



Linking Basic and Advanced Motivational Interviewing Training Outcomes for Juvenile Correctional Staff in California

Neal Doran Ph.D. , Melinda Hohman Ph.D. & Igor Koutsenok M.D.

To cite this article: Neal Doran Ph.D. , Melinda Hohman Ph.D. & Igor Koutsenok M.D. (2011) Linking Basic and Advanced Motivational Interviewing Training Outcomes for Juvenile Correctional Staff in California, Journal of Psychoactive Drugs, 43:sup1, 19-26, DOI: [10.1080/02791072.2011.601986](https://doi.org/10.1080/02791072.2011.601986)

To link to this article: <https://doi.org/10.1080/02791072.2011.601986>



Published online: 16 Aug 2011.



Submit your article to this journal [↗](#)



Article views: 239



View related articles [↗](#)



Citing articles: 9 View citing articles [↗](#)

Linking Basic and Advanced Motivational Interviewing Training Outcomes for Juvenile Correctional Staff in California

Neal Doran, Ph.D.^a; Melinda Hohman, Ph.D.^b & Igor Koutsenok, M.D.^c

Abstract—Motivational interviewing (MI) is an evidence-based communication method that can be effective in engaging incarcerated juveniles in substance abuse programming and other treatment services. However, MI can be difficult to learn and often requires several training exposures for skill change. Few studies have examined MI training outcomes over time. This study reports outcomes for 222 juvenile corrections workers trained in MI in a three-day introductory and two-day advanced training. MI skills were measured via video-administered pre- and post-tests and with a written questionnaire. Combined results from a linear mixed model found that overall MI skills were positively associated with staff education level, and negatively associated with age and time between trainings. Those who attended their second training within nine months of the first training were more likely to score in the proficiency range. Motivation to use MI, belief in its efficacy with youth, job classification, and sex were not related to skill attainment.

Keywords—corrections, dissemination, juvenile, motivational interviewing, training

Of the 130,000 juveniles incarcerated in county and state facilities across the United States, approximately 1% are in the juvenile division of the California prison system (CDCR 2010; Sickmund 2005). The prevalence of substance use and mental health disorders among incarcerated youth is generally two to three times that of the general population, meaning that 50% to 60% of those in these facilities are in need of specialized services to

address these problems (CDCR 2011; Grisso 2005; Teplin et al. 2002). Adolescents involved with the justice system are also in need of programs to address educational, family, and other needs (Nissen & Kraft 2007; Tripodi, Springer & Corcoran 2007). Although juvenile correctional facilities had become more punishment-oriented over the past several decades (Benekos & Merlo 2008; Merlo & Benekos 2010), a recent focus on rehabilitation has emphasized the need for appropriate, evidence-based treatment within these settings (Nissen & Kraft 2007). Beyond ordering youth to attend such services, it is important to engage and motivate them to participate. Motivational interviewing (MI) is an evidence-based approach that preliminary studies suggest is an effective means of engaging juvenile offenders in needed services (Stein et al. 2006; Slavet et al. 2005; Sinha et al. 2003).

^aAssistant Professor, Department of Psychiatry, University of California, San Diego, CA

^bProfessor, School of Social Work, San Diego State University, CA

^cAssistant Professor, Department of Psychiatry, University of California, San Diego, CA

Please address correspondence and reprint requests to Neal Doran, Ph.D., UCSD Department of Psychiatry, 3350 La Jolla Village Drive, San Diego, CA 92161; phone: 858-552-8585, fax: 858-642-2600, email: nmdoran@ucsd.edu

MI was originally developed to treat substance use disorders (Miller & Rollnick 1991). Those who use MI methods focus on eliciting clients' own reasons and enhancing their motivation for behavior changes. Core components include engaging clients in an empathic, collaborative style, and using reflective listening and open-ended questions to discuss reasons for and ambivalence about making changes (Miller & Rollnick 2002). Beyond engaging youth in programming in institutions, use of MI by correctional staff may be helpful in creating a more positive milieu (Ginsburg et al. 2002).

A key to the successful introduction of an evidence-based practice such as MI to any large human service system is the provision of training and ongoing support (Fixsen et al. 2005). A recent systematic review of 27 MI training studies (Madson, Loignon & Lane 2009) found that MI training has been conducted with trainees representing a variety of professions. Most of the trainings lasted nine to 16 hours and utilized both didactic and experiential methods. Increases in MI knowledge and skills post-training were reported, and these were maintained over time when ongoing observation and feedback were incorporated (Madson, Loignon & Lane 2009; Miller et al. 2004). In a randomized trial of MI training methods, Miller and colleagues (2004) specifically examined trainee characteristics, including self-efficacy and needs for nurturance. There were no differences in MI skill gain based on these characteristics, or on education level, gender, discipline, or trainees' own substance use histories.

