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## Counselor Attitudes toward the Use of Motivational Incentives in Addiction Treatment

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### Abstract

Counselor attitudes toward evidence-based practices, such as motivational incentives/contingency management (MI/CM), are important in bridging the gap between research and practice. Mailed surveys from 1,959 substance abuse treatment counselors showed ambivalence toward MI/CM and strong disagreement with using monetary rewards for achievement of treatment goals. Attitudes were associated with counselors' educational attainment, a 12-step treatment ideology, affiliation with NIDA's Clinical Trials Network, and working in opioid treatment programs. Exposure to MI/CM via training was more strongly associated with attitudes when counselors worked in programs that had adopted MI/CM. While there is substantial resistance to MI/CM, dissemination and training about the essential elements of MI/CM may enhance counselors' receptivity toward this intervention.

### INTRODUCTION

Recent years have seen substantial efforts devoted to bridging the gap between research and clinical practice in the U.S. substance abuse treatment system.<sup>1-3</sup> These efforts have generated a growing literature identifying barriers to the adoption of evidence-based practices (EBPs) by treatment programs and clinicians. Research on the role of a treatment organization's "absorptive capacity" – that is, the ability to identify, process, and deploy new knowledge<sup>4,5</sup> – has found that staff credentials, environmental scanning, and organizational resources are associated with program-level adoption of EBPs.<sup>6-8</sup> When pharmacotherapies and behavioral therapies are compared, however, adoption of medications is more strongly related to structural variables such as program resources and existing services, while the adoption of behavioral interventions is more strongly associated with staff and caseload characteristics.<sup>7,9,10</sup>

Given that behavioral therapies are primarily implemented by individual counselors, shifting attention from the organizational-level to the level of individual counselors may be warranted. Indicators of counselors' absorptive capacity include educational attainment and

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#### Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

years of experience in the field as well as exposure to interventions via training opportunities. In this article, we extend the framework of absorptive capacity to counselors' attitudes toward the evidence-based practice of motivational incentives/contingency management (MI/CM). First, we describe counselors' opinions about MI/CM. Then, we examine the associations between counselors' absorptive capacity (i.e. their own knowledge-processing capacities and their exposure to this technique) and their attitudes toward this behavioral intervention.

### **Motivational Incentives/Contingency Management as a Behavioral Intervention**

Motivational incentives, or contingency management (MI/CM), draws on classic behavior modification theories.<sup>11</sup> Among the core elements of MI/CM is the specification of an outcome behavior that can be objectively measured. When clients achieve that behavior, they receive a tangible incentive.<sup>12</sup> MI/CM is efficacious in decreasing drug use and improving treatment retention.<sup>13-17</sup>

Substance abuse counselors' attitudes toward MI/CM are often negative, both overall and relative to other behavioral treatment approaches.<sup>18-19</sup> Prior research suggests that counselor-level absorptive capacity, such as greater educational attainment and work experience, are associated with more positive attitudes towards MI/CM.<sup>18-20</sup> Previous research has also shown significant associations between counselor adherence to a 12-step treatment ideology and reticence to adopt innovative and evidence-based treatment practices.<sup>21</sup> To date, measures of counselor absorptive capacity and treatment ideology have not been tested in multivariate models of support for MI/CM, so it is unknown whether these associations would remain after controlling for measures of exposure to this intervention, such as training about MI/CM.

Other studies have identified lack of exposure to MI/CM as a barrier to more favorable attitudes. Findings from a survey of addiction treatment practitioners in New Hampshire indicated that counselors neither used, nor were inclined to use, MI/CM; other behavioral therapies and medications were cited more favorably than incentives.<sup>22</sup> Lack of exposure was a clear barrier since nearly half of the counselors described themselves as having "no familiarity" with MI/CM. Other surveys have documented lack of exposure in terms of low levels of use of MI/CM relative to other behavioral interventions<sup>19-23</sup> and lack of knowledge about its effectiveness.<sup>19</sup> Some studies have shown that counselors are more favorably disposed toward incentives if the type of reward is unspecified<sup>18</sup> or is framed as "social incentives" (e.g., achievement certificates, recognition ceremonies)<sup>20</sup> rather than tangible incentives such as monetary prizes. Exposure through prior experience with tangible incentives is associated with more positive attitudes, although relatively few counselors report having prior experience.<sup>20</sup> Together, these studies suggest that in the absence of formal training or first-hand experience, counselors' attitudes toward MI/CM tend to be negative and uninformed by the accumulated scientific evidence about the effectiveness of the intervention.

