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## Correlates of Risky Alcohol and Methamphetamine Use among Currently Homeless Male Parolees

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### Abstract

Homeless men on parole are a hard-to-reach population with significant community reintegration challenges. This cross-sectional study describes socio-demographic, cognitive, psychosocial and drug-related correlates of alcohol and methamphetamine use in 157 homeless male parolees (age range 18–60) enrolled in a substance abuse treatment center in Los Angeles. Logistic regression results revealed that being African American and older were negatively related to methamphetamine use, while being older and more hostile were related to riskier alcohol abuse. Findings from this study provide a greater understanding of correlates of methamphetamine and alcohol- two of the most detrimental forms of substances abused among currently homeless parolees.

### Keywords

*Substance* use; alcohol use; methamphetamine use; parolees; homeless

## Introduction

With more than 1.5 million individuals behind bars<sup>1</sup> and over 5 million on probation or parole<sup>2</sup> the United States (US) has an unparalleled incarceration rate when compared to other nations.<sup>3</sup> One of the major factors contributing to this high rate of incarceration is illicit drug use.<sup>4,5</sup> Such use continues to be a challenge among those who have a history of incarceration, contributing to transmission of communicable disease (e.g. HIV/AIDS and hepatitis virus)<sup>5-7</sup> Racial and ethnic minorities are over represented in the US prison system<sup>8</sup>. As of 2008, approximately 22.3% Black and 20.7% of Hispanics were sentenced to state jurisdiction for drug-related offenses as compared to 14.5% of Whites.<sup>8</sup>

Drug-related offenses are commonly reported in the US<sup>2,5</sup>; in fact, 28.4% of the CDCR commitments were for a substance abuse offense<sup>9</sup>. In a study of inmates, over half (56.4%) of the men used alcohol or drugs two to three hours before committing a crime and 13.7% of the men had committed a crime for drugs or money<sup>10</sup>.

In one sample of substance abuse treatment admissions referred by probation or parole, more than 50% of participants reported more than 1 substance use issue; 30.6% reported alcohol use, followed by marijuana (26.4%), methamphetamine (15.6%), cocaine (13.6%), and heroin (8.5%).<sup>11</sup>

An extensive number of incarcerated persons with a history of substance use have been homeless. There may be a bidirectional relationship between substance abuse and homelessness, which often leads to worsening physical, social and mental health conditions. Upon release from prison, homelessness may become a reality for many as unmet needs may persist.<sup>6</sup> Currently, there is limited information about drug use patterns among persons who are both homeless and on parole. The purpose of this paper is to assess the correlates of problem-drinking and drug use among homeless parolees; our understanding may shed light on factors that might impact drug use and incarceration among this vulnerable population.

### Correlates of Drug Use among Homeless Adults

Methamphetamine (MA) use is prevalent among homeless adults.<sup>12</sup> In a study of homeless adults (N=664) in Los Angeles, Nyamathi et al.<sup>12</sup> found that over one quarter of the sample reported lifetime MA use. Another study found that 24% of lesbian, gay, bisexual, transgender and questioning (LGBTQ) youth had used methamphetamine.<sup>13</sup>

Hudson et al.<sup>14</sup> explored perspectives related to drug use among homeless young adults (N=24), and found that parental drug use history was a contributing factor for the propensity to use drugs. Among young adult injection drug users in another study, 38% reported having parents who used drugs and 54% reported parents who injected drugs.<sup>15</sup>

### The Domino Effect: Early Childhood Experiences, Violent Victimization and Incarceration

Childhood mistreatment is a significant life event experienced by many inmates; in particular, among men in state prison, 14.4% had experienced abuse before age 17 years, followed by about 5.8% of federal inmates, 11.9% of jail inmates, and approximately 8.8% of probationers.<sup>16</sup> In particular, 13.4% of state inmates had experienced physical abuse, whereas 5.8% had experienced sexual abuse.<sup>16</sup> Analogously, Maschi et al.<sup>17</sup> found that among prisoners (N=58), 43.1% had reported physical assault; 10.3% had been forced to have unwanted sexual contact as a child.