To date, the literature regarding MI training in corrections/criminal justice work has consisted primarily of studies using samples of probation officers (Madson, Loignon & Lane 2009). Findings from these studies have been mixed. Some suggest that probation officer trainees gain skills and knowledge from such training, but that client behavior may not be impacted (Walters & Alexander 2008; Miller & Mount 2001). However, other studies have shown that offenders perceived their probation officers as more helpful and understanding following MI training, which had a beneficial effect on the offenders' attitudes toward crime and reoffending (Spiller & Guelfi 2007; Harper & Hardy 2000). Challenges in training those who work in the criminal justice system include when training participation is not voluntary, overcoming attitudes regarding the need to instruct, inform, and punish offenders, and concerns that use of MI will be seen as weakness (Clark 2006; Ginsburg et al. 2002; Miller & Mount 2001).

We recently reported the initial results of a program to train juvenile justice staff in California (Hohman, Doran & Koutsenok 2009). Staff ($n = 576$) who received a three-day training in basic MI exhibited significant gains in MI knowledge and skills, suggesting that training can be successfully implemented in juvenile corrections. However, to increase the maintenance of skill gains over time, a second, two-day advanced workshop was included in the

training design. Hartzler and Espinosa (2010) recently described one of the first studies of training outcomes with probation staff from an advanced MI training workshop, using the Video Assessment of Simulated Encounters-Revised (VASE-R), a video of client vignettes/statements (Rosengren et al. 2008). Trainees demonstrated skill gain, with almost 80% meeting proficiency cutoff scores at post-testing (Hartzler & Espinosa 2010). However, to our knowledge, advanced MI training outcomes for corrections staff in general have not yet been reported in the literature, nor have studies examining the impact of attitudes toward clients as potential mediators of skill acquisition.

The purpose of the present study was to follow-up on the outcomes from the California initial three-day trainings by reporting the results of the advanced training that took place approximately six months later, and to determine predictors of MI skills over time. Additionally, we aimed to extend previous findings by demonstrating training outcomes with correctional staff in general. The study sample consisted of a subset of the sample we previously described (Hohman, Doran & Koutsenok 2009) who attended the advanced two-day MI training subsequent to the initial three-day training. We hypothesized that trainees would exhibit MI skill gains following the two-day training. Further, we expected that skill gains would be associated with the timing of the two trainings, in that those who attended the advanced training more quickly after the basic three-day training would exhibit greater skill gains and be more likely to demonstrate proficiency. We also expected that MI skill gains would be positively associated with motivation to use MI, perceived effectiveness of MI, and rehabilitative (vs. punitive) orientation, and that skill gains would vary by the education level of staff members and job type.

METHODS

The MI training project was conducted from January 2008 to May 2010 at the California Department of Corrections, Division of Juvenile Justice (CDCR/DJJ). During that time period, DJJ maintained eight secure juvenile corrections facilities across the state, as well as parole services. Typically, youth in the DJJ system are those who have committed the most serious crimes and have been turned over from jurisdiction of their local counties (CDCR 2011).

The Cal-METRO (California Motivational Enhancement Toward Rehabilitative Outcomes) training project in MI stemmed from the Superior Court of California, Alameda County, consent decree of *Farrell v. Allen* (No. RG 03079344 [2004]) that led to reform of the California juvenile corrections system (Hohman, Doran & Koutsenok 2009; Siggins & Seidlitz 2008). The project included basic three-day MI training for DJJ employees, as well as more advanced two-day trainings approximately six months

later. The trainings were spread out to allow time for staff to practice what they had learned. Trainees spanned a range of occupations, including youth correctional officers (security), youth correctional counselors, psychologists, physicians, case management specialists, nurses, psychiatric technicians, dentists, teachers, and parole officers.

Trainers and the Training Curriculum

MI trainers were recruited from the MI Network of Trainers (MINT) listserv, and all were MINT members. The training was based on a standard MI curriculum (Miller & Rollnick 2002, 1991), adapted for juvenile correctional facilities (see Hohman, Doran & Koutsenok 2009 for additional detail). Trainers modeled MI techniques, eliciting feedback, providing empathy and support, and playing a collaborative role even with resistant trainees. They were assisted by DJJ Program Specialists, who addressed issues relating to DJJ policy and guidelines. To ensure adherence to the manualized curriculum, the project training director observed and provided feedback to each trainer. The data reported here were collected over the course of 53 three-day and 29 two-day trainings administered by 23 Cal-METRO trainers. Fewer two-day than three-day trainings were held due to staff layoffs and facility closings midway through the project, with subsequent staff attrition, and due to larger enrollments in the two-day workshops.