An additional issue yet to be studied is whether there is a synergistic relationship between exposure via training and program-level adoption of an intervention. That is to say, training should be more "potent" when it occurs within an organizational context where program leadership intends for the intervention to be implemented by program staff. In addition to training and program-level adoption, exposure to MI/CM may come from programs' involvement in clinical research focused on this intervention. Research on treatment centers' ongoing activities within the National Drug Abuse Treatment Clinical Trials Network (CTN) allows for the examination of this possibility.

## The National Drug Abuse Clinical Trials Network

The CTN was established in 1999 by the National Institute on Drug Abuse (NIDA) with two goals: to test the effectiveness of treatment approaches in “real world” clinical practice settings and to promote the diffusion of effective practices into routine use.<sup>24</sup> Through a cooperative agreement involving community-based treatment programs and university-based research centers throughout the U.S., counselors in these programs implement the CTN’s protocols. As of 2009, the CTN has implemented 27 clinical trials of pharmacotherapies and behavioral therapies, including two multi-site clinical trials of MI/CM in outpatient “drug free” programs and opioid treatment programs (OTPs). The MI/CM protocols used an intermittent but escalating system of rewards in which clients drew vouchers from a fishbowl that were redeemable for prizes.<sup>16,17</sup>

Participation in the CTN offers advantages to programs and clinicians in terms of exposure to novel treatment approaches. Programs participating in the clinical trials receive intensive training and supervision, external quality monitoring, and financial support for materials (e.g., prizes in MI/CM protocols) integral to the research. In effect, the program receives a multi-faceted “free sample” of the treatment approach during the study. Such exposure automatically increases trialability, or the opportunity to try a product before committing to it, which has been identified as an important characteristic that promotes adoption.<sup>25</sup> Even programs within the CTN not participating in the clinical trials are likely to be exposed to considerable information about this intervention via the routine communication and dissemination that occurs within the network.

Published studies comparing CTN to non-CTN programs on the uptake of specific EBPs suggests that trialability influences innovation adoption<sup>7,26</sup> and may be associated with counselors’ attitudes toward the practices being tested. A study comparing counselors in the CTN to representative samples of non-CTN counselors found that CTN counselors expressed greater familiarity with and acceptance of buprenorphine, which was the focus of several CTN trials.<sup>21</sup> This difference was not attenuated by demographic and professional characteristics, but was entirely mediated by CTN counselors’ receipt of training and exposure to buprenorphine in their treatment facilities. To date, this model of exposure and training has not been extended to understanding attitudes toward behavioral interventions such as MI/CM.

In this study, it is hypothesized that attitudes toward MI/CM will be a function of three types of exposure: (a) direct exposure (i.e., working in treatment programs that have adopted MI/CM or in program sites for the CTN MI/CM trials); (b) indirect exposure (i.e., working in treatment programs affiliated with the CTN rather than non-CTN programs); and (c) training about MI/CM. Based on prior research on counselor attitudes toward buprenorphine,<sup>21</sup> training is also hypothesized to mediate the relationship between direct exposure and counselor attitudes. Finally, this research tests whether training is more potent within adopting programs, as would be evidenced by a significant interaction between program-level adoption and training.

## METHODS

### Sample Selection of Treatment Programs

**Clinical Trials Network (CTN) Sample**—When the present study was fielded in 2005, the CTN consisted of 17 “nodes” consisting of university-based research centers and community-based drug treatment programs (CTPs) across the US. Data collection occurred at the level of the site or service delivery unit; in multi-site CTPs, each unit completed a separate interview to describe its unique client population, staffing, and clinical practices.

All CTN sites were invited to participate, and a total of 214 CTPs, including 53 opioid treatment programs (OTPs), completed interviews for this study, reflecting a unit response rate of 93%.

