



**Drug Abuse and Change Readiness in Prisoners:  
Effect of Motivational Interviewing as measured by SOCRATES**

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## Abstract – norsk versjon

Effekten av *Motivational Interviewing* (MI) ble evaluert i et utvalg av innsatte rusmisbrukere ved hjelp av måleinstrumentet *Stages of Change Readiness and Treatment Eagerness Scale* (SOCRATES). Designet var et pre-post mellom-gruppe design. Deltakere (N = 98) ble randomisert til to betingelser, hvorav en av betingelsene fikk feedback og den andre ikke, for å understreke viktigheten av tilbakemelding i MI-trening, og fikk 5 samtaler med MI. Som predikert indikerte resultatet alt i alt en signifikant pre til post effekt av MI-samtalene, men i motsetning til prediksjonen ble MI-effekten observert kun i betingelsen som ikke fikk tilbakemelding. Ved nærmere undersøkelser av effekt av MI på bakgrunn av personvariablene lengde på dom, alder og type lovbrudd begått, ble ingen total signifikant effekt observert. Imidlertid, de som var dømt for vold og de som var narkotikadømt avvek fra resten av utvalget ved å indikere lavere motivasjonsnivå (voldsforbrytere) og negativ effekt av MI (narkotikaforbrytere). Som del av prosjektet ble de psykometriske egenskapene til SOCRATES utforsket i en faktoranalyse med det formål å teste egnetheten av instrumentet i et fengselsutvalg. SOCRATES indikerte alt i alt egnethet i fengselsutvalget. Justeringer er foreslått i treningsprogrammet til MI, og likeså videre forskning på forskjeller mellom grupper av lovbrøyttere.

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## Abstract – English version

The effect of *Motivational Interviewing* (MI) was evaluated in a sample of incarcerated substance abusers, using the *Stages of Change Readiness and Treatment Eagerness Scale* (SOCRATES). The design was a pre-post between-groups design. To explore the importance of feedback in MI-training participants (N = 98) were randomized to two conditions that differed in terms of feedback or no feedback to the counsellor, , and received five sessions of MI. As predicted, the results indicated a significant overall pre to post effect of the MI sessions, but contrary to the prediction the treatment effect of MI was observed in the non-feedback group only. By exploring treatment effect in the light of the subject variables length of sentence, age and type of crime committed, no significant overall effect of these factors were observed. However, violence and drug offenders deviated from the rest of the samples by indicating a lower motivational level (violence) and negative effect of MI (drug). As part of the project, the psychometric properties of the SOCRATES were explored in a factor analysis for the purpose of testing the suitability of the test in a prison sample. SOCRATES indicated an overall suitability in the present sample. Adjustments are suggested in MI training programmes in prison, as well as further research on differences between offender groups

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Drug Abuse and Change Readiness in Prisoners:

Effect of Motivational Interviewing as measured by SOCRATES

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Substance abuse is a considerable problem in prisons worldwide, as a great proportion of those entering prison are drug- or alcohol abusers, and are also continuing their use after imprisonment (Plourde & Brochu, 2002; EMCDDA, 2002, in Berman, 2004). Most common in prisons is the use of drugs (Plourde & Brochu, 2002). Drug abuse also represents a great problem for societies in general, as it is a direct or indirect cause in a great number of crimes committed (SSB, 2006, in Helgesen, et al., 2006). As such, prevention and treatment of drug abuse is of great importance.

Treatment of addictive behaviour may take many forms and several methods have been used to deal with the problem, among them different kinds of therapy like cognitive behaviour therapy (CBT) (Lee & Rawson, 2008; Brofoss et al., 2003; Pfeiffer, Feuerlein, & Brenk-Schulte, 1991; Öjehagen, Berglund, & Hansson, 1997), contingency management (CM) (Lee & Rawson, 2008) and other variants of psychotherapy methods (Najavits & Weiss, 1994; Brofoss et al., 2003). Other approaches to substance abuse have been learning theory (Corbin & Cronce, 2007; Brofoss et al., 2003; VanDeMark, 2007), group counselling, individual telephone based counselling (Mensingher, Lynch, Tenhave, & McKay, 2007), family therapy with partner, family therapy for parents and substance abusing adolescents (Waldron, Kern-Jones, Turner, Peterson, & Ozechowski, 2007) and ordinary group therapy (Winters, Fals-Stewart, O'Farrell, Birchler, & Kelley, 2002). Overall, these intervention methods have proven effective on substance abuse in a varying degree, from low, like learning theory, though this showed a possibly effect in reducing relapses, to moderate, like group counselling, to good effect, like family therapy both for parents and with a partner.

One of the methods addressing treatment of addictive behaviour is *Motivational Interviewing* (MI). The main focus of MI is to raise consciousness concerning the problem behaviour, and building motivation toward a behaviour change. MI is a method that has proven effective across different subjects and samples, and has been used widely in substance

abuse treatment in various settings (Carroll, Libby, Sheehan, & Hyland, 2001; Hettema, Steele, & Miller, 2005, in Forsberg, 2006; Lincourt, Kuettel, & Bombardier, 2002; Miller, 1996; Morgenstern et al., 2007; Rubak, Sandbæk, Lauritzen & Christensen, 2005; Secades-Villa, Fernànde-Hermida, & Arnàez-Montaraz, 2004; Stein et al., 2006; Stein, Miranda et al., 2006; Stotts, Schmitz, Rhoades, & Grabowski, 2001). Concerning both retention in programs for substance abusers following MI sessions (Hettema, Steele, & Miller, 2005, in Forsberg, 2006; Secades-Villa et al., 2004), and attending following substance abuse treatment programs (Carroll et al., 2001) MI has shown effect compared to control conditions. MI has also shown effect concerning clients in detoxification programs, in terms of reducing cocaine-positive urine samples and in enhancement of coping strategies used, compared to clients not receiving MI (Stotts et al., 2001), and by reducing drinking in alcohol abusers (Morgenstern et al., 2007).

MI has also been implemented in prisons (Clark, 2005; Clark, Walters, Gingerich, & Meltzer, 2006; Harper & Hardy, 2000), and research from England and USA shows that it is a good tool for use towards offenders, among other things in terms of enhancing intrinsic motivation (Clark, 2005; Clark et al., 2006) and helping prepare offenders for change (Clark, 2005; Clark et al., 2006; Lincourt et al., 2002; Stein, Miranda et al., 2006), as well as changing the offenders attitude concerning criminal behaviour towards a view of it as less worthwhile (Harper & Hardy, 2000). Other research, addressing incarcerated in programs for reducing DUI (driving under influence) behaviour, found that those receiving MI were less likely to drive while influenced, as well as being a passenger with influenced drivers compared to participants receiving relaxation training (RT) (Stein et al., 2006).

It is common that people performing MI has short duration of training, from some hours of introduction to 2 – 3 days (Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). However, research indicates that an increase in duration gives a better outcome. Research

addressing licensed professionals in substance abuse treatment has indicated that getting feedback when in a training process of some duration is effective both in terms of client outcome and proficiency level in counsellors (Miller et al., 2004). Client outcome was measured in terms of amounts of “Change Talk” which is explained as uttered intentions of behaviour change, and which has proven to predict client outcome in terms of abstinent days (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003).

However, workshop training only did not prove effective in short-duration training (2 days) and where counsellors were permitted to participate. These were prison officers and community correction counsellors working with clients on probation (Miller & Mount, 2001), who rated their own levels as significantly improved, however, results from coding of sessions that measured whether the sessions could be classified as consisting of the MI-ingredients showed no significant effect, the only significant finding was a *decrease* in congruence (genuineness) of the sessions from pre to post. When asked, the counsellors explained the negative development with a feeling of being uncomfortable and less natural with this new style (Miller & Mount, 2001).

The present study explored whether a prison sample demonstrated a possible effect from a series of five MI sessions, using a simple pre - post between groups design. The participants were randomly assigned to one of two conditions, that differed in terms of feedback to the counsellors from an MI-supervisor concerning performance in MI.

The purpose of the two conditions was to detect whether prison officers getting feedback concerning their performance in MI predicted a better outcome in terms of enhancement in clients readiness to change, compared to clients receiving MI from prison officers getting no feedback, as among other things may have an impact of the motivation level. As imprisoned clients may display a lower level of readiness to change because of the assumed restrictions on performing behaviour in prison as an alternative to drug use, like

taking a walk when the need for drug is present, as well as having a greater need for the drug because of lack of autonomy and independence, among other things, it may be that feedback to the counsellors have a smaller effect in a prison sample, meaning that differences between a sample inside versus outside of prison may be decisive to a greater extent.

Another element in the present research was the self-reporting of motivational level. To our knowledge, no research has yet explored a prison sample in terms of MI-effect on clients report of readiness for change, in the light of feedback of MI competency versus no feedback to the counsellors in a prison setting, hence the present study addresses this question. Given an effect of MI on clients self-reported scores in the feedback group versus no effect in the non-feedback group, this may be informative concerning the importance of feedback in the MI training program offered to prison officers.

The MI counsellors in the present study were trained in a various degree in MI, and the prison officers being responsible for one or several particular clients, were offered training seminars with duration of three days, as this has been the rule in Swedish prisons since 2001, when MI was taken into use (Forsberg, 2006; Forsberg, Sundquist, & Wennberg, 2007). Some had in addition three days seminars in educating / training other people in MI, and were functioning as supervisors (called MI-trainers in the present material) for the others. The intervention in the present study was performed both by prison officers with three days of training and MI-trainers.

Participants in the present study were inmates from Swedish prisons, all drug abusers. Both to explore the motivational level and detect a possible enhancement in motivation for changing of behaviour and treatment for drug abuse, participants filled in the *Stages of Change Readiness and Treatment Eagerness Scale* (SOCRATES) (Forsberg, Sundquist & Wennberg, 2007). The SOCRATES, which displays a three factor structure, indicates whether the participants are in an ambivalent state concerning the problem addressed, in a recognition

state or in a state of action toward change, and hence the factors are labelled *Ambivalence*, *Recognition* and *Taking Steps* (Miller & Tonigan, 1997).

As previous research has not yet addressed whether MI may show a different effect dependent on subject variables this is a topic in the present research. The present study explored the relationship between the subscales of SOCRATES and the subject variables length of sentence, age and type of violation of the law, to detect whether some or all of these variables influenced the level of motivation for change. As all of the participants received MI a certain time before probation (about 1.8 year as the longest time), some of them had been in prison for a much longer time than others when the intervention started, as length of sentence stretched from 90 – 1980 days.

Other factors were that the participants differed quite much in age, from 19 – 51 years, and also in main crime sentenced for. The crime of highest frequency was violence, followed by theft breaks, sexual offences, robbery and drug-related crime. It may be that offenders committing murder display social abilities others than those who commit theft breaks, as an example, and that this may influence the motivational level. The present study explored whether it may be possible that differences in personal variables between the inmates influenced both the overall motivational level, and / or the effect of the MI sessions from pre to post on the different SOCRATES subscales.

The level of readiness for change in a prison sample measured by the SOCRATES may reveal a different level than in samples outside prison. As described above, one may assume that differences between being imprisoned versus not being imprisoned may influence the motivation level. Detecting this, it may be easier to decide how to perform MI in the present population, in terms of adjusting the method to this population. This has not yet been a subject in previous research, and hence this was detected in the present research.



As such, one purpose of the present study was to detect the level of readiness for change in the prison sample, by inspecting the scores on the different factors of the SOCRATES, and whether there was an effect of MI on the different factors from pre to post: if the MI intervention was effective, change in the positive direction should be observed in one or more of the SOCRATES subscales. If only some of the SOCRATES subscales demonstrate change from pre to post, this might be informative about which part(s) of the MI intervention that are associated with motivational change.

