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Concurrent Alcohol Dependence Among Methadone-Maintained Cocaine Abusers Is Associated with Greater Abstinence

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Abstract

Concurrent alcohol dependence (AD) among polysubstance abusers has been associated with negative consequences, although it may not necessarily lead to poor treatment outcomes. One of the most efficacious treatments for cocaine abuse is contingency management (CM), but little research has explored the impact of AD on abstinence outcomes, particularly among patients in methadone maintenance. Using data from three trials of CM for cocaine use, we compared baseline characteristics and post-treatment and follow-up cocaine outcomes between methadone maintained, cocaine dependent patients (N=193) with and without concurrent AD, randomized to standard care (SC) with or without CM. Patients with and without concurrent AD had similar baseline characteristics, with the exception that AD patients reported more alcohol use. AD patients achieved longer durations of cocaine abstinence and were more likely to submit a cocaine negative sample at follow-up than non-AD patients. Patients randomized to CM achieved better outcomes than those randomized to SC, but there was no interaction between treatment condition and AD status. These findings suggest that cocaine using methadone patients with AD achieve greater cocaine abstinence than their non-AD counterparts and should not be necessarily viewed as more difficult to treat.

Keywords

alcohol dependence; treatment outcomes; contingency management; cocaine dependence; methadone

Alcohol dependence (AD) is a significant problem among individuals with cocaine use disorders, with prevalence rates ranging from 57% to 63% (Carroll, Rounsaville, & Bryant, 1993; Higgins, Budney, Bickel, Foerg, & Badger, 1994). Among cocaine abusers, AD is associated with more severe cocaine dependence and more frequent polysubstance abuse (Carroll et al, 1993), as well as more adverse consequences from cocaine use (Heil, Badger, & Higgins, 2001). This pattern of dual substance abuse may result from a variety of factors, including the use of alcohol to “come down” from a binge or to cope with cocaine cravings (Magura & Rosenblum, 2000). Concurrent use of alcohol use and cocaine can produce the active metabolite cocaethylene, which has similar behavioral and toxicological affects to cocaine (Pennings, Leccese, & de Wolff, 2002) and can lead to a greater subjective experience of “high” (McCance-Katz, Kosten, & Jatlow, 1998).

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AD is also common among opioid dependent patients, especially those with concurrent cocaine dependence, although prevalence rates are generally lower in the methadone maintained population, ranging from 9% to 33% (Chatham, Rowan-Szal, Joe, Brown, & Simpson, 1995; El-Bassel, Schilling, Turnbull, & Su, 1993; Senbanjo, Wolff, & Marshall, 2007). In methadone populations specifically, alcohol use is associated with more psychological problems and social dysfunction (Chatham et al., 1995; Rounsaville, Weissman, & Kleber, 1982), increased health problems (Stimmel, Vernace, & Tobias, 1972), and death (Joseph & Appel, 1985).

However, despite the negative consequences of combined AD and other substance abuse, AD may not necessarily predict poorer treatment outcomes. Rounsaville et al. (1982) found that opioid-dependent patients with AD achieved similar degrees of opioid abstinence as their counterparts without AD. AD may even be associated with better treatment outcomes among some opioid-dependent individuals. Chatham et al. (1995) reported that patients with concurrent alcohol and opioid dependence stayed longer in methadone maintenance treatment than their non-alcohol dependent counterparts, and they hypothesized that this effect may be due to a greater focus on and acceptance of their substance use problems. Thus, it appears that co-occurring AD in patients dependent on opioids is not associated with worse outcomes, and at least one report finds better outcomes.

Among patients with primary cocaine dependence, several studies have reported no impact of AD status on cocaine abstinence (Carroll et al., 1993; McKay, Alterman, Rutherford, Cacciola, & McLellan, 1999; Rash, Alessi, & Petry, 2008). Similarly, Mengis, Maude-Griffin, Delucchi, and Hall (2002) found that neither severity of alcohol abuse nor frequency of alcohol consumption predicted cocaine abstinence. In one group of cocaine dependent outpatients, more baseline alcohol problems were associated with better sustained cocaine abstinence (Alterman, McKay, Mulvaney, Cnaan, Cacciola, Tourian, 2000).

