



Published in final edited form as:

Subst Use Misuse. 2016 September 18; 51(11): 1484–1492. doi:10.1080/10826084.2016.1188945.

Patient Pre-Treatment Expectations do not Predict Cocaine Use Outcomes: Data from Four Clinical Trials

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Abstract

Background—There are very few data regarding the extent to which patients' initial expectations regarding treatment are associated with substance use treatment outcomes.

Objective—This study sought to determine how patients' treatment expectations were associated with treatment outcomes.

Methods—This study explored patient pre-treatment expectations and substance use treatment outcomes for 387 individuals participating in treatment for cocaine use within the United States (68.2% male, mean age 36 years old, 54.8% Caucasian).

Results—Participants' expectations regarding abstinence were not strongly associated with post-treatment or follow-up cocaine use outcome measures. There was a significant association between the expected timeframe of receiving a positive treatment effect (i.e., outcome efficiency expectations) and days of cocaine use at the one-month follow-up point ($F = 3.45$, $p = .009$). Post-hoc comparisons revealed that participants that expected positive effects of treatment within 0–1 week reported fewer days of cocaine use than those that expected results in 1–2 months. Also, those that expected positive effects of treatment in 1–2 months reported more cocaine use than those who expected positive results within two weeks to one month. Further, there was a significant effect of outcome efficiency expectations on a proxy measure of achieving a good treatment outcome at the three-month follow-up point ($F = 11.13$, $p = .025$).

Conclusions/Importance—Results suggest that treatment outcomes are not associated with patients' treatment outcome expectations, but that some outcomes are associated with treatment outcome efficiency expectations.

Keywords

treatment expectations; expectancies; substance use; cocaine; treatment

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Conflict of Interest

Kathleen M. Carroll is a member of CBT4CBT, LLC, which makes CBT4CBT available to qualified clinical providers and organizations on a commercial basis. Dr. Carroll works with Yale University to manage any potential conflicts of interest. The other authors report no conflicts of interest. The authors alone are responsible for the content and writing of this paper.

1. Introduction

Treatment expectations have long been regarded as an important component of the psychotherapeutic process (Greenberg, Constantino, & Bruce, 2006). We chose to examine two types of treatment expectations: outcome expectations and outcome efficiency expectations. Outcome expectations have been defined as “prognostic beliefs about the consequences of engaging in treatment” (Constantino, Arnkoff, Glass, Ametrano, & Smith, 2011, p. 184), while outcome efficiency expectations are related to how long it will take to achieve a good therapy outcome.

Outcome expectations have been one of the most well-studied in the treatment expectations literature. In a meta-analysis of 46 independent samples, outcome expectations represented a small but significant effect size (Cohen’s $d = .24$, $p < .001$; Constantino et al., 2011). Within the broader treatment literature, several studies have demonstrated that outcome expectations are related to treatment outcomes in multiple domains, including acupuncture for chronic pain (Kaluokalani, Cherkin, Sherman, Koepsell, & Deyo, 2001), surgeries (Lutz et al., 1999), and both psychotherapeutic and pharmacological treatments for depression (Curry et al., 2006; Krell, Leuchter, Morgan, Cook, & Abrams, 2004).

While there is a fairly large body of evidence regarding expectations and outcomes in the general psychotherapy literature (Greenberg et al., 2006; Tinsley, Bowman, & Ray, 1988), the evidence regarding the impact of treatment expectations on substance use outcomes is far more limited. Raylu and Kaur (2012) examined treatment expectations among 200 patients seeking substance use treatment in Australia and found that participants’ expectations regarding their ability to take an active role in treatment and their openness to the counseling process were significantly related to a binary measure indicating improvement in primary drug use. However, no relationship between outcome expectations and treatment outcomes were found.