Participants

The present sample ($n = 222$) included participants who attended both the basic three-day training and the advanced two-day training, and whose data from the two trainings could be matched. Participants' mean age was 43.0 years ($SD = 9.6$), and 58% were male. In terms of race/ethnicity, 39.9% identified as Caucasian, 24.4% as African American, 20.2% as Hispanic/Latino, and 6.2% as Asian American. Other demographic data are shown in Table 1. Approximately 14% of the sample ($n = 32$) reported previous didactic exposure to MI.

Procedure

DJJ employees were mandated to attend the trainings. Data were collected anonymously for program evaluation; trainees chose unique identifiers to allow pre/post matching. Trainees completed questionnaires at the beginning of the first day and again at the end of the final day. All participation in the evaluation process was voluntary, and all trainees in the present sample agreed to take part. The CDCR Office of Research and the authors' home institutions subsequently approved the use of these data for research.

Measures

Quick Readiness Measure (QRM). The QRM consisted of two items that were designed for this study: "How

TABLE 1
Demographic Data ($n = 222$)

Variable		Proportion or M (SD)
Education	Bachelor's Degree or Higher	55%
Position	Youth Correctional Counselor	45%
	Parole or Security	20%
	Psychology/Medical/Dental	9%
	Teacher/Teacher's Aide	11%
Tenure	Years of DJJ Employment	11.1 (8.5)
	Years at Current Position	6.8 (7.0)
Training	Previous Training in MI	14%

motivated are you to utilize MI in your work with DJJ youth?" and "To what extent do you think MI will help you be effective in working with DJJ youth?" The items were rated on a scale from 1 (not at all) to 10 (extremely). A definition of MI was provided with the scale. The QRM was administered at baseline and at the end of the basic and advanced trainings.

Worker Responses Questionnaire (WRQ). The WRQ was adapted from the Officer Responses Questionnaire (Walters & Alexander 2008), which was adapted for adult probation officers from the Helpful Responses Questionnaire (Miller, Hendrick & Orlofsky 1991). The HRQ has been used in evaluation of MI training with counselors and therapists (Baer et al. 2004; Miller & Mount 2001). The WRQ presented trainees with a list of five brief vignettes describing interactions with juveniles consistent with what they might experience in their work. They were then asked to write the next thing they would say if they wanted to let the person know they were listening. Each item was scored on a scale from 0 to 5, with higher scores indicating greater consistency with MI principles. The WRQ was administered on the first and last days of the three-day basic training. The WRQ demonstrated acceptable internal consistency (Cronbach's $\alpha = 0.78$) in the present sample.

WRQ coding was evenly distributed between the first author and three research assistants, who were trained by two of the authors (ND, MH). Training consisted of verbal instruction, study of the coding instructions, and independent scoring of ten WRQ example responses, followed by discussion with one of the authors. Raters were not naïve to the sequence of the protocols they scored (i.e., pre- vs. post-test). To assess interrater reliability, 20 of the protocols coded by each research assistant were independently coded by the first author, and intraclass correlations (ICCs) were computed for each item and each pair. All ICC values exceeded 0.4 and were retained in subsequent analyses (Cicchetti 1994). Across items and pairs, ICCs ranged from 0.45–0.91.

Video Assessment of Simulated Encounters-Revised (VASE-R). The VASE-R (Rosengren et al. 2008) is an 18-item questionnaire based on a video containing three client scenarios. Each client provides statements to the trainee, who is then asked to reply, in writing, using MI skills. Responses to each VASE-R item receive a score of 0 (antithetical to MI and likely to elicit resistance), 1 (not consistent with MI but unlikely to elicit resistance), or 2 (consistent with MI and likely to decrease resistance or elicit change talk). The VASE-R yields five subscale scores: reflective listening (four items, range 0–8), responding to resistance (five items, range 0–10), summarizing (three items, range 0–6), eliciting change talk (three items, range 0–6), and developing discrepancy (three items, range 0–6); the subscales are summed to create a total score (range 0–36). The measure has demonstrated good internal consistency and concurrent validity (Rosengren et al. 2008). The VASE-R was administered at the beginning of day one and at the end of day two of the advanced training. Cut-off scores for beginning and expert proficiency in MI have been developed (Rosengren et al. 2008). These cut-offs were used to generate binary variables indicating whether participants had attained beginning proficiency overall and within each subscale skill.