However, we could find no studies that have specifically evaluated the impact of concurrent AD among cocaine-dependent methadone patients. Rounsaville et al. (1982) found that methadone maintained patients with and without AD reported similar patterns of cocaine use, although these patients were not cocaine dependent. Stapleton and Comiskey (2010) examined a group of cocaine-dependent patients in various opioid abuse treatments (e.g., methadone, detoxification, abstinence-based, or needle exchange program) and found that three years after treatment initiation, those who reported any alcohol use were significantly more likely to be cocaine abstinent in the past 90 days than those who were alcohol abstainers. However, the authors examined patients with alcohol use, not AD. In addition, the patients in their study were exposed to a variety of treatments and the impact of AD on cocaine use outcomes may vary as a function of treatment modality.

Few studies have examined the impact of AD status on treatment outcomes among patients receiving contingency management (CM). CM is a behavioral treatment that involves the provision of tangible reinforcers (e.g., vouchers, prizes) for abstinence, and it is one of the most effective treatments for cocaine dependence in methadone maintained patients. In a large, multicenter study of stimulant abusing methadone patients, patients randomized to CM had higher proportions of substance-free urine submissions and longer durations of abstinence than patients randomized to standard care (Peirce et al, 2006). Independent meta-analyses also point to the efficacy of CM in cocaine dependent, opioid dependent, and dual cocaine-opioid dependent patients (Griffith, Rowan-Szal, Roark, & Simpson, 2000; Lussier, Heil, Mongeon, Badger, & Higgins, 2006; Prendergast, Podus, Finney, Greenwell, & Roll, 2006).

Although CM is efficacious in treating cocaine-dependent methadone patients, no study has examined the impact of AD status and treatment (CM vs. standard care) on cocaine outcomes in this population. In a laboratory study using CM principles, Higgins, Roll, and Bickel (1996) found that alcohol increased preference of cocaine over a monetary reinforcer, suggesting that CM may be less effective in AD patients. However, patients in their study were not substance dependent. Also, across all patients, even those who were pretreated with alcohol, preference for cocaine decreased as the value of the monetary reinforcer increased. This result suggests that CM may be effective in decreasing cocaine use even among patients who use alcohol.

Two studies investigated the impact of CM on cocaine abstinence among patients with AD, although neither sample had concurrent opioid dependence. Rash et al. (2008) reported that CM resulted in longer durations of abstinence when compared with standard treatment but AD status had no impact on abstinence outcomes as a main or interaction effect. In contrast, Heil et al. (2001) found an interactive effect of AD status and treatment on proportion of negative urine samples in cocaine dependent patients. Among the group that was exposed to CM, patients with concurrent AD provided a greater proportion of negative samples than those without AD; on the other hand, when exposed to standard care, patients with and without AD achieved similar levels of cocaine abstinence. These studies did not find that AD status was associated with poorer outcomes, and CM may confer even greater benefits for AD than non-AD patients.

Given the dearth of research in cocaine-dependent methadone patients, the purpose of this study was to explore the relationship between AD and treatment outcomes in methadone maintained cocaine-dependent patients receiving standard care with and without CM. To this end, we conducted a retrospective analysis, using three primary studies (Petry, Alessi, Hanson, & Sierra, 2007; Petry & Martin, 2002; Petry, Martin, & Simcic, 2005) that demonstrated the efficacy of CM. First, we examined baseline characteristics, with the hypothesis that patients with concurrent AD would endorse greater alcohol use and severity and possibly other psychosocial problems when compared to patients without concurrent AD. Our second aim was to explore the association between AD status and cocaine outcomes among patients exposed to standard treatment with and without the addition of CM. As prior studies showed no adverse impact of AD status and possibly improved outcomes among patients with concurrent AD, we anticipated that cocaine dependent methadone patients with AD may evidence better cocaine treatment outcomes than their counterparts without AD. We also examined the effect of AD status on long-term cocaine abstinence. Because previous research has demonstrated that abstinence during treatment is associated with sustained abstinence (e.g., Higgins, Badger, & Budney, 2000; Petry et al., 2006), we predicted that greater abstinence during treatment, as may occur in AD patients, would be associated with long-term post treatment abstinence.