**Non-CTN Sample**—Concurrent with the CTN interviews, a sample of 318 public-sector treatment programs were recruited, representing a 79.9% response rate among these organizations.<sup>27</sup> Programs were considered eligible if they offered addiction treatment at a level of intensity at least equivalent to American Society of Addiction Medicine (ASAM) Level 1 standard outpatient care, and received the majority of their operating funds from public sources (e.g., block grants, criminal justice contracts). Programs were excluded if they were not open to the general public (e.g., Veterans Administration facilities, corrections-based programs) or if they offered exclusively detoxification or methadone maintenance services. Therapists in private practice were not eligible for the study.

**Opioid Treatment Programs (OTPs)**—Because OTPs were very active in the early trials fielded by the CTN, a supplemental study was initiated to collect data from a comparison group of OTPs outside the CTN.<sup>26</sup> The facility locator database maintained by the Substance Abuse and Mental Health Services Administration (SAMHSA) was used to identify all operating OTPs in the contiguous US. From that list, programs were deleted if they were not open to the general public (i.e., VA and correctional facilities), along with detoxification-only programs and OTPs in the CTN. This yielded a remaining list of 958 OTPs, from which a random sample of 60 OTPs was drawn to parallel the number of OTPs within the CTN. OTPs declining to participate in the study were replaced by random selection of another unit. The resulting data reflect an 83% response rate.

## Data Collection

Across the three samples, data collection proceeded in two phases. Trained field interviewers visited each participating treatment program and conducted a face-to-face interview with the program administrator and the clinical director if such a designated position existed within the organization. Interviewers then requested a list of all counselors who currently carried a substance abuse treatment caseload. A packet was mailed to each counselor at the facility's address, which included a description of the study, a machine readable survey, informed consent forms, an incentive payment form, and a postage-paid return mail envelope. Respondents received a \$40 honorarium. This research design was approved by the University of Georgia's Institutional Review Board. The 2,075 responding counselors represent participation rates of 61% in the CTN sample, 60% in the public non-CTN sample, and 58% in the OTP sample, which are similar to prior studies relying on mailed surveys with clinicians.<sup>28-30</sup> All counselor data were collected between mid-2005 and late 2006.

## Measures

Counselor attitudes toward motivational incentives/contingency management (MI/CM) were measured by two items. First counselors were asked to rate their agreement on a 7-point scale (7 = strongly agree) with the following statement: "Incentives have a positive effect on the client/counselor relationship." The second measure framed incentives in terms of tangible rewards. Specifically, counselors were asked to rate their agreement with the statement: "It's okay for clients to have the opportunity to earn prizes worth as much as \$100 for abstinence." These items were drawn from a previous study of direct-care workers in the CTN.<sup>18</sup>

Socio-demographic measures included counselors' gender (female =1), age (in years), receipt of at least a Master's degree (=1, less than Master's degree = 0), and years of

experience in the addiction treatment field. In addition, counselors who worked at least 35 hours per week were coded as full-time employees (=1; <35 hours=0).

Two measures related to counselors' orientation toward treatment were measured. A three-item mean scale measured counselors' endorsement of a 12-step treatment ideology which ranged from 1 to 7, with higher scores indicating stronger endorsement of a 12-step ideology.<sup>31</sup> Counselors were also categorized into those working in opioid treatment programs (=1) versus those in other treatment modalities (=0).

Three measures of exposure to MI/CM were included in this analysis. The clinical director interviews were used as the source of data about the program's current use of MI/CM (1=program-level adoption; 0=no adoption). For programs in the CTN, these interviews provided data related to involvement in the CTN's MI/CM protocols. Counselors were categorized into those working in a CTN program that participated in one of the MI/CM protocols, those employed by CTN-affiliated programs not involved in the MI/CM protocols, and those working in non-CTN programs (reference category). Finally, counselors were asked to what extent their treatment program had provided them with training about MI/CM. Responses were on a scale of 1 (no training provided) to 7 (extensive training).

