctional principle of responsivity (Andrews & Bonta, 2010) has fuelled interest in motivational interventions, particularly motivational interviewing, as an intervention method for offenders (McMurrin, 2009).

## Motivational Interviewing

Motivational interviewing was explicated in the late 1970s and early 1980s and is defined as a "collaborative, person-centered form of guiding to elicit and strengthen motivation for change" (Miller & Rollnick, 2009, p. 137). Motivational interviewing aimed to increase motivation to change and effect behaviour change, such as a reduction in drop-out rates and the amelioration of presenting problems.

Miller (1983) proposed that motivational interviewing stemmed from experimental social psychology and other psychological theories, such as causal attributions (Weiner, 1986), cognitive dissonance (Festinger, 1957), and self-efficacy theory (Bandura, 1977). Drawing from these theories, and

clinical experience, Miller and Rollnick (2002) developed a framework whereby effective motivational interviewing is constituted by its spirit, principles and skills. The spirit of motivational interviewing is defined by the concepts of collaboration, evocation and autonomy. Collaboration is premised on the clinician and client working together in a partner-like relationship. Evocation emphasises the clinician's role of eliciting the client's own expertise and solutions. Autonomy emphasises that it is the client, not the clinician, who must formulate and enact change. The constructs of collaboration and autonomy are related to the conditions deemed necessary by Rogers (1959) for therapeutic change. The construct of evocation distinguishes motivational interviewing from client-centred counselling by adding a directive element.

The first of four principles, developing discrepancy, is the process of amplifying the dissonance between a client's behaviour and their broader goals and values. In working with offenders, this may take the form of amplifying the discrepancy between a value (spending time with family) and recent behaviour (offending) and the consequent prison sentence. The second, rolling with resistance, suggests that a resistant client should not be met with counter resistance. Resistance is used as a signal that the therapist is bearing in the wrong direction, or progressing too quickly. The third, expressing empathy is characteristic of the client-centred nature of motivational interviewing. The final principle, supporting self-efficacy, involves fostering an individual's belief in their ability to change. In the absence of self-efficacy an individual may be prepared to change but encumbered by a lack of self-belief.

The skills facilitate clients towards resolving ambivalence, building motivation, fostering commitment to change and progressing towards behaviour change (Miller & Rollnick, 2002). There are a number of skills consistent with a motivational interviewing approach and some of these include the use of open-ended questions, affirming, simple reflections, complex reflections, summaries, emphasising control, and evocative questioning.

Open-ended questions increase the likelihood that the client will explore options for change. Affirming is used to build rapport with the client and foster their self-efficacy. Reflections are used to express empathy, differentially reinforce change talk and to subtly add new meaning. Summaries are similarly used to reinforce change talk, but also allow the therapist to check for understanding and subtly direct the conversation. Emphasising control instils a sense of responsibility on the client for behaviour change. Lastly, evocative questioning is used to elicit change talk by exploring a client's thoughts and feelings about change. The change talk elicited from evocative questioning can subsequently be reinforced through the skilful use of reflections (Miller & Rollnick, 2002). These skills are differentially applied, based in part, on the phases of motivational interviewing. Phase one is largely concerned with resolving ambivalence and building motivation to change while phase two is concerned with fostering commitment to change (Miller & Rollnick, 2002).

Markland, Ryan, Tobin, and Rollnick (2005) have drawn on self-determination theory to explicate the effectiveness of motivational interviewing. It posits that people have an inherent propensity towards growth, integration of the self and psychological consonance. The conditions for fostering intrinsic motivation, as specified by self-determination theory, correspond with the principles of motivational interviewing and explain its capability to effect attitudinal and behavioural change. More recently, Miller and Rose (2009) proposed a theory premised on the notion that motivational and behavioural change ensues when client empathy and the spirit of motivational interviewing are combined with specific skills to reinforce client change talk, reduce resistance and promote commitment to a specific change plan. Concurrently, scholars have endeavoured to conceptualise and measure the construct of motivation to change. The most prominent model has been Prochaska and DiClemente's (1994) transtheoretical model of intentional behaviour change (TTM). The TTM posits that individuals progress through a series of stages

(pre-contemplation, contemplation, preparation, action and maintenance) from not thinking about behaviour change through to maintaining change. Progression through the stages is said to take place sequentially and is commonly purported to represent an increase in motivation to change (Blanchard, Morgenstern, Morgan, Labouvie, & Bux, 2003). The prominence of TTM has also extended to offender groups (Day, Bryan, Davey, & Casey, 2006). While TTM has received wide support it has also been criticised on theoretical and empirical grounds (West, 2005). The most common measure of motivation to change, which is also premised on TTM, is the University of Rhode Island Change Assessment Questionnaire (URICA). Like the TTM, the URICA has received criticism (Blanchard et al., 2003). However, Polaschek et al. (2010) recently found support for the URICA's four factor structure, and its reliability and validity when used with an offender group. This reflected earlier findings with offender groups (Levesque, Gelles, & Velicer, 2000) but other studies have not replicated these findings (Eckhardt & Utschig, 2007)