In comparison to outcome expectations, outcome efficiency expectations have been studied less frequently. This is an important variable to consider because a related construct, expectations regarding treatment duration, have been found to be a significant predictor of treatment retention. This has been demonstrated in private practice settings for general mental health (Mueller & Pekarik, 2000) as well as in outpatient settings (Pekarik & Wierzbicki, 1986; Swift & Callahan, 2011). Swift and Callahan (2011) found that in a training clinic, 11–14% of the variance of client premature termination was due to treatment duration expectations. However, the construct of outcome efficiency expectations has not been examined within the substance use treatment literature.

The purpose of this study was to examine the impact of treatment outcome and outcome efficiency expectations on actual substance use treatment outcomes in a large sample of individuals seeking treatment for cocaine dependence. We hypothesized first that outcome expectations would be associated with treatment outcomes, such that those participants indicating an expectation of reduced cocaine use would have less cocaine use during treatment and through a follow-up period than those who reported lower expectations of making changes. Second, we hypothesized that outcome efficiency expectations would be

associated with treatment retention, with those who anticipated finding treatment beneficial earlier in treatment remaining engaged in treatment longer. Finally, we hypothesized that outcome expectations would have a stronger association with treatment outcomes in control/comparison rather than experimental therapies. We hypothesized that patient outcome expectations might have a stronger influence in nonspecific, 'supportive' therapies than more structured, evidence-based approaches such as Twelve Step Facilitation (TSF), Cognitive Behavioral Therapy (CBT), or Contingency Management.

2. Method

2.1 Overview of the Four Trials

Data were extracted from four randomized controlled trials assessing behavioral and pharmacologic interventions for cocaine use within the United States (Carroll, Nich, Ball, McCance, & Rounsavile, 1998; Carroll et al., 2004, Carroll, Nich, Shi, Eagan, & Ball, 2012, Carroll et al., 2014a). The four trials contained similar inclusion and exclusion criteria, all used a similar assessment battery, and all four trials were 12 weeks in duration and included a 12-month follow-up period. These similarities permitted pooling of data for creation of a larger dataset, which could provide greater power relative to smaller, single-study generated data (Carroll et al., 2014b). All data were collected in-person by trained research assistants. For each study, the participating therapists were trained extensively in the intervention and monitored for delivery fidelity. All trial protocols were approved by the Yale Human Investigation Committee and all participants provided written informed consent.

2.2 Design

The first study (Carroll et al., 1998) examined a pharmacologic intervention (disulfiram), manual-guided therapies (CBT and TSF), and clinical management in a sample of 122 individuals seeking treatment for cocaine and alcohol use. Participants received one of five possible interventions: CBT and disulfiram, TSF and disulfiram, clinical management and disulfiram, CBT with no medication, and TSF with no medication. The second study (Carroll et al., 2004) included 121 participants and was a placebo-controlled, double-masked treatment with four conditions: disulfiram and CBT, disulfiram and Interpersonal Therapy (IPT), placebo and CBT, and placebo and IPT. The third study (Carroll et al., 2012) included 112 participants and compared disulfiram and TSF, disulfiram and standard counseling, placebo and TSF, and placebo and standard counseling in a methadone maintenance program. Finally, the fourth study (Carroll et al., 2014a), examined disulfiram and Contingency Management in CBT treatment.

2.3 Participants

All participants were recruited from outpatient clinics. The inclusion criteria for the studies were 1) meeting DSM IV criteria for current (past 28 days) cocaine dependence (4th ed.; DSM-IV; American Psychiatric Association, 1994); 2) age greater than 18; and 3) fluency in English. Exclusion criteria were minimal in order to increase the generalizability of findings. Participants were excluded if they had an untreated psychotic disorder that required a higher level of care, and/or if they were unlikely to complete treatment due to imminent incarceration or a planned change of residences.

