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Cocaine Dependence and Concurrent Marijuana Use: A Comparison of Clinical Characteristics

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Abstract

Background/Objectives—Marijuana is the most commonly used illicit substance, yet among the least studied in medication development research. Cocaine-dependent individuals frequently also use marijuana; however, little is known about the effect of this combined use on treatment presentation.

Methods—Marijuana use was assessed in 1183 individuals seeking outpatient treatment for cocaine dependence. Based on past 30 days of use, the sample was divided into three groups: (1) patients reporting no recent marijuana use ($n = 634$); (2) occasional use ($n = 403$); (3) and frequent concurrent marijuana use ($n = 146$). Differences on baseline measures of substance use, addiction severity (ASI), psychopathology, and sociodemographic characteristics were examined as a function of level of marijuana use.

Results—Frequent marijuana users were more likely to be female, Caucasian, and younger than other groups. Cocaine-dependent patients with frequent marijuana use also used more cocaine and alcohol, and reported more medical, legal, and psychiatric problems, including antisocial personality disorder.

Conclusion and Scientific Significance—Cocaine-dependent patients with frequent marijuana use present for treatment with more severe impairment. Accounting for this heterogeneity among participants may improve treatment outcome.

Keywords

Clinical treatment trial; cocaine dependence; dual substance abuse; marijuana

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INTRODUCTION

Marijuana is the most commonly used illicit substance in the general population and among cocaine users (1–4). Rates of use among clinical samples of cocaine dependent patients range from 59 to 89%, with prevalence of cannabis dependence estimated at 18 to 53% (4–8). Marijuana use is highly salient in the context of substance dependence not only because of its prevalence but also because of its unpredictable effects when used in combination with other drugs (9).

The pervasive and devastating effects of cocaine dependence are well documented. More recently, the serious consequences of chronic marijuana use have been established. On its own, frequent marijuana use can lead to interpersonal difficulties, decreased motivation, cognitive impairment, respiratory and cardiovascular disease, and an increased risk of use of other substances (1, 10–13). Exactly how the effects of marijuana interact with the negative health and psychosocial effects of chronic cocaine use is unclear; however, there is evidence suggesting an exacerbation of consequences when using both drugs together (14, 15). For example, Budney et al. found that among 186 cocaine-dependent individuals, marijuana use at intake was associated with more frequent cocaine and alcohol use, increased depressive symptoms, and health-related consequences (16).

Human studies of the interaction of cocaine and marijuana have shown that combining the two drugs increases absorption of cocaine, and raises heart rate and blood pressure (17, 18). In a laboratory study by Lukas and colleagues, when subjects were administered marijuana prior to cocaine, latency to cocaine effects was significantly reduced, and duration of the positive or “good” effects of cocaine was increased, while the duration of dysphoric or “bad” effects was decreased (19). Thus, cocaine-marijuana users may engage in heavier or more frequent drug use in order to seek these desired behavioral and subjective effects.

In general, polydrug use is associated with poorer treatment outcome than single drug use (20), but results of studies specifically examining the impact of concurrent marijuana use on cocaine treatment outcome are mixed. Two studies reported adverse effects of continued marijuana use on risk of cocaine use or relapse (6, 21), while two other studies found a positive association between concurrent marijuana use and treatment retention (5, 22). Others have failed to find an association between marijuana use and treatment outcome of cocaine dependence (16, 23). Marijuana use and dependence, while not exclusionary in most cocaine clinical trials, may introduce an important source of population heterogeneity. Thus, initial research is needed to understand the potentially important differences among groups of cocaine users with and without concurrent marijuana use.

The present study focused on concurrent use of marijuana and its relation to the clinical profile of cocaine dependent individuals, including sociodemographics, substance use, and psychosocial variables. The extent to which cocaine dependent individuals used marijuana was expected to be related to the severity of their clinical presentation, with more frequent marijuana users showing the greatest impairment.

METHODS

Participants and Procedures

Participants were consecutive admissions to behavioral and pharmacological treatment studies for cocaine dependence conducted at the Treatment Research Clinic (TRC) in Houston, Texas.