In previous psychometric studies of the SOCRATES the factor structure to a certain extent has shown agreement in samples of substance abusers in community based programs, revealing a two factor structure as more suitable than the original three factor structure (Burrow-Sanchez & Lundberg, 2007; Figlie, Dunn, & Laranjeira, 2005; Maisto, Chung, Cornelius, & Martin, 2003; Maisto, Conigliaro, McNeil, Kraemer, O'Connor, & Kelley, 1999; Gossop, Stewart, & Marsden, 2007). Concerning a prison sample, previous research concerning offenders score in the SOCRATES focused on either a combination of several measurement instruments, among them SOCRATES (Nochajski & Stasiewicz, 2005) or used only part of the SOCRATES in their analysis (Easton, Swan, & Sinha, 2000). As such, a test of the psychometric properties of the total SOCRATES has not yet been addressed in a prison population. Because the SOCRATES is the measurement instrument used in the present study, this issue is addressed, as this may give valuable information concerning the suitability of the test in this setting. If the test shows reliability in the scales and a factor structure in line with previous psychometric studies, this indicates that the SOCRATES in the prison sample describes the underlying factors to the same extent as in other samples of substance abusers.

#### *Changing behaviour*

As mentioned, the process of behaviour change is at the very core of the MI method (Forsberg, 2006; Miller, 1996; Rubak et al., 2005)

Many theories exist concerning the topic of changing behaviour (Barth, Børtveit, & Prescott, 2001). Despite this, to implement a permanent change in ones life, and further on to maintain that change, is quite difficult for the majority of us. Those who have tried to eat less chocolate, implement some more activity or watch less TV have experienced that it may not be easy, and if succeeding it can be even more difficult to maintain the change. Trying to answer the question of how to bring forth a change and further on to maintain it may be difficult, as it may include a variety of different answers depending of among other things, personality (Cahill, Adinoff, Hosig, Muller, & Pulliam, 2003; Kilpatrick, Roitzsch, Best, McAlhany, Sturgis, & Miller, 1978; Vandeveld, Broekaert, Schuyten, & Van Hove, 2005).

However, the present study discusses elements that may prove valuable concerning changing of behaviour, like the thoughts and feelings concerning the behaviour, how performing divertive behaviour and having helping relationships influence the process, and the importance of motivation. One of the questions of the present study is whether the circumstances for the process of change can be considered the same for a prison population as for a population outside prison, based on the different life situation of the populations. A prison population lives their lives locked up, which may in it self lead to psychological problems. They are dependent of the prison officers for getting out of their rooms or out of the house, as well as getting food, other things and services, and may therefore have limited possibilities to experience autonomy and self-efficacy and act in a self decision manner, among other things. They are also dependent of the system for fulfilling of rights and participating in different kinds of activities and happenings, like a funeral or a wedding in close family. These ingredients that deviates the prison population from other populations may influence a change process.

Barth et al. (2001) propose that the concept of change, despite the many different theories, seems to build on the same, quite few, principles that can be separated into three

main categories: *Thoughts and feelings*, *specific behaviour* and the *relationship to other people*. To work on the feelings around the change before the change itself is initiated, seems to be crucial for the outcome. As a first step, raising consciousness concerning aspects of the behaviour is important (Barth et al., 2001). When consciousness is raised, this will likely elicit certain feelings and these feelings, whether it is negative feelings like fear and anger, or positive feelings like joy, is found to mobilize energy in a person. This energy may hasten a need for change, as well as strengthen the endurance and power concerning the process (Barth et al., 2001). In the negative direction, feelings like sadness, frustration and boredom, and conflicts with significant others, like family and partner, as well as expectations (pressure) of engaging in certain types of behaviour is shown to cause 75 % of lapses for alcohol, smoking or opiate addiction (Cummings, Gordon, & Marlatt, 1980, Marlatt & Gordon, 1980 in Dimeff & Marlatt, 1998).

*Specific behaviour* describes behaviour that replaces the problematic behaviour, either by doing more of a known and valued activity, or implement new activities that are performed instead of the addictive problematic behaviour, when the need for a substance is present (Barth et al., 2001). Concerning *relationship to other people* previous research has shown that the social network is of great importance in the changing process of substance addictive behaviour (Moos et al., 1990, in Barth et al., 2001). Both the relationship to people who approve the addictive behaviour, and to those who support an attempt to change the behaviour influence the person, and the better the support for the changing process, the better chances for the addicted to succeed (Barth et al., 2001).

Keeping in mind the perceived importance of thoughts, feelings, specific behaviour and the social network concerning a behaviour change, the present study address the question to what extent these elements can be said to be present for a prison population compared to a population not imprisoned. For example, it is reasonable to assume that the restrictions of

performing specific behaviour, like taking a walk or a jog, or going to a café for reading newspapers when the need for drug is present, as well as leaning on helpful relationships, like visiting ones uncle, may leave those imprisoned with thoughts and feelings as the tool available for bringing forth a behaviour change. The present study discusses whether a possible absence of some possibilities thought to be important for behaviour change, may have an impact both on the changing process as well as on a possible motivation for change.

#### *Motivation for change and treatment*

In addressing behaviour change in terms of treatment of the problematic behaviour, motivation is considered an important element, described by Drieschner, Lammers and Staak (2003, p.1115), as “a pivotal factor in psychological treatment”. This indicates that a treatment process lacking motivation may be of a problematic character, which may be difficult to succeed in.

Several definitions exist of the concept motivation, resulting in “chronic ambiguity” of the concept (Drieschner et al., 2004, p. 1116). Geen, Beatty and Arkin (1984), offers this definition on motivation: *the operation of inferred intrapersonal processes that direct, activate, and maintain behavior (p.3)*. By this definition, motivation is a concept (inferred to be) working from within the person, it is directed; it has a goal, it activates something, and it also maintains behaviour, which could be said to support the view of motivation as a “pivotal factor”. The assumption of “inferred intrapersonal process” indicates importance of an internal process versus an external.

However, there are incentives that cause behaviour even if we do not value the specific behaviour especially high, like getting a salary for work we do not enjoy but still have to perform. This *extrinsic motivation* is explained as motivation not related to the behaviour itself, but its outcome (Geen et al., 1984). Opposite to this, *intrinsic motivation* is explained as motivation that causes behaviour for no reason than the behaviour itself (Geen et al., 1984).

When behaviour change is performed out of external pressure, like pressure from the judicial system or family, Ryan, Plant, & O'Malley, (1995) found that this is most likely to have effect when it is combined with internal motivation. Intrinsic motivation is also found to create a feeling of personal efficacy and freedom to behave in a self-decision manner (deCharms, 1968, in Geen et al., 1984). Concerning a population of incarcerated, they might be experiencing a pressure both from the judicial system and possible also from family, as well as a possible absence of personal efficacy and autonomy, and as such, intrinsic founded motivation may be of great value. Therefore, offering methods addressing this issue may give a valuable contribution to the process.

Motivation for treatment is one aspect of the concept *motivation*. Previously it has taken a form of what is perceived from the view of the therapist, and clients not considered to be motivated were judged to display deficits (Miller, 1985), and if the clients were out of motivation, the common perception was that the therapist could not influence the clients motivation level (Sterne & Pittman, 1965, in Saunders & Wilkinson, 1990). Through the years this view has been nuanced, and other variables has been accepted as indicators of client motivation (Miller, 1985). Miller defines motivational variables and interventions *as those that increase the probability of initiating, complying with, and continuing behaviors intended to promote recovery* (p. 94). Supporting this, the level of motivation is found to be related to both staying in, and outcome of treatment (De Leon, Melnick, Thomas, Kressel, & Wexler, 2000).

Also found to predict continuity in treatment is continuity in the contact between client and therapist (Davis, Baer, Saxon, & Kivlahan, 2003) as well as a confidence in treatment (Ryan et al., 1995). Addressing a prison population, continuity in contact may be one of the situations easiest obtained, as the prisoners often is staying in the same place a certain length of time, while achieving a confidence in treatment may appear as more uncertain, maybe

depending on the relationship to both the system as well as to the person performing the treatment, which is in the present study, a prison officer (Forsberg et al., 2007).

Concerning the performer of the treatment, therapist characteristics like empathy, expectancy and hostility (Davies, 1979, 1981, in Miller, 1985) and therapist availability (Davis et al., 2003) had an important influence on client motivation, while client characteristics and a possible impact of these on enhancement in motivation, showed up to be of less importance (DiClemente & Prochaska, 1982).

The fact that the prison officer is the one to perform MI in the present sample raises some questions, and the present research discusses to what extent a prison officer, which main job may be to keep people under control, may display the same therapist qualities that one educated as a therapist, in performing MI.

Other findings, addressing intellectual abilities in offenders revealed that 47 % of incarcerated clients in a Belgium prison obtained a lower score than average, compared to recent available norms, in Raven SPM, which is an instrument measuring non-verbally reasoning. 10 % could be perceived as intellectually impaired. This indicates that a considerable number, nearly half, of drug abusing offenders show a low intellectually level (Vandeveldel et al., 2005). Further on Vandeveldel et al. found that criminal offenders with a low or average level of intelligence were more likely to enter and stay in treatment than those with high intelligence (Vandeveldel et al., 2005). Also addressing intellectual level, Miller (1985) describes that the conceptual level (CL), that describes interpersonal development and where low CL is associated with among other things, cognitive simplicity and authoritarianism (Miller, 1985), influence on what treatment; structured versus unstructured, the client is likely to enter in to and stay in, and authoritarianism was associated with better functioning in structured treatment (Canter, 1971).

Summing up previous research, this indicates that internal versus external motivation, as well as a confidence in treatment, gives a better outcome of the treatment. Another important element is the behaviour and characteristics of the therapist / counsellor.

Intelligence level seems to have importance, and a prison sample may display lower intellectual abilities than a sample outside prison, and of these, offenders lower in intellectual level display a higher motivational level for entering and staying in treatment, and the more structured the treatment, the better concerning people low in intellectual abilities.

The present study discusses whether MI, as may be perceived as a structured method may suit a prison sample even better than other samples.

In enhancing client motivation, MI is a method that seems to address several of the variables found important for staying in treatment, as it is built on principles related to a majority of them (Forsberg, 2006; Miller, 1996; Rubak et al., 2005).

### *Motivational Interviewing*

The first article describing the method *Motivational Interviewing* (MI) came in 1983 (Miller, 1996). The method was developed out of experiences of among other things, a seemingly high importance of the therapist behaviour concerning the outcome of the treatment (Miller & Baca, 1983), in accordance with findings mentioned above. Other studies had revealed that client perception of the relationship to the therapist, depended on individual therapist differences and that this predicted dropout of the treatment (Ford, 1978).

The most important elements in MI are open-ended questions, reflection, in terms of reflecting the utterances back to the client, and summaries of what is already said, so that the client can agree or disagree, and finally confirm what has been said (Barth et al., 2001). It has been suggested that MI has its highest value in the beginning of the change, when planning and decision takes place (Saunders & Wilkinson, 1990), and supporting this, MI has shown to be a particular useful method for reluctant clients and those in an ambivalent state (Rubak et

al., 2005). MI has shown useful concerning diverse subjects as bulimia, increased blood pressure (Forsberg, 2006), alcohol abuse, drug addiction, smoking, weight loss, asthma, diabetes and for increasing physical activity (Rubak et al., 2005), and as mentioned, in populations both inside and outside of prison (Clark, 2005; Clark et al., 2006; Forsberg, 2006; Harper & Hardy, 2000; Miller, 1996; Rubak et al., 2005).

MI has shown effective in small doses (Miller, 1999), both in small amounts of sessions, actually only one (Carroll et al., 2001; Rubak et al., 2005), and in sessions with short duration, approximately 15-20 minutes (Rubak et al., 2005). However, an increase in duration to more than 60 minutes, and in number of sessions to more than 5, enhance the efficacy (Rubak et al., 2005).