## Data Analysis

Data from the three samples were pooled for these analyses and were limited to respondents with complete data ( $n = 1,959$ ). The strategy for identifying counselors yielded multiple counselors per program to which unit-level observations (e.g. program-level adoption of MI/CM, CTN affiliation, and employment in an OTP) were linked. As a result, counselors are non-independent observations that are clustered within programs. To account for this clustering, the "cluster" option available in Stata 10.0 (Stata Corp., College Station, TX) was utilized, which produces robust standard errors and accounts for the effect of clustering in survey sample designs.<sup>32</sup>

Given our hypothesis regarding training as a mediator between direct exposure and counselor attitudes, we conducted the Sobel and Goodman tests for mediation.<sup>33,34</sup> These tests are less prone to the increased risk of Type I and Type II errors inherent in Baron and Kenny's<sup>35</sup> approach to mediation.<sup>36</sup> We used the "sgmediation" command developed by Phil Ender (UCLA Academic Technology Services) for running the Sobel and Goodman tests in Stata 10.0.

## RESULTS

### Descriptive Statistics

Characteristics of the sample are presented in Table 1. A paired-sample t-test indicated that counselors had more favorable attitudes about MI/CM when the type of incentive was unspecified (mean = 4.86, SD = 1.61) relative to when a tangible monetary incentive was described (mean = 2.70, SD = 1.85;  $t = 44.87$ ,  $df = 1958$ ,  $p < .001$ ). In the measure about the impact of an unspecified incentive on the client-counselor relationship, only 3.5% of counselors chose the most negative response option, while 20.5% of counselors chose the most positive response. For the item which specified a \$100 incentive, 41.8% of counselors chose the most negative response option and 4.9% chose the most positive response option.

Because programs in the CTN were purposively selected by their respective research nodes and because motivational incentives/contingency management (MI/CM) has been tested within the CTN, descriptive statistics for the CTN and non-CTN counselors are shown separately. There were no differences between the CTN and non-CTN counselors in terms of gender, education, years working in the behavioral healthcare field, or working on a full-

time basis. Counselors in non-CTN programs more strongly endorsed a twelve-step treatment orientation. The groups differed on the percent affiliated with an OTP due to the study design which produced a ratio of OTPs to non-OTPs that was higher within the CTN than in the non-CTN sample.

There were some significant differences between CTN and non-CTN counselors in their exposure to and attitudes toward MI/CM. Significantly more CTN counselors worked in treatment programs whose clinical directors reported the use of MI/CM, and CTN counselors had received significantly more training about MI/CM. For the attitudinal measure in which the type of incentive was unspecified, there was no difference between the two groups. However, CTN counselors more strongly endorsed the notion of clients earning monetary prizes for abstinence. It is worth noting that, even among CTN counselors, the expressed endorsement of this statement about tangible rewards was below the midpoint of the 7-point rating scale.

### OLS Regression Models of Attitudes toward MI/CM

To examine the relative contributions of counselors' absorptive capacity and exposure to MI/CM, a set of multivariate ordinary least squares (OLS) regression models were estimated for the two attitudinal measures. For both attitudes, Model 1 includes counselor characteristics, work setting, and program-level adoption of MI/CM. The second model adds training to the analysis, while Model 3 adds an interaction between program-level adoption and training.

Table 2 presents the models for the attitudinal measure regarding the impact of unspecified incentives on the relationship between a client and his/her counselor. In the initial model, three variables were statistically significant. Counselors with more years of experience in the treatment field more positively endorsed this attitudinal measure. Endorsement was also greater among counselors with a stronger 12-step treatment ideology and those working in OTPs. Exposure via program-level adoption was not significantly associated with this attitudinal measure. In the second model, training was positively associated with viewing incentives as having a positive impact on the client-counselor relationship. Years in the treatment field, 12-step treatment ideology, and employment in an OTP remained statistically significant. The third model revealed a significant interaction between adoption and training. The positive direction of this interaction term indicated that the magnitude of the association for training was significantly greater when counselors worked in programs that had adopted incentives.