VASE-R response coding was approximately evenly distributed between the first author and three research assistants, each of whom was trained via the VASE-R training video created by the scale developers (Rosengren et al. 2005). The three research assistants received additional coding instruction from two of the authors (ND, MH). Raters were not blinded to the sequence of the protocols they scored (i.e., pre- vs. post-test). To assess interrater reliability, 30 of the protocols coded by each research assistant were independently coded by the first author, and intra-class correlations (ICCs) were computed for total VASE-R and subscale scores for each pair. Although ICC values differed by items and by pairs, all ICC values exceeded 0.4. The range of ICC values was 0.52–0.83 for reflective listening items, 0.61–0.79 for responding to resistance items, 0.47–0.81 for summary items, 0.62–0.89 for change talk items, and 0.42–0.73 for developing discrepancy items. All items met published standards for interrater reliability (Cicchetti 1994), and thus all 18 VASE-R items were retained in the analyses described below.

Attitudes Toward Wards Questionnaire (ATW). The ATW is a 17-item self-report measure based on an earlier measure of correction officer attitudes (Farkas 1999). ATW items were adapted from the original scale for use in a juvenile corrections setting. The ATW contains four subscales assessing officers' views of their responsibilities, inmates, and the purpose of incarceration: counseling roles (e.g., "rehabilitation programs should be left to mental health professionals"), punitive orientation (e.g., "there would be much less crime if prisons were more uncomfortable"), social distance (e.g., "an officer should work

hard to earn trust from wards"), and corruption of authority (e.g., "you can't ever completely trust a ward"). The subscales exhibited satisfactory to good internal consistency in the current sample (Cronbach's alpha 0.74–0.83). The ATW was administered at baseline of the two-day advanced training.

Analytic Plan

Two sets of two dummy-coded variables were created to assess differences in MI skills by education level (bachelor's degree vs. high school or associate's degree; bachelor's degree vs. graduate degree) and job classification (corrections counselor vs. security officer; corrections counselor vs. other). These variables were included in all analyses of MI skills, along with age, sex, ATW subscale scores, QRM scores, and time in months between the basic and advanced trainings. We used repeated measures analysis of variance (ANOVA) to assess change in VASE-R total score from pre- to post-test and to examine predictors of change. We used binary logistic regression to simultaneously assess predictors of attaining MI proficiency as defined by Rosengren and colleagues (2008). Finally, to examine predictors of MI skills over both the basic and advanced trainings, we standardized WRQ scores from the basic training and VASE-R scores from the advanced training. These were then combined into a single time-varying skills variable with four time points. A linear mixed model was then used to examine predictors of the combined skills variable. Due to the uneven pattern of timepoints (i.e., two days between points 1 and 2, approximately 180 days between times 2 and 3, and one day between times 3 and 4), no time variables were included in the model. Consequently, the results reflect the average effects of the included predictors across the two trainings. For all analyses, nonsignificant predictors were removed from the models and the models were refit. An alpha level of .05 was used for all analyses. All analyses were conducted using Intercooled Stata 11.0 (StataCorp LP, College Station, TX).

RESULTS

Preliminary Analyses

Prior to conducting our primary analyses, we examined the relationships among demographic variables. One-way ANOVAs indicated that age was not related to education level, but did differ by job classification. Specifically, corrections officers tended to be younger than counselors [$F(1, 218) = 6.09, p = .014$], but did not differ from other job titles. Job title was also significantly associated with education level, such that counselors were more likely than corrections officers to have received a four-year degree [$\chi^2(1) = 6.86, p = .009$], and other job classifications were more likely to have received a graduate degree compared with corrections officers [$\chi^2(1) = 25.06, p < .001$] and with counselors [$\chi^2(1) = 21.96, p < .001$].

TABLE 2
Binary Logistic Regression Model of Predictors of Attaining Beginning MI Proficiency

Variable	Coefficient	Std. Err.	z	OR (95% CI)
Months between Trainings	-.11	.05	-2.08*	0.90 (0.82, 0.99)
Age	-.09	.03	-2.87**	0.92 (0.87, 0.97)
Education 1	.64	.44	1.44	1.87 (0.79, 4.55)
Education 2	1.32	.62	2.14*	3.70 (1.11, 12.50)

* $p < .05$, ** $p < .01$.