Subjects were cocaine-dependent, English-speaking, between the ages of 18 and 60, able to participate in 12 weeks of outpatient treatment, and competent to give informed consent. Individuals were excluded if they met diagnostic criteria for current DSM-IV substance dependence (except nicotine, cannabis and cocaine) or Axis I disorders, used psychotropic medications, or experienced unstable or serious medical illnesses. All participants signed an informed consent form that was reviewed and approved by the Committee for the Protection of Human Subjects of The University of Texas—Houston, Health Science Center. Subjects took part in a two-week intake evaluation process to determine study eligibility, which included a physical examination, laboratory work-up, and a structured clinical interview for DSM-IV diagnoses.

The total sample of 1183 subjects had a mean age of 39 years ($SD = 6.96$) and a mean education level of 12.72 years ($SD = 2.08$). Most were African American (64.7%), male (82%), and unemployed (53%). Reported use of cocaine in the 30 days prior to treatment was 13.42 days ($SD = 8.87$). The majority of subjects (85.5%) reported smoking cocaine as their primary route of administration, and 64% previously participated in drug abuse treatment.

Measures

Sociodemographics and Substance Use—Author-constructed forms were used to collect sociodemographic and drug history information. The drug history interview included items assessing recent quantity/frequency, duration of use, route of administration, longest sustained abstinence, past quit attempts, and desire to quit for all classes of psychoactive drugs. The Addiction Severity Index (ASI) (24) was used to assess severity of problems in the following areas: medical, employment, drug, alcohol, legal, family/social, and psychiatric. Interviewers underwent standard ASI training procedures and received ongoing supervision. ASI composite severity scores were calculated.

Diagnosis—Current and past diagnostic information was obtained using the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (38) per the Structured Clinical Interview for DSM-IV [SCID (39)]. All Axis I modules and the three Axis II modules for antisocial, borderline, and dependent personality disorder were administered. SCID assessments were conducted by master's and doctoral level clinicians who were trained by experienced interviewers using standardized training videotapes from Biometrics Research, New York. As recommended, a series of practice interviews was performed to enhance interrater reliability before beginning interviews with study participants. Provisional SCID-based diagnoses were confirmed by the study psychologist or psychiatrist.

Marijuana Use—Ninety-five percent of subjects in this cocaine-dependent sample reported ever having used marijuana. Approximately half of the subjects ($n = 549$, 46.4%) reported current use, defined as any marijuana use during the past 30 days. Within the current users, inspection of the distribution of days of use supported a further division between “occasional users” ($n = 403$, 34.1%) and “frequent users” ($n = 146$, 12.3%). Based on natural breaks in the distribution, subjects using marijuana 1 to 9 days over the past 30 days were categorized as occasional users and reported a mean \pm SD of 2.57 ± 2.01 days of use. Subjects using marijuana 10 or more days over the past 30 days ($M = 20.75 \pm 7.57$ days) were categorized as frequent users. This classification system demonstrated convergent validity with intake urine screen results. Percentage of marijuana positive screens was 76.7% in frequent users, 23.1% in occasional users, and 1.1% in the non-using group. Additionally, frequent users were more likely to meet current marijuana dependence criteria (20.5% relative to 3% in occasional users).

Data Analysis

Differences across levels of marijuana use were assessed with contingency tables and ²-testing for categorical variables and analyses of variances (ANOVA) for continuous variables. Tukey tests were used to control for Type I error in post hoc pairwise comparisons. Conversely, examining the prediction of marijuana group status by salient baseline variables employed logistic regression.

RESULTS

Comparison of Sociodemographic and Addiction Severity Characteristics

Table 1 presents the sociodemographic characteristics across levels of concurrent marijuana use. Gender differences indicated a higher proportion of women than men in the frequent using group only. For race, group differences indicated a higher proportion of Caucasians than African-Americans or Hispanics in the frequent using group. Age differences were found as well, with the frequent using group younger than the occasional and non-using groups. The frequent using group had higher ASI severity scores on the alcohol, drug, psychiatric, and legal scales compared to occasional and non-users. In contrast, the frequent using group had lower severity scores on the employment subscale. They were more likely to be employed than the occasional and non-users.