The application of motivational interventions has proliferated into a number of problem areas (Burke, Arkowitz, & Menchola, 2003; Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010; Rubak, Sandbak, Lauritzen, & Christensen, 2005). Rubak et al. (2005) conducted a meta-analysis of 72 studies using randomised controlled trials and found motivational interviewing to be effective in decreasing risky sexual behaviour, increasing adherence to medication and encouraging healthy lifestyle changes. A meta-analysis by Burke et al. (2003) of 30 controlled clinical trials also found that adaptations of motivational interviewing, which included additional content or techniques such as a feedback component, were as effective as alternative therapeutic modalities, such as cognitive behaviour therapy and client-centred counselling. The problems targeted in these studies ranged from substance abuse to dieting and exercise. Effect sizes found for motivational interviewing were typically in the medium range (Cohen's  $d = .50$ ) and rated as clinically significant. The most significant moderator of

behavioural change was attendance, in that while significant effect sizes were shown in 40% of studies that consisted of only one session, this increased to 85% of studies when participants attended five or more sessions. In a meta-analysis by Hettema, Steele, and Miller (2005) of 72 studies, effect sizes ranged from low ( $d = .11$ ) to high ( $d = .80$ ). The Hettema et al. (2005) study demonstrated that the use of a manual to guide motivational interviewing reduced its effectiveness and the benefits of MI decreased over time. The finding of reduced effectiveness with the use of a manual was similarly replicated by Lundahl et al. (2010). In the Lundahl et al. (2010) meta-analysis of 119 studies, motivational interviewing produced small but statistically significant effect sizes (*Hedge's g* = 0.28) when compared to non-specific weak comparison groups (e.g. reading material and non-specific counselling) for substance abuse, health related behaviours, gambling and treatment engagement. When compared to specific treatments, such as cognitive behaviour therapy, motivational interviewing produced equivalent and similarly durable effects but sometimes achieved these effects in less time. Motivational interviewing appeared to be particularly effective for minority groups but with some mixed findings with African Americans. When delivered in a group format motivational interviewing appeared to be less effective but, due to the low number of group-based studies, the results on group-based motivational interviewing remain inconclusive. Lastly, the level of previous training (e.g. bachelors versus doctoral degree) and professional identity was not related to the effectiveness of motivational interviewing.

Motivational interviewing has demonstrated effectiveness with young people (Feldstein & Ginsburg, 2006; Grenard, Ames, Pentz, & Sussman, 2006). A study by Tevyaw and Monti (2004) found that motivational interviewing was particularly effective for young people who commenced less motivated. This finding appears particularly promising for the utility of motivational interviewing with young offenders, given their demonstrated lack of motivation for treatment and

intransigence to change (Department of Corrections, 1997). With support for the effectiveness of motivational interviewing with non-offending populations, it is feasible that offenders could be assisted to foster motivation to change and in turn better engage in treatment.

### Motivational Interviewing with Offenders

Effective correctional rehabilitation programmes tend to be highly structured, directive and skill oriented (Andrews, 1995). However, an offender low in motivation to change is unlikely to benefit from such programmes, due to their lack of motivation to consider and act on new learning (Miller & Rollnick, 2002). Such approaches are likely to foster greater resistance or, at best, achieve superficial engagement if motivation to change is left unattended (Farbring & Johnson, 2008).

There has been recent growth in the study of motivational interviewing with offenders (Czuchry, Sia, & Dansereau, 2006) but the evidence base remains scant. A recent systematic review by McMurrin (2009) on motivational interviewing with offenders identified 13 published studies and 6 dissertation abstracts. However, only one of these studies, a New Zealand doctoral dissertation (Anstiss, 2005), included a general offender group. Nevertheless, preliminary evidence has suggested that motivational interviewing can be effective with offenders (Ginsburg, Mann, Rotgers, & Weekes, 2002; Harper & Hardy, 2000; Murphy & Baxter, 1997) but the scarce evidence base does not allow any definitive conclusions to be made (McMurrin, 2009). A New Zealand study by Anstiss, Polaschek, and Wilson (2010) showed that motivational interviewing with offenders at a medium risk of recidivism not only increased motivation to change but also reduced risk of recidivism. On the criterion of motivation to change, the Anstiss et al. (2010) study produced a large effect size ( $\eta^2 = .27$ ) and offenders demonstrated a subsequent reduction in their recidivism compared to treatment as usual. This is important for the current study because it demonstrated that a self-report measure of motivation to change may predict behavioural change,

namely reduced recidivism. Wong, Gordon, and Gu (2007) developed an approach (the Violence Reduction Programme) whereby the offender's assessed motivation to change informed clinical interactions utilising motivational interviewing methods. Specifically, motivational interviewing was used to foster motivation to change rehabilitative needs, and was effective in reducing risk of recidivism among some of the most resistant offenders (Wong et al., 2007). The integration of motivational interviewing and correctional rehabilitation principles espoused by Wong et al. (2007) is similar to the approach taken in the Short Motivational Programme examined in the current study.

Not all studies of motivational interviewing with offenders have elucidated positive outcomes. A study by Amrod (1997) with male incarcerated alcohol abusers found no increase in motivation to change compared to a randomised no-treatment control. Notably, however, the Amrod (1997) study was delivered in a group format and, although based on few studies, group-based motivational interviewing has produced weaker results (Lundahl et al., 2010; Walters, Ogle, & Martin, 2002).

The above findings support several conclusions and have implications for the current study. Motivation can be applied to different population groups as a predictor for behaviour change (Burke, Arkowitz, & Dunn, 2002). Motivational interviewing has produced effects consistent with alternative modalities, frequently achieving similar effects in less time, and has been superior to other modalities when clients presented as more resistant to change (Lundahl, et al., 2010; Project MATCH Research Group, 1997; Tevyaw & Monti, 2004). Motivational interviewing appears to be particularly effective for ethnic minorities (Hettema et al., 2005; Lundahl et al., 2010), and this is promising in terms of its use with New Zealand offenders given the high rate of imprisonment for Māori. Preliminary studies have suggested that motivational interviewing, and its adaptations, can increase motivation to change and effect behavioural change among offenders (Anstiss et al., 2010;

Farbring & Johnson, 2008; Ginsburg et al., 2002; Harper & Hardy, 2000).

