The language of change among criminal justice clients: Counselor language, client language, and client substance use outcomes

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Abstract
Objective Counselor and client language have been identified as mechanisms of change in motivational interviewing (MI) counseling sessions. This study evaluated whether language patterns exhibited during MI sessions with substance users in the community would also be found during MI sessions with substance users in the criminal justice system.

Method Forty audio recordings of MI sessions with substance-using probationers were coded and analyzed sequentially using the Motivational Interviewing Skills Code (MISC) 2.5. Analyses examined the relationship between counselor and client language, and the relationship between client language and client substance use outcomes.

Results Counselor MI inconsistent language was associated with decreased change talk (lnOR = −0.76, \( p < .05 \)) though not with increased sustain talk. Both sustain talk (\( b = −4.591, t = −18.634 \), \( p < .001 \)) and MI inconsistent language MIIN (\( b = −4.419, t = −19.886, p < .001 \)) were positively associated with substance use at 2 months. Sustain talk early in the session (i.e., during deciles 1 and 2) was significantly greater among clients who reported using substances at 2 months, compared to clients who did not use substances.

Conclusion These findings are broadly consistent with previous literature documenting the association between counselor language, client language, and client outcome.

KEYWORDS
addiction, motivational interviewing, substance abuse, treatment efficacy
Since the early 1980’s, the body of literature supporting motivational interviewing (MI) has increased exponentially, from six articles in the 1980’s to over 600 articles in the last decade (Lundahl & Burke, 2009; W. R. Miller & Rollnick, 2012). Meta-analyses suggest that MI tends to perform better than no treatment as well as more lengthy treatments when used to address problems such as alcohol, drugs, and diet and exercise (Burke, Arkowitz, & Menchola, 2003; Hettema, Steele, & Miller, 2005). Although the evidence for MI has been drawn mostly from community treatment samples, there is some evidence that MI can improve rates of treatment engagement among justice-involved clients as well (McMurran, 2009). This is significant considering the prevalence of substance use among justice-involved clients—two thirds have some drug involvement—as well as the relationship between substance use and poorer physical and mental health outcomes, damaged relationships, financial instability, and increased criminal activity (Chandler, Fletcher, & Volkow, 2009).

Despite being a common requirement in the criminal justice system, less than half of substance-involved offenders actually receive treatment (Mumola & Karberg, 2006). In addition to system-level barriers such as service availability (Chandler et al., 2009; Taxman, Perdoni, & Harrison, 2007) and a workforce with limited training in substance use and mental health (Chadwick, Dawolf, & Serin, 2015; Taxman, 2009), client motivation for treatment can be poor (Taxman, Perdoni, & Caudy, 2013). In this effort, MI may be well suited to address substance use and/or engage substance users in treatment, which would address both client outcomes and public safety concerns.

The “technical” explanation for MI proposes that counselor MI skills elicit client language in support of change (i.e., change talk; CT) and reduce client language antithetical to change (i.e., sustain talk; ST). In this model, CT is related to better outcomes, and ST is related to worse outcomes (W. R. Miller & Rose, 2009). That is, clients who speak positively about behavior change are more likely to make those changes, while clients who speak favorably about the status quo are more likely to continue with present behaviors.

In a review of 19 published studies, Apodaca and Longabaugh (2009) found strong support for the relationship between client CT and improved outcomes and counselor MI-inconsistent behaviors (e.g., confronting, directing, warning) and worse outcomes. In a meta-analysis of 12 published studies, Magill et al. (2014) found a relationship between counselor MI skills and client CT, but not between counselor MI skills and client ST. Counselor MI-inconsistent behaviors were related to both less CT and increased ST. When examining the relationship between client language and client outcomes, ST was associated with worse outcomes (number of drinking days).

Notably, support for this technical hypothesis comes mostly from studies of substance users recruited from the community. Criminal justice clients may be different from community clients in several ways, particularly with regard to level of motivation and the way they represent themselves to providers (Saarni & Lewis, 1993; Sigmon & Snyder, 1993). For instance, conversations with justice providers may stress external penalties for noncompliance, minimizing many of the ordinary reasons people would make changes (e.g., friends, family, personal responsibility). Additionally, clients in the criminal justice system often have strong incentives to adopt superficial or short-term change to avoid legal consequences (Walters, Clark, Gingerich, & Meltzer, 2007). This seems likely to affect the conversational style that justice-involved clients use when talking about behavior change including increased dishonest or inaccurate verbal reporting. It appears that no study has examined counselor and client language during an MI interaction delivered in a criminal justice context.