Table 3 presents the models for endorsement of tangible incentives (i.e. \$100 in prizes) for abstinence. The first model revealed significant associations for counselor characteristics, program type, and program-level adoption. Endorsement of tangible incentives for abstinence was significantly greater among counselors with a master's-level degree than counselors with less than this level of education. Endorsement of the twelve step treatment ideology was negatively associated with this attitude, while counselors working in OTPs more strongly endorsed tangible incentives. Exposure via the CTN was associated with this attitude in two ways. Compared to counselors in non-CTN programs, CTN counselors working at the research sites for the MI/CM protocols had more positive attitudes toward tangible incentives. Counselors in CTN-affiliated programs that were not research sites also had more positive attitudes than non-CTN counselors. Program-level adoption of MI/CM was positively associated with endorsement of tangible incentives.

The addition of the measure of training and the interaction between training and adoption had an impact on the results. In Model 2, training was positively associated with endorsement of tangible rewards. Furthermore, the addition of the training measure reduced

the associations for program-level adoption and employment in a CTN-affiliated research site to non-significant levels. Additional results (not shown) indicated that training was greater in CTN-affiliated research sites and in adopting programs, suggesting that training mediates these associations identified in the first model. We formally tested for mediation by conducting Sobel and Goodman tests, which indicated that the mediation pathways for CTN-affiliated research site and program-level adoption via training were statistically different from zero ( $p < .001$ ). In Model 3, the interaction term for program-level adoption and training was statistically significant and in the positive direction, indicating that training was more potent for counselors working in programs that had adopted MI/CM.

## DISCUSSION

This survey of addiction treatment counselors provides insight into attitude formation processes around the specific evidence-based practice of motivational incentives/contingency management (MI/CM). A statement about incentives having a positive effect on the client/counselor relationship, in which the nature of the incentive was unspecified, was met with neutral-to-positive reactions. Counselors' reactions to the statement about the acceptability of awarding tangible prizes for abstinence, which has greater fidelity with MI/CM, evoked a more negative reaction. This more negative reaction to tangible rewards is consistent with prior studies.<sup>18-20</sup>

Counselors' attitudes were influenced by a number of factors, including their absorptive capacity as measured by educational background and years of employment in the treatment field. The finding that more highly educated counselors were more supportive of tangible rewards, even after controlling for the measures of exposure, was consistent with prior surveys of clinicians.<sup>18-20</sup> One apparent barrier to positive responses toward tangible rewards was adherence to a 12-step treatment ideology, an association that was significant even after controlling for the measures of exposure.

Treatment programs are limited in their ability to change the characteristics of individual counselors, but they can offer training which may shape staff attitudes and capabilities. Receipt of training was significantly associated with counselors' endorsement of both statements about MI/CM. Training is often conceived in terms of shaping knowledge about the core elements of a practice, but these findings suggest that training may increase counselors' receptivity to behavioral interventions.

Overall, the extent to which counselors have received training about MI/CM was relatively low. While counselors in incentive-adopting programs reported receiving significantly more training than counselors in facilities where MI/CM were not used, their training exposure was still modest, with the average self-reported exposure below the midpoint of the 7-point response scale (data not shown). Despite this limited level of exposure via training, our results suggest that training is more potent if MI/CM has actually been adopted by treatment programs. This interaction between training and exposure to MI/CM through program-level adoption supports the observations made by others about the importance of training as well as seeing the impact of MI/CM on patients when it is implemented within treatment programs.<sup>37-38</sup>

This research contributes to the growing literature about the value of research networks in influencing attitudes towards evidence-based treatment practices in two ways. First, counselors employed by CTN-affiliated treatment programs reported greater endorsement of tangible rewards for abstinence, which framed incentives in a way similar to the CTN's protocols. Second, training mediated the association between working at one of the CTN MI/CM sites and endorsement of tangible rewards, but only partially mediated the difference

between CTN counselors working in non-research sites and non-CTN counselors. Notably, CTN counselors indicated greater levels of training with MI/CM, which itself was strongly associated with both of the attitudes about MI/CM.

The MI/CM protocols were among the first behavioral therapy trials conducted in the CTN, and their results were being widely discussed and disseminated within the CTN. Representatives of community-based treatment programs were involved in the same CTN committees and governance structure as the researchers, and were included in the same communication channels through which the progress, preliminary results, and publications of each of the ongoing studies was circulated. These dissemination mechanisms, coupled with the intense activity surrounding the MI/CM protocols in the CTN, made it likely that CTN-affiliated counselors would have been at least indirectly exposed to the approach. More to the point, given the CTN's intense emphasis on training and manualized approaches for its protocols, it is plausible to posit that clinicians' exposure involved accurate characterizations of the core concepts or principles of MI/CM. While causal attributions cannot be made using cross-sectional data, the findings suggest that the CTN counselors are likely exposed to a unique information dissemination channel, which is reflected in their differing attitudes toward MI/CM.