2.4 Measures

2.4.1 Demographic and clinical characteristics—Prior to treatment initiation, participants completed a questionnaire that assessed age, ethnicity, marital status, highest level of education, employment status, and living arrangement. Participants also provided information on days of drug use in the previous 28 days, primary route of drug administration, age of first cocaine use, and years of regular cocaine use. The Structured Clinical Interview for DSM-IV (SCID-IV) was used as a screening measure during the intake interview (First, Spitzer, Gibbon, & Williams, 1995).

2.4.2 Treatment expectations—Each of the four trials included an adapted version of the Attitudes and Expectations form developed by Elkin, Parloff, Hadley, and Autry (1985) from the National Institute of Mental Health Treatment of Depression Collaborative Research Program (Elkin et al., 1989). For the purposes of the current study, we identified two items from this assessment as our primary measures of treatment expectations. The outcome expectations item was: “Do you think you will reduce or stop your use of drugs or alcohol as a result of this treatment?”, which was rated on the following scale “I think I’ll probably still use cocaine”, “I think I might stop using cocaine”, “I think I’ll probably stop cocaine”, and “I’m sure I’ll stop using cocaine”. The outcome efficiency expectation item was, “When do you think you will see positive results from the treatment you receive here?” Participants answered the item from the following responses: between 0–1 weeks, 1–2 weeks, 2 weeks to a month, 1 to 2 months, and longer than 8 weeks.

2.4.3 Substance use—The Substance Use Calendar (Carroll et al., 2004) was used in all trials to assess the frequency of substance use, which is similar to the Timeline Followback method (Sobell & Sobell, 1992). This calendar-based interview was administered at each study visit (pre-treatment, weekly during treatment period, and at 1-, 3-, 6-, and 12-months following treatment completion). Participants also completed an abbreviated version of the Addiction Severity Index (ASI; Cacciola, Alterman, McLellan, Lin, & Lynch, 2007; McLellan et al., 1992), to assess consequences and correlates of drug use across several life domains. The ASI was administered at pre-treatment, monthly during the treatment period, post-treatment, and at each follow-up time point.

2.4.4 Motivation—The University of Rhode Island Change Assessment Questionnaire (URICA) was used across trials to assess levels of motivation based on the stages of change at pre and post-treatment (McConaughy, Prochaska, & Velicer, 1983). The URICA (McConaughy et al., 1983) maps onto five stages of change according to the Transtheoretical Model of Change (Prochaska & DiClemente, 1982): Precontemplation, Contemplation, Preparation, Action, and Maintenance. We used the Readiness score from the URICA, which is calculated by summing the scores from the Contemplation, Action, and Maintenance subscales, and then subtracting the Precontemplation subscale score (DiClemente, Schlundt, & Gemmell, 2004).

2.5 Data Analysis

The primary treatment outcomes were the number of days retained in the treatment protocol, the percentage of cocaine positive urines, maximum consecutive days of cocaine abstinence,

and the percentage of days abstinent from cocaine during the treatment period, which were the variables identified in the combined dataset as most psychometrically strong (Carroll et al., 2014b). During the follow-up period, outcomes included the number of self-reported days of cocaine use (at months one, three, six, and twelve), and whether or not there was complete abstinence (confirmed with negative urine result at each time point) during the follow-up period.

A frequency distribution of responses to the item from the Attitudes and Expectations questionnaire that measured outcome expectations was evaluated first. The frequencies of each response were as follows: “I think I’ll probably still use cocaine” ($n = 16$), “I think I might stop using cocaine” ($n = 92$), “I think I’ll probably stop using cocaine” ($n = 157$), and “I’m sure I’ll stop using cocaine” ($n = 122$). Due to the unequal distribution, as well as the semantic similarities between certain response options (e.g., “I think I might stop using cocaine” and “I think I’ll probably stop using cocaine”), we chose to dichotomize the variable into those who were ‘Sure’ that they would stop using cocaine (i.e., “I’m sure I’ll stop using cocaine”), and those that endorsed some level of uncertainty (i.e., “still use”, “might stop”, or “probably stop”), which we labeled as ‘Unsure’.