Note: Education 1 = high school or associate's degree vs. bachelor's degree; Education 2 = bachelor's degree vs. graduate degree.

Additionally, we assessed whether trainees who reported previous didactic exposure to MI performed differently from those who had not. Previous MI exposure was not significantly associated with change in VASE-R total scores [$F(1, 219) = 0.41, p = .665$, partial $\eta^2 = 0.01$], with beginning MI proficiency ($p > .200$), or with MI skills across trainings ($z = 0.97, p = .334$).

VASE-R Outcomes

Trainees' mean VASE-R total score was 17.7 ($SD = 6.2$) at pre-test and 22.0 (5.7) at post-test. A repeated measures ANOVA revealed a significant increase from pre- to post-test [$F(1, 220) = 210.87, p < .001$, partial $\eta^2 = 0.53$]. We then added the other predictors to the model. While none was associated with pre- to post-test change in VASE-R total scores, we did find significant between-subjects effects of age [$F(1, 213) = 11.88, p = .001$, partial $\eta^2 = 0.08$], bachelor's degree vs. high school or associate's degree [$F(1, 213) = 7.99, p = .005$, partial $\eta^2 = 0.05$], and bachelor's degree vs. graduate degree [$F(1, 213) = 12.01, p = .001$, partial $\eta^2 = 0.08$], and a marginal effect of months between the basic and advanced trainings [$F(1, 213) = 3.44, p = .066$, partial $\eta^2 = 0.02$]. That is, younger and more highly educated trainees had higher VASE-R total scores, and there was a trend toward those who had attended the basic training more recently having higher scores. To provide further context for the effect of education level, we also calculated effect sizes for the change in total VASE-R scores separately for each education category. These calculations suggested that trainees with a high school or associate's degree exhibited the largest increase (Cohen's $d = 0.81$), followed by trainees with four-year ($d = 0.74$) and graduate ($d = 0.57$) degrees. Sex, ATW subscales, education level, job classification, motivation to use MI, and perceived efficacy of MI were not associated with VASE-R total scores.

Proficiency Outcomes

Beginning proficiency in MI was attained by 27% of trainees. Within subscales there was considerable variation,

with 74% achieving beginning proficiency in reflective listening, compared with 41% in responding to resistance, 24% in developing discrepancy, 19% in eliciting change talk, and 4% in summarizing. Binary logistic regression (see Table 2) indicated that attaining overall MI beginning proficiency was associated with delay between the basic and advanced trainings [Odds Ratio (OR) = 0.90 (95% CI 0.82, 0.99), $z = -2.08, p = .037$], age [OR = 0.92 (0.87, 0.97), $z = -2.87, p = .005$], and bachelor's vs. graduate degree [OR = 3.70 (1.11, 12.50), $z = 2.14, p = .033$]. That is, each additional month between the trainings and each one-year increase in a trainee's age decreased the odds of proficiency by 10% and 8%, respectively. Additionally, trainees with graduate degrees were 3.7 times more likely to achieve proficiency relative to trainees with bachelor's degrees. Sex, job title, motivation to use MI, perceived effectiveness of MI, ATW scales, and having bachelor's degree vs. high school or associate's degree were not associated with the odds of attaining proficiency.

We also conducted post-hoc analyses to further assess the impact of time between trainings and MI proficiency. The difference in months from the basic to the advanced training between those who did ($M = 6.5, SD = 3.7$) and did not ($M = 8.2, SD = 4.0$) achieve overall proficiency was significant [$F(1, 218) = 7.45, p = .007$, partial $\eta^2 = .04$]. To determine whether we could identify how much between-trainings delay was required to negatively influence MI skills, we recoded months between trainings into a series of dummy variables and conducted comparisons among four delay groups: zero to three months, three to six months, six to nine months, and greater than nine months. Binary logistic models indicated that the odds of overall MI proficiency were significantly greater for those with zero to three months [OR = 4.90 (3.03, 7.96), $z = 4.58, p < .001$] and three to six months [OR = 3.59 (1.28, 10.10), $z = 2.46, p = .015$] between trainings compared with those with more than nine months between trainings.