Method

Patients

This study analyzed data from a combined sample from three trials (N=193; Petry et al., 2005, 2007; Petry & Martin, 2002), each comparing the effects of CM versus standard care for treating cocaine dependence in methadone maintenance patients. There were no significant differences in basic demographic characteristics of patients participating in the trials. The standard treatments in each trial were similar in terms of intensity and duration, follow-up, assessment measures and intervals, and target population. This consistency among the trials provided a rationale for combining these studies.

Inclusion criteria were similar across trials and included age ≥ 18 , past-year diagnosis of cocaine abuse or dependence, stable methadone dose for at least 1 month, and English speaking. Exclusion criteria included severe cognitive impairment, uncontrolled psychiatric disorders (e.g., psychosis, bipolar), and in recovery from pathological gambling. All patients provided written informed consent, approved by the University Institutional Review Board.

Evaluations

All individuals participated in a baseline evaluation consisting of demographic information, drug use and treatment histories, and checklists related to the substance use module of the Structured Clinical Interview for the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* to assess for past year AD (First, Spitzer, Gibbon, & Williams, 1996). Patients also completed the Addiction Severity Index (ASI; McLellan et al, 1985), which assesses psychosocial functioning in seven domains (alcohol use, drug use, medical, employment, legal, family/social relationships, and psychiatric). Research assistants collected observed urine samples that were screened using OnTrak TesTstiks (Varian, Inc., Walnut Creek, CA). Six months following treatment initiation, patients completed the ASI and provided a urine sample. Patients received \$10–25 for the initial evaluations. Payment for follow-up participation was \$15–\$25, and follow-up completion rates were 85.0%.

Randomization to Treatments

After completion of the baseline evaluation, patients were randomized to standard care or CM treatment conditions. Randomization was conducted via a computerized urn randomization program (Stout et al., 1994). The individual studies (Petry et al., 2007; Petry & Martin, 2002; Petry, Martin, & Simcic, 2005) provide full descriptions of the treatment conditions, and therefore the treatments are outlined only briefly below.

Standard Care (SC) Condition

Standard care was similar across the clinical trials and included daily methadone doses, weekly group therapy, and monthly individual counseling.

In each trial, patients submitted 2–3 urine samples per week, with 2–4 days separating each sample. In all studies, samples were tested for opioids and cocaine. In each study, patients received verbal praise from study staff for submission of negative samples, and in one (Petry et al., 2005) study they also received small incentives for submitting samples.

Contingency Management Conditions

Patients in CM conditions received all elements of standard treatment, and submitted samples at the same frequency as those in the SC alone condition. Patients in the CM conditions also earned reinforcement for specific behaviors. In all three studies, patients earned at least one draw from a prize bowl for each sample that tested negative for cocaine, and they also received bonus draws for consecutive abstinence. When patients provided a cocaine positive sample (or refused to give a sample or had an unexcused absence), the number of draws was reset to one for the next negative sample submitted. Excused absences occurred in less than 2% of scheduled samples across all trials and conditions.

The prize bowls contained either 250 or 500 slips of paper. Half were non-winning slips that said “good job,” and half were winning slips. Of the winning slips, most (about 43%) were small prizes worth about \$1. Approximately 6% of the slips were for large prizes worth about \$20. In each bowl, 1 slip was a jumbo prize, worth up to \$100.

Patients in the Petry and Martin (2002) study received 1 draw for each sample that was negative for cocaine or opioids. If a sample was negative for both drugs, patients received 4

draws. They also received bonus draws for consecutive weeks of abstinence from both drugs.