Demographic and baseline characteristics were compared between the ‘Unsure’ and ‘Sure’ groups using chi-square and analysis of variance (ANOVA) tests. We then compared the ‘Unsure’ groups and ‘Sure’ groups on within-treatment outcomes and follow-up outcomes using ANOVAs and chi-squares. We used ANOVAs and chi-squares to examine the outcome efficiency expectations item on relevant outcome variables. A generalized linear model was used to test the hypothesis that outcome expectations would have a stronger association with outcomes in the control versus active treatment. Within the model, we tested the outcome expectations variable, the type of treatment received, and the interaction between the two on primary treatment outcomes. Finally, we created a proxy dichotomous measure of ‘good functioning’, which was defined as zero days of cocaine use as well as zero days of legal, employment, or psychological problems within the past 28 days and was compared across groups.

3. Results

3.1 Participants

The total sample included 387 cocaine-dependent individuals. Participants were primarily male (68.2%), with an average age of 36 years old ($SD = 7.7$). The majority of the sample identified as being Caucasian (54.8%), while 36.2% identified as African American, 7.5% as Hispanic, and 1.6% as either Multiracial/Other. On average, participants reported using cocaine on 13.9 ($SD = 8.4$) days of the 28 prior to treatment initiation. Average age of first cocaine use was at 21.3 ($SD = 6.2$) years, and average years of regular cocaine use were 8.7 ($SD = 6.7$). The number of previous treatment admissions was 2.6 ($SD = 4.7$) for inpatient and 1.9 ($SD = 3.2$) for outpatient. Approximately 13 percent of the sample was referred by the criminal justice system. Table 1 displays the demographic characteristics of the sample according to whether participants responded as ‘Unsure’ or ‘Sure’ with respect to their outcome expectations. For the majority of the demographic variables, there were no differences between groups; however, the responses did significantly differ by gender ($\chi^2(1,$

$n = 387$) = 5.77, $p = .016$), race/ethnicity ($\chi^2(3, n = 387) = 17.45, p = .001$), and the cocaine composite scale of the ASI ($F(1, 1,383, n = 385) = 4.30, p = .039$). Specifically, there were more females who responded that they were ‘Sure’ that they would stop cocaine use rather than ‘Unsure’ (40.2% compared to 27.9%, respectively). Caucasians were more likely to report that they were ‘Unsure’, relative to African Americans and Hispanics. Also, participants classified as ‘Sure’ that they would stop drug use had higher ASI Cocaine composite scores than those who were ‘Unsure’.

3.2 Outcomes Post-Treatment and at Follow-Up

Table 2 displays results of ANOVAs evaluating post-treatment and follow-up cocaine use outcomes according to initial expectations. Results indicated few differences across a range of cocaine use outcomes according to whether participants were initially classified as ‘Unsure’ or ‘Sure’ of stopping their drug use. Additionally, the frequency of cocaine use during the follow-up period did not differ according to outcome expectations. However, participants who were classified as ‘Sure’ regarding their outcome expectations were more likely to report zero days of cocaine use, zero days of legal problems, and zero days of psychiatric problems on the ASI (i.e., ‘good outcome’) at the 6-month follow-up time point compared to those classified as ‘Unsure’. Because we dichotomized the outcome expectations variable, we also ran the analyses without manipulating the variable with the same result: Outcome expectations were not related to treatment outcomes.