MI Skills Across Trainings

Finally, we used a linear mixed model to examine predictors of standard scores on the WRQ and VASE-R

TABLE 3
Linear Mixed Model of Predictors of Standard MI
Scores Across the Basic and Advanced Trainings

Variable	Coefficient	Std. Err.	z
Intercept	1.73	.44	3.92**
Age	-.02	.01	-4.80**
Education 1	.31	.09	3.36**
Education 2	.67	.13	5.27**
ATW Counseling	.02	.02	1.29
Roles			
ATW Punishment	-.02	.02	-1.42
Orientation			
ATW Social	-.03	.01	-3.20**
Distance			
ATW Corruption	-.02	.02	-1.09
Months between	-.03	.01	-3.25**
trainings			

** $p < .01$.

across the basic and advanced trainings. As shown in Table 3, there was a significant effect of age ($z = -4.80$, $p < .001$), such that younger trainees had higher MI skill scores. There were also significant effects of both the high school or associate's degree vs. bachelor's degree ($z = 3.36$, $p = .001$) and bachelor's degree vs. graduate degree ($z = 5.27$, $p = .001$) comparisons, indicating that participants with more education had higher scores. Time between the basic and advanced MI trainings was negatively associated with MI skills ($z = -3.25$, $p = .001$). Lastly, there was a significant negative effect of the ATW social distance subscale ($z = -3.20$, $p = .001$), indicating that those who believe corrections officers should keep their distance from wards tended to have lower MI skills. There were no significant effects of sex, job classification, motivation to use MI, or perceived efficacy of MI.

DISCUSSION

The correctional staff in this study made statistically significant gains in MI skills as measured by the VASE-R in an advanced two-day training period, consistent with previous studies (Hartzler & Espinosa 2010). Additionally, we found that higher scores were associated with younger age and higher education levels. Further, our data indicate that decreased time between the basic and advanced trainings predicted better MI skills across trainings, and was marginally associated with greater improvement in MI skills during the advanced training. Consistent with our previous findings regarding the basic training (Hohman, Doran & Koutsenok 2009), motivation to use MI at pre- or post-testing was not related to skill gains during the advanced training; although motivation to use MI and belief

that it could work with DJJ youth were fairly high at pretesting in this sample, we found that trainees do not have to be motivated themselves to use MI in order to demonstrate skill gain. This is consistent with prior research indicating that written measures of skills do not necessarily translate into their actual use (Miller et al. 2004; Miller & Mount 2001).

Further, this study found a lower number of staff at proficiency levels at post-testing (27%) as compared to the sample in the Hartzler and Espinosa (2010) study (80%). This may be due to the fact that only 55% of the current sample had at least a four-year degree, as compared to 88% of those in the Hartzler and Espinosa (2010) study. We found that age, education level, and time between trainings impacted proficiency scores. There was a wide variability in time between training in this sample, due to issues of staff coverage, facility closings, and staff layoffs that impacted when staff were available to attend the advanced training. Each additional month between trainings decreased the odds of achieving proficiency by 10%. Administrators who are scheduling MI trainings may want to take this into account and ensure that trainees attend advanced training within nine months of basic training.

Finally, MI skills across the two trainings were predicted by younger age, higher education level, less time between trainings, and belief that staff should have more contact/interactions with the youth of DJJ. The other ATW subscales (counseling roles, punitive orientation, and corruption of authority) were not related to MI skill proficiency. Similarly, sex, job classification, motivation to use MI, and belief in its efficacy were not related to proficiency. Thus, whether one was a counselor or correctional officer made no impact (though this may have been due to the overlap between job classification and education). Younger and more educated staff of any category may be more likely to endorse altruistic reasons for working with this population and be open to the adoption of skills that are congruent with this mindset. This does not, however, explain the lack of relationship of outcome with the other ATW factors. This is one of the first studies to measure how attitudes toward youth offenders may impact MI skill gain and needs further exploration.

In our analyses of VASE-R scores, educational level accounted for 13% of the variance. Interestingly, while more educated trainees showed stronger MI skills overall (i.e., at pre- and post-test), our effect size calculations indicated that trainees with less formal education showed greater improvement from pre- to post-test. These effect sizes ($d = 0.57 - 0.81$) were smaller than those reported with the VASE-R in a sample of medical students (Bell & Cole 2008) but comparable to the effect in a better-educated sample of youth probation officers and mental health providers (Hartzler & Espinosa 2010). The variation in effect sizes in the present study suggests that it may be beneficial to group trainees by job title and responsibilities

(given the overlap between position and education), and to adjust training content to target each group's specific responsibilities and level of education.

Learning MI is an ongoing process that involves training along with observation and feedback in order to maintain fidelity to the model (Alexander & Walters 2008; Miller et al. 2004). Typically this is done through coding of audiotapes of interactions with clients along with coaching to increase skills. Large systems such as DJJ do not have the capacity to utilize these labor-intensive and expensive methods, but there is interest in developing other strategies to increase MI skills and utilization. As part of the overall training project, DJJ staff were trained as internal MI trainers and to serve as MI coaches within DJJ facilities (DJJ trainers did not provide any of the trainings included in the current study). How they implement this role may greatly impact the skill growth and corresponding culture shift that often occurs as systems utilize client-centered methods; additional research is needed to evaluate the impact of these in-house trainers on MI skills and implementation.