Patients in the Petry et al. (2005) study also received reinforcement for cocaine abstinence and independently received reinforcement for group attendance, receiving one draw from the prize bowl for each attended sessions. They also earned bonus draws for consecutive weeks of attendance. If they were absent from the group, the number of draws was reset to one.

In addition to including a CM condition that reinforced cocaine abstinence with prize draws, the Petry et al. (2007) study also included a second CM condition that reinforced cocaine abstinence with vouchers rather than prizes. These patients earned \$3 for each negative sample and an additional \$3 for each consecutive negative sample (up to \$30 per sample). Because there were no significant differences between those assigned to the voucher and prize CM conditions, both CM conditions were combined for the purposes of the present analyses.

Data Analysis

Patients with and without past year AD were compared with respect to baseline characteristics using independent t-tests and χ^2 tests. Although not all continuous variables were normally distributed, t-tests are robust to departures from normality when sample size is large (Lumley, Diehr, Emerson, & Chen, 2002), and analyses yielded similar results with nonparametric tests. MANCOVA examined the association between AD status and the seven baseline ASI scores, controlling for study.

ANCOVAs evaluated the association between AD status and the two primary drug abuse treatment outcomes: longest duration of abstinence (LDA) achieved during treatment and proportion of negative samples submitted. As cocaine abstinence was the common behavior reinforced across trials, analyses focused on cocaine abstinence. LDA was defined as the greatest number of consecutive weeks (range = 0–12) of objectively verified abstinence from cocaine. Positive or refused samples and unexcused absences on a testing day broke the string of abstinence in all three of the trials. The proportion of negative samples variable was calculated with the number of samples submitted in the denominator, such that missing samples did not impact this variable. Independent variables included AD status (non-AD or AD), study (Petry & Martin, 2002 or Petry et al., 2005 or Petry et al., 2007) and treatment condition (SC or CM). Although interaction terms were initially included in the model, none were significant, and for ease of interpretation, only main effects are presented.

Post-treatment abstinence was defined as submission of a cocaine-negative urine sample at Month 6, and logistic regression examined predictors of abstinence at the follow-up. AD status and study were entered as categorical variables in Step 1, and treatment condition was added in Step 2. A third step including interaction effects was also included but because it did not improve the model, these results are not described. Analyses were conducted twice, first using the available data ($n = 164$), and second with missing samples coded as positive ($N = 193$).

Results

Baseline Characteristics

In total, 38 patients (19.7%) were identified with AD. Table 1 shows differences in baseline characteristics between methadone patients with and without AD. Alcohol dependent patients reported more drinks in the last 30 days and greater number of years of regular alcohol use. There were no significant differences between AD and non-AD patients for any

other baseline variables, and similar proportions of AD and non-AD patients were assigned to SC and CM conditions. However, more AD patients participated in the Petry et al. (2005) study relative to the other two studies. Hence, all subsequent analyses controlled for study.

After controlling for study, Table 2 shows ASI scores for patients with and without AD. Overall, there was a significant effect of AD status on ASI scores, Pillai's Trace = 0.22, $F(7,181) = 7.19$, $p < .001$. Patients with AD had higher alcohol composite scores than those without AD, but no other differences were noted between AD and non-AD patients on composite scores of the ASI.

AD Status and Treatment Outcomes

Both study and treatment condition were associated with treatment outcomes. Patients in the Petry et al. (2002) (M weeks = 4.3, $SE = 0.7$) and Petry et al. (2007) ($M = 5.0$, $SE = 0.6$) studies achieved longer durations of cocaine abstinence than those in the Petry et al. (2005) study ($M = 2.1$, $SE = 0.5$), $F(2,187) = 8.84$, $p < .001$. Patients in the Petry et al. (2002) ($M = 55.9\%$, $SD = 6.1\%$) and Petry et al. (2007) ($M = 48.2\%$, $SE = 5.4\%$) studies also provided a greater proportion of cocaine negative samples than patients in Petry et al. (2005) ($M = 27.7\%$, $SE = 4.7\%$) study, $F(2, 188) = 9.14$, $p < .001$. CM treatment was associated with longer durations of abstinence ($M = 4.8$, $SE = 0.5$) than SC ($M = 2.7$, $SE = 0.5$), $F(1,187) = 11.45$, $p = .001$. Also, patients who received CM submitted a greater proportion of negative samples ($M = 53.3\%$, $SE = 4.3\%$) than those who received SC alone ($M = 34.5\%$, $SE = 4.8\%$), $F(1,188) = 10.67$, $p = .001$.