Table 3 displays treatment outcome differences according to participants’ responses to outcome efficiency expectations item. The omnibus ANOVA revealed significant differences between participants based on their responses and the number of days retained in treatment, $F(4, 382) = 2.41, p = .049$, yet post-hoc comparisons using the Tukey HSD test (controlling for familywise error for multiple comparisons) revealed no significant differences between groups. There was a significant difference of outcome efficiency expectations and days of cocaine use at the one-month follow-up time point, $F(4, 377) = 3.45, p = .009$. The Tukey HSD test indicated participants that expected to receive positive effects of treatment within 0–1 week reported fewer days of cocaine use at the one-month follow-up ($M = 4.3, SD = 6.9$) than those who expected results in 1–2 months ($M = 8.4, SD = 8.6$) ($p = .023$). Also, participants who expected positive effects of treatment in 1–2 months reported more cocaine use ($M = 8.4, SD = 8.6$) than those who expected positive effects within two weeks to one month ($M = 4.8, SD = 7.3$) ($p = .017$). Finally, there was a significant effect of this item in association with the composite variable of having a ‘good outcome’ at the three-month follow-up point ($F(4, 4) = 11.13, p = .025$).

3.4 Active vs. Control Treatments

Finally, we examined whether outcome expectations would have a greater association with treatment outcomes in a control treatment (clinical management or treatment-as-usual) versus the experimental treatment in each study. We hypothesized that expectations would have a greater effect in a more supportive therapy, in which the therapeutic alliance, for example, exerts a stronger effect on outcome, than in the active treatments in which participants were delivered an evidence-based, structured treatment (such as TSF of CBT). A General Linear Model was used to compare the effect of being ‘Unsure/Sure’ regarding

outcome expectations and the type of treatment provided. While these analyses indicated main effects of treatment condition consistent with those reported for each parent study, participants' outcome expectations were not associated with either a main effect on outcome or an interaction with treatment type.

4. Discussion

The main finding for this study was that outcome expectations, as measured in this set of studies, were not strongly associated with substance use treatment outcomes. This is consistent with the Raylu and Kaur (2012) finding. Other research, however, has found that substance use is negatively associated with positive outcome expectations (Constantino, Penek, Bernecker, & Overtree, 2014). It could be that when substance-using populations are compared to non-substance using populations, there is a difference in outcome expectations. Further, we hypothesized that outcome expectations would interact with the type of treatment received (active versus control) to influence outcomes. We anticipated that outcome expectations would exert more of an influence on treatment outcomes in the supportive treatments than in the active treatments. There was not, however, a significant interaction between outcome expectations and the type of treatment received.

A preliminary finding was that outcome efficiency expectations were associated with the number of days of cocaine use at the one-month follow-up point. For instance, those that expected to receive positive effects of treatment within 0–1 week reported fewer days of cocaine at the one-month follow-up assessment than participants that expected a good result within 1–2 months. Also, those that expected a good treatment outcome within 1–2 months used more cocaine use than participants who reported outcome efficiency expectations of two weeks to one month. Within this sample and specifically for cocaine use at the one-month follow-up, quicker outcome efficiency expectations were associated with fewer days of cocaine use. There were no significant findings at the 3, 6, and 12-month follow-up assessments. Thus, it appears that outcome efficiency expectations exerted some effect one-month post-treatment, yet the effect waned over time. In the general psychotherapy literature, outcome efficiency expectations have been associated with treatment retention (Mueller & Pekarik, 2000; Swift & Callaghan, 2001), yet no studies have examined their association with substance use treatment outcomes.

Regarding demographic and other baseline characteristic differences, participants responding as 'Sure' of stopping drug use were more likely to be female, from minority groups, and had a greater severity of cocaine use (as indicated by a higher ASI Cocaine Composite score). Explanations for these differences are not immediately clear. Women have been shown to be less likely to seek substance use services in the course of their lifetimes, however if they enter treatment gender is not necessarily predictive of outcomes (Green, 2006; Greenfield et al., 2007). Because our sample included women who were already seeking treatment, it may be that they entered treatment due to the expectation of treatment success. Research conducted in an undergraduate population found that women were more likely to have positive outcome expectation and quicker outcome efficiency expectations (Hardin & Yanico, 1983). Our interpretations are preliminary, however, as no

prior studies have reported baseline demographic differences specific to patient substance use treatment expectations.