Comparison of Substance Use Characteristics

Table 2 presents the substance use characteristics across level of concurrent marijuana use. Compared to non-users and occasional users, those in the frequent using group reported more recent days using cocaine and alcohol. Frequent users reported an earlier age of first use of cocaine than occasional users and reported more intranasal use of cocaine than occasional users. Among users of marijuana, frequent users were more likely to perceive marijuana as a problem but rated their desire to quit using marijuana lower than occasional users.

Comparison of Diagnostic Characteristics

By study protocol, eligible subjects met DSM-IV criteria for cocaine dependence and did not meet criteria for current dependence on alcohol, sedatives, opioids, or hallucinogens. Frequent marijuana users were more likely to have current and lifetime cannabis use disorders. As shown in Table 3 no differences were found on lifetime diagnoses of alcohol abuse or dependence. The proportion of subjects meeting criteria for lifetime abuse of hallucinogens and opioids was highest among the frequent using group. Of the Axis II disorders assessed, differences were found for the diagnosis of Antisocial Personality Disorder (ASPD) with the frequent using group more likely to meet criteria for this disorder compared to occasional users. Occasional users met ASPD criteria more often than non-users.

DISCUSSION

The large percentage (46.4%) of concurrent marijuana users in this sample of treatment-seeking cocaine dependent sample is consistent with previous reports (16, 25, 26). Overall, findings support our hypothesis that frequent concurrent marijuana users present with a distinct clinical profile. In most comparisons, between-group effects were driven by greater differences between frequent users and the other groups. Key points from this study are summarized below.

Concurrent marijuana is associated with problem severity in cocaine-dependent patients, a finding that is consistent with other studies documenting the negative consequences of using

cocaine in combination with other drugs, including alcohol (27, 28) and opioids (29, 30). We found that frequent users of marijuana showed a pattern of greater impairment, exemplified by more severe ASI scores and heavier patterns of drug use. These individuals present for treatment with heavier recent use of marijuana, cocaine, and alcohol. Level of marijuana use is positively related to length of time using cocaine (earlier onset) and likelihood of meeting lifetime abuse or dependence criteria for other substances. In this sample, frequent marijuana users were also more likely to meet criteria for ASPD compared to less frequent marijuana using patients. Together, these results, along with those reported previously suggest increased risk of psychopathology among cocaine dependent patients with a higher frequency of marijuana use (16, 31).

Marijuana was more likely to be perceived as a problem in the frequent using group; however, this group rated their desire to quit using marijuana as lower than less frequent users. Compared to cocaine, marijuana tends to be associated with more ambivalence about quitting and lower readiness to quit (25, 32, 33). Levin et al. (33) further explored this difference in motivation and found that marijuana-dependent patients may want to change, but are not experiencing as severely negative consequences as cocaine-dependent individuals.

Gender differences found here are consistent with SAMHSA data showing that a higher percentage of women cite marijuana as a secondary drug of abuse (2). In epidemiological and treatment studies of marijuana as a primary drug of abuse, men have been overrepresented (3, 34–36). Based on our results indicating that cocaine-dependent females versus males were more likely to be frequent users of marijuana, additional research targeting dual-drug-using women is needed.

One of the strengths of this study is that findings are based on data collected from a large and well-defined sample of treatment-seeking cocaine dependent individuals. Grouping marijuana users according to frequency of use provided new information about how the *level* of concurrent use impacts clinical presentation. The lack of reliable differences between non-users and occasional users suggests that the clinically important feature is not whether (or not) cocaine patients use marijuana concurrently, but rather the extent to which they use marijuana. Further research on the temporal and functional relationship between cocaine and marijuana use, especially in the frequent using subgroup, is warranted. Additionally, we recommend that future studies employ a more fine-grained measurement of marijuana use to include amount in addition to frequency of use.

While the present study advances our knowledge about marijuana use in the population of cocaine dependent individuals, outcome data are not yet available to assess whether differences found at baseline are meaningful predictors of outcome. Also, we recognize that a considerable number of tests were conducted at an $\alpha = .05$ probability of committing a Type I error. Significant findings reported provide a starting point for generating hypotheses.