The primary limitation of the current study is that outcomes were assessed during training only, and thus we cannot determine if and how the trainees are using MI in their subsequent interactions with youth. While the present

study is a first step toward showing that providing MI training to corrections workers can positively impact the trainees, further research is required to accurately assess trainees' use of MI outside the training setting and the impact of such training on incarcerated wards. Similarly, because DJJ's reforms resulted in a number of trainings in addition to the program described here, any attempt to assess system-wide changes would have difficulty separating the specific effects of MI training. An additional limitation is that our measures of MI skill used the same stimuli at pre- and post-test of the basic training (WRQ vignettes) and at pre- and post-test of the advanced training (VASE-R videos); similarly, WRQ and VASE-R raters were not blinded to whether protocols had been completed pre- or post-training. Consequently, we are unable to rule out practice or rater effects as a potential explanation for skill gains.

In sum, the present study indicates that corrections employees can be trained in MI regardless of job title, but that those with more education may be better prepared to learn MI skills. Additionally, these findings suggest that advanced trainings should occur within nine months of basic trainings. More research is needed to determine the impact of MI training on participants' later interactions outside of the training environment.

REFERENCES

- Alexander, M. & Walters, S.T. 2008. Motivational interviewing training in criminal justice: Development of a plan. *Federal Probation* 72: 61–6.
- Baer, J.S.; Rosengren, D.B.; Dunn, C.W.; Wells, E.A.; Ogle, R.L. & Hartzler, B. 2004. An evaluation of workshop training in motivational interviewing for addiction and mental health clinicians. *Drug and Alcohol Dependence* 73: 99–106.
- Bell, K. & Cole, B.A. 2008. Improving medical students' success in promoting health behavior change: A curriculum evaluation. *Journal of General Internal Medicine* 23: 1503–06.
- Benekos, P.J. & Merlo, A.V. 2008. Juvenile justice: The legacy of punitive policy. *Youth Violence and Juvenile Justice* 6: 28–46.
- California Department of Corrections and Rehabilitation (CDCR). 2011. *Youth Population Overview*. Available at http://www.cdcr.ca.gov/Juvenile_Justice/DJJ_Quick_Facts/Youth_Population_Overview.html.
- California Department of Corrections and Rehabilitation (CDCR). 2010. *Department of Corrections and Rehabilitation/Division of Juvenile Justice: Population Overview as of December 31, 2010*. Available at http://www.cdcr.ca.gov/Reports_Research/docs/research/POPOVER2010.pdf.
- Cicchetti, D.V. 1994. Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment* 6: 284–90.
- Clark, M. 2006. Motivational interviewing and the probation executive: Moving into the business of behavior change. *Executive Exchange, Journal of the National Association of Probation Executives* Spring: 17–22.
- Farkas, M.A. 1999. Correctional officer attitudes toward inmates and working with inmates in a "get tough" era. *Journal of Criminal Justice* 27: 495–506.
- Fixsen, D.L.; Naoom, S.F.; Blase, K.A.; Friedman, R.M. & Wallace, F. 2005. *Implementation Research: A Synthesis of the Literature*. No. Louis de la Parte Florida Mental Health Publication #231. Tampa: University of South Florida.
- Ginsburg, J.I.D.; Mann, R.E.; Rotgers, F. & Weekes, J.R. 2002. Motivational interviewing with criminal justice populations. In: W.R. Miller & S. Rollnick (Eds.) *Motivational Interviewing: Preparing People for Change. Second Ed.* New York: Guilford Press.
- Grisso, T. 2005. The context for mental health screening and assessment. In: T. Grisso; G. Vincent & D. Seagrave (Eds.) *Mental Health Screening and Assessment in Juvenile Justice*. New York: Guilford.
- Harper, S. & Hardy, R. 2000. An evaluation of motivational interviewing as a method of intervention with clients in a probation setting. *British Journal of Social Work* 30: 393–400.
- Hartzler, B. & Espinosa, E. 2010. Moving criminal justice organizations toward adoption of evidence-based practice via advanced workshop training in motivational interviewing: A research note. *Criminal Justice Policy Review* 22: 1–19.
- Hohman, M.; Doran, N. & Koutsenok, I. 2009. Motivational interviewing training for juvenile correctional staff in California: One year initial outcomes. *Journal of Offender Rehabilitation* 48: 635–48.
- Madson, M.B.; Loignon, A.C. & Lane, C. 2009. Training in motivational interviewing: A systematic review. *Journal of Substance Abuse Treatment* 36: 101–09.
- Merlo, A.V. & Benekos, P.J. 2010. Is punitive juvenile justice policy declining in the United States? A critique of emergent narratives. *Youth Justice* 10: 3–24.
- Miller, W.R. & Rollnick, S. 2002. *Motivational Interviewing: Preparing People for Change. Second Ed.* New York: Guilford Press.