One very important ingredient in a MI-session is the atmosphere, the *MI-spirit*, and it has been shown that MI-spirit alone accounts for the outcome of the motivational sessions, in terms of clients collaboration and disclosure, as well as expression of affect (Moyers, Miller, & Hendrickson, 2005). Making the clients verbalize the problem is one of the main purposes of MI (Barth et al, 2001) as this allows the client to talk him / her self in to the change (Forsberg, 2006).

The MI-spirit is explained as a set of strategies that strives for an atmosphere of “partnership” between the client and the counsellor, and empathy towards the client (Forsberg, 2006; Miller, 1999), acceptance (Miller, 1999), respect and believing in the clients ability to perform the change (Forsberg, 2006; Miller, 1999; Rubak et al., 2005). Part of the MI-spirit is trying to avoid argumentation, steering resistance in a direction of encouragement, reinforcing the reasons for change, highlight positive results obtained, try to reformulate a relapse to knowledge about risky situations and be aware of utterances considering behaviour change (Forsberg, 2006), so called *Change Talk* (Amrhein et al., 2003), as reflecting these back to the client may enhance the consciousness around the behaviour, and hence strengthen



the motivation for change in the client (Barth et al., 2001). Another purpose of MI is development of discrepancy between present and wished situation (Forsberg, 2006), and eliciting intrinsic motivation, values and goals, to foster a behaviour change (Rubak et al., 2005).

One of the purposes of the strategies composing the MI-spirit is to develop an ambivalent state in the client concerning the problematic behaviour (Forsberg, 2006), as this helps the client being aware of both the negative elements in the behaviour which support a need for change, and the positive ones which might be an obstacle to the changing process (Barth et al, 2001). The principles of Daryl Bem's self-perception theory are in use here (Miller, 1999). This theory explains that when our attitudes and feelings are ambiguous, we make statements concerning these by observing our own behaviour (Aronson, Wilson, & Akert, 2005). This indicates that thinking and verbalizing thoughts concerning the behaviour may elicit consciousness concerning among other things, consequences of the behaviour.

A main focus of MI is on the clients own understanding of having a problem and the need for doing something about it, as well as making the client aware of that the responsibility for the behaviour and a possible change of this, lies in the hand of the client her / him self (Saunders & Wilkinson, 1990).

Rubak et al. (2005) concludes in their review article that MI is an effective way of helping clients toward a behaviour change, and that MI is more effective than traditional advice giving by general practitioners in 80 % of the studies in their article.

The present study address the question of whether MI as a motivation enhancement method is effective in the prison sample, based on among other things the fact that the therapist / counsellor is a prison officer, meaning that the same system to incarcerate the client is the one to perform sessions for enhancing motivation.

MI was developed in surroundings preoccupied with treatment of substance abuse (Miller, 1996), and as such the method can be said to address a troublesome area for societies.

#### *Substance abuse*

Substance abuse is an area where considerable amounts of public resources are spent, to deal with the phenomenon (EMCDDA 2002, in Evjen, Øiern & Kielland, 2003). Numbers from Norway show that the budgets for 2001 distributed to services dealing with substance abuse was 1.8 billions NOK (EMCDDA 2002, in Evjen et al.). In addition it is likely that some of the general budget for social services also is spent in the field (Evjen et al., 2003). All in all this illustrates the seriousness from the view of the modern society concerning this area.

Also illustrating the seriousness from the view of societies of today concerning substance abuse, is the change of attitude from the 1960s until today towards particularly drug abuse, illustrated among other things by the length of the sentences. In the late 1960s the length of the sentences for criminal behaviour related to drugs was about 6 months. About twenty years later this was extended to a maximum penalty length of 21 years (Christie & Bruun, 2003, in Helgesen et al., 2006).

Statistic also shows that the penal reactions for crime related to drugs was about tripled from 1997 – 2004, and that crime related to drugs was the main crime in 40 % of all criminal cases. In addition come the cases where drugs are an indirect cause of violent and economic criminality (SSB, 2006, in Helgesen et al., 2006). From this it is likely to believe that a certain proportion of those entering prison may have a problem concerning drugs.

An annual (2002) report from the EMCDDA (in Berman, 2004) support this view showing that drug users in prison who used drugs within the 12 months before incarceration varied between 29 % and 86 % in the European Union (EU) countries and Norway. According this report drug use among incarcerated varied greatly, between 5 % and 54 % (EMCDDA, 2002, in Berman). A pilot study from Belgium found that as many as 69 % of

those incarcerated during the last 30 days had been using drugs the last month, and 66 % of the incarcerated had been arrested because of drug-related crime (Vandeveldt et al., 2005).

In a Canadian sample an average of 29 % reported to have used drugs during the previous 3 months of incarceration, while 16 % reported alcohol use. A combination of drug- and alcohol use amounted to 33 % (Plourde & Brochu, 2002). Of those using drugs 8 % reported to continuing use with the same frequency and 29 % reported using the same amount of drugs than before incarceration. Substance use were higher in maximum security institutions (52 %) than in medium- (35 %) and minimum security institutions (19 %) (Plourde & Brochu). In this sample, 89 % reported that the substance use during the past 3 months were in accordance with the use the previous year in incarceration, or since the incarceration if less than a year, while the remaining 11 % reported a decrease in use (Plourde & Brochu).

The mostly used substances “within the walls” were cannabis (98 %) and heroin (17 %). A shift in substances used from before incarceration was detected, as cocaine was used by 68 % prior to incarceration and only by 13 % the past three months of incarceration. Concerning cannabis the use extended from 77 % - 98 %, while benzodiazepines use were reduced from 23 % - 6 %. Heroin use in prison was reported by approximately the same number as prior to incarceration, and extended by a small amount, from 15% - 17%. 26 % of the drug users reported to have tried a new drug after arrival to the prison, 18 % reported heroin as the new experience (Plourde & Brochu, 2002). European prisons report that for prisoners with the money required, Cannabis, heroin and benzodiazepines are relatively easily available (Berman, 2004).

Addiction to drugs can be said to be a different kind of problem than addiction to some other substances, like alcohol, since addiction to drugs is among the few psychiatric diagnosis that necessarily involves infringement of the law (Evjen et.al, 2003). Drug abuse seen as a

break of the law often gets the biggest focus on the expense of the need for help of the abuser (Evjen et.al., 2003), which indicates that punishment has the priority before treatment. In the correctional system it has been working with getting an alternative to prison penalty, without a carrying out of a systematic organizing. Norwegian government brings forth a view of going on working with a system which can reduce relapses to new crimes (St.meld. nr. 27, 1997-1998, in Evjen et.al., 2003). It is likely that offering a treatment of substance abuse may give an important contribution to this, and an implementation of treatment while the substance abuser is imprisoned could be part of preventing clients from committing new crimes. An important argument concerning this may be that the situation of imprisonment can offer a chance to address the problems of substance abuse (Vandeveldel et al., 2005).

Addressing this, the present study discusses whether the fact that people are incarcerated, and among other things may perceive them self as a burden on the system, may influence a possible effect of MI.

However, it is a basic problem that drug users in prison not often are particularly interested in changing behaviour patterns. Previous research indicates that compared to drug abusers outside the judicial system, incarcerated drug abusers show low motivation (Vandeveldel et al., 2005). Offenders are also found to display an unwillingness to involve in counselling and in sharing information in a group, and may be perceived as disruptive by others (Sung, Belenko, Feng, & Tabachnick, 2004). Redondo, Sanchez-Meca and Garrido (2003, pp. 135-136, in Berman, 2004), give this description of the resistance by offenders: *perhaps the main reason (for offender resistance) is the fact that incarcerated offenders frequently see nothing wrong with their offences, have no desire for change, and seriously question the motives and intentions of those offering treatment...Another important obstacle is (personal coping strategies) such as ...denials and rationalizations, which enable...the individual to avoid facing the self-defeating and socially destructive nature of his or her acts.*

*Finally, it is likely that some offenders re-enact long-standing patterns of interpersonal manipulation and coercion with practitioners, which eventually serve to impede the rehabilitation process...A related matter is the absence of tangible rewards and incentives for changing behaviour.*

Here the authors suggest several challenges concerning the treatment: the counsellors may be facing a questioning around their motives and intentions, among other things, and the drug users may not see the problem related to their behaviour. In addition rewards and incentives may be absent. Concerning the importance of confidence in treatment and the lack of a perceived need for help in offenders, mentioned above, these factors may be related to a situation perceived as a possible *offender resistance*. If both a confidence in treatment and a perceived need for help are missing, as well as rewards for changing the behaviour it is likely that this have an impact on the motivation for treatment.

Apropos the term *offender resistance*, which indicates that this is a resistance not present concerning non-offenders, are there differences detected between offenders and non-offenders that may cause an *offender resistance*?

#### *Offender versus non-offender*

In their article comparing addicted prisoners and addicted clients in the community-based treatment system, Brochu, Guyon, and Desjardins, (1999) found that addicted prisoners obtained a lower score than clients outside prison in socio-demographic variables like education and work, in addition incarcerated drug abusers scored higher on social skill deficits, and social adjustment was a greater problem for those incarcerated than for the clients outside prison (Brochu et al., 1999). Incarcerated also had a poorer health, lower income and more unstable employment status, and also greater problems with controlling violence impulses than the other group (Brochu et al., 1999). Summing up, this indicates a struggling in everyday life maybe not faced by non-offenders to the same extent that may

contribute to greater difficulties of mobilizing motivation for offenders, that further on may be perceived as *offender resistance*.

Concerning family problems clients outside the judicial system reported significantly more problems generally than incarcerated, on the contrary incarcerated had been in more conflicts with their father and neighbours than the “outside”- group. Brochu et al. (1999) suggest that this may be natural, out of the findings that 54 % of clients in the community-based system reported living with a partner 30 days prior to the reporting, while only 5 % of incarcerated reported the same. The authors also suggest that this may be an indication of impaired social functioning. The fact that a great proportion of incarcerated do not live with a partner may also contribute to a lower motivation for treatment, as external pressure from family is experienced as more demanding than pressure from the judicial system (Polcin & Weisner, 1999).

Concerning differences in drug use between the samples, Plourde and Brochu (2002) found a shift in reason for drug use in prison compared to the reason prior for the imprisonment: in prison drugs were mainly used to relax, while prior to the imprisonment drugs were mainly used for forgetting ones problems (38 %) and for having fun (31 %). Drug use for relaxing was reported by 21 % prior to incarceration, this tripled to 62 % in the incarcerated population (Plourde & Brochu), which indicate that offenders may face another need for relaxation than people elsewhere in society. If the need for relaxation is perceived as particularly high in offenders, or in other words, if the need for drugs are perceived particularly high, this may cause a resistance towards quitting the drug use not present in non-offenders to the same extent.

To sum up the assumed differences between drug abusing offenders and drug abusers in community-based treatment, it seems like offenders display lower intellectual abilities, are less in contact with close family and may be to a greater extent impaired concerning social

functioning, have greater problems with social adjustment and also with controlling violent impulses, have greater problems with the legal system (as seems obvious) and with getting a job, are less educated and have lower income, and finally have poorer health than drug abusers in the community-based system. It is also likely that the crossing of barriers concerning the prison sample in terms of having committed serious crimes, which distinguish offenders from the majority of other people, and the situation of being imprisoned with the loss of freedom and presumable also of autonomy, has a certain impact on people that those outside the penalty system do not experience, maybe with consequences for almost every aspect of being a human. The present study discusses whether some of these elements may contribute to a state that may be perceived as *offender resistance*.

Concerning crimes committed, as the seriousness of the crimes differs greatly in the present sample, it may be that differences also *in* the present sample may influence both the attitude towards treatment, as well as the effect of MI. Are there characteristics in certain groups of offenders that distinguish them from other offenders in ways that may cause differences in motivation for change of substance abuse, and if so, what are the differences?