Better information about the mechanisms by which MI works would help to bolster MI’s stance as an evidence-based practice in criminal justice. It may also help to improve the quality of services delivered to people in the justice system. The purpose of this study was to assess the relationship between counselor language and client language and client language and client substance use outcomes among a group of substance-using probationers who were participating in a clinical trial.

1 METHOD

Motivational Assessment Program to Initiate Treatment (MAPIT) was a randomized treatment trial (Taxman, Walters, Sloas, Lerch, & Rodriguez, 2015). Participants were English-speaking adults recruited from probation offices in
Baltimore, Maryland and Dallas, Texas, who had recently initiated probation (for any reason) and self-reported any type of heavy alcohol use (five or more drinks for men; four or more drinks for women in a single occasion) or illicit drug use in the past 90 days. Clients completed the first MI session soon after the baseline assessment and a second session after 30 days. The present analysis used data from the baseline assessment, the first MI session, and the 2-month follow-up. The relevant institutional review boards approved this study and all participants provided informed consent.

1.1 MI session structure

The MI sessions followed the “check-up” format that combines MI with structured feedback. The check-up model was originally designed for adults in the community who were experiencing negative consequences from their substance use but not necessarily seeking treatment (W. R. Miller, Benefield, & Tonigan, 1993). This format has since been used to address substance use and high-risk sexual behavior, among other behaviors (for a review, see Walker, Roffman, Picciano, & Stephens, 2007). In this study, the goal of the feedback was to encourage people to make changes in substance use, in the context of successfully completing probation.

The first part of the session assessed knowledge and motivation to complete probation. The second part of the session provided information about static and dynamic risk factors that might affect the client’s risk of probation failure, especially substance use and treatment. Criminal risk, used in the justice system to determine the course and intensity of treatment, comprises static and dynamic risk factors (Andrews & Bonta, 2010). Static risk includes historical and/or fixed factors such as family history, age of first arrest, and number of current charges. Dynamic risk includes present and/or changeable factors such as employment, peer groups, substance use, and antisocial beliefs and attitudes. The feedback (and counselor) emphasized areas of changeable risk that could affect probation outcome.

The third part of the session provided norm comparisons and estimated health and social risks based on current substance use patterns. The final part of the session focused on social support and goal setting to achieve probation and substance use goals. The feedback was delivered in an MI consistent manner (see below). Further details about the MI session can be found in Walters, Ressler, Douglas, and Taxman (2013).

Counselors at each site held a master’s degree in social work or psychology, received 40 hours of MI training, and were supervised by an experienced PhD-level MI trainer (STW). On average, MI sessions were 45 minutes long. MI fidelity was generally good; on average, counselors met competency levels for the MITI global indicators and met beginning proficiency levels for most other MITI summary scores (i.e., percent MI adherent, percent open questions, reflection to question ratio; Spohr, Taxman, Rodriguez, & Walters, 2015). Similar to a previous study of MI with substance-using offenders (Forsberg, Ernst, Sundqvist, & Farbring, 2011), counselors had some difficulty meeting the beginning proficiency level of percent of complex reflections (average of 29.9%). The number of audio files (n = 40) parsed and coded for this study was similar to that in other studies (Glynn & Moyers, 2010; Hallgren & Moyers, 2011; Moyers, Martin, Houck, Christopher, & Tonigan, 2009). Prior to coding, a start and end time was identified to prevent extraneous content from being coded (e.g., greeting, appointment scheduling).

1.2 Coders

The primary coders were two graduate students who received extensive training in the Motivational Interviewing Skills Code (MISC 2.5) system. Practice segments were used to establish interrater reliability of Cohen’s k ≥ 0.70. During the main coding period, both coders coded 20% of the tapes; a third, external coding expert coded half of these common tapes (10% of the total tapes) to provide quality assurance. After training was completed, sessions were randomly assigned for parsing (i.e., unitizing the session into sequential utterances) and coding. Each coder parsed half of the sessions and coded the sessions that had been parsed by the other coder. This was done because assigning the same coder to both parse and code a session can create difficulties in assessing inter-rater reliability (Moyers et al., 2009).