Nevertheless, there remains a paucity of studies investigating the effectiveness of motivational interviewing with offenders (McMurrin, 2009). This is despite the considerable repercussions of offending, both emotionally and financially, for offenders and communities (Cohen, 1998). Furthermore, with 75% of New Zealand offenders ambivalent about the factors that contributed to their offending, the prevalence of low motivation to change appears ubiquitous (Steyn & Devereux, 2006). Given the repercussions of offending, the apparent scale of the motivational problem in offender samples and the promise of motivational interviewing in other fields, there is value in evaluating its effectiveness with offenders.

This exploratory study aimed to investigate the effectiveness of the Short Motivational Programme (SMP) to foster and maintain motivation to change with a sample of high risk incarcerated male offenders serving short sentences. SMP aimed to motivate offenders so that, upon release, they would engage in community programmes to address their rehabilitative needs and therefore reduce their risk of re-offending. We were interested in the longevity of any motivational gains because offenders were typically not able to be released immediately after SMP. It was hypothesised that offenders would demonstrate an increase in motivation to change and that this would be maintained 3 to 12 months post treatment.

Also, as a supplementary investigation, the relationship between risk of recidivism and motivation to change at pre-SMP levels, was investigated. It was hypothesised that offenders' risk of recidivism would be negatively associated with motivation to change at pre-SMP. This was based on findings that offenders with a high risk of reoffending are less likely to complete treatment, thus reflecting low motivation to change (Hanson & Bussiere, 1998; Polaschek, 2009; Wilson, 2004).

## Method

### Participants

Participants consisted of 38 male prison inmates who had completed SMP and were incarcerated in two North Island New Zealand prisons. The offenders were aged between 18 and 42 years ( $M = 27.24$ ,  $SD = 6.7$ ) with 76.3% identifying as Māori and 23.7% as non-Māori. Index offences consisted of burglary (75%), sex offences (9.4%), aggravated robbery (3.1%), drug offences (3.1%), driving offences (6.3%) and assault (3.1%). Many offenders had histories characterised by criminal versatility. Due to the release or transfer of the offenders who completed SMP, and the withholding of consent from one offender, only 12 offenders were available for the follow-up assessment 3-12 months post treatment. This follow-up group were aged between 21 and 42 years ( $M = 28.83$ ,  $SD = 5.47$ ) with 83.3% identifying as Māori and 16.7% as non-Māori. Index offences consisted of burglary (81.8%), sex offences (9.1%) and drug offences (9.1%). Similarly, many offenders in the follow-up group had histories characterised by criminal versatility. All offenders, due to the brevity of their sentences, had received no therapeutic input prior to, during, or after the SMP. Some offenders had completed therapeutic programmes during previous prison terms, although given their reoffending this could be indicative of their lack of motivation to change prior to the SMP.

Compared to the New Zealand male prison population the sample included a disproportionate number of Māori; 76.3% compared to approximately 50% for the general prison population. The participants were also younger; with  $M = 27.24$  years of age compared to  $M = 31$  years of age for the general prison population (Department of Corrections, 2003). The sample was also constituted by offenders with a high risk of recidivism as measured by the Risk of Reconviction by Risk of Reincarceration scale (Bakker, O'Malley, & Riley, 1999; see *measures* subsection for details). Research by Wilson (2004) found that New Zealand high risk offenders (defined as those who had a 70% chance of re-offending within five years) were disproportionately Māori, were on average younger and showed a

pervasive pattern of criminal versatility. Therefore, the study participants reflect the general characteristics of high risk offenders within the New Zealand prison population.

### Intervention

The Short Motivational Programme (SMP) is a manual-based adaptation of motivational interviewing in that cognitive behavioural tasks are delivered through a motivational interviewing approach. It is delivered individually to high risk offenders over five weekly one-hour sessions by registered clinical psychologists trained in motivational interviewing. An equivalent programme is delivered to lower risk offenders by trained facilitators and was developed by Anstiss (2003), Steyn and Devereux (2006), and Devereux (2007). Its delivery to high risk offenders was a pilot project only.

An initial pre-session introduced the offender to SMP, elicited their informed consent for SMP and to use their assessment data for research, such as this study. During this session their pre-SMP motivation to change was also assessed. Session One involved a discussion of rehabilitative needs. These needs were then targeted for motivation to change in the latter sessions and in homework assignments. Session Two, through the collaborative development of an offence chain diagram, involved developing an understanding of how thoughts and emotions lead to offending. Session Three elicited motivation to change of a specific rehabilitative need identified in the previous two sessions, beginning with a need that the offender appeared most motivated to address. Session Four involved identifying barriers to change and finding solutions, with a focus on how to identify and amend cognitive distortions that support offending. Session Five aimed to strengthen commitment for change. Reinforcing commitment language was viewed as essential, particularly during the later sessions, given the evidence that commitment language has predicted motivational and behavioural outcomes (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003). Lastly, during Session Five, a change plan was collaboratively formulated to reflect the offender's goals and their rehabilitative needs. The offender's motivation to change was

also re-assessed. A nuanced explication of SMP and its development can be found in a recent article by Devereux (2009).

Psychologists had previously received two days of training which included didactic instruction and observation (via video) of the key principles and skills of motivational interviewing. This was followed up with regular supervision by a senior clinical psychologist and included the opportunity for booster workshops.