Counselors outside the CTN now have access to information about the CTN's experience with implementing MI/CM in the Promoting Awareness of Motivational Incentives (PAMI) Blending Product which is available online ([http://www.nattc.org/pami/pami\\_home.html](http://www.nattc.org/pami/pami_home.html)). The PAMI materials include a list of the core principles of MI/CM, frequently asked questions, and a video demonstrating MI/CM in action, all of which are designed to address clinicians' reservations about integrating the use of "prizes" into treatment settings that have long relied on clients' internal motivation to seek recovery. The present study was undertaken while these materials were still in development, so we cannot address whether these training materials will have a direct impact on counselor attitudes. Future research on the PAMI materials would advance knowledge about the role of web-based dissemination strategies in increasing counselor competence and support for novel treatment approaches.

Several limitations related to this study's research design should be noted. First, participating CTN programs are selected on a competitive basis; while the CTN seeks inclusion of the full range of treatment programs operating in the U.S., they do not constitute a random sample.<sup>7-26</sup> It is precisely because of this lack of random sampling that comparative data from counselors outside the CTN are important to consider when examining attitudes toward evidence-based treatment practices. Second, data collection from each of the study samples was cross-sectional, hampering the ability to draw causal connections between training, CTN involvement, and counselor attitudes. Additional research is needed to understand whether training or exposure is associated with implementation of MI/CM at later intervals. Furthermore, we are unable to control for whether counselors currently working in non-CTN programs may have been previously employed in a CTN-affiliated program. While the response rate was consistent with other studies of clinicians in addiction treatment programs,<sup>28-30</sup> it is not possible to ascertain whether non-respondents differ from respondents with regard to attitudes toward MI/CM.

There are two additional limitations related to measurement that warrant discussion. Our measure of training was subjective in the sense that counselors reported the extent they had received training rather than reporting the actual number of hours of MI/CM training that they had received. Consideration of the appropriate dose of training is an important direction for future studies. There may be weaknesses in terms of reliability due to the use of single-item indicators for the dependent variables. Unfortunately, the survey did not measure a larger pool of items related to MI/CM which would have facilitated the development of a

multi-item scale. The two items were significantly associated with each other, but the Cronbach's alpha for the two items was too low ( $\alpha < .40$ ) to combine the items into a scale. The separate analyses of the two items actually identified unique covariates, providing evidence that the tangible prize aspect of MI/CM evokes differential responses among varying subsets of counselors.

Our findings raise questions that warrant examination in future research. Additional research is needed about the most effective training strategies for gaining "buy-in" from clinicians and developing competencies in implementing the core elements of MI/CM. Many questions remain about the effectiveness of different training platforms (e.g. web-based, manual-based, in-person), models (e.g. didactic vs. experiential approaches), and durations. Studies of different training strategies using pre-post randomized designs would contribute significantly to the field. Additional research is needed on other barriers to the use of MI/CM since counselors' attitudes encompass just one dimension of implementation; certainly organizational resources, including the availability of funding, are involved in organizational decision-making about adoption. Findings from such research could help guide further dissemination and implementation efforts for MI/CM and other EBPs.

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**TABLE 1**  
**Descriptive Statistics of Counselor Characteristics and Attitudes Toward Motivational Incentives/Contingency Management (MI/CM)**