1.3 Clients

As stated above, clients were English-speaking probationers who reported recent drug use or heavy alcohol use. Of the 70 participants randomized to receive MI, 12 sessions were excluded because of insufficient audio quality (e.g.,
Table 1 shows baseline substance use patterns.

### 1.4 Behavioral coding system

The MISC 2.5 is a sequential-coding system that categorizes counselor and client language according to counselor MI adherent/non-adherent codes and client change/non-change codes (Houck, Moyers, Miller, Glynn, & Hallgren, 2010). The MISC 2.5 is more comprehensive than other coding systems, such as the Motivational Interviewing Treatment Integrity system (Moyers, Rowell, Manuel, Ernst, & Houck, 2016), and is primarily designed for process analyses that call for sequential coding of therapist and client transactions. Coding was completed using the CASAA Application for Coding Treatment Interactions (CACTI) software. This software results in acceptable interrater reliability without the need to transcribe sessions (Glynn, Hallgren, Houck, & Moyers, 2012; Moyers, Houck, Glynn, Hallgren, & Manuel, 2017). The CACTI output files were adapted for use in Generalized Sequential Querier (GSEQ), a software package for the analysis of interaction sequences that has been used in multiple studies (Gaume, Gmel, Faouzi, & Daeppen, 2008; Moyers & Martin, 2006; Moyers et al., 2007).

### 1.5 Measures

The MISC 2.5 was used to identify counselor and client language codes. In terms of counselor language, the 20 possible codes were collapsed into three categories: MI consistent language (MICO), MI inconsistent language (MIIN), and Other (i.e., filler, structure). These were used as independent variables to determine the association between counselor and client language. MI consistent language codes included advice with permission, affirm, emphasize control, raise concern with permission, support, open questions, and reflections (simple and complex). MI inconsistent (MIIN) language codes included advice without permission, confront, direct, raise concern without permission, and warn.

CT and ST were used as dependent variables to determine the association between counselor and client language. As defined by MISC 2.5, CT and ST are summary language codes comprised of specific types of preparatory (+/-) and commitment (+/-) language in support of or against change. Preparatory language includes statements about Desire, Ability, Reason, and Need (DARN). Commitment language includes statements about Commitment (C +/-) and Taking Steps (TS +/-). Commitment (C +/-) statements involve direct, realistic plans to change behavior while Taking Steps (TS +/-) includes recent actions that are in consistent with change.
A self-report Timeline Follow-back (TLFB) was used to measure client substance use at 2 months. The TLFB has been widely validated as a measure of substance use and related outcomes (Sobell & Sobell, 1992; Sobell, Sobell, Leo, & Cancilla, 1988). For the substance use outcome, the independent variable was client language as indicated by MISC 2.5; the dependent variable was the number of days that the client reported drug use and/or heavy alcohol use at the 2-month follow-up.

1.6 | Analysis

1.6.1 | Relationship between counselor and client language

Consistent with previous literature, individual counselor and client utterances were analyzed sequentially to determine the association between counselor and client language (Bertholet, Faouzi, Gmel, Gaume, & Daeppen, 2010; Gaume, Bertholet, Faouzi, Gmel, & Daeppen, 2010; Moyers et al., 2009). As in previous work (D’Amico et al., 2015; Moyers et al., 2009), code categories were collapsed in GSEQ into 11 meta-codes: client CT, ST, and neutral speech and counselor closed questions (CQ); open questions (OQ); sequential MICO (sMICO); MIIN; reflections of CT (RefCT); reflections of ST (RefST); other reflections (RefOth); and all other counselor behaviors (Ther). The sMICO category was used in sequential analysis rather than standard MICO to specifically evaluate the effect of counselor reflections and questions, which would otherwise be collapsed into a general MICO category (D’Amico et al., 2015; Moyers et al., 2009). Sequential patterns of a +1 lag of counselor–client interactions are reported using log-transformed odds ratios (lnOR) based on the full 11 × 11 joint frequency matrix of counselor and client behaviors pooled across 40 sessions.