A study by Miller, Yahne, Moyers, Martinez, and Pirritano (2004) demonstrated that clinicians trained in motivational interviewing maintained their skills and competencies when provided with ongoing coaching and feedback. However, while the approach with the SMP is consistent with that recommended by Miller et al. (2004), the current study did not record the quality and frequency of the psychologists' ongoing supervision and feedback or whether booster sessions were required. Madson, Loignon, and Lane (2009), in a systematic review of published research on motivational interviewing training, found that two days of formal training was typical and didactic and experiential training methods were common. Miller and Moyers (2006) outlined eight stages of competency required for effective motivational interviewing. The skills outlined in the eight stages were covered during the motivational interviewing training received by the psychologists and were reinforced by the SMP manual.

SMP aimed to increase motivation to change so that upon release offenders were more likely to engage in social and community resources to address their rehabilitative needs. The SMP content (Steyn & Devereux, 2006) reflected the principles of effective correctional rehabilitation by assisting offenders to understand how their thinking, emotions, and decision-making influenced their offending (Andrews & Bonta, 2010). Additionally, SMP's adherence to the principles of effective correctional rehabilitation was investigated using Gendreau and Andrews' (1996) Correctional Programme Assessment Inventory in an earlier study by Anstiss et al. (2010). In this study, SMP received a rating of very

satisfactory with scores ranging from 80%-91% across the six domains. The SMP content, while reflecting effective correctional practice, was delivered within the spirit, principles and skills of motivational interviewing (Miller & Rollnick, 2002).

### Measures

The University of Rhode Island Change Assessment Questionnaire (URICA) (DiClemente & Hughes, 1990) was adapted by Anstiss (2003) to form the Short Motivational Programme Adaptation (SMP URICA) and was used to measure offender motivation to change pre- and post-SMP. The words *offending related* were inserted into the URICA's original items to elicit responses specific to offending related problems. For example, "As far as I'm concerned, I don't have any *offending related* problems that need changing" instead of "As far as I'm concerned I don't have any problems that need changing". The URICA is a 32-item, structured self-report questionnaire (DiClemente & Hughes, 1990). Factor analysis validated the existence of four factors in the original scale; Pre-contemplation, Contemplation, Action and Maintenance (Greenstein, Franklin, & McGuffin, 1999; McConaughy, DiClemente, Prochaska, & Velicer, 1989). A recent study by Polaschek et al. (2010) replicated the four factor structure with the SMP URICA with a sample of New Zealand offenders. The measure has predicted treatment engagement as measured by number of sessions attended and subsequent outcome, such as weight loss (Prochaska, Norcross, Fowler, Follick, & Abrams, 1992) and reduced alcohol abuse (DiClemente & Hughes, 1990). Furthermore, a study by Anstiss et al. (2010) supported the predictive validity of the SMP URICA with New Zealand offenders on the criterion of reduced recidivism.

McConaughy, Prochaska, and Velicer's (1983) seminal work confirmed the reliability of the URICA's subscales, with Cronbach's coefficient alphas of 0.88 for Pre-contemplation, 0.88 for Contemplation, 0.89 for Action and 0.88 for Maintenance. In the current study, Cronbach's coefficient alphas were 0.66 for the full scale, 0.80 for Pre-contemplation, 0.70 for Contemplation, 0.78 for Action and

0.61 for Maintenance. Other than the full scale and the Maintenance subscale, these results were within the acceptable level of 0.7 and over (Tabachnick & Fidell, 2007). Removing items that had low inter-item correlations resulted in negligible improvements in internal consistency. McConaughy et al. (1983) did not provide a coefficient alpha for the total score and so comparisons were not possible. However, Polaschek et al. (2010) who used the same URICA adaptation (SMP URICA) with New Zealand offenders demonstrated excellent internal consistency with an overall coefficient alpha of 0.82 and 0.90 for the Maintenance scale.

The SMP URICA was used as a continuous score by reverse scoring the pre-contemplation items and subsequently adding these to the sum of the contemplation, action and maintenance subscale scores. As such, higher scores indicated a greater level of motivation to change. The post-SMP total was subtracted from the pre-SMP total to generate a change score (Devereux, 2009). A continuous score was recommended by Carey, Purnine, Maisto, and Carey (1999) given inconsistent evidence to support the use of cluster profiles and an unclear relationship between cluster profiles and the theory upon which the URICA was based.

The Motivational Interviewing Treatment Integrity Code 3.0 (MITI) was used to measure the level of motivational interviewing competency of the psychologists that delivered the SMP sessions. The MITI was not used as a treatment integrity measure as such but as an indicator of the degree of motivational interviewing skills typically used by psychologists delivering SMP. The MITI has two components: global scores and behaviour counts (Moyers et al., 2007). The MITI is used by sampling a 20 minute segment of a recorded session, taking one parse to record the global scores and another to record behaviour counts (Moyers et al., 2007). Each MITI assessment produces five global scores: Evocation, Collaboration, Autonomy/Support, Direction, and Empathy. Clinician behaviour counts are coded into seven mutually exclusive categories; giving information, MI adherent, MI

non-adherent, open question, closed question, simple reflection and complex reflection. Cut-off scores have been generated from clinicians experienced in the use of motivational interviewing (not normative data) and represent levels of skilfulness. Psychometric data has been collected by using 20 minute segments of motivational interviewing. Moyers et al. (2005) calculated intraclass correlation coefficients to estimate the inter-rater reliability of the global ratings and behaviour counts for the MITI. These were .51 for empathy and .58 for the spirit of motivational interviewing. Intraclass correlation coefficients for behaviour counts ranged from .57 to .96. For the current study a second rater was used to generate a measure of inter-rater reliability. Substantial inter-rater reliability was recorded for empathy (.71) and the spirit of motivational interviewing (.63). Moderate inter-rater reliability was recorded for global ratings (.47) and, other than percentage of complex reflections which rated poorly (.10), the remaining behaviour counts generated moderate inter-rater reliability ( $M = .41$ ; Haggard, 1958). Complex reflections may have received such a low rating because of their relatively low base rate. Madson and Campbell (2006) tested the convergent validity of the MITI with a more exhaustive measure, the Motivational Interviewing Skills Code, and conducted an exploratory factor analysis of the MITI items. This provided evidence for both the convergent validity and the factor structure of the MITI.