The offender group committing robbery and other crimes of an instrumental character for goal oriented purposes are found to display higher levels of psychopathy than offenders committing violent crimes of a reactive character, out of provocation (Cornell et al., 1996). In a study addressing homicides by adolescents in Finland, where robbery was the motive in 25% of the cases, 64% of the offenders had developmental problems, and approximately 50% had a diagnose of a conduct or personality disorder. Concerning intellectual functioning, 63% was at an average or higher level (Hagelstam & Häkkänen, 2006). Confirming this, Beech and Mann (in Berman, 2004) state that higher risk offender are organized, disciplined, dedicated and hardworking concerning stealing, fighting and substance abuse.

Addressing drug offenders this group were the largest when it came to history of mental illness, followed by property offenders, and it is found that offenders belonging to this category were terminated from treatment for violation of the rules nearly three times as often as those with no history of mental illness (Brady, Krebs, & Laird, 2004).

A Danish study found that in the groups convicted for murder or attempted murder, as well as those convicted for sexual offences, respective 71%, 68% and 65% showed deviant personality. At the same time, a small proportion, 8% - 18%, of these offenders were judged to serving the sentence at psychiatric institutions, which indicates that this group were to a small extent perceived as mentally ill, while the opposite was the case for approximately 50% of those convicted for fire raising and other types of violence than murder and attempted murder (Hansen & Schmidt, 1999).

Child sexual offenders and violent offenders committing violence against a person were in a study from New Zealand found to attribute their offending behaviour to internal, stable and uncontrollable causes, while rapists and property offenders attributed their offending behaviour to eternal, stable and uncontrollable causes (McKay, Chapman & Long, 1996). This indicates that both sexual offenders and violence offenders perceived their offences as caused by something internal they could not change, which may contribute to a feeling of helplessness that may further on create a resistant toward quitting the drug abuse.

Other findings concerning sexual offenders indicates deviant sexual preferences (either illegal, like rape and sex with children) or unusual (fetishism or autoerotic asphyxia) as predictors of recidivism (Hanson & Morton-Bourgon, 2005). Of violent and other recidivism, antisocial orientation was found as predictor (Hanson & Morten-Bourgon, 2005).

Family acceptance and academic competence is also found to predict violence offences, when this is at a low level, while peer popularity at a high level predicted the same (Vermeiren, Bogaerts, Ruchkin, Deboutte, & Schwab-Stone, 2004). When addressing "hate



crimes”, crimes where the offender attack the victim of different reasons (like race, colour, religion and sexual orientation, among others), which one may categorize as violence offences, Sun (2006) found that offenders blamed the victim and justified and rationalized their behaviour by the victim`s group membership, and related this to the offenders “distorted cognitions” (Sun, 2006, pp. 599). Other indications concerning violent offenders, is that this group have problems in establishing effective therapeutic relationships (Howells & Day, 2006). It is also suggested that offenders, particularly those in violent programmes who enter the prison for the first time, may feel guilty and ashamed, and have more negative emotions concerning their offender status than offenders with a long-standing status (Howells and Day, 2006). In addressing inmate suicide, Blaauw, Kerkhof and Hayes (2005) found violent offence as well as a history of drug abuse as two of the main predictors of suicide. This may support the view of negative emotions concerning violent offences.

Finally, it is found that self-disclosure and disclosure of offence details is an area where prisoners show reluctance, as for one thing the inmate may fear reactions from other prisoners, and research has also revealed that prisoners are unwilling to share personal information with prison staff (Dear et al., 2002, in Howells and Day, 2006). In a setting where prison officers have the role as a motivator of behaviour change concerning drug abuse, it may be natural that elements like these may have a certain impact on motivational level toward change and treatment.

Summing up differences perceived to be present between the groups of offenders in terms of type of violation of the law, robbers and others committing instrumental crimes for goal oriented purposes are found to display higher levels of psychopathy than those offenders reacting on provocation, and also higher levels of intellectual abilities, as well as being disciplined and hard working concerning aspects of the offences.

Drug offenders are found to be the largest group with a history of mental illness, which further on predicts termination from treatment for violation of the rules.

A great proportion of those convicted for murder and attempted murder shows deviant personality, while they are not perceived as mentally ill, which were the case for approximately 50% of other violence offenders. Low level of family acceptance and academic competence, and high level of peer popularity is found to predict violent offences. Violent offenders who attacks other people are perceived as displaying distorted cognitions, as they are found to blame the victim for their offence, and violent offenders are also found to having problems by establishing good therapeutic relationships, in addition violent offences is found to be one of the predictors of inmate suicide.

Concerning sexual offenders, they were, along with murders and those convicted for attempted murder, found to show deviant personality and not perceived as mentally ill, as well as displaying deviant or unusual sexual preferences, and finally, both child sexual offenders and violent offenders attributed their behaviour to internal, stable and uncontrollable causes.

The present study addresses whether possible differences between offenders concerning type of crime committed may influence the effect of MI related to behaviour change in substance abuse. If, as an example, one of the groups shows either no effect or less effect of MI than the other groups, this may give the counsellors a possibility to address the particular group concerning use of MI, as this may indicate that the method should be adjusted to suit the group better, or, as another possibility, that the method does not suit the group very well at all.

As already mentioned, the measurement instrument used in the present research was the *Stages of Change Readiness and Treatment Eagerness Scale*, SOCRATES, which were analyzed to detect a possible effect of MI from pre to post.

*SOCRATES*

SOCRATES was developed to measure a possible enhancement in motivation in alcohol abusers, and by exploring the factor structure of the measurement instrument in different samples addicted to alcohol a three factor structure emerged consisting of 20 items. This scale was tested in two different samples, 1672 clients either in treatment or in aftercare, and presented for test-retest reliability and completed by 82 drinkers who had either been in treatment but were still drinking, or never been in treatment. One item was deleted, and the final 19 item scale was considered suitable for describing the underlying factors (Miller & Tonigan, 1997).

The three factors were labelled *Ambivalence* (AMB), *Recognition* (REC) and *Taking Steps* (TS). The full sample (1672) was used for calculating the reliability of the scales, and the Chronbach`s alpha was respectively .60 (AMB), .85 (REC) and .83 (TS). Other forms of SOCRATES, adjusted to suit other types of problems has later been developed (Miller & Tonigan, 1997), among them a version for measuring motivation concerning drug abuse, version 8D (CASAA, 1995), which was the version used in the present study. Examples of statements belonging to the different factors in version 8D is “There are times when I wonder if I use drugs too much.” (*Ambivalence*), “My drug use is causing a lot of harm” (*Recognition*) and “I have already started making some changes in my use of drugs” (*Taking Steps*) (Miller & Tonigan, 1997).

Several studies have explored the factor structure of the original SOCRATES, (Burrow-Sanchez & Lundberg, 2007; Figlie et al., 2005; Maisto et al., 2003; Maisto et al., 1999), all of these with participants with a drinking problem. In addition Gossop et al., (2006) commented on the strength of the factor outcome, their research focused on a drug using population.

Four of the studies (Burrow-Sanchez & Lundberg, 2007; Figlie et al., 2005; Maisto et al., 2003; Maisto et al., 1999) found that a two factor structure, with deletion of the AMB.-

scale, suited people in substance abuse treatment or waiting for treatment, better than the original three factor structure suggested by Miller & Tonigan (1997), and one of these (Maisto et al., 2003) found support for both a two- and a three factor structure, but preferred the two factor structure of parsimonious reasons. The number of participants in these studies varied between 123 – 338. In the study of Gossop et al. (2006), with 1075 drug abusing participants, the strength in the different factors was commented on, and the ambivalence-scale revealed a weak Chronbach`s alpha, of .38, whereas it was .81 for the REC scale and .88 for the TS scale. In Maisto et al. (1999) the Chronbach`s alpha were for a factor combined of AMB and REC scale, which was labelled Amrec, was .91 and for TS .89. In Maisto et al. (2003) the two factors extracted were labelled *Recognition* and *Taking Steps*, and Chronbach`s alpha was found to be .88 for REC and .93 for TS In conclusion a two factor received most support in these studies.

The present study examined the factor structure of the SOCRATES, as this may support or invalidate the suitability of the form in a prison population. In addition the present study discusses whether the statements in SOCRATES may suit a prison sample. It may be reasonable to assume, among other things, that the possibility for a prison population to “take steps” may be limited, as well as performing specific behaviour, which were one of the main ingredients found important for behaviour change, and may also be said to be related to the factor *Taking Steps*.

Previous research has found that a prison population overall display a lower intellectual level than populations outside the penalty system. Lower intellectual level is found to predict high motivation, as well as authoritarianism, which further on also predicts high motivational level. The motivational level in prison populations are therefore expected to be high and hence we suggest the motivation to change behaviour will be quite high.

Also, structured intervention methods as the MI generally suit populations with lower intellectual abilities better. As such, we hypothesized that the effect of MI would be significant from pre- to post-test in the present study.

Concerning the conditions one may assume that getting feedback, even though this has shown different outcome in different studies, may give an opportunity for the counsellor to improve the qualities of the sessions that the non-feedback group will not experience. This may further on enhance motivational level in clients. As such, we predict that the group getting feedback, group 2, will experience enhancement in motivational level in their clients, to a greater degree than the non-feedback group, group 1.

Differences in motivation may be present between the offenders concerning subject variables, like type of crime committed, and those committing sexual and violent offences may have greater problems concerning among other things close relationships, which is found to be important for behaviour change. Concerning drug offenders, this group has the most histories of mentally illness, which further on is found to violate the rules in treatment programmes. Addressing a possible effect on factors in the light of different types of crimes committed, we suggest that some offenders will demonstrate a lower effect of MI than the others, and that the lowest effect will be present in the crimes of the greatest seriousness, like violence and sex offences, as well as drug offenders.

Differences between a sample outside prison and in prison may to a certain extent lead to different interpretations of the items in the SOCRATES, as some of the items are regarded as somewhat ambiguous. By examining the factor structure of the SOCRATES, the suitability of SOCRATES in a prison sample may be substantiated, in terms of describing the underlying factors in the prison sample.



## Method

The present research is based on material from, and is part of a Swedish study of incarcerated, N = 296. According to a report from Forsberg et al., (2007) the study had a starting point in 2004. In January 2004 the organization of the study was tested with some pilot-clients in every institution included, and in April 2004 the first institutions started to recruit participants to the study.

### *Participants*

The participants in the present study were recruited from 13 Swedish institutions spread all over the country (Forsberg et al., 2007). These were: Härnösand, Ystad, Roxtuna, Storboda, Kristianstad, Kirseberg, Helsingborg, Halmstad, Saltvik, Västervik, Högsbo, Österåker and Hällby. Forsberg et al., (2007) report that two institutions, Saltvik and Härnösand resigned from participation in March 2005.

The selection of the potential institutions was based on the following criteria: geographic situation, other competing programmes, busy punishment time as well as a MI – service and at least two prison officers who perform MI – interviews. Coordination of the institutions was arranged by having regularly telephone calls, where information was exchanged and problems discussed and resolved. An assistant in the respective institution identified the clients who fitted the requirements for inclusion in the study. The assistant informed the potential participants both in writing and oral about the study. To be included in the study, the participants had to fit the following requirements:

- Not to be sent out of the country during the sentence
- Not gone through MI in care or prison
- Born between 01.01.54 – 31.12.84
- On probation at the latest 30.06.05 \*

- Abuses alcohol or drugs
- Gone through an ASI (Addiction Severity Index) – interview
- Speaking Swedish or Norwegian

\* The study was prolonged and included, from 19.09.05, also clients who were on probation from 31.03.06.

Participants in the present study were 19 – 51 years old,  $M = 31.47$ ,  $SD = 8.46$ . Penalty time was 90 – 1980 days,  $M = 483.4$ ,  $SD = 353.4$ . The main offence highest in frequency was violence (27.6 %) followed by theft break (25.2 %), sexual harassment (14 %) and robbery (12 %). Drug-related crime was the main offence for 7 % of the participants.