1.6.2 | Relationship between client language and client outcome

Zero-inflated negative binomial regression was used to test the relationship between client language and days of substance use at the 2-month follow-up. Counselor language included MICO and MIIN. Client language included CT and ST. The MI causal chain (Moyers et al., 2009) was evaluated using the MODEL INDIRECT procedure in Mplus 7.4 (Muthen & Muthen, 1998–2017).

1.6.3 | Sustain language over the course the MI session

Consistent with past studies, data was transformed into deciles to observe client language over the length of the MI session (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003; Apodaca, Magill, Longabaugh, Jackson, & Monti, 2013). Start and end times for each decile were rounded to the nearest second. All codes falling within the first segment were labeled as Decile 1; this process was repeated for 10 deciles. Independent sample t-tests assessed the difference in client ST at peak expression (deciles 2–3) between those who reported any substance use at 2 months, compared to those who did not report any substance use.

2 | RESULTS

2.1 | Reliability

Point-by-point agreement estimated the inter-rater reliability at different intervals during the coding training process. Scores for counselor and client codes ranged from $k = 0.57$ to $k = 0.61$, $p < 0.05$ (Bakeman & Quera, 2008). Intraclass correlations (ICC) for client and counselor codes were estimated by examining the counselor summary measures MICO and MIIN. ICC model 3,1 (Shrout & Fleiss, 1979) was used to estimate coefficients for counselor MICO, ICC = 0.957, 95% confidence interval [CI] [0.791, 0.992], and MIIN 0.982, 95% CI [0.911, 0.997]. Client CT had an estimated ICC = 0.982 [0.911, 0.997] and client ST had an estimated ICC = 0.959, 95% [0.788, 0.992]. All ICCs were in the excellent range (Cicchetti, 1994).
2.2 Relationship between counselor and client language

A total of 15,275 utterances were sequentially analyzed, and the resulting transition matrix differed significantly from a random matrix, $X^2_{[100]} = 6188.13, p < .01$. Like previous studies, client CT was less likely than expected by chance to follow counselor MIIN ($\ln\text{OR} = -0.76, p < .05$). Counselor reflections were analyzed as separate categories as these are normally considered separate from other MICO behaviors. In this analysis, client CT was more likely than expected by chance to follow a reflection of CT ($\ln\text{OR} = 0.76, p < .05$), and client ST was more likely than expected by chance to follow a reflection of ST ($\ln\text{OR} = 1.82, p < .05$). Reflections of CT reduced subsequent ST ($\ln\text{OR} = -0.73, p < .05$) and reflections of ST reduced subsequent CT ($\ln\text{OR} = -0.64, p < .05$). After open questions, both CT ($\ln\text{OR} = 1.37, p < .05$) and ST ($\ln\text{OR} = 1.01, p < .05$) were more likely than expected by chance (see Table 2).

Negative binomial regression was used to determine the relationship between counselor and client language at the session level (Table 3). The first model assessed the relationship between counselor language and subsequent client CT. For every unit increase of counselor MIIN, the expected log count client CT decreased by $-0.02$, adjusting for counselor MICO, client age and sex ($p = .014$). For every unit increase of counselor MICO, the log count of client CT increased by $0.024$, adjusting for counselor MIIN, client age and sex ($p = .002$).

The second model assessed the relationship between counselor language and client ST. Although the model indicated an inverse association between MIIN and ST, the relationship was not significant in this model ($p = .11$).

2.3 Relationship between counselor language, client language, and client outcome

Client outcome was measured as days of substance use at the 2-month follow-up. Zero-inflated negative binomial regression was used to assess the mediational relationship between counselor language, client language, and client substance use at 2 months. For ST, in the count portion of the model neither ST ($b = 0.007, p = .83$) nor MIIN ($b = 0.0033, p = 0.038$) were significantly related to the number of substance use days at 2 months. In the logistic portion of the model, both ST ($b = -4.591, t = -18.634, p < .001$) and MIIN ($b = -4.419, t = -19.886, p < .001$) were significantly related to having zero days of use at 2 months. However, the indirect effect was not significant (coefficient $= 0.642, t = 1.102, p = 0.27$). For CT, no effects of client or counselor speech were significantly related to outcome in either the count or logistic part of the model.