- Miller, W.R. & Mount, K.A. 2001. A small study of training in motivational interviewing: Does one workshop change clinician and client behavior. *Behavioural and Cognitive Psychotherapy* 29: 457–71.
- Miller, W.R. & Rollnick, S. 1991. *Motivational Interviewing: Preparing People for Change. First Ed.* New York: Guilford Press.
- Miller, W.R.; Hendrick, K.E. & Orlofsky, D.R. 1991. The Helpful Responses Questionnaire: A procedure for measuring therapeutic empathy. *Journal of Clinical Psychology* 47: 444–48.
- Miller, W.R.; Yahne, C.E.; Moyers, T.B.; Martinez, J. & Pirritano, M. 2004. A randomized trial of methods to help clinicians learn motivational interviewing. *Journal of Consulting and Clinical Psychology* 72: 1050–62.
- Nissen, L.B. & Kraft, M.K. 2007. Evolution of substance abuse treatment in juvenile justice. *Journal of Social Work Practice in the Addictions* 7: 51–71.
- Rosengren, D.B.; Hartzler, B.; Baer, J.S.; Wells, E.A. & Dunn, C.W. 2008. The video assessment of simulated encounters-revised (VASE-R): Reliability and validity of a revised measure of motivational interviewing skills. *Drug and Alcohol Dependence* 97: 130–38.
- Rosengren, D.B.; Baer, J.S.; Hartzler, B.; Dunn, C.W.; Wells, E.A. & Ogle, R.L. 2005. *Video Assessment of Simulated Encounters (VASE-R): Administration and Scoring Manual.* Seattle: Alcohol & Drug Abuse Institute, University of Washington.
- Sickmund, M. 2005. *Juveniles in Corrections: Juvenile Offenders and Victims National Report Series Bulletin.* U.S. Department of Justice, National Institute of Justice, Washington DC. Available at <http://www.ncjrs.gov/html/ojjdp/202885/contents.html>.
- Siggins, E. & Seidnitz, A. 2008. How policy affects practice in the treatment of juvenile offenders: The California experience. In: R.D. Hoge; N.G. Guerra & P. Boxer (Eds.) *Treating the Juvenile Offender.* New York: Guilford Press.
- Sinha, R.; Easton, L.; Renee-Aubin, L. & Carroll, K.M. 2003. Engaging young probation-referred marijuana-abusing individuals in treatment: A pilot trial. *American Journal of Addictions* 12: 314–23.
- Slavet, J.D.; Stein, L.A.R.; Klein, J.L.; Colby, S.M.; Barnett, N.P. & Monti, P.M. 2005. Piloting the family check up with incarcerated adolescents and their parents. *Psychological Services* 2: 123–32.
- Spiller, V. & Guelfi, G.P. 2007. Motivational interviewing in the criminal justice system. In: G. Tober & D. Raistrick (Eds.) *Motivational Dialogue: Preparing Addictions Professionals for Motivational Interviewing Practice.* London: Routledge.
- Stein, L.A.R.; Colby, S.M.; Barnett, N.P.; Monti, P.M.; Golembeske, C.; Lebeau-Craven, R. & Miranda, R. 2006. Enhancing substance abuse treatment engagement in incarcerated adolescents. *Psychological Services* 3: 25–34.
- Teplin, L.A.; Abram, K.M.; McClelland, G.M.; Dulcan, M.K. & Mericle, A.A. 2002. Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry* 59: 1133–43.
- Tripodi, S.J.; Springer, D.W. & Corcoran, K. 2007. Determinants of substance abuse among incarcerated adolescents: Implications for brief treatment and crisis intervention. *Brief Treatment and Crisis Intervention* 7: 34–39.
- Walters, S.T. & Alexander, M. 2008. The Officer Responses Questionnaire: A procedure for measuring reflective listening in probation and parole settings. *Federal Probation* 72: 67–70.