*Inclusion Criterion:* To be classified as a high risk short- sentence offender, participants had to receive a risk score of 0.7 or above and be serving a sentence of less than two years. Offenders with a two year cut-off were included because they were generally unable to receive rehabilitation services due to the brevity of their sentence despite their high risk status. Offenders who have risk scores above 0.7 are deemed to be at a high risk of recidivism, representing about 28% of the general prison population (Department of Corrections, 2003). The mean risk of recidivism score for the full sample was  $M = 0.77$ ,  $SD = 0.09$  and for the follow-up group  $M = 0.79$ ,  $SD = 0.05$ . While SMP is also delivered to lower risk offenders this was not the

focus of the present study.

The Risk of Reconviction by Risk of Reincarceration scale (RoC\*RoI) is a second generation actuarial risk assessment measure developed by the New Zealand Department of Corrections (Bakker, O'Malley, & Riley, 1999). It is a combination of two risk models, the risk of reconviction and the risk of reincarceration, and provides the probability of recidivism and imprisonment over a five year period. The RoC\*RoI is calculated for every prisoner using his/her offending history and demographic information, and is based on the case histories of 133,000 New Zealand offenders. Actuarial approaches, such as the RoC\*RoI, have consistently outperformed clinical judgements (Bakker, Riley, & O'Malley, 1998). Receiver Operating Characteristic analysis, based on signal detection theory, was used to explore the RoC\*RoI's predictive validity. An area under the curve of .76 was demonstrated for the scale, providing excellent predictive validity (Bakker et al., 1998). The RoC\*RoI is used in the prison system to guide decisions about intervention intensity as per the risk principle of effective correctional rehabilitation (Andrews & Bonta, 2010). A RoC\*RoI score can vary from 0 (indicating 0% likelihood of recidivism within five years) to 1 (indicating a 100% likelihood of recidivism within five years).

The Balanced Inventory of Desirable Responding 7.0 (BIDR) was used to screen for socially desirable responding and is a structured 40-item self-report questionnaire (Paulhus, 2002). The BIDR was used to exclude participants who tended toward socially desirable responding and therefore provided less truthful responses. The use of the BIDR was deemed necessary given the transparency of the SMP URICA items and therefore its vulnerability to demand characteristics. According to Paulhus (1998) the BIDR consists of two subscales with Cronbach's coefficient alphas of 0.70-0.75 for Self-Deceptive Enhancement (SDE), 0.81-0.86 for Impression Management (IM), and 0.81-0.86 for the BIDR total score. Cronbach's coefficient alphas for this study were 0.47 for SDE, 0.85 for IM and 0.86 for the BIDR total score. The

robust reliability of the IM scale and the total score somewhat mitigated the SDE scale's lower reliability. Impression management captures the conscious use of inaccurate self-descriptions, such as malingering. Self-deceptive enhancement represents an unconscious process to deny psychologically threatening cognitions and affect, in that respondents believe they are responding honestly (Paulhus, 1984). However, there remains debate in the literature about the theoretical underpinnings of impression management. Uziel (2010) argued that impression management represents friendliness and interpersonally oriented self-control rather than a tendency to consciously misrepresent the self to others.

### *Procedure*

Ethical approval for this study was granted by the Massey University Human Ethics Committee and the Department of Corrections. This was a quasi-experimental repeated measures within-group design that investigated motivation to change over two time periods: pre-SMP and post-SMP with 38 offenders. A follow-up assessment was carried out with a sub-group of 12 of the above 38 offenders to measure the maintenance of motivation to change over time.

Offenders who were serving sentences of two years or less with risk scores of 0.7 or over were eligible for SMP, as delivered by trained clinical psychologists. Upon approval of this research, data from 40 offenders who had most recently completed SMP were collected by the primary researcher from the New Zealand Department of Corrections database. All participants had consented to participate in the programme and informed consent for their assessment data to be used in research was elicited when they consented to take part in the SMP; which is a part of the Department of Corrections consent process. The psychologists delivering the programme assessed offenders' motivation to change with the SMP URICA immediately prior and following SMP. Offenders were provided the opportunity to have a Māori counsellor deliver SMP given the high prevalence of Māori in the sample and a lack of Māori psychologists. It was not documented

how many offenders requested a Māori counsellor to deliver SMP in place of a non-Māori psychologist. However, Māori counsellors delivering SMP had received the same SMP training. Further, professional background has not predicted outcome when using motivational interviewing (Lundahl et al., 2010)

Of the 40 offenders who had previously completed SMP and therefore contributed their archived data, 26 were released or transferred to distant prisons before the follow-up assessment could occur. Of the 14 remaining offenders, one withheld their consent to participate in the follow-up assessment and therefore their data was omitted. The follow-up assessment period varied from 3-12 months ( $M = 7.78$ ,  $SD = 3.53$ ), depending on when participants completed SMP. No inducements were offered to participate in SMP or the follow-up assessment.