Multiple substance use is common in cocaine patients and allowing for concurrent use of other drugs has been recommended to increase feasibility and generalizability of results (37). However, the present findings strongly suggest that concurrent marijuana use should not go ignored or unmonitored in cocaine clinical trials. Future studies should assess differences in presenting clinical characteristics of marijuana-using cocaine dependent patients and consider the impact of these differences in evaluation of treatment outcomes.

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REFERENCES

1. Dennis M, Babor TF, Roebuck MC, Donaldson J. Changing the focus: The case for recognizing and treating cannabis use disorders. *Addiction*. 2002; 97(Suppl 1):4–15. [PubMed: 12460125]
2. National Survey on Drug Use and Health. SAMHSA; Rockville, MD: 2004.
3. Compton WM, Grant BF, Colliver JD, Glantz MD, Stinson FS. Prevalence of marijuana use disorders in the United States: 1991–1992 and 2001–2002. *JAMA*. 2004; 291(17):2114–2121. [PubMed: 15126440]
4. Miller NS, Klahr AL, Gold MS, Sweeney K, Cocores JA, Sweeney DR. Cannabis diagnosis of patients receiving treatment for cocaine dependence. *J Subst Abuse*. 1990; 2(1):107–111. [PubMed: 2136098]
5. Aharonovich E, Garawi F, Bisaga A, Brooks D, Raby WN, Rubin E, Nunes EV, Levin FR. Concurrent cannabis use during treatment for comorbid ADHD and cocaine dependence: Effects on outcome. *Am J Drug Alcohol Abuse*. 2006; 32(4):629–635. [PubMed: 17127551]
6. Aharonovich E, Liu X, Samet S, Nunes E, Waxman R, Hasin D. Postdischarge cannabis use and its relationship to cocaine, alcohol, and heroin use: a prospective study. *Am J Psychiatry*. 2005; 162(8):1507–1514. [PubMed: 16055773]
7. Miller NS, Gold MS, Klahr AL. The diagnosis of alcohol and cannabis dependence (addiction) in cocaine dependence (addiction). *Int J Addict*. 1990; 25(7):735–744. [PubMed: 2272719]
8. Falck RS, Wang J, Carlson RG. Among long-term crack smokers, who avoids and who succumbs to cocaine addiction? *Drug Alcohol Depend*. 2008; 98(1–2):24–29. [PubMed: 18499357]
9. Kenna GA, Nielsen DM, Mello P, Schiesl A, Swift RM. Pharmacotherapy of dual substance abuse and dependence. *CNS Drugs*. 2007; 21(3):213–237. [PubMed: 17338593]
10. Budney AJ, Novy PL, Hughes JR. Marijuana withdrawal among adults seeking treatment for marijuana dependence. *Addiction*. 1999; 94(9):1311–1322. [PubMed: 10615717]
11. McRae AL, Budney AJ, Brady KT. Treatment of marijuana dependence: A review of the literature. *J Subst Abuse Treat*. 2003; 24(4):369–376. [PubMed: 12867212]
12. Ashton CH. Pharmacology and effects of cannabis: A brief review. *Br J Psychiatry*. 2001; 178:101–106. [PubMed: 11157422]
13. Sidney S. Cardiovascular consequences of marijuana use. *J Clin Pharmacol*. 2002; 42(11 Suppl):64S–70S. [PubMed: 12412838]
14. Kandel DB. Marijuana users in young adulthood. *Arch Gen Psychiatry*. 1984; 41(2):200–209. [PubMed: 6607718]
15. Stephens RS, Roffman RA, Simpson EE. Adult marijuana users seeking treatment. *J Consult Clin Psychol*. 1993; 61(6):1100–1104. [PubMed: 8113490]
16. Budney AJ, Higgins ST, Wong CJ. Marijuana use and treatment outcome in cocaine-dependent patients. *Experimental and Clinical Psychopharmacology*. 1996; 4(4):7.
17. Foltin RW, Fischman MW. The effects of combinations of intranasal cocaine, smoked marijuana, and task performance on heart rate and blood pressure. *Pharmacol Biochem Behav*. 1990; 36(2):311–315. [PubMed: 2162543]
18. Foltin RW, Fischman MW, Pedrosa JJ, Pearlson GD. Marijuana and cocaine interactions in humans: cardiovascular consequences. *Pharmacol Biochem Behav*. 1987; 28(4):459–464. [PubMed: 2829241]
19. Lukas SE, Sholar M, Kouri E, Fukuzako H, Mendelson JH. Marijuana smoking increases plasma cocaine levels and subjective reports of euphoria in male volunteers. *Pharmacol Biochem Behav*. 1994; 48(3):715–721. [PubMed: 7938127]
20. McLellan AT, Alterman AI, Metzger DS, Grissom GR, Woody GE, Luborsky L, O'Brien CP. Similarity of outcome predictors across opiate, cocaine, and alcohol treatments: Role of treatment services. *J Consult Clin Psychol*. 1994; 62(6):1141–1158. [PubMed: 7860812]
21. Rawson RA, Obert JL, McCann MJ, Mann AJ. Cocaine treatment outcome: cocaine use following inpatient, outpatient, and no treatment. *NIDA Res Monogr*. 1986; 67:271–277. [PubMed: 3092077]