Of those in condition 1, 76 went through 1 – 5 sessions. Of these, 54 participated in the present study. In condition 2 in the main study, 99 went through 1 – 5 sessions (Forsberg et al., 2007), of these 73 participated in the present study. An average of sessions completed was 4.45.

### *Materials*

A Swedish version of the *Stages of Change Readiness and Treatment Eagerness Scale* (SOCRATES), 8D, was used to measure the level and possible increase in readiness for change of substance abuse from pre to post. The original SOCRATES worked out by Miller and Tonigan (1997) was used as a template for arranging the statements belonging to the different factors *Ambivalence*, *Recognition* and *Taking Steps*. Some examples of the statements belonging to the respective factors are: From *Ambivalence*: “There are times when I wonder if I use drugs too much”, and “Sometimes I wonder if I am an addict”. From *Recognition*: “I have serious problems with drug use”, and “I know that I have a drug problem”, and finally from *Taking Steps*: “I’m not just thinking about changing my drug use,



I'm already doing something about it", and "I am actively doing things now to cut down or stop my use of drugs" (CASAA, 1995).

### *Procedure*

The design of the present study, N = 127, was a between groups (group 1 = non-feedback group, group 2 = feedback group) pre- post (measured prior to the intervention and after the last (5th) session) design. The intervention was five sessions of MI. Pre – post effect of MI was measured by the SOCRATES: the scores on the different subscales in the SOCRATES represented the dependent variable. Further on subject variables as length of sentence, age and type of crime committed was included. The groups differed in terms of feedback to the counsellor performing MI, and the conditions were as following:

- 1) A series of 5 MI – interviews performed by a trained person educated in MI – interviewing, following a MI – manual (Farbring, 2003).
- 2) A series of 5 MI – interviews performed by a trained person educated in MI – interviewing, following a MI – manual (Farbring, 2003), also including coaching of the counsellor from a group of other MI – counsellors based on recorded material from the session.

SOCRATES was presented as a pre-test and after the last (5th) session (Forsberg et al., 2007). Of the 127 clients in the present study performing the pre-test, 98 persons had filled in the form in an acceptable way. The drop-out rate was about 30 % from the pre-test to the post-test (included the four clients that by mistake were part of the pre-test); 69 clients altogether had filled in the form the second time, in an acceptable way. In condition 1, 38 persons filled in the form in the pre-test, and 24 (63%) after the 5th session. For condition 2 the numbers were respectively 56 and 45 (80%).

As a control condition a third condition (group 0) was present in the main study. Participants in this condition went through 5 sessions performed by the responsible prison officer after “ordinary routine” following the manual for prison officers, not receiving MI. This group was not exposed for the SOCRATES, thus, excluded from the present analysis.

Of several reasons the drop-out rate from the time when the clients were recruited to the time of the start of the intervention, were quite high, particularly in group 0, but also in group 1 and 2. The main reasons for this were time pressure for the personnel and indistinctness from the leaders concerning the time for the interventions. Other reasons were that some of the personnel resigned from taping the sessions, and that some of the recruited clients were set free or were moved to another prison (Forsberg et al., 2007).

The participants in the present study were part of the randomization concerning all three conditions in the main study. 127 clients were randomly assigned to the two conditions that were part of the present research. The randomization to the conditions was done by an independent person, and those clients who gave their written approval to participate in the study were included in the research. In ten institutions the clients were randomized to one of three conditions, according to the plan. In the other four institutions they succeeded in establishing only two conditions (Forsberg et al., 2007).

4 clients in condition 0 which, as mentioned, was not part of the present study were by mistake presented for the pre-test SOCRATES. Based on the fact that the test was performed prior to the intervention and as such none of the participants were yet influenced by the intervention, as well as the fact that their contribution adds numbers of participants to the analysis, they were kept in the present material.

### *Intervention*

The intervention was performed by personnel located in the respective institutions. Each trainer had a minimum training in performing Motivational Interviewing. The typical

level of training was 3 days, whereas some were MI-trainers and hence had 3 additional days of training. For 12 trainers the training level was unknown. All of the counsellors performed MI after the manual requirements (Farbring, 2003). Sessions were taped and coded. Feedback was supported by a coding scheme included in the manual – One pass (Farbring, 2003).



## Results and discussion

Analyses were performed by ANOVA for repeated measures. In preliminary analyses the effects of type of crime committed, length of sentence and age was explored by including these factors as covariates. None of these factors revealed significant overall effects on the SOCRATES change scores. For that reason these three covariates was left out in the following analysis.

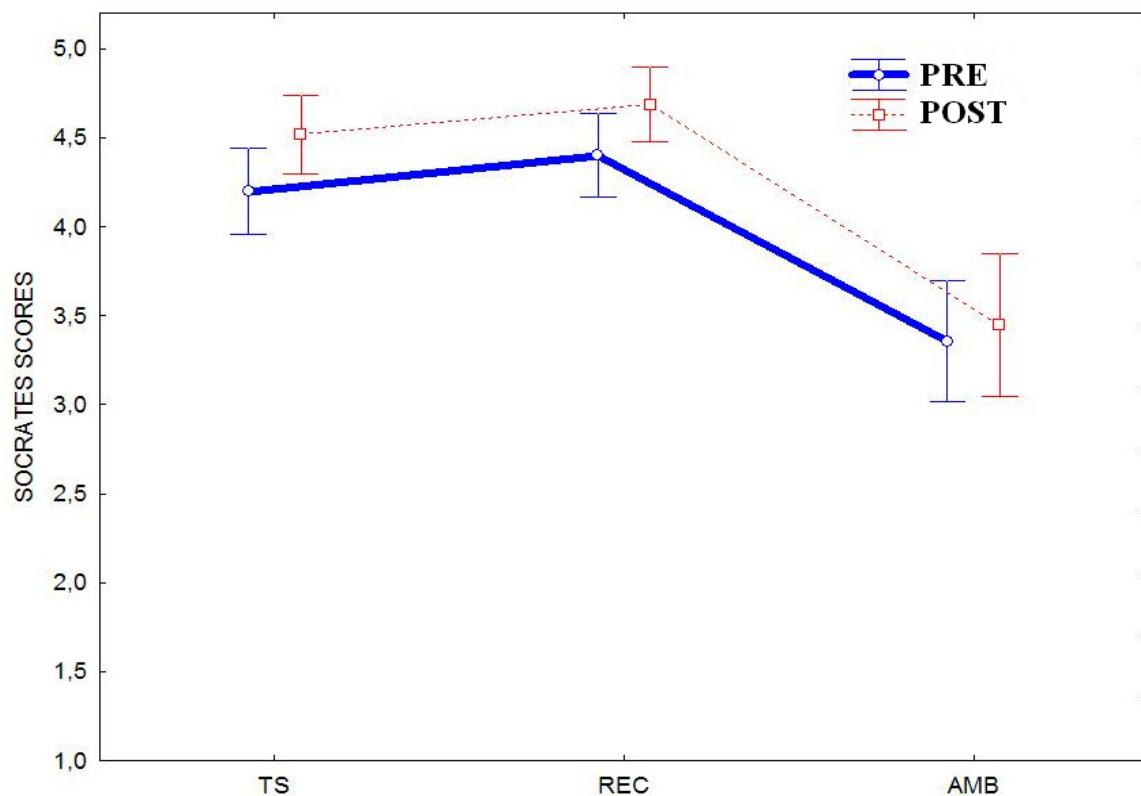
An ANOVA with type of intervention (feedback versus no feedback) as between-groups factors and the pre post scores on the three SOCRATES subscales as a repeated measures factor revealed a non-significant effect of type of intervention,  $F(1,59) = .013, p = .90$ , an overall significant effect of the intervention,  $F(1,59) = 10.55, p = .00$ , and a significant effect of the subscales,  $F(2,118) = 28.73, p = .00$ . Furthermore, there was a significant interaction effect of type of intervention and pre-post scores,  $F(1,59) = 7.40, p = .00$ . None of the other interactions were significant.

The significant overall effect of the MI-intervention is shown in figure 1. The figure indicates that the subscale *Ambivalence* does not demonstrate a change from pre to post, but that change occurred in the subscales *Recognition* and *Taking Steps*. Contrast analyses confirmed the predicted effect for the REC and TS factors, as they were significantly different between pre and post;  $F(1,61) = 14.84$  and  $6.47$  respectively, the contrast for the AMB subscale was not significantly different between pre and post,  $F(1,61) = 0.02$ .

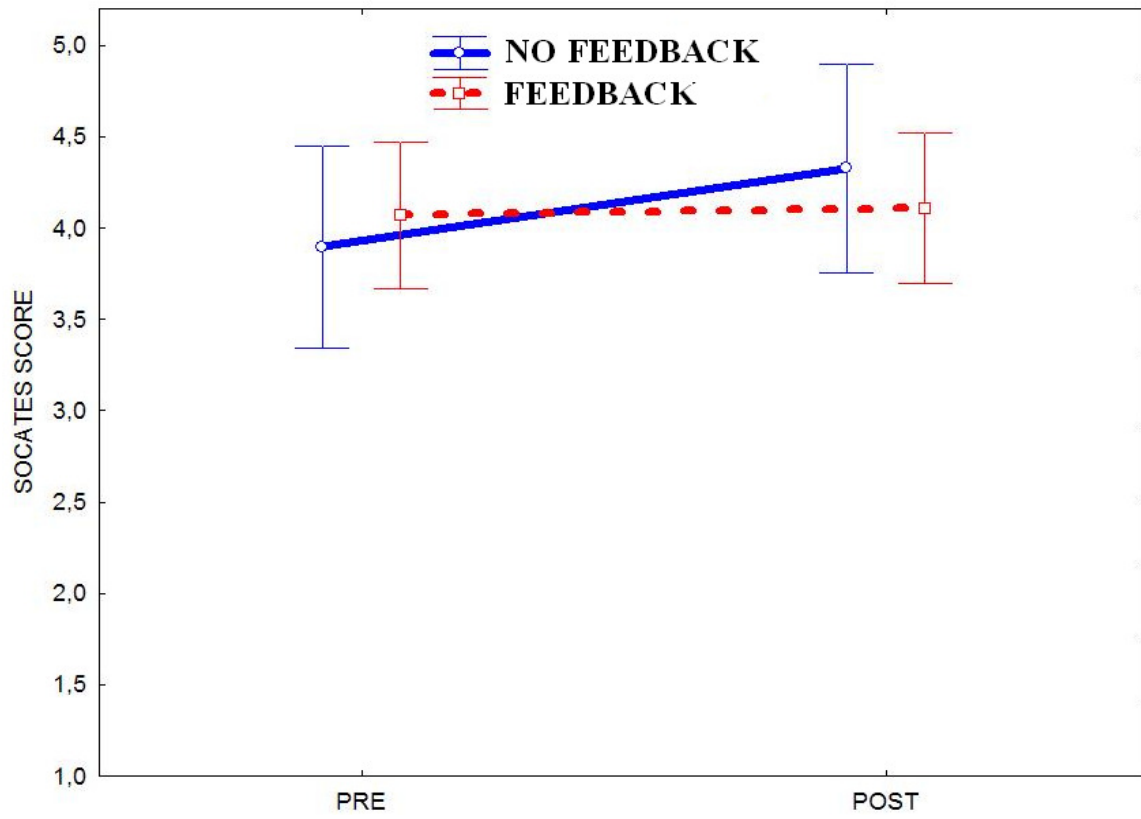
The significant interaction effect between types of intervention is shown in figure 2. Inspection of the figure indicates that intervention type 1 (non-feedback group) demonstrated a change from pre to post whereas intervention type 2 (feedback group) demonstrated no change.