At the follow-up assessment, offenders completed the BIDR to screen for the confounding effects of socially desirable responding on SMP URICA scores. This was done at the follow-up stage because of the conceivable pressure on offenders, with a view to early release, to appear to have benefited from SMP. The BIDR scores were reviewed on a case by case basis. Of the 13 offenders who consented to participate in the follow-up assessment, one recorded an inflated impression management score ( $IM = 13$ ); considered by Paulhus (1998) to be above average for prison inmates. Given the low Cronbach's coefficient alpha for the SDE scale, caution was used by interpreting the BIDR with strict reference to SMP URICA data, particularly any extreme scores. The offender's SMP URICA data also showed irregularities and therefore it was omitted from subsequent analyses. Therefore, archival data from 38 offenders was used for the pre- and post-SMP analysis and 12 offenders remained to contribute to the follow-up data.

As an indication of the degree of motivational interviewing skills employed during SMP, the psychologists who had delivered SMP sessions and therefore generated the pre- and post-SMP archival data used for this study also provided samples of two later SMP

sessions that were coded for motivational interviewing skills. Consent was sought from the psychologists and offenders to audio-tape and code these SMP sessions. As the audio-taped SMP sessions did not include the same offenders involved in the current study, they cannot be considered as integrity checks. However, they were carried out to provide some indication of the degree of motivational interviewing skills used by the psychologists during their SMP sessions. These audio-taped SMP sessions were coded with the MITI (Moyers et al., 2007) by the researcher and a second coder, a master's level psychology student, to measure inter-rater reliability (as reported under the *Measures* section).

### Data Analysis

Data analyses were conducted using the Statistical Package for the Social Sciences Version 15 (SPSS Inc., 2007). The SMP URICA data at pre-, post-, and follow-up did not violate the assumptions of normality (Pallant, 2007). The RoC\*RoI and the BIDR data showed some violation of normality but the skewness and kurtosis values indicated they were not unduly skewed, therefore transformations were not conducted.

Paired samples t-tests were used to analyse the shift in motivation to change from pre- to post-SMP for the total sample. Using the non-parametric alternative to the independent samples t-tests, Mann Whitney *U*, we investigated the differences between the sub-group and the total sample based on pre- and post-SMP URICA scores. This was done to elucidate whether the sub-group could be considered representative of the total sample. One way repeated measures ANOVA was used to measure shift in motivation to change for the sub-group from pre- to post-SMP and follow-up. We used bivariate analyses to investigate the relationship between risk of recidivism and motivation to change at pre-SMP. Finally, we visually inspected the MITI scores generated from coding the later audio-taped SMP sessions and compared these to cut off scores generated by clinicians experienced in motivational interviewing as an indicator of motivational interviewing skills used during SMP.

A power analysis was carried out to

calculate the required sample size. For an expected effect size we referred to Anstiss' (2005) comparable study which produced an effect size of eta squared = 0.27. Therefore, we calculated sample sizes needed for *t*-tests and ANOVA by using a standard *p* value = 0.05, a power level = 0.80 and an expected effect size of 0.27. Based on the above values it was deemed that sample sizes of 26 for *t*-tests and 21 for ANOVA would provide adequate statistical power (Cohen, 1988).

### Results

Visual inspection of the results indicated a general mean increase in motivation to change from pre- to post-SMP and a smaller mean increase for the sub-group at follow-up. The mean RoC\*RoI score indicated that this is a high risk group with a mean 78 % likelihood of recidivism in five years following release. The BIDR mean score did not indicate a tendency, at the group level, to respond in a socially desirable manner.

A paired samples t-test was carried out to compare scores on the SMP URICA at Time 1 (pre-SMP) with Time 2 (post-SMP) for the total sample. There was a statistically significant increase in SMP URICA scores from Time 1 ( $M = 129.61$ ,  $SD = 13.23$ ) to Time 2 ( $M = 133.89$ ,  $SD = 14.51$ ),  $t(37) = 2.99$ ,  $p < .05$  (two tailed). The mean increase for SMP URICA scores was 4.29 with a 95% confidence interval ranging from 1.38 to 7.20. The calculated Cohen's *d* statistic of .31 indicated this was a small to medium effect size (Cohen, 1988).

Prior to conducting data analysis with the sub-group, Mann-Whitney *U* Tests were carried out to elucidate whether scores on the SMP URICA at pre- and post-treatment for the sub-group (follow-up) differed from the main group. The non-parametric substitute for an independent samples t-test was used due to the sub-group's small size ( $N = 12$ ) and the variability between standard deviation scores. A Mann-Whitney *U* Test revealed no significant differences in pre-SMP URICA scores between the sub-group who consented for a follow-up assessment ( $Md = 18.13$ ,  $n = 12$ ) and the larger group who did not complete a follow-up assessment ( $Md = 20.13$ ,  $n = 26$ ),  $U = 139.50$ ,  $z = .518$ ,  $p = .60$ ,  $r =$

Table 1. Mean scores and effect sizes at Pre-, Post-SMP and Follow-up

Measure	<i>M</i>	<i>SD</i>	<i>N</i>	Mean difference (CI 95%)	Cohen's <i>d</i>
Pre-SMP URICA	129.61	13.23	38		
Post-SMP URICA	133.89	14.51	38	4.29 (1.38-7.20)	.31
<i>p</i> = .05					
				Mean difference (CI 85%)	Partial $\eta^2$
Pre-SMP URICA (sub-group)	126.42	19.21	12		
Post-SMP URICA (sub-group)	133.50	21.71	12	7.08 (.25-13.91)	
Follow-up SMP URICA (sub-group)	134.92	15.83	12	1.42 (-7.54-24.45)	.39
<i>p</i> = .15					
RoC*RoI	0.78	0.09	38		
BIDR	9.25	4.81	12		

NOTE: SMP URICA = Short Motivational Programme University of Rhode Island Change Assessment Questionnaire – adapted version, RoC\*RoI = Risk of Recidivism/Risk of Reincarceration, BIDR = Balanced Inventory of Desirable Responding.