22. Means LB, Small M, Capone DM, Capone TJ, Condren R, Peterson M, Hayward B. Client demographics and outcome in outpatient cocaine treatment. *Int J Addict*. 1989; 24(8):765–783. [PubMed: 2606587]
23. Higgins ST, Budney AJ, Bickel WK, Badger GJ. Participation of significant others in outpatient behavioral treatment predicts greater cocaine abstinence. *Am J Drug Alcohol Abuse*. 1994; 20(1): 47–56. [PubMed: 8192134]
24. McLellan AT, Kushner H, Metzger D, Peters R, Smith I, Grissom G, Pettinati H, Argeriou M. The fifth edition of the Addiction Severity Index. *J Subst Abuse Treat*. 1992; 9(3):199–213. [PubMed: 1334156]
25. Budney AJ, Radonovich KJ, Higgins ST, Wong CJ. Adults seeking treatment for marijuana dependence: a comparison with cocaine-dependent treatment seekers. *Exp Clin Psychopharmacol*. 1998; 6(4):419–426. [PubMed: 9861556]
26. Higgins ST, Budney AJ, Bickel WK, Foerg FE, Badger GJ. Alcohol dependence and simultaneous cocaine and alcohol use in cocaine-dependent patients. *J Addict Dis*. 1994; 13(4):177–189. [PubMed: 7734468]
27. Heil SH, Badger GJ, Higgins ST. Alcohol dependence among cocaine-dependent outpatients: Demographics, drug use, treatment outcome and other characteristics. *J Stud Alcohol*. 2001; 62(1): 14–22. [PubMed: 11271960]
28. Carroll KM, Rounsaville BJ, Gordon LT, Nich C, Jatlow P, Bisighini RM, Gawin FH, Bryant KJ. Alcoholism in treatment-seeking cocaine abusers: Clinical and prognostic significance. *J Stud Alcohol*. 1993; 54(2):199–208. [PubMed: 8459714]
29. DeMaria PA Jr, Sterling R, Weinstein SP. The effect of stimulant and sedative use on treatment outcome of patients admitted to methadone maintenance treatment. *Am J Addict*. 2000; 9(2):145–153. [PubMed: 10934576]
30. Williamson A, Darke S, Ross J, Teesson M. The effect of persistence of cocaine use on 12-month outcomes for the treatment of heroin dependence. *Drug Alcohol Depend*. 2006; 81(3):293–300. [PubMed: 16154714]
31. Tidey JW, Mehl-Madrona L, Higgins ST, Badger GJ. Psychiatric symptom severity in cocaine-dependent outpatients: Demographics, drug use characteristics and treatment outcome. *Drug Alcohol Depend*. 1998; 50(1):9–17. [PubMed: 9589268]
32. McRae AL, Hedden SL, Malcolm RJ, Carter RE, Brady KT. Characteristics of cocaine- and marijuana-dependent subjects presenting for medication treatment trials. *Addict Behav*. 2007; 32(7):1433–1440. [PubMed: 17150310]
33. Levin FR, Brooks DJ, Bisaga A, Raby W, Rubin E, Aharonovich E, Nunes EV. Severity of dependence and motivation for treatment: Comparison of marijuana- and cocaine-dependent treatment seekers. *J Addict Dis*. 2006; 25(1):33–41. [PubMed: 16597571]
34. Stephens RS, Babor TF, Kadden R, Miller M. The Marijuana Treatment Project: Rationale, design and participant characteristics. *Addiction*. 2002; 97(Suppl 1):109–124. [PubMed: 12460133]
35. Wagner FA, Anthony JC. From first drug use to drug dependence; developmental periods of risk for dependence upon marijuana, cocaine, and alcohol. *Neuropsychopharmacology*. 2002; 26(4): 479–488. [PubMed: 11927172]
36. Kandel D, Chen K, Warner LA, Kessler RC, Grant B. Prevalence and demographic correlates of symptoms of last year dependence on alcohol, nicotine, marijuana and cocaine in the U.S. population. *Drug Alcohol Depend*. 1997; 44(1):11–29. [PubMed: 9031816]
37. Rounsaville BJ, Petry NM, Carroll KM. Single versus multiple drug focus in substance abuse clinical trials research. *Drug Alcohol Depend*. 2003; 70(2):117–125. [PubMed: 12732403]
38. American Psychiatric Association, Diagnostic and statistical manual of mental disorders: DSM-IV. 4th ed. American Psychiatric Association; Washington, DC: 1994.
39. First, MB.; Spitzer, RL.; Gibbon, M.; Williams, JB. Structured Clinical Interview for DSM-IV Axis I Disorders-Patient Edition (SCID-I/P, Version 2.0). Biometric Research Department; NY: 1995.