2.4 Frequency of ST for abstinent versus nonabstinent clients

Sustain Talk tended to peak during Deciles 2–3 and steadily decline thereafter (Figure 1). In Decile 2, substance users had a higher mean frequency of ST compared to nonusers, mean (M) $= -1.97, 95\% \text{CI} [-3.86, -0.95], t(37) = -2.129, p = 0.040$. In Decile 3, the difference approached significance, M $= -1.43, 95\% \text{CI} [-2.93, 0.06], t(37) = -1.93, p = 0.061$.

3 DISCUSSION

This study found significant relationships between counselor and client language, between client language and client substance use outcome. We did not find a significant mediation between counselor language, client language, and client substance use in a group of justice-involved clients. It appears that this study was the first to examine the MI language process among substance-using probationers. Consistent with prior work (Barnett et al., 2014; D’Amico et al., 2015; Moyers et al., 2009), reflections of CT increased the probability of CT and reduced the probability of ST, and reflections of ST increased the probability of ST and reduced the probability of CT. Counselor MIIN was negatively associated with CT. A positive association was found between ST and increased substance use at 2 months. An analysis of client language over the course of the session showed that discussing ST early in session differentiated clients who became abstinent versus clients who continued to use substances at the 2-month follow-up. These findings are
## TABLE 2  Sequential analysis of counselor and client language

<table>
<thead>
<tr>
<th>Initial Behavior:</th>
<th>Subsequent Behavior:</th>
<th>Counselor Questions</th>
<th>Counselor Reflections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Client Talk</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Change</td>
<td>Sustain</td>
<td>Neutral</td>
</tr>
<tr>
<td>Change</td>
<td>1.28*</td>
<td>-0.52*</td>
<td>-1.47*</td>
</tr>
<tr>
<td>Sustain</td>
<td>-0.68*</td>
<td>1.85*</td>
<td>-1.41*</td>
</tr>
<tr>
<td>Neutral</td>
<td>-1.10*</td>
<td>-0.90*</td>
<td>-0.93*</td>
</tr>
<tr>
<td>CQ</td>
<td>0.04</td>
<td>-0.67*</td>
<td>1.50*</td>
</tr>
<tr>
<td>OQ</td>
<td>1.37*</td>
<td>1.01*</td>
<td>1.06*</td>
</tr>
<tr>
<td>sMICO</td>
<td>-0.05</td>
<td>-0.90*</td>
<td>-0.09</td>
</tr>
<tr>
<td>MIIN</td>
<td>-0.76*</td>
<td>-0.14</td>
<td>0.48*</td>
</tr>
<tr>
<td>RefCT</td>
<td>0.76*</td>
<td>-0.73*</td>
<td>0.69*</td>
</tr>
<tr>
<td>RefST</td>
<td>-0.64*</td>
<td>1.82*</td>
<td>0.88*</td>
</tr>
<tr>
<td>RefOth</td>
<td>-0.39*</td>
<td>0.39*</td>
<td>1.15*</td>
</tr>
<tr>
<td>Ther</td>
<td>-0.56*</td>
<td>-0.54*</td>
<td>-0.25*</td>
</tr>
</tbody>
</table>

Note. CQ = closed question; OQ = open questions; sMICO = sequential MI-consistent; MIIN = MI-inconsistent; RefCT = reflection of change talk; RefST = reflection of sustain talk; RefOth = other reflection; Ther = all other counselor behavior.

*p < .05.
TABLE 3  Negative binomial regression models of client talk on counselor talk

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>SE (B)</th>
<th>95% CI</th>
<th>Rate Ratio</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1: Client Change Talk (CT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counselor MI Inconsistent (MIIN)</td>
<td>−0.020</td>
<td>0.008</td>
<td>[−0.037, −0.004]</td>
<td>0.980</td>
<td>−2.446</td>
<td>.014</td>
</tr>
<tr>
<td>Counselor MI Consistent (MICO)</td>
<td>0.024</td>
<td>0.008</td>
<td>[0.009, 0.038]</td>
<td>1.024</td>
<td>3.134</td>
<td>.002</td>
</tr>
<tr>
<td>Model 2: Client Sustain Talk (ST)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counselor MI Inconsistent (MIIN)</td>
<td>−0.021</td>
<td>0.013</td>
<td>[−0.046, 0.004]</td>
<td>0.979</td>
<td>−1.613</td>
<td>.107</td>
</tr>
<tr>
<td>Counselor MI Consistent (MICO)</td>
<td>−0.028</td>
<td>0.012</td>
<td>[0.004, 0.052]</td>
<td>0.972</td>
<td>2.310</td>
<td>.021</td>
</tr>
</tbody>
</table>

Note. SE = standard error; CI = confidence interval.