.08. Similarly, there were no significant differences in post-SMP URICA scores for the sub-group who consented to a follow-up assessment (*Md* = 20.96, *n* = 12) and the larger group who did not complete a follow-up assessment (*Md* = 18.83, *n* = 26), *U* = 138.50, *z* = -.55, *p* = .58, *r* = -.09. Therefore the sub-group, though smaller (*N* = 12), can be considered representative of the total sample.

One-way repeated measures ANOVA was carried out to compare scores on the SMP URICA at Time 1 (pre-SMP), Time 2 (post-SMP) and Time 3 (follow-up). Using conventional estimates of eta squared of .01, .06, and .14 to denote small, medium, and large effect sizes, respectively and an alpha level of .05 and power of .80 for a one-way repeated measure ANOVA, it was predicted that sample sizes of 319, 53, or 22 were needed to detect small, medium, or large effect sizes, respectively. Therefore, given the small sample size (*N* = 12) of the follow-up group, alpha was adjusted to .15 (Pallant, 2007), while acknowledging the inflated risk of Type I error. Cohen (1992) suggested that such adjustment to alpha, above the traditional .05 level, is defensible in exploratory research. There was a significant effect for time with Wilks' Lambda = .61, *F*(2, 10) = 3.15, *p* < .15. The calculated multivariate partial eta

squared statistic of 0.39 indicated this to be a large effect size (Cohen, 1988). Mean SMP URICA scores at pre-, post SMP and follow-up for the sub-group are reported in Table 1.

Pairwise comparison for the above one-way repeated measures ANOVA showed there was a significant effect between Time 1 (pre-SMP) and Time 2 (post-SMP) but not from Time 2 (post-SMP) to Time 3 (follow-up).

Pearson product-moment correlation coefficients were carried out to investigate the relationship

between risk of recidivism and pre-SMP motivation to change. There was a medium positive correlation between the RoC\*RoI and the pre-SMP URICA pre-contemplation subscale; a small to medium negative correlation with the pre-SMP URICA's contemplation and action subscales; and no relationship with the pre-SMP URICA's maintenance subscale.

The Pearson product-moment correlation coefficients are reported in Table 2.

Psychologists received a score of

Table 2. Relationship between measures and sub-scales used in the present Study

	SMP URICA	Precon	Con	Act	Main
RoC*RoI	-.06	.34**	-.29*	-.37**	-.14
SMP URICA		.42**	.44**	.43**	.24*
Precon			.37**	.27*	.09
Con				.64**	.63**
Act					.39**
Main					

\**p* < .05 (2 tailed)

\*\**p* < .01 (2 tailed)

NOTE: RoC\*RoI = Risk of Recidivism/Risk of Reincarceration, SMP URICA = Short Motivational Programme University of Rhode Island Change Assessment Questionnaire – adapted version, Precon = SMP URICA pre-contemplation subscale, Con = SMP URICA contemplation subscale, Act = SMP URICA action subscale, Main = SMP URICA maintenance subscale, BIDR = Balanced Inventory of Desirable Responding.



Table 3. Mean MITI Scores for Psychologists Delivering the SMP (N = 5)

Scale	Study Sample		Cut-off Score	
	M	range	Beginning Proficiency	Competency
Global clinician rating	3.67	3.00	Average of 3.5	Average of 4
Reflection to question ratio	.57	1.46	1	2
Percent of open questions	65.11	69.00	50	70
Percent of complex reflections	29.93	56.00	40	50
Percent MI adherent	64.47	100.00	90	100
Evocation	3.75	3	3.5	4
Collaboration	3.60	3	3.5	4
Autonomy	3.70	3	3.5	4
Direction	4.30	2		
Empathy	3.65	3		

between beginning proficiency and competency for global clinician rating and a beginning proficiency rating for open questions, evocation, collaboration and autonomy. Psychologists received a rating less than beginning proficiency for reflection to question ratio, complex reflections and MI adherent behaviours. Cut-off scores were not available for direction and empathy, however it can be inferred that psychologists displayed beginning proficiency for empathy and competency for direction. These data need to be viewed in the context of SMP, an integration of motivational interviewing and cognitive behaviour therapy, rather than a pure delivery of motivational interviewing. Nevertheless, the MITI provides some indication of the extent to which motivational interviewing skills are used during SMP. The MITI data is outlined in Table 3.

### Discussion

This exploratory study investigated the effectiveness of SMP to foster and maintain motivation to change with a sample of high risk incarcerated male offenders serving short sentences. It was hypothesised that offenders would demonstrate an increase in motivation to change and that this would be maintained at follow-up.

The findings tentatively supported the study's hypotheses and are consistent with previous research suggesting that motivational interviewing can enhance offender motivation to change (Czuchry et al., 2006; Ginsburg et al., 2002; Harper & Hardy, 2000). While the shift

in motivation to change (in terms of effect size) was less than that reported by Anstiss et al. (2010), it was nevertheless significant (Cohen, 1988). It is possible that the higher mean risk of recidivism for offenders in the current study reduced the effectiveness of SMP compared to the Anstiss et al. (2010) study. This would be consistent with the correctional principle of risk (Andrews & Bonta, 2010), which would suggest that higher risk offenders require more intensive interventions compared to lower risk offenders to effect change. Anstiss et al. (2010) also utilised a different measure of motivation to change, the criminogenic needs inventory – readiness to change score (CNI-RTC; Coebergh, Bakker, Anstiss, Maynard, & Percy, 1999), although Polaschek et al. (2010) demonstrated strong concurrent validity between the SMP URICA and the CNI-RTC. Considered together, the two studies provide preliminary support for the effectiveness of motivational interviewing with medium and high risk offenders. Given the ubiquity of low motivation to change among New Zealand offenders (Steyn & Devereux, 2006), this and other studies (Czuchry et al., 2006; Ginsburg et al., 2002; Harper & Hardy, 2000; McMurrin, 2009) suggest that additional investigations into the effectiveness of motivational interviewing with offenders are justified.