After controlling for the effects of study and treatment condition, analyses indicated no significant effect of AD status on proportion of negative drug samples, $F(1,188) = 1.22$, $p = 0.27$ (Figure 1). However, AD status did have a significant impact on longest duration of abstinence achieved, such that patients with AD achieved longer periods of cocaine abstinence than patients without AD, $F(1,188) = 3.88$, $p = 0.05$ (Figure 2). The interaction effect between AD status and treatment condition was not significant ($p > .05$).

AD Status and Follow-up Results

At the Month 6 follow-up, 164 patients (85.0%) submitted a urine sample, and 75 of them (45.7%) tested negative for cocaine. In the logistic regression including these 164 patients who submitted samples at the Month 6 follow-up, Step 1 including AD status and study was significant, $\chi^2(3) = 13.47$, $p = .004$. Step 2, which added treatment condition, was also significant, $\chi^2(1) = 5.05$, $p = .03$, and improved the model, $\chi^2(4) = 18.53$, $p < .001$, explaining 64.6% of the variance. Step 3, including the interaction effect, was not significant, $p > .05$.

A diagnosis of AD was associated with higher likelihood of submission of a cocaine-negative sample at the follow-up, with Beta (B) = 0.81 (SE) = 0.43, Wald = 3.56, $p = .05$, and odds ratio (OR) and 95% confidence intervals (CI) of 2.24 (1.00 – 5.19). CM treatment was also significantly associated with cocaine abstinence at Month 6, B (SE) = 0.79 (0.36), Wald = 4.92, $p = .03$, and OR (95% CI) = 2.21 (1.10 – 4.46). In addition, study was a significant factor. Relative to patients in the Petry et al. (2005) study, patients in the Petry et al. (2007) study were more likely to submit negative samples at follow-up, B (SE) = 1.09 (0.40), Wald = 7.55, $p = .006$, and OR (95% CI) = 2.98 (1.37 – 6.50), as were patients in the Petry et al. (2002) study, B (SE) = 1.05 (0.44), Wald = 5.79, $p = .02$, and OR (95% CI) = 2.85 (1.21 – 6.67). When all 193 patients were included in the analyses with missing samples presumed positive for cocaine, results were similar (data not shown).

Discussion

One aim of this study was to examine baseline characteristics in cocaine dependent methadone patients with and without AD. Not surprisingly, patients with concurrent AD reported more drinks in the last 30 days and a greater number of years of regular alcohol use than patients without concurrent AD. There were no differences between AD and non-AD patients on other baseline variables including psychiatric problems, medical problems, drug severity and years of cocaine use. These data are contradictory to studies that find that patients with concurrent alcohol and cocaine dependence have poorer functioning along a number of domains (Chatham et al., 1995; Rounsaville et al., 1982; Senbanjo et al., 2007; Stimmel et al., 1972; Joseph & Appel, 1985). The similarities between AD and non-AD patients in our sample may have occurred because patients with more severe AD symptoms would have been referred to more intensive programs (e.g., detoxification) and thus did not participate in our studies.

The second aim of this study was to explore the impact of concurrent AD on cocaine abstinence outcomes among patients receiving standard methadone maintenance treatment with and without CM. We found main effects for both treatment condition and AD status, such that patients exposed to CM had better cocaine outcomes than those exposed to SC, and patients with concurrent AD generally achieved better cocaine outcomes than patients without concurrent AD, even after controlling for the effects of study and treatment condition. Patients with concurrent AD achieved longer durations of cocaine abstinence and were 2.25 times more likely than patients without AD to submit cocaine-negative samples at follow-up. However, there was no interaction effect of these variables on abstinence outcomes, as patients with concurrent AD achieved similar outcomes regardless of treatment condition (CM or SC). These findings contrast those of Heil et al. (2001) who did find an interactive effect, and those that found no effect of AD on abstinence outcomes (McKay et al., 1999; Rash et al., 2008).