Our findings suggest that pre-treatment expectations do not have a strong influence on outcomes in RCTs for cocaine dependence. This may be analogous to the finding that an individual does not have to be motivated to benefit from substance use treatment. Perhaps individuals do not have to have positive outcome expectations to benefit as well in substance use treatment. Further, the outcome expectations variable was not significantly related to motivation in our analyses. There may be several reasons why outcome expectations were not associated with outcomes. The first is that it could be that our measure of expectations was psychometrically weak. Because the wording of several of the possible responses of the item was difficult to interpret (e.g., “might stop” versus “probably stop”), we chose to dichotomize the variable and based our analyses on that item. Second, the item asked participants to anticipate their own treatment outcome. It may be that people are not very good at predicting their own behavior, or that the treatment process itself changes what people expect in their goals. Perhaps it may be more beneficial to ask participants how effective they believe treatment will be and how credible they believe the treatment is, as there is some evidence that these types of expectations have predictive value in other psychotherapy studies (Devilley & Borkovec, 2000; Smeets et al., 2008). Third, it may be that substance users represent a unique population in which outcome expectations do not impact treatment outcomes as much as they do in other populations, and that other predictors, such as substance use severity and motivation, have more of an impact. Clinicians may benefit from these findings by recognizing that patients’ expectations of cocaine dependence treatment outcome are not strong predictors of actual outcome. Our data suggest that outcome expectations are not a ‘self-fulfilling prophecy’ and negative expectations do not necessarily result in negative outcomes.

This study had several limitations. First, we did not have a comprehensive measure of patient treatment expectations, but rather extracted two items from an Attitudes and Expectations assessment as our indicator of the constructs. The phrasing of the outcome expectations item, “Do you think you will reduce or stop your use of drugs or alcohol as a result of this treatment?”, may also simultaneously measure patients’ expectations for treatment efficacy, self-efficacy, and/or motivation. Additionally, responses were collected prior to treatment assignment. Thus, their lack of knowledge may have affected their level of ‘sureness’ with respect to anticipating treatment outcomes. Finally, because we used pooled data from four studies, we did not have a standardized procedure to address possible therapist effects. It is possible that therapist effects could account for a portion of the variance in treatment outcomes that was not assessed in our study.

To our knowledge, this is the first study to explore the association between initial treatment expectations and treatment outcomes within well-controlled randomized trials of treatments for cocaine use. A first important step for future research would be to develop a measure of substance use treatment expectations and examine its psychometric properties thoroughly. There are some measures of treatment expectations for psychotherapy in general (Devilley & Borkovec, 2000), but none specific to substance use. Also, as Miller and Moyers (2014) recently noted, substance use treatment research could be advanced by further investigating

patient and clinician factors that are often deemed as ‘common’ or ‘non-specific’. While our study did not find evidence that treatment expectations are associated with treatment outcomes, this is a preliminary study and further investigation into the ‘common’ factors of treatment may help contribute to our understanding of how and for whom a given treatment works.

Acknowledgments

Role of Funding Sources

This research was funded by the National Institute on Drug Abuse (5T32DA007238-23 R01; DA015969-09S1) and the National Institutes of Health (P50-DA09241).