A follow-up sub-group of offenders showed that the increase in motivation to change was maintained 3-12 months after SMP, providing tentative evidence for the stability of this change. This is

particularly promising if offenders are unable to immediately enter further rehabilitative programmes. However, given the small follow-up sample size and the inflated alpha level, this can only be considered as a tentative finding. Furthermore, previous studies (Barrett, Wilson, & Long, 2003) have produced contrary results based on post-release motivation, and so this result requires replication.

This study was limited to evaluating the effectiveness of SMP to instigate motivational change. It is therefore unclear whether an increase in motivation will lead to behavioural change, such as attending additional rehabilitation programmes or reduced recidivism. However, the Anstiss et al. (2010) study demonstrated that increased motivation, due to motivational interviewing, can reduce risk of recidivism for medium to high risk offenders. Such findings challenge the risk principle of correctional rehabilitation which suggests that high risk offenders require intensive interventions to effect behaviour changes (Andrews & Bonta, 2010). Whilst results achieved statistical significance, this does not denote clinical significance, and this is difficult to ascertain without norms or cut-off scores. It is therefore difficult to confidently state whether the mean difference from pre- to post-SMP represented a clinically significant effect. It is hoped that further research will allow normative data to be developed.

It was hypothesised that offenders' risk of recidivism would be negatively associated with motivation to change

at pre-SMP. This is based on findings that high risk offenders are more likely to demonstrate behaviours, such as high rates of treatment drop out, which may reflect low motivation to change (Hanson & Bussiere, 1998; Wilson, 2004). Bivariate analyses tended to support this, in that risk of recidivism was positively associated with pre-contemplation and negatively associated with the contemplation and action subscales.

Lastly, the psychologists who delivered SMP sessions from which data was extracted for this study, provided two post-hoc audio-taped SMP sessions as an indicator of the level of motivational interviewing skills typically employed during SMP. If these later SMP sessions are considered indicative of how SMP was delivered in the current study, it suggests that SMP may be improved through a greater use of motivational interviewing skills. In the case of SMP, the use of motivational interviewing skills might have been thwarted by the use of a treatment manual (Lundahl et al., 2010). However, because SMP is an integration of cognitive behaviour therapy and motivational interviewing, it is difficult to know without further research, how motivational interviewing and cognitive behaviour therapy can be most effectively integrated to foster motivation and reduce recidivism among offenders.

This study, given the sample of predominantly Māori offenders, provided preliminary evidence for the effectiveness of SMP with Māori. This is consistent with previous studies that found motivational interviewing to be effective with ethnic minorities (Hettema, Steele, & Miller, 2005; Lundahl et al., 2010). There is value in investigating the relative effectiveness of motivational interviewing between other indigenous peoples with Māori and how this compares to non-Māori offenders.

This study is limited by the small sample size, particularly for the subgroup used for follow-up, and the increased risk of Type I error associated with the inflated alpha level. Further, partial eta squared can upwardly bias effect sizes in studies with small samples (Levine & Hullett, 2002). Therefore, these findings are preliminary and need

to be replicated with a larger sample size. Also, the study is weakened by the omission of a control group, which would have controlled for confounding history and maturation effects. The study relied on self-report measures that can be vulnerable to biased reporting although this was partially mitigated by the BIDR (Paulhus, 1998). Furthermore, studies have found that self-report measures can still be reliable within the offender population, even in the presence of socially desirable responding (see Kroner, Mills, & Morgan, 2006; Mills, Loza, & Kroner, 2003). This study would have been strengthened by the use of integrity checks on the competencies and skills of the facilitators delivering the SMP. These would include examination of the use of motivational interviewing skills and adherence to the core principles of motivation interviewing. Given the post-hoc nature of the research this was not possible. However, this was somewhat mitigated by the coding of later SMP sessions (not included in this study) carried out by the psychologists who had delivered the SMPs in the current study. Lastly, given the difficulties associated with measuring motivation (see Drieschner, Lammers, & van der Staak, 2004), the inclusion of related constructs, such as self-efficacy, may have strengthened the study.

Further research would need to investigate not only the effect of SMP on rehabilitation programmes in effecting attendance and decreasing attrition, but also whether SMP without further intervention can reduce recidivism, particularly among high risk groups. Replication with offenders across a greater risk spectrum would allow the relationship between risk of recidivism, motivation to change and re-offending to be investigated.

In conclusion, this study found tentative support for an adaptation of motivational interviewing, SMP, with male incarcerated offenders at a high risk of recidivism. Research in this area remains in its infancy and a number of recommendations have been suggested. Given that offenders who do not complete treatment have reoffended at a higher rate than comparable offenders who do not enter treatment (McMurran & Theodosi, 2007), the

issue of offender motivation to change is an imperative one. With building evidence to support the effectiveness of motivational interviewing with offenders (Anstiss et al., 2010, McMurran, 2009), motivational interviewing may present as a cost effective means of fostering the requisite motivation for successful offender rehabilitation and reduced recidivism. As such, motivational interviewing may play an important part in reducing recidivism and ameliorating the harmful effects of offending on individuals, offenders and communities.

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