Further analyses explored whether MI may have different effect depending on type of crime committed. We computed a classification of crimes in five types of violations, from

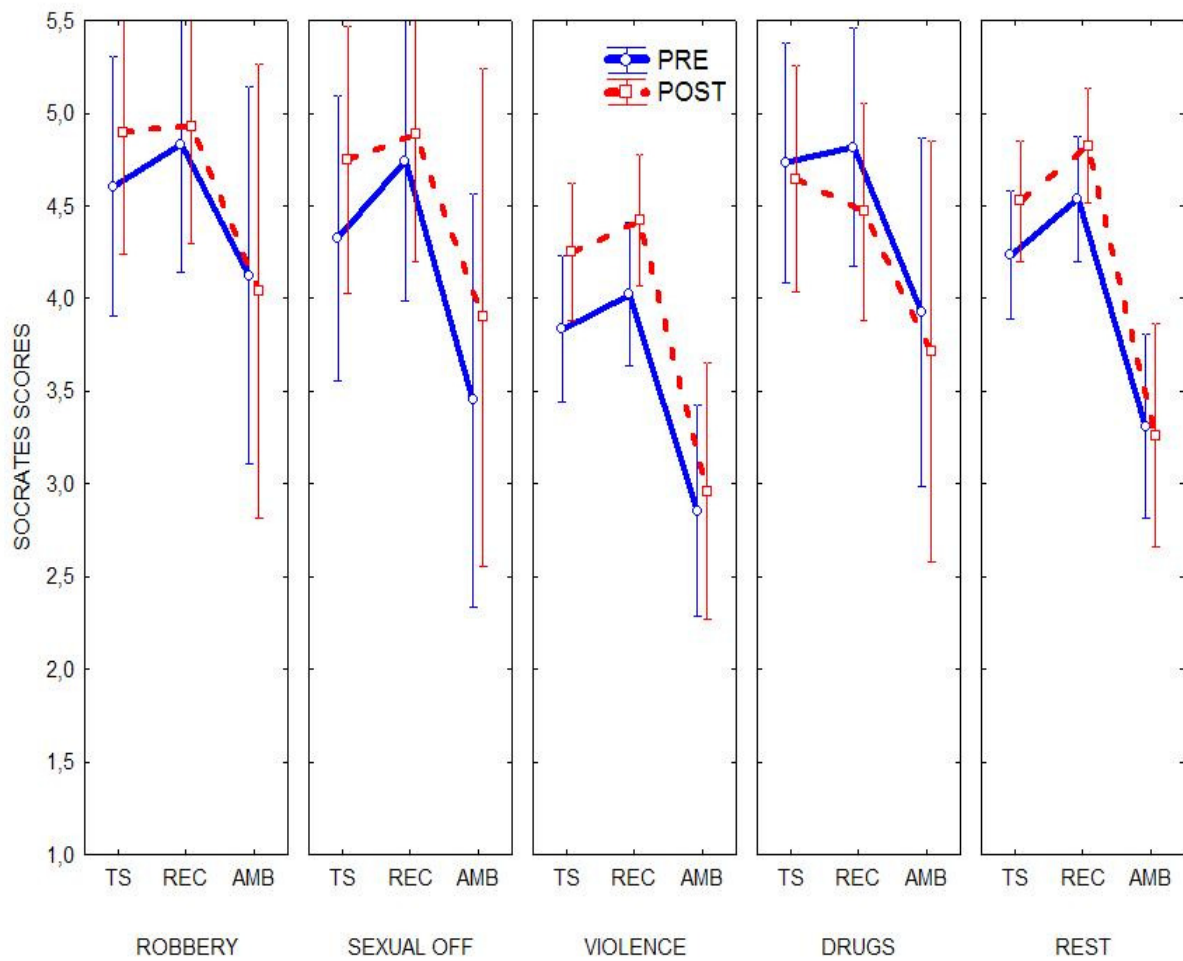
serious: robbery, like break-in and aggravated robbery (including violence), sexual offences, like rape and pedophilia, violence, like abuse and murder and drug-related crime, to “less serious”: theft, like petty theft, driving under influence and economic crimes, like fraud (Brottsförebyggande rådet, 2008). The analysis showed increase in SOCRATES scores from pre to post in all categories, except in one group; drug-related crime, which demonstrated an opposite pattern. These results are displayed in Figure 3. The figure also indicates lower overall scores in the violence-group than in the other groups.



**Figure 1.** Effect of the MI-intervention.



**Figure 2.** Interaction effect between types of intervention.



**Figure 3.** Effect of MI on SOCRATES subscales depending on type of crime committed.

### *Factor analysis*

The psychometric properties of the SOCRATES were examined using an exploratory factor analysis on item scores from the pre-test SOCRATES. The correlation matrix was highly suitable for a factor analysis (Kaiser-Meyer –Oklin = .85) A principal component analysis (PCA) indicated three factors with eigenvalues greater than one. Inspection of the scree-plot supported the extraction of three factors due to a sharp bend at the third factor. A parallel analysis also supported extracting three factors as the fourth factor in the real dataset



was lower than in the random dataset. The factors were varimax rotated, and the factor loadings are presented in table 1.

Table 1.

Items in analysis	Factors		Rec. <sup>1</sup>	T. Steps <sup>2</sup>	Amb. <sup>3</sup>
	Mean	SD			
7. I am a problem drug user	4.48	0.94	.92		
15. I know that I have a....problem	4.53	1.03	.89		
17. I am a drug addicted	4.31	1.28	.88		
10. I have serious problems with drug use	4.14	1.23	.86		
12. My drug use is causing...harm	4.51	0.97	.78		
14. I want help to keep from...	4.34	1.26	.73		
3. If I don't change my drug use...	4.39	1.18	.72	.34	
18. I am working hard to change...	4.03	1.28	.68	.53	
19. I have made some changes, ...and I want some help....	4.08	1.36	.60	.43	
1. I really want to make changes...	4.23	1.19	.54	.42	
8. I'm not just thinking.....I'm already doing something	4.32	1.16		.79	
5. I was using drugs too much .... ...but I've manage to change	3.71	1.45		.75	
9. I have already changed my drug use, and I am looking for...	4.23	1.19		.73	

4. I have already started making some changes...	4.17	1.12		.70	
13. I am actively doing things...	4.32	1.08	.47	.55	
11. Sometimes I wonder if I am in control of my drug use	3.0	1.57		.78	
2. Sometimes I wonder if I am an..	3.06	1.77		.73	
6. Sometimes I wonder if my drug use is hurting....	3.94	1.48		.72	
16. There are times when I wonder...	3.65	1.67	.37	.69	
Eigenvalues			7.80	2.45	1.96
Variance explained, %			39.45	13.77	10.23
Chronbach`s Alpha			.91	.82	.74

Note. Factor loadings < .30 are excluded.

<sup>1</sup> = *Recognition*, <sup>2</sup> = *Taking Steps*, <sup>3</sup> = *Ambivalence*

Compared to the original 19 item SOCRATES (Miller & Tonigan, 1997) the loadings in the present factor analysis were quite similar. Some differences were, however detected. Item 18 and 19 loaded considerably stronger on *Taking Steps* in Miller and Tonigan`s study (1997), while they loaded slightly stronger on *Recognition* in the present study, in addition to cross-loadings with *Taking Steps*.

Looking at the items that may be subjects of discussion in terms of being deleted, 1, 13, 18 and 19, item 1 belongs to the factor *Recognition* in Miller and Tonigan (1997), whereas 13, 18 and 19 belong to the *Taking Steps* scale. In addition, item 14 obtained a quite strong

single loading on only *Recognition* in the present study, while it loaded slightly stronger on *Taking Steps* than on *Recognition* in Miller and Tonigan (1997). Due to significant cross-loadings, and stronger loadings on other than the original factors, four items were removed from the *Taking Steps* scale compared to the study of Miller and Tonigan (1997).



## Discussion

The main questions in the present study were whether an effect of *Motivational Interviewing* was observed in a prison sample in terms of effect on different factors in the SOCRATES. The results revealed an overall significant effect of MI from pre to post, but only in the subscales *Recognition* and *Taking Steps*.

Another main question was whether it would be different effect of MI in two different conditions that deviated in terms of feedback to the counsellors. The result revealed a significant effect of the conditions, but only in the non-feedback group.

Finally we asked whether a different effect of MI may be related to differences between offender groups. In addition the suitability of SOCRATES in the present sample was addressed.

Concerning the subject variables no significant effects were present, but differences appeared between the groups concerning the different types of crime committed. Finally, the SOCRATES was judged suitable for a prison population.

In the following these results are discussed as well as possible causes for these.

### *Level of motivation and effect of MI*

In the present research we suggested a positive effect of MI to be present.

As expected, analyses of the present material showed an overall effect of *Motivational Interviewing*. As MI has proven effective across different samples and topics it is not unlikely that the method shows effect also in the prison sample.

However, as a prison sample may differ in some ways from a sample outside of prison, as previous research have indicated, the effect may be caused or strengthened by other reasons than what may be the case concerning samples outside prison. As the results revealed the effect showed a different pattern in several ways, concerning the two conditions and the differences detected concerning the groups of offenders, which will be addressed below. As

such, what we can observe is that an effect is present, but we do not know exactly why, and whether it is the same reasons for the effect than it may be in a sample outside prison.

It may be some possibilities for an effect in the present sample due to other causes. In previous research, MI was suggested to be particularly effective concerning reluctant clients, which offenders are to a certain extent perceived to be, according to the offender resistance described above. As one possibility, this may cause the high scores.

Another finding in previous research revealed a prison sample to be lower in intellectual abilities, as nearly half of the prison sample displayed scores in an instrument measuring non-verbal reasoning, lower than the average score displayed by samples outside prison. MI, as a structured method may suit a prison population well, as structured methods are found to suit a population low in intellectual level. Suitability to a prison population may (also) be due to the verbal character of the MI, as one of the purposes of MI is to make the client *talk* him or her self in to the motivation for change, however, as the scores were high already in the pre-test, before the intervention started, this may not solely be attributed to the effectiveness of MI.

Concerning the design of the study, there are some limitations in stating an effect of MI. Because both of the conditions received MI, and the control condition was not yet ready to be addressed when this research was performed, one may be careful in attributing the effect to MI, as we do not know whether it will be an effect also of the sessions using the manual for prison officers.

Further suggested in the present study was that the motivational level might be high, also based on the findings concerning a possible low intellectual level in a prison population, which is found to predict among other things authoritarianism, which further on is found to predict motivation for treatment. By inspecting the average SOCRATES scores in the present material, the analysis revealed high scores in both *Recognition* and *Taking Steps*, with scores

laying between 4.0 and 4.5 already in the pre-test in scales where maximum score being 5.0, and hence the prediction was confirmed. This indicated a somewhat high level of motivation even prior to the intervention, indicating that something is in effect here, also before the intervention started.

Addressing a possible authoritarianism, as part of the prediction, it may not be unlikely that this causes the high level, and if so, one suggestion is that it may have something to do with perceived expectations. Being incarcerated and / or having a substance abuse problem may create a feeling of being a burden of society, in the judicial system as well as for the family, which may create a feeling of expectation. By representing the authority in terms of being the one maintaining the law and order, as well as having the power to initiate different kinds of reactions toward the imprisoned, the prison officers hold a higher position than the offender, which may lead to a feeling of inferiority and to a responding on a perceived expectation from the prison officer to take part in the MI sessions, by accepting this. It may also be that the prison officer has advised the client to participate in treatment in previously communication between them which may strengthen the possibility for participation.

Part of perceived expectation of participating in treatment sessions, may be a feeling of being a burden on ones family, as suggested, and by that reason the client may assume that the family want him to take part in treatment, and the family may have uttered this, too. This may lead to a strong wish to do something to ease the burden on the family, and hence this may push the scores.