	All counselors Mean (SD) or %	CTN-affiliated counselors Mean (SD) or %	Non-CTN counselors Mean (SD) or %
Female	64.4%	63.8%	64.7%
Master's degree	43.9%	46.1%	42.6%
Years in field	9.50 (7.54)	9.61 (7.66)	9.44 (7.47)
Full-time work	86.9%	87.3%	86.7%
12 step treatment ideology <sup>***</sup>	4.18 (1.59)	3.88 (1.58)	4.37 (1.57)
Employed by opioid treatment program (OTP) <sup>*</sup>	16.4%	27.1%	9.8%
Program has adopted MI/CM <sup>***</sup>	30.3%	39.0%	24.9%
Extent of training received on MI/CM <sup>***</sup>	2.66 (2.08)	3.00 (2.14)	2.45 (2.01)
"Incentives have a positive effect on the client/counselor relationship."	4.86 (1.61)	4.89 (1.59)	4.84 (1.62)
"It's okay for clients to have the opportunity to earn prizes worth as much as \$100 for abstinence." <sup>***</sup>	2.70 (1.85)	3.01 (1.95)	2.51 (1.76)
N	1959	749	1210

Note: Significant CTN vs Non-CTN difference

\*  
p<.05

\*\*  
p<.01

\*\*\*  
p<.001

**TABLE 2**  
**OLS Regression Models of “Incentives Have Positive Effect on Relationship”**

	<b>Model 1</b> <b>Unstandardized</b> <b>Coefficient</b> <b>(Robust SE)</b>	<b>Model 2</b> <b>Unstandardized</b> <b>Coefficient</b> <b>(Robust SE)</b>	<b>Model 3</b> <b>Unstandardized</b> <b>Coefficient</b> <b>(Robust SE)</b>
Female	.045 (.074)	.047 (.073)	.047 (.073)
Master’s degree	.029 (.071)	.041 (.069)	.042 (.070)
Years in treatment field	.020 (.006)**	.018 (.006)**	.017 (.006)**
Full-time work	.189 (.097)	.121 (.096)	.124 (.096)
12-step treatment ideology	.058 (.024)*	.058 (.023)*	.056 (.023)*
Employed in OTP	.264 (.119)*	.237 (.116)*	.228 (.116)*
Program type			
Program participated in CTN MI/CM protocol	.057 (.161)	-.127 (.159)	-.138 (.162)
Program in CTN but not in MI/CM protocol	-.003 (.094)	-.058 (.092)	-.056 (.092)
Program not in the CTN	Reference	Reference	Reference
Program has adopted MI/CM	.132 (.087)	.029 (.084)	-.171 (.141)
Extent of MI/CM training received		.157 (.018)***	.130 (.023)***
Interaction of adoption and training			.069 (.035)*
Constant	4.137 (.166)	3.860 (.162)	3.931 (.169)

Note: Analyses adjusted for clustering of counselors within treatment programs.

\* p<.05

\*\* p<.01

\*\*\* p<.001 (two-tailed tests).

**TABLE 3**  
**OLS Regression Models of Acceptability of Tangible Prizes for Abstinence**

	<b>Model 1</b> <b>Unstandardized</b> <b>Coefficient (SE)</b>	<b>Model 2</b> <b>Unstandardized</b> <b>Coefficient (SE)</b>	<b>Model 3</b> <b>Unstandardized</b> <b>Coefficient (SE)</b>
Female	-.159 (.086)	-.157 (.084)	-.168 (.084)
Master's degree	.332 (.086)***	.342 (.085)***	.343 (.085)***
Years in treatment field	.007 (.006)	.005 (.006)	.004 (.006)
Full-time work	-.154 (.144)	-.212 (.135)	-.208 (.135)
12-step treatment ideology	-.127 (.029)***	-.127 (.029)***	-.129 (.027)***
Employed in OTP	.459 (.133)**	.435 (.126)**	.425 (.125)**
Program type			
Program participated in CTN MI/CM protocol	.673 (.319)*	.517 (.286)	.504 (.268)
Program in CTN but not in MI/CM protocol	.285 (.102)**	.238 (.099)*	.241 (.100)*
Program not in the CTN	Reference	Reference	Reference
Program has adopted MI/CM	.216 (.096)*	.129 (.093)	-.125 (.141)
Extent of MI/CM training received		.133 (.021)***	.100 (.025)***
Interaction of adoption and training			.088 (.042)*
Constant	2.993 (.215)	2.757 (.214)	2.847 (.215)

Note: Analyses adjusted for clustering of counselors within treatment programs.

\*  
p<.05

\*\*  
p<.01

\*\*\*  
p<.001 (two-tailed tests).