These conflicting results may be due to the fact that our patients were participating in a methadone maintenance program, while patients in other studies were receiving standard outpatient treatment and were not opioid dependent. Also, the policy of the methadone clinic from which these samples were drawn was to discharge patients who repeatedly arrived intoxicated. Thus, patients with more severe AD would have been discharged, and AD patients who remained at the clinic may have been motivated to remain abstinent to avoid discharge. This theory is in line with Chatham et al. (1995), who suggested that AD patients who are in treatment might be more accepting of their addictions and be more committed to their recovery.

Although our results suggest that patients with AD can expect to achieve similar or better abstinence outcomes than patients without AD, it is important to consider limitations of this study. All of our patients were recruited from a single methadone clinic, and results may vary across clinics. We observed a significant effect on outcomes based on study, such that patients in the Petry et al. (2005) study achieved shorter durations of abstinence than those in the Petry and Martin (2002) and Petry et al. (2007) studies. These differential outcomes likely reflect higher levels of baseline cocaine use in the Petry et al. (2005) study, as greater proportions of these patients submitted a cocaine positive sample at baseline. Previous studies have demonstrated an association between baseline usage and treatment outcomes (Alterman et al., 1997; Preston et al., 1998; Tzilos, Rhodes, Ledgerwood, & Greenwald, 2009), and in the present analyses we controlled for study to adjust for these baseline differences.

We also only assessed for the presence of AD at baseline, and we may have obtained different results if we had examined patients with and without a lifetime diagnosis of AD, or looked at changes in AD status over treatment. It would also be beneficial to examine longer-term outcomes, as we only assessed abstinence at 6 months post-treatment. Finally, we did not examine the impact of AD status and treatments on other drug use (e.g., alcohol or opioids), but future studies may examine these outcomes. A previous study (Petry, Martin, Cooney, & Kranzler, 2000) found that CM for alcohol abstinence also resulted in decrease of other illicit drug use. It would be interesting to determine whether other drug use is impacted when only cocaine abstinence is reinforced, and whether patients with and without AD respond in a similar fashion. Finally, our sample of AD patients was relatively small, although the proportions of patients with AD were consistent with other samples of methadone maintained patients (Chatham et al. 1995; El-Bassel et al., 1993; Senbanjo et al., 2007).

Despite these limitations, our study has several strengths, including the fact that it is the first to examine the role of AD among patients concurrently dependent on cocaine and opioids. Given the frequency of polysubstance abuse in methadone clinics, this population is an important one to consider. We also used a large, heterogeneous sample which increases generalizability of our results. In addition, objective measures of cocaine use were included along with random assignment to treatment conditions. The use of slightly different CM procedures across the three primary trials may be viewed as a limitation, although it can also be viewed as a strength because it increases generalizability across CM interventions. Generalizability is particularly important as more community settings incorporate various forms of CM into their treatment programs.

In conclusion, cocaine abusing methadone patients with concurrent AD achieved longer durations of cocaine abstinence and also better maintained this abstinence throughout a long-term follow-up than their non-AD counterparts. This study provides evidence that cocaine-dependent methadone patients with concurrent AD respond well to treatment, and should not necessarily be assumed to be more resistant to treatment.

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Figure 1. Proportion of Cocaine Negative Samples by Alcohol Dependence Status

Values represent adjusted means and standard errors. Values from alcohol dependent patients are shown in filled bars and values from non-alcohol dependent patients are shown in empty bars.

Figure 2. Longest Duration of Cocaine Abstinence (in weeks) by Alcohol Dependence Status
Values represent adjusted means and standard errors

Values from alcohol dependent patients are showed in filled bars and values from non-alcohol dependent patients are shown in empty bars.