FIGURE 1  Frequency of Sustain Talk, by Substance Users vs. Non-Users at 2-months

somewhat different than a previous study that found that increasing CT and decreasing ST later in the session tended to be associated with better outcomes (Amrhein et al., 2003).

Overall, the results of this study suggest that most of the language patterns identified in community substance users also hold true for substance users on probation. As with past studies, MI consistent counselor language was associated with increased CT. However, in this study, client ST, rather than CT, predicted substance use. In a meta-analysis of MI language studies, Magill et al. (2014) found better support for ST in predicting subsequent outcome. Other studies have suggested that ST may be particularly relevant for some types of clients, especially those mandated to attend (Apodaca et al., 2014; Moyers et al., 2017). It may be that clients who enter treatment through the criminal justice system have more strongly held objections to change. For these clients, a focus on softening ST may be more relevant, at least early in the session, particularly when there is already strong extrinsic pressure to change. Moreover, justice-involved clients may be asked to perform a litany of allied tasks, such as paying fees, attending classes, and meeting with court officials or probation officers, that substance users in the community are not asked to perform. Thus, the total change “scenario” can feel more unwieldy and unwarranted to people in the criminal justice system.

Interestingly, this study found that early in the session, at a point when clients would typically be receiving personalized feedback about static and dynamic criminal justice risk, ST was higher among those who would go on to have poorer outcomes. One study of college drinkers found that ST tended to decrease after clients received personalized feedback, compared to students who did not receive personalized feedback (Vader, Walters, Prabhu, Houck, & Field, 2010). Another study of adolescent drinkers found that drinking outcome depended on the proportion of CT (i.e., CT/(CT+ST)) expressed by the client during a feedback-based session, with improved outcomes only for those with a greater proportion of CT. However, it appears that no studies have specifically examined speech over the
course of receiving personalized feedback. Most feedback profiles consist of a variety of individual components, and it is not totally clear which elements elicit the most CT, or which might have iatrogenic effects (M. B. Miller et al., 2013).

In terms of strengths, this study was the first of its kind to assess the relationship between counselor language and client language, and client language and client substance use among criminal justice clients. Moreover, the study had strong internal validity including the use of standard screening criteria and measures as well as rigorous training for counselors and coders (Taxman et al., 2015). The study also had several limitations. First, clients were newly probated clients recruited from two specific geographic locations. Counselors were trained to follow a specific feedback-driven protocol and clients were given assurances of confidentiality. Thus, the results may not generalize to other clients or settings.

Second, the baseline and 2-month follow-up assessments were derived from self-report data. Justice-involved clients may be less likely to report substance use for fear of external sanctions; however, when given under assurances of confidentiality, TLFB data are generally considered to be a valid measure of drinking (Sobell et al., 2001; Sobell et al., 1988). Third, this study examined language in only the first session of a two-session MI protocol; however, this is not uncommon among coding studies examining multisession MI interventions (Moyers & Martin, 2006; Moyers et al., 2007). Finally, although the sample size was relatively small (n = 40) and follow-up relatively short (2 months), and our analysis over deciles was likely underpowered, such criteria are in line with past studies examining similar processes (Amrhein et al., 2003; Baer et al., 2008; Moyers & Martin, 2006).

Continued involvement in the criminal justice system can lead to poor physical and mental health, damaged relationships, and financial stress, which may ultimately result in increased criminal activity. Recycling through the justice system exacerbates these problems. Because technical violations are largely due to continued substance use, improved methods to address substance use can have a significant impact on other areas of justice involvement. The findings suggest one possible mechanism by which MI elicits behavior change among probationers. The results argue that many of the processes identified among community treatment samples also hold true for people on probation, though there are some important differences. Additional research might focus on the best way to reduce client ST, improve the effectiveness of feedback-based protocols, and disseminate evidence-based communication strategies to criminal justice providers.

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REFERENCES


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