As extrinsic motivation, caused by a possible authoritarianism or perceived expectation to participate, whether it is from the judicial system or from family, is found to be a predictor of motivational level in a combination with intrinsic founded motivation, it may not be solely negative with a motivation founded on this. If the prison officers are able to elicit an intrinsic

motivation during the MI sessions, this may lead to enhancement in motivational level, and this may be the case for the observed effect of MI in the present research.

As the level of motivation emerge as unusually high in the present sample, being almost at the top of the scale already in the pre-test, it may also be possible that this may occur out of a ceiling effect, as the scale is arranged in a way that agreeing to a certain extent that one has a problem, implies a marking in the 4<sup>th</sup> out of 5 possibilities.

The highest scores are furthermore observed in the *Recognition* scale, as may be natural. Once agreed to participate in treatment, it may be natural to state recognition of the problem, and it may also be perceived that one has started to do something with the problem, by participating in the program, and hence is marking in the upper half also in the *Taking Steps* scale. What may also cause high scores, are perceived advantages achieved by showing a high readiness and progress in the process. If the offender gives an impression of that he is “almost done” with the substance abuse, it may elicit trust toward the client and a positive attitude concerning a possible leave or participation in other activities or programmes, and even if this may not describe the reality, it may be perceived that way by the offender.

It may also be a possibility of that the high values observed in the scales indicates a certain level of readiness for change, as one explanation for high scores may be that taking part in a study contains a selection bias of already motivated clients.

By inspecting Figure 2, however, it is clear that only one group of clients contributes to the observed overall effect of MI, namely those participating in Group 1, the non-feedback group.

Concerning the conditions, we suggested that the clients belonging to the group of prison officers getting feedback, showed a better effect of MI than the clients belonging to the group getting no feedback. The result revealed an opposite pattern: the clients in the non-feedback group demonstrated enhancement in motivational level from pre to post, while the



clients in the feedback group did not. However, there may be several possible causes present for this result to emerge.

As the study of Miller and Mount (2001) indicated, feedback to the group did not enhance the performance level of the prison officers significantly in performing MI, from before the training started. The authors suggested that this was related to the short duration of the training period, which lasted for 2 days only, and / or related to a lack of confidence in performing the method, as the participating counsellors stated that they felt uncomfortable and unnatural by performing MI, as this was a new experience for the counsellors.

As indicated in Miller and Mount (2001), the prison officers also in the present study may have felt uncomfortable by performing this new method. However, this should be the situation for both groups, but the difference between the groups, the feedback, may be a crucial factor here.

One aspect in this may be that a prison officer is not educated particularly to perform therapy, and may not have any experience with different kinds of therapy methods, the way an educated therapist may have, which may create a greater confidence in performing MI. If educated to a greater extent to perform different kinds of methods, one may assume that the therapist is also to a greater extent used to getting feedback and corrections concerning this, whereas a prison officer may have performed sessions after ordinary manual for prison officers through years without getting feedback or corrections.

A correction or feedback in terms of indications that they do not perform this new method very well, may elicit 1) a bad attitude toward the method that may further on lead to reduce in quality of the sessions, 2) a feeling of unconfident in performing the method, and also a confusion if it seemed like the session went quite well. Finally, it may also be that getting regular “bad” feedback may cause the prison officer to loose faith in his / her own ability to perform this method, and hence the quality of the sessions may be reduced.

Getting no feedback, the non-feedback group does not experience any of these possible negative influences on performance. They may be uncertain and unconfident with the method to the same extent than the others, but sensing a certain effect, or getting a certain feeling of competence they have the possibility to build a (perceived) confidence in performing the method, as they can move on without any interfering. The self-reported level of competence in MI, detected in the study of Miller and Mount (2001) revealed that the counsellors rated their own level to be quite higher than the actual level, and as such they may have a faith in their own ability, real or not, to perform the method. Further on a feeling of confidence in the activity performed, may elicit an expression of confidence in the prison officer that may elicit a confidence in treatment in the client, which has shown, in previous research, to lead to enhancement in motivational level.

What this difference may emphasize, is that the qualities and abilities of the counsellor may be crucial. If the case is that feedback to the counsellor is the decisive here, this says something about the importance of counsellors displaying certain abilities, like being able to handle the (bad) feedback, as well as it may say something about vulnerability concerning the contact between the client and the counsellor.

Concerning an effect of MI, both the qualities of the counsellor and a confidence in treatment are found to elicit motivation, and these two elements are most likely related. If the counsellor is not able to create a confidence in treatment, it may be difficult to enhance motivation in the client.

Concerning the MI-spirit, this has shown up to be an important ingredient in MI, and has alone been found to predict outcome of treatment. One purpose of the MI-spirit is to create an atmosphere of respect, accept and partnership between the client and the counsellor, and the techniques used may promote the atmosphere. The techniques are following a certain

pattern, and imply that the counsellor asks the right questions, typically of an open-ended character, or at least not too many of the wrong ones.

One of the purposes with the techniques is to bring forth a consciousness concerning the behaviour and hence reason for the behaviour change from the view of the client, which may further on elicit intrinsic motivation. If the prison officer is not able to elicit a MI-spirit, whether it may be out of doubting her- or him self or other things, something important may be missing in the sessions, which then may appear as unstructured and with no coherence, and building motivation may be difficult. Unstructured sessions may be experienced as chaotic as well, and may also lead to a lack of confidence in treatment, and hence to bad conditions for eliciting motivation for the treatment.

The somewhat high motivational level in the prison sample signals some kind of motivation, whether it is intrinsic or extrinsic, and if the counsellor is able to strengthen this motivation, or “add” intrinsic motivation to extrinsic, the chance for a positive outcome of the treatment may be enhanced to a great extent.

As suggested by Miller et al. (2004), a longer period of training may be necessary to achieve an acceptable level of MI, and it is likely that an expanded training period also may enhance the confidence in the prison officer concerning the method. Getting to know the method better may further on elicit an understanding that may cause a better outcome of the feedback, in terms of understanding better what the trainer is talking about.

A summarize of the results states that an overall effect of MI was present in the prison sample, but that only one of the conditions contributed to the effect. Further on the analyses revealed that there may also be present differences concerning the different offender groups, in terms of different motivational level, as well as differences in effect of MI, depending on the crime committed.

*Effect of MI depending on type of crime committed*

In addressing the different types of crime committed, we suggested that some offenders would demonstrate a lower effect of MI than others, and that the lowest effect may be present in the group committing the most serious crimes. In analysing the MI-effect on the different SOCRATES factors in the light of the different types of violation of the law, differences between the groups emerged, as suggested, though no significant differences were present.

One difference occurred in the drug-offender group, displaying an opposite effect of MI than the other groups, as this was the only group showing a decrease in motivational level from pre to post. However, this observation should be interpreted with care, as this group was very small, consisting of nine persons only.

Another visible difference was that the violent offenders showed a lower motivation level than the other offender groups, and yet another difference was observed, as the sexual offender group was the only one to advance in the SOCRATES factor *Ambivalence*.

Concerning those who committed drug-related crimes as the main crime convicted for in the present study, they showed an opposite effect of MI than the other offender groups, with a decrease in motivational level from pre to post. As this is a small group, and because the findings are not significant it is not possible to draw conclusions, but some possibilities causing the different observation are suggested, as there might be characteristics concerning the drug offenders that may promote this effect.

For one thing, it is found that drug offenders form the largest group of offenders with histories of mental illness, and that offenders belonging to this category were terminated from treatment nearly three times as often as those without such a history. Violation of the rules was the main reason for the termination, and it may be a possibility that the drug offenders in the present study may belong to this group. Concerning the offender resistance, it is likely that offenders violating the rules may be perceived as resistant, as violation of the rules, like not cooperating with the counsellor or not being willing to share personal information with her or

him may be an obstacle to successful completing of the program. One reason for not sharing personal information and information concerning the offence are suggested to be perceived fear of reactions from other inmates. Another reason suggested for offenders being resistant toward this, is possible previous experiences of coercion in the contact with the prison officer(s). Whether it may be for one reason or the other, if the offenders are unwillingly to share information with the prison officer, one question may be whether the prison officer should display the role of a counsellor. Being a representative for the penalty system, this means that the same system to incarcerate the client is the one to motivate him, and this may be a problem, and possibly a greater problem concerning some offenders than others. In dealing with drug, it may be hard for the offender to trust the prison officer to such an extent that personal information, maybe involving the offence is revealed.

Another element in this may be that MI in the present study addresses a topic that affects directly the offence this group is convicted for, quitting the drug use may be perceived as a threat to a greater extent in this group compared to the others. It may be that some of the drug offenders are making a living out of the drug offences, maybe in cooperation with other inmates in the same or another prison, as well as outside prison. As such their life, as well as their income may be threatened if they make changes in their drug abuse behaviour, and concerning rewards and incentives, it may be that the cost of quitting the drug use may be perceived as higher than the rewards for the drug offenders.

Concerning this, it may be that if the MI sessions elicit a consciousness, which is one of the purposes with MI, this may have an opposite effect in terms of making the client aware of the consequences by quitting the drug use, which may not be perceived as favourable for him.

The drug offenders may also have their social network in a milieu consisting of other drug abusers to a greater extent than the other offender groups, and as such consequences of quitting the drug use may be that the drug offender loses the only social network present.

Concerning the group committing violent offences, they displayed a lower level of motivation for change than the other groups. It was no dramatic difference, and it may also be that this group actually had the most “reasonable” level, starting at the middle of the scale and advanced toward the post-test, and the enhancement from pre to post was even greater than for the other groups, though, this group had more space for advancement than the others, not showing indications of a ceiling effect. This was also the largest group, which may indicate that increasing the number of participants may adjust the scores.

However, the rest-category were even larger than the violence group, and by inspecting the figure, this group is also higher concerning the scores than the violence group, and as the category of violence offenders are found to display certain characteristics not present to the same extent in other groups, some possibilities are suggested that may contribute to the difference in the present study.

As a low level of family acceptance and academic competence are found to predict violent offences, and *helping relationships* is found to be among the ingredients that predict successful behaviour change, this indicates that the “quality” of close relationships is of importance both in staying away from criminality, and in changing problematic behaviour. Offenders in general are found to having greater problems with controlling violent impulses than non-offender substance abusers, and it is likely that the violent offence group belongs to this category. It is also likely that the finding that offenders have a greater problem with social adjustment than others, may be related to the violent offence group, as one may assume that people displaying violent behaviour may have some problems in establishing good social relationships as a whole. Adding to this the fact that violence offences are found to predict

suicide, this indicates that offenders in this group are facing some serious problems, of probably high importance for the quality of life. These elements may have an impact on motivational level.

What is also found is that the rewards and incentives related to behaviour change are important in promoting the change. Considering the importance of healthy family relationships, it is likely that rewards and incentives as one possibility may be related to this. If the family is perceived as absent or not accepting the offender, rewards and incentives attached to this may not be present, or only to a small extent. This may make it harder to mobilize motivation for change of substance abuse.

The fact that violent offences are found to predict suicide, also raises some question concerning motivation. For one thing, previous research has indicated that those offenders who take part in violence programmes feel guilty and ashamed, especially those who are incarcerated for the first time, which may strengthen both a need for the substance and a wish to escape literary, from life, and hence motivation for treatment may be low.

This finding may also express a feeling of helplessness, which is supported by the fact that offenders committing violence offences are found to attribute their behaviour to internal, stable and uncontrollable causes, meaning that they to a certain extent may perceive the violence behaviour to be hard to change, which may further on lead to a lower motivational level.

Summing up, several elements may lead to a low motivational level in incarcerated committing violent offences, among them absent or bad relationships to, negative emotions like guilt and shame, as well as a feeling of being unable to do something about the violent behaviour.