TABLE 1

Comparison of sociodemographic and addiction severity characteristics

	None (N = 634)	Occasional (N = 403)	Frequent (N = 146)	F/X ²	p-value	OR ¹	95% CI
Sociodemographic							
Age (mean ± SD)	39.7 ± 6.5 ^a	39.1 ± 7.4 ^a	35.7 ± 7.1 ^b	20.0	.0001	.94	.92, .97
Education (mean ± SD)	12.7 ± 2.1	12.8 ± 2.1	12.5 ± 1.7	1.2	.31		
Female (%)	16.9 ^a	17.1 ^a	27.4 ^b	9.3	.009	1.83	1.17, 2.86
Married (%)	24.1	22.1	21.9	.7	.70		
White (%)	24.9 ^a	27.0 ^a	44.5 ^b	25.7	.001	1.55	1.17, 2.05
Employed (%)	23.0	24.6	33.6	7.1	.029	1.55	1.03, 2.34
ASI Composites (mean ± SD)							
Medical	.07 ± .20	.08 ± .20	.12 ± .27	2.67	.07		
Employment	.66 ± .24 ^a	.63 ± .30 ^a	.59 ± .24 ^b	4.81	.008	.38	.19, .73
Legal	.04 ± .55 ^a	.04 ± .10 ^a	.07 ± .14 ^b	3.37	.034	6.82	1.86, 25.07
Alcohol	.19 ± .13 ^a	.20 ± .14 ^a	.25 ± .13 ^b	12.6	.0001	4.03	1.15, 14.13
Drug	.22 ± .07 ^a	.24 ± .07 ^b	.33 ± .07 ^c	133.3	.0001	N/A ²	
Family/Social	.18 ± .21	.19 ± .21	.18 ± .22	.31	.73		
Psychiatric	.10 ± .16 ^a	.10 ± .15 ^a	.14 ± .18 ^b	4.32	.014	4.73	1.56, 14.35

^{a,b,c} Group means sharing a common letter are not significantly different ($p < .05$).

¹ Odds of membership in frequent versus occasional using groups was computed by binary logistic regression.

² Calculation of this variable included ASI item used to define marijuana group.