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Table 1

Demographic and relevant treatment variables by patient treatment expectations

	'Unsure' N= 265	'Sure' N= 122	χ^2 (df)
Categorical Variables	<i>n</i> (%)	<i>n</i> (%)	
Female	74 (27.9)	49 (40.2)	5.77 (1) *
Race/Ethnicity			17.45 (3) **
Caucasian	164 (61.9)	48 (39.3)	
African American	81 (30.6)	59 (48.4)	
Hispanic	16 (6)	13 (10.7)	
Multiracial/Other	4 (1.5)	2 (1.6)	
Completed High School	216 (81.6)	90 (73.8)	3.03 (1)
Never Married/Living Alone	194 (73.2)	92 (75.4)	.21 (1)
Unemployed	146 (55.1)	72 (59)	.52 (1)
On Public Assistance	80 (30.3)	48 (39.3)	3.08 (1)
Lifetime Alcohol Use Disorder	191 (80.3)	78 (72.9)	2.33 (1)
Lifetime Major Depression	47 (18.4)	22 (18.6)	.00 (1)
Current Major Depression	14 (5.9)	7 (6.4)	.04 (1)
Lifetime Anxiety Disorder	25 (9.6)	14 (11.7)	.38 (1)
Referred/Prompted by Criminal Justice	37 (14.1)	14 (11.5)	.49 (1)
Antisocial Personality Disorder	59 (26.8)	26 (24.8)	.16 (1)
On Probation/Parole	57 (21.7)	29 (23.8)	.21 (1)
Primary Route Cocaine Administration			6.36 (3)
Smoke, Freebase	201 (76.1)	91 (74.6)	
Intranasal	45 (17)	29 (23.8)	
Intravenous	17 (6.4)	2 (1.6)	
Oral	1 (.4)	0	
Continuous Variables	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>F</i> (df)
Age	35.9 (7.7)	36.3 (7.7)	.28 (1,385)
Days of Marijuana Use, Past 28 Days	3.2 (6.9)	2.7 (7)	.36 (1,299)
Days of Cocaine Use, Past 28 Days	13.5 (8.2)	14.6 (8.8)	.23 (1,284)
Days of Alcohol Use Past 28 Days	9.3 (9.4)	8.8 (10)	1.3 (1,384)
Age of First Cocaine Use	21 (6.1)	21.8 (6.5)	1.35 (1,384)
Years of Regular Cocaine Use	8.8 (6.7)	8.3 (6.8)	.52 (1,385)
ASI Medical Composite	.13 (.24)	.14 (.26)	.24 (1,384)
ASI Employment Composite	.59 (.29)	.64 (.29)	2.57 (1,384)
ASI Alcohol Composite	.19 (.21)	.19 (.22)	.05 (1,383)
ASI Cocaine Composite	.65 (.21)	.69 (.2)	4.3 (1,383) *
ASI Other Drug Composite	.05 (.07)	.06 (.06)	.01 (1,382)
ASI Legal Composite	.09 (.16)	.11 (.2)	3.06 (1,383)
ASI Family Composite	.20 (.19)	.19 (.2)	.09 (1,382)

	'Unsure' N= 265	'Sure' N= 122	χ^2 (df)
Categorical Variables	<i>n</i> (%)	<i>n</i> (%)	
ASI Psychological Composite	.17 (.19)	.18 (.19)	.06 (1,383)
Lifetime Number of Arrests	5.7 (8.3)	4.6 (7)	1.5 (1,383)
Number of Inpatient Treatments	2.7 (4.7)	2.4 (4.8)	.25 (1,300)
Number of Outpatient Treatments	2 (3.7)	1.7 (1.7)	.72 (1,300)
Motivation (Readiness URICA Score)	8.6 (3.5)	9.1 (3.5)	1.13 (1, 271)

Note.

*
= $p < .05$

**
 $p < .01$

 $p < .001$

ASI = Addiction Severity Index. Each composite score ranges from 0 to 1, with higher scores representing greater clinical severity.