A different finding concerning the different offender groups was also observed in the sexual offender group, which was the only group that showed an increase in readiness for

change in the *Ambivalence* factor. One possibility for this may be that those low in ambivalence, or not perceiving their drug use as a problem prior to the intervention, change their view toward this during the sessions, realizing to a greater extent that they have a drug use problem, contrary to the other possible offenders in the different groups that may belong to this category. However, it may be difficult to state possible causes of an effect of that kind in the sexual offender group only, as previous research do not reveal characteristics in this group that should cause this outcome.

#### *Suitability of the SOCRATES in a prison sample*

The factor analysis revealed, as predicted, an overall suitability in the prison sample revealing a three factor structure in line with the studies of Miller and Tonigan (1996), and satisfactory consistency of the scales, as Chronbach`s alpha showed up to be .74 for *Ambivalence*, .91 for *Recognition* and .82 for *Taking Steps*. As such one may assume that the originally underlying factors are the ones that are described also in the prison sample. However, some items may be a subject of discussion, as they loaded almost equal on the *Recognition* and *Taking Steps* scale, namely 1, 13, 18 and 19, and as such a 15 item scale may appear as more suitable to a prison population.

One question addressed in the present study, was whether the statements in the SOCRATES actually do describe the underlying factors in the same way than in a sample outside prison, based on an assumption of limited possibilities to take steps in prison. This is discussed in the light of the ingredients perceived important in behaviour change, among them, the possibility to perform *specific behaviour*.

Looking at the statement *I am actively doing things now to cut down or stop my use of drugs*, as one example, the words *actively doing things* may indicate a change in behaviour in terms of action, and may for the majority of us mean that we have taken a certain step, like staying away from situations where drug is present, or started doing something else to replace



the drug use. Considering the availability of drugs in prison, it may be that a person imprisoned will have some possibilities to make changes concerning the drug use, in frequency or amount. However, it may also be that those imprisoned face another reality when it comes to “do things”, and that the statements belonging to the *Taking Steps* scale, which may be thought to indicate action, describe “another kind” of action for those imprisoned than for those outside prison, meaning that the scales in the SOCRATES measurement instrument may not describe the same underlying factor as is the case when a population outside prison is addressed.

Looking at some other statements belonging to the *Taking Steps* scale they sound like this: “I am working hard to change my drug use” and “I have made some changes in my drug use, and I want some help to keep from going back to the way I used before”. Here the words *working hard* and *have made some changes* are central, indicating action, but, as mentioned, can this action rather be thinking of changing, and trying to make up ones mind, like “I am working hard in thinking of changing my drug use”? Concerning the words *made some changes* it may also be that the change that is made, is made out of the situation of being imprisoned, and that the second part of the statement; *I want some help*, indicates that the person realize that he has a problem and needs help, which may indicate recognition of the problem to a greater extent than action toward a change.

Concerning the principles perceived as important for changing of behaviour, Barth et al. (2001), as mentioned, enlightens that these make up three main groups; *thoughts and feelings*, *specific behaviour* and the *relationship to other people*. Performing specific behaviour, which is behaviour performed to displace the addiction behaviour, may not be an alternative in the same way for someone imprisoned as for someone outside. The possibility of taking a walk or visiting ones grandmother when the need for drug is present may be limited for a majority of people imprisoned. Knowing that the *relationship to other people*,

according to previous research, may not be the best for a great part of incarcerated, and assuming that the possibilities of *specific behaviour* needed or wanted for changing lifestyle may be limited, this may leave, as previously stated, the inmate with his *thoughts and feelings* as the best tool available, meaning that stating an “action-stage”, just as well can be a description of “mental action”. If the “action” in prison perceived most possible to take, is to think about action, this may be the action described.

As such, a topic for further research may be to explore whether high scores especially in *Taking Steps* may actually predict changes in substance abuse behaviour in a prison population.

Another topic for further research in a prison setting may be the training program for prison officers who are, or will be, performing MI. It may be that prison officers, that deviate from therapists and counsellors educated primarily to perform therapy and use different kinds of methods, in terms of being educated primarily to maintain the law and order, may need a more thorough training concerning MI than the other groups mentioned.

Finally, it is possible that differences observed in effect of MI may be related to differences between the offender groups in terms of crime committed, and this observation may be a topic for further research to address. If this is the case, it may be necessary to adjust the method to the different offender groups, to achieve an outcome of MI as satisfactory as possible concerning the different groups of offenders.

Summing up, behaviour change for a prison population may not have the same conditions as for people outside prison, in terms of being able to replace the troublesome behaviour with other behaviour when the need for a substance is present, or leaning on helpful relationships. This may influence the motivational level for change and treatment, maybe seen in the lower motivational level in the violence offence group, as one example.

Motivation is perceived as a pivotal factor in treatment, the fact that it is the prison officer that perform MI in the present research may influence the motivational level and enhancement of this in several ways, for one thing it may be a problem that the same system to incarcerate the client is the one to motivate him. It may also be that authoritarianism is present to a certain degree which may influence the relationship between the client and the counsellor, and cause high scores in the SOCRATES that may not be describing reality. Problems in creating a fruitful atmosphere in the sessions may cause a lack of motivation or effect in MI, which may be seen in the clients forming the feedback condition, Group 2. As such, one question may be whether the training program for prison officers is good enough.

The intellectual level may be lower in a prison population. As such, MI may be a suitable method for this population. However, if the prison officers are not able to maintain a certain structure through the sessions, making the sessions appear as chaotic, this may not be suitable for a prison population, and may lead to a lack of confidence in treatment, as well as problems with eliciting and building an intrinsic motivation.

Shifts in substance abuse are found when people enter prison, and the main purpose of this in a prison population is to relax. It may be that imprisoned experience a greater need for relaxation than a population outside prison and hence it may be more difficult for this population to quit their drug use, which may further on lead to a lower readiness for change of behaviour. This may be present in the violent offence group in the present material, as one example. Concerning the drug offenders, they may have reasons for not quitting their drug use maybe not seen in the other offenders, as the drug use may be related to their income. The *Offender resistance* may also to a greater extent being perceived as present in the drug offenders, partly out of the reason stated above, and partly out of the fact that this group is found to display histories of mental illness to a greater extent than the other offenders, which further on is found to predict termination from treatment for violation of the rules.

Finally, it may be a question whether the statements in the SOCRATES suit a prison population, as the statements of action may not describe action in the same way that for people outside prison. However, this was not possible to answer fully in the present research, and may be a subject for further research.

As Motivational Interviewing has shown effective across a variety of different samples and topics, also in prison settings, something the present research confirm, it is a method to include also when addressing substance abuse in the prison population in the future. If people working with MI in prison succeed in creating a spirit of empathy, partnership, respect, acceptance and believing in client ability to perform the change, which is some of the ingredients forming the *MI-spirit*, MI may show up to give a valuable contribution to the reduce of substance abuse in prison, as well as outside prison, and ease the start in building a new life without the substance abuse.

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## Appendix





## Personal Drug Use Questionnaire (SOCRATES 8D)

**INSTRUCTIONS:** Please read the following statements carefully. Each one describes a way that you might (or might not) feel *about your drug use*. For each statement, circle one number from 1 to 5, to indicate how much you agree or disagree with it *right now*. Please circle one and only one number for every statement.

	NO! Strongly Disagree	No Disagree	? Undecided or Unsure	Yes Agree	YES! Strongly Agree
1. I really want to make changes in my use of drugs.	1	2	3	4	5
2. Sometimes I wonder if I am an addict.	1	2	3	4	5
3. If I don't change my drug use soon, my problems are going to get worse.	1	2	3	4	5
4. I have already started making some changes in my use of drugs.	1	2	3	4	5
5. I was using drugs too much at one time, but I've managed to change that.	1	2	3	4	5
6. Sometimes I wonder if my drug use is hurting other people.	1	2	3	4	5
7. I have a drug problem.	1	2	3	4	5
8. I'm not just thinking about changing my drug use, I'm already doing something about it.	1	2	3	4	5
9. I have already changed my drug use, and I am looking for ways to keep from slipping back to my old pattern.	1	2	3	4	5
10. I have serious problems with drugs.	1	2	3	4	5

	NO! Strongly Disagree	No Disagree	? Undecided or Unsure	Yes Agree	YES! Strongly Agree
11. Sometimes I wonder if I am in control of my drug use.	1	2	3	4	5
12. My drug use is causing a lot of harm.	1	2	3	4	5
13. I am actively doing things now to cut down or stop my use of drugs.	1	2	3	4	5
14. I want help to keep from going back to the drug problems that I had before.	1	2	3	4	5
15. I know that I have a drug problem.	1	2	3	4	5
16. There are times when I wonder if I use drugs too much.	1	2	3	4	5
17. I am a drug addict.	1	2	3	4	5
18. I am working hard to change my drug use.	1	2	3	4	5
19. I have made some changes in my drug use, and I want some help to keep from going back to the way I used before.	1	2	3	4	5

**SOCRATES Scoring Form - 19-Item Versions 8.0**

Transfer the client's answers from questionnaire (see note below):

	Recognition	Ambivalence	Taking Steps
	1 _____	2 _____	
	3 _____		4 _____
			5 _____
		6 _____	
	7 _____		8 _____
			9 _____
	10 _____	11 _____	
	12 _____		13 _____
			14 _____
	15 _____	16 _____	
	17 _____		18 _____
			19 _____
<b>TOTALS</b>	Re_____	Am_____	Ts_____
<b>Possible Range:</b>	7-35	4-20	8-40

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**SOCRATES Profile Sheet (19-Item Version 8A)**

**INSTRUCTIONS:** From the SOCRATES Scoring Form (19-Item Version) transfer the total scale scores into the empty boxes at the bottom of the Profile Sheet. Then for each scale, **CIRCLE** the same value above it to determine the decile range.

DECILE SCORES	Recognition	Ambivalence	Taking Steps
90 Very High		19-20	39-40
80		18	37-38
70 High	35	17	36
60	34	16	34-35
50 Medium	32-33	15	33
40	31	14	31-32
30 Low	29-30	12-13	30
20	27-28	9-11	26-29
10 Very Low	7-26	4-8	8 - 25
RAW SCORES (from Scoring Sheet)	Re=	Am=	Ts=

These interpretive ranges are based on a sample of 1,726 adult men and women presenting for treatment of alcohol problems through Project MATCH. Note that individual scores are therefore being ranked as low, medium, or high *relative to people already presenting for alcohol treatment*.

## Guidelines for Interpretation of SOCRATES-8 Scores

Using the SOCRATES Profile Sheet, circle the client's raw score within each of the three scale columns. This provides information as to whether the client's scores are low, average, or high *relative to people already seeking treatment for alcohol problems*. The following are provided as general guidelines for interpretation of scores, but it is wise in an individual case also to examine individual item responses for additional information.

### RECOGNITION

**HIGH** scorers directly acknowledge that they are having problems related to their drinking, tending to express a desire for change and to perceive that harm will continue if they do not change.

**LOW** scorers deny that alcohol is causing them serious problems, reject diagnostic labels such as "problem drinker" and "alcoholic," and do not express a desire for change.

### AMBIVALENCE

**HIGH** scorers say that they sometimes *wonder* if they are in control of their drinking, are drinking too much, are hurting other people, and/or are alcoholic. Thus a high score reflects ambivalence or uncertainty. A high score here reflects some openness to reflection, as might be particularly expected in the contemplation stage of change.

**LOW** scorers say that they *do not wonder* whether they drink too much, are in control, are hurting others, or are alcoholic. Note that a person may score low on ambivalence *either* because they "know" their drinking is causing problems (high Recognition), *or* because they "know" that they do not have drinking problems (low Recognition). Thus a low Ambivalence score should be interpreted in relation to the Recognition score.

### TAKING STEPS

**HIGH** scorers report that they are already doing things to make a positive change in their drinking, and may have experienced some success in this regard. Change is underway, and they may want help to persist or to prevent backsliding. A high score on this scale has been found to be predictive of successful change.

**LOW** scorers report that they are not currently doing things to change their drinking, and have not made such changes recently.