TABLE 2

Comparison of substance use characteristics

	None (N = 634)	Occasional (N = 403)	Frequent (N = 146)	<i>F/X</i> ²	<i>p</i> -value	OR ^I	95% CI
Drug use, days in past 30 (M ± SD)							
Cocaine	12.5 ± 8.8 ^a	13.8 ± 8.7 ^a	16.6 ± 8.9 ^b	13.5	.0001	1.04	1.03, 1.06
Alcohol	8.0 ± 8.9 ^a	10.0 ± 9.3 ^b	12.9 ± 10.2 ^c	18.26	.0001	1.04	1.03, 1.06
Lifetime drug use, years (M ± SD)							
Cocaine	10.8 ± 6.0	10.8 ± 6.1	10.7 ± 9.1	.03	.97		
Alcohol	15.2 ± 10.0	16.2 ± 10.2	14.1 ± 8.5	2.79	.062		
Marijuana	6.8 ± 7.6 ^a	13.4 ± 9.1 ^b	16.8 ± 7.7 ^c	132.5	.0001	1.09	1.07, 1.11
Route of cocaine administration							
Nasal (%)	9.4 ^a	11.8 ^a	17.4 ^b	7.3	.026	.55	.33, .89
Age of First Use							
Cocaine	26.9 ± 7.7 ^a	26.5 ± 7.7 ^a	24.2 ± 7.4 ^b	6.8	.001	.96	.93, .98
Alcohol	19.3 ± 6.7 ^a	18.1 ± 6.2 ^b	18.1 ± 6.3 ^b	5.1	.007		
Marijuana	16.8 ± 4.5	17.4 ± 5.3	17.5 ± 4.5	2.11	.12		
Desire to Quit (1–10)							
Cocaine	9.6 ± 1.1	9.5 ± 1.4	9.5 ± 1.3	2.5	.08		
Alcohol	4.4 ± 3.6	4.5 ± 3.5	4.4 ± 3.5	.004	.99		
Marijuana	4.11 ± 3.7 ^a	4.7 ± 3.9 ^a	2.8 ± 3.0 ^b	13.1	.0001	.86	.81, .91
Marijuana as problem (%)	14.7 ^a	22.4 ^b	27.1 ^b	14.4	.001		

^{a,b,c}Group means sharing a common letter are not significantly different ($p < .05$).

^IOdds of membership in frequent versus occasional using groups was computed by binary logistic regression.

TABLE 3

Comparison of diagnostic characteristics

	None (N = 634)	Occasional (N = 403)	Frequent (N = 146)	F/X ²	p-value	OR ^I	95% CI
Alcohol Abuse (%)							
Lifetime	35.0	36.8	34.5	.40	.82		
Current	7.3	9.0	12.4	4.2	.12		
Alcohol Dependence (%)							
Lifetime	21	22.9	20.5	.63	.73		
Marijuana Abuse (%)							
Lifetime	26.2 ^a	37.7 ^b	37.0 ^b	17.3	.0001		
Current	.5 ^a	3.2 ^b	19.2 ^c	116.3	.0001	7.10	3.56, 14.15
Marijuana Dependence (%)							
Lifetime	14.2 ^a	15.7 ^a	26.0 ^b	12.3	.002	1.89	1.20, 2.98
Current	.2 ^a	3.0 ^b	20.5 ^c	141.5	.0001	4.64	2.61, 8.24
Lifetime Substance Abuse (%)							
Sedative	8.7	7.3	13.7	5.6	.06		
Opioid	3.8 ^a	5.0 ^a	9.6 ^b	8.5	.014	2.02	.99, 4.10
Hallucinogen	5.8 ^a	8.8 ^a	15.1 ^b	14.3	.001	1.85	1.05, 3.27
SI Mood Disorder (%)	6.2	7.2	7.5	.52	.77		
Borderline PD (%)	2.2	4.0	3.5	2.9	.24		
Antisocial PD (%)	7.6 ^a	12.3 ^b	20.8 ^c	22.5	.0001	1.87	1.14, 3.10
BDI (M ± SD)	15.1 ± 10.0	15.6 ± 9.7	16.5 ± 10.7	1.05	.35		

^{a,b,c}Group means sharing a common letter are not significantly different ($p < .05$).

^IOdds of membership in frequent versus occasional using groups was computed by binary logistic regression.