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Table 2

Treatment Effectiveness Expectations and Treatment Outcomes

	'Unsure' N= 265	'Sure' N= 122		
Post-Treatment	<i>M (SD)</i>	<i>M (SD)</i>	<i>F (df)</i>	<i>p</i>
Days Retained in Treatment*	56.7 (33)	50.9 (34)	2.56 (1, 1,385)	.111
% Cocaine Positive Urines	.62 (.36)	.65 (.37)	.41 (1, 1,306)	.524
Motivation (Readiness URICA Score)	8.6 (2.5)	9.1 (3.5)	1.13 (1, 1,271)	.289
Maximum Consecutive Days Abstinent	23.1 (25.8)	21.4 (22.4)	.33 (1, 1,355)	.566
% Days Abstinent from Cocaine	.75 (.25)	.73 (.28)	.32 (1, 1,346)	.572
Follow-Up	<i>M (SD)</i>	<i>M (SD)</i>	<i>F (df)</i>	<i>p</i>
Days Cocaine Use, 1 Month	5.6 (7.5)	5.9 (8)	.08 (1, 1,380)	.782
Days Cocaine Use, 3 Months	5.2 (7.6)	5.8 (8.6)	.47 (1, 1,379)	.494
Days Cocaine Use, 6 Months	5.8 (8)	4.3 (7.5)	2.9 (1, 1,369)	.089
Days Cocaine Use, 12 Months	4.3 (7)	4.7 (7.6)	.18 (1, 1,347)	.676
	<i>n (%)</i>	<i>n (%)</i>	<i>χ² (df)</i>	<i>p</i>
Percentage reporting no cocaine use, legal, employment, or psychological problems				
1 Month	42 (16.4)	22 (18.5)	.25 (1)	.618
3 Months	43 (16.7)	24 (20)	.6 (1)	.439
6 Months	34 (13.3)	28 (23.5)	6.18 (1)	.013
12 Months	44 (18.7)	29 (25.7)	2.22 (1)	.136

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Table 3

Expected Timeframe of Treatment Effect and Treatment Outcomes

	0–1 Week		1–2 Weeks		2 Weeks to a Month		1–2 Months		Longer Than 8 Weeks		<i>F</i> (df)	<i>p</i>
	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)		
Post-Treatment												
Days Retained in Treatment	60 (31.5)		58.5 (32.3)		48.7 (34.8)		59.9 (33.4)		48.8 (31.7)		2.41 (4,382)	.049
% Cocaine Positive Urines	.54 (.39)		.67 (.34)		.61 (.37)		.74 (.32)		.59 (.38)		2.14 (4,303)	.076
Maximum Consecutive Days Abstinent	25.6 (24.1)		21.2 (22.2)		21.6 (25.4)		23.8 (28.4)		22 (23.8)		.35 (4,352)	.845
% Days Abstinent from Cocaine	.79 (.23)		.68 (.30)		.76 (.25)		.73 (.25)		.80 (.20)		2.36 (4, 343)	.053
Follow-Up												
	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>F</i> (df)	<i>p</i>
Days Cocaine Use, 1 Month	4.3 (6.9)		6.4 (8.1)		4.8 (7.3)		8.4 (8.6)		4.6 (6.7)		3.45 (4,377)	.009
Days Cocaine Use, 3 Months	4 (7.1)		6.7 (9.3)		4.5 (7.2)		7.1 (8.3)		4.7 (7)		2.37 (4,376)	.052
Days Cocaine Use, 6 Months	5.6 (5.8)		5.4 (7.7)		4.4 (7.2)		7.1 (9)		4.7 (6.7)		1.34 (4,366)	.254
Days Cocaine Use, 12 Months	4.7 (8.2)		5.6 (8)		3.6 (6.1)		4.8 (7.7)		3.2 (5.8)		1.29 (4,344)	.275
	<i>n</i> (%)		<i>n</i> (%)		<i>n</i> (%)		<i>n</i> (%)		<i>n</i> (%)		χ^2 (df)	<i>p</i>
Percentage reporting no cocaine use, legal, employment, or psychological problems												
1 Month	8 (13.8)		13 (14.6)		24 (19)		8 (12.7)		11 (28.2)		5.44 (4)	.245
3 Months	8 (14)		13 (14.6)		32 (25.6)		5 (7.8)		9 (21.4)		11.13 (4)	.025
6 Months	9 (15.5)		16 (18)		26 (20.8)		7 (10.9)		4 (10.3)		4.39 (4)	.355
12 Months	9 (18.4)		18 (21.2)		26 (22.2)		11 (18)		9 (25)		.98 (4)	.912