* $p = .05$

Table 1**Baseline and Demographic Characteristics by Alcohol Dependence Status**

Variable	Alcohol Dependent (n = 38)	Non-Alcohol Dependent (n = 155)	Statistic	p
Study, % (n)			$\chi^2(2) = 7.94$	0.019
Petry & Martin (2002)	28.9 (11)	20.0 (31)		
Petry et al. (2005)	52.6 (20)	36.8 (57)		
Petry et al. (2007)	18.4 (7)	43.2 (67)		
Treatment condition, % (n)			$\chi^2(1) = 0.81$	0.368
Standard care	47.4 (18)	39.4 (60.1)		
Standard care + contingency management	52.6 (20)	60.6 (94)		
Age in years	39.8 (7.4)	40.0 (7.1)	$t(191) = 0.21$	0.836
Male gender, % (n)	39.5 (15)	32.3 (50)	$\chi^2(1) = 0.71$	0.399
Race, % (n)			$\chi^2(3) = 1.50$	0.682
Caucasian	21.2 (8)	18.1 (28)		
African-American	39.5 (15)	39.4 (61)		
Hispanic	36.8 (14)	41.9 (65)		
Other	2.6 (1)	0.6 (1)		
Marital status, % (n)			$\chi^2(3) = 1.50$	0.496
Never married	68.4 (26)	61.9 (96)		
Widowed	7.9 (3)	3.9 (6)		
Separated	21.1 (8)	29.0 (45)		
Married	2.6 (1)	5.2 (8)		
Employment, % (n)			$\chi^2(2) = 0.25$	0.883
Full time	31.6 (12)	31.0 (48)		
Retired/disability	0	0.6 (1)		
Unemployed	68.4 (26)	68.4 (106)		
Years of education	10.8 (2.1)	11.0 (2.0)	$t(191) = 0.48$	0.631
Annual income, Median(IQR)	\$9137 (\$11624)	\$8654 (\$7988)	$t(186) = -0.30$	0.766
Methadone dose (mg)	67.7 (19.6)	77.9 (30.9)	$t(190) = 1.94$	0.054
Years of regular alcohol use	20.3 (9.5)	11.7 (11.6)	$t(191) = -4.21$	< .001
Years of regular cocaine use	7.4 (9.8)	10.4 (11.1)	$t(191) = -0.13$	0.900
Years of regular heroin use	15.5 (8.0)	16.6 (9.4)	$t(191) = 0.71$	0.480
Years of regular marijuana use	6.6 (8.3)	7.2 (9.5)	$t(191) = 0.36$	0.720
Days used alcohol in last 30	4.9 (7.9)	1.6 (5.3)	$t(191) = -3.27$	0.001
Days used cocaine in last 30	7.4 (9.8)	10.4 (11.1)	$t(191) = 1.52$	0.131
Days used heroin in last 30	1.2 (2.6)	1.3 (3.6)	$t(191) = 0.16$	0.874
Days used marijuana in last 30	1.7 (5.6)	2.2 (6.7)	$t(191) = 0.41$	0.682

Values represent means (and standard deviations) unless otherwise indicated.

Table 2

Alcohol Severity Index Scores by Alcohol Dependence Status

	Alcohol Dependent	Non-Alcohol Dependent	<i>F</i> (7, 181)	<i>p</i>
Medical	0.29 (0.06)	0.27 (0.03)	0.05	0.83
Employment	0.86 (0.04)	0.81 (0.02)	1.34	0.25
Alcohol	0.23 (0.03)	0.04 (0.01)	43.48	< .001
Drug	0.18 (0.02)	0.18 (0.01)	0.10	0.75
Legal	0.10 (0.03)	0.07 (0.01)	1.29	0.26
Family/Social	0.14 (0.03)	0.11 (0.02)	0.81	0.37
Psychological	0.27 (0.04)	0.21 (0.02)	2.15	0.14

Values represent means (and standard deviations).