Equally important, as a child, approximately 51.7% of prisoners had watched someone get sexually assaulted/raped, and 43.1% had been hit, spanked, choked or pushed hard<sup>17</sup>. Among a sample of incarcerated youth in British Columbia, Canada, data reveal that 21.2%

of males and 42.4% females had a history of sexual abuse.<sup>18</sup> Traumatic life events may lead to a cascade of issues, namely, post-traumatic stress disorder<sup>19, 20</sup> and suicide risk.<sup>21</sup>

### **Comprehensive Health Seeking and Coping Model (CHSCP)**

The CHSCP model served as the theoretical framework for this proposed study<sup>22</sup>. Originally adapted from the Lazarus and Folkman<sup>23</sup> Stress and Coping Model and the Schlotfeldt<sup>24</sup> Health Seeking Paradigm, the CHSCP has been applied to studies focusing on HIV and hepatitis risk and protective behaviors and health outcomes among drug-abusing, homeless adults<sup>25–29</sup> and among ex-offenders in particular.<sup>30</sup> We have revised the CHSCP model to make it applicable to male parolees; this revision allowed us to focus on personal, social, and behavioral factors that might relate to drug use in this targeted at-risk population. The four components in the model that are relevant for this paper include antecedent and mediating variables. For example, antecedent variables include socio-demographic factors, health history, and family-related and mental health history. A mediating component consists of personal, social, and cognitive factors, all of which may be related to drug use outcomes.

## **Methods**

### **Design**

This cross-sectional study utilized baseline data collected on 157 recently paroled men participating in a randomized trial designed to assess the impact of a peer coaching intervention on subsequent drug use and re-incarceration; this population is considered to be part of the sheltered homeless who are in a temporary facility for a designated time (i.e. Residential Drug Treatment (RDT)). In this paper, we focused on assessing drug use patterns of parolees prior to their last incarceration and factors associated with lifetime risky alcohol and methamphetamine use. The study was approved by the University Human Subjects' Protection committee.

### **Sample and Site**

The sample consisted of 157 parolees who were eligible for the study since they: a) had a history of drug use prior to their latest incarceration; b) were age 18–60; c) resided in the participating residential drug treatment (RDT) program; and d) were considered to be homeless prior to discharge from prison. To be eligible, the parolees also had to be released from prisons and enter a residential drug treatment (RDT) program within a month before recruitment. A total of 6 men were screened out due to residing in the treatment center greater than one month, and speaking a language other than English or Spanish.

### **Procedure**

The study was announced by approved flyers posted at the RDT site. Interested parolees attended group sessions delivered by the research staff to learn the details of the study. One-on-one meetings were scheduled with the research staff in a private area at the site for parolees who expressed further interest; there, further details about the study were provided. After all questions had been answered, interested parolees signed a consent form that was followed by administration of a brief screening questionnaire to assess eligibility criteria. Parolees who met eligibility criteria then underwent an additional informed consent and were enrolled in the study. The baseline questionnaire was then administered and a detailed locator guide was completed. All respondents who completed the baseline questionnaire received \$20.

## Instruments

**Sociodemographic information**—These data were collected by a structured questionnaire assessing age, education, race/ethnicity, self-reported history of mental health problems and cognitive or learning difficulties, history of hospitalization for substance use problems, arrest and child abuse history, and feelings of self esteem in adolescence. Anxiety and cognitive problems were lifetime measures and were assessed by asking in the past 30 days had they experienced serious anxiety or tension.

**Parental and Family Relationships**—Several items were used to assess the relationship status of participants to their childhood families. The questions included: a) Relationship with parents (one item measured on a 6-point scale ranging from “Excellent Relationship” to “No Relationship”); b) Closeness of Family (measured on a 5-point Likert scale ranging from “Very Close” to “Not Close at All”); and c) Supportiveness of the Mother and the Father (measured on a 5-point scale ranging from “Very Supportive” to “Not Around”).

**Drug and Alcohol Use Behaviors**—A modified version of the Texas Christian University (TCU) Drug History form<sup>31</sup> was used to measure drug, alcohol and tobacco use behaviors six months preceding the latest imprisonment. Through this form, information regarding the frequency of use of alcohol, tobacco, and seven other drugs was collected. This form also allowed us to review the use of these drugs and selected combinations of these drugs in terms of use by injection and orally during a six-month period before the last incarceration, as well as to extract information about lifetime drug and alcohol use. Anglin et al.<sup>32</sup> have verified the reliability and validity of this format. The problem drinking measure was based on having a score of 2 or more on the CAGE screener.

**Self Esteem**—The revised Coopersmith<sup>33</sup> 23-item Self-Esteem Inventory (SEI) was used to assess this construct. The SEI had an internal consistency of .83 with homeless males<sup>34</sup>; and in the present study, the internal consistency was .84. Parolees were also asked how they had felt about themselves as teenagers on a 5-point Likert scale ranging from “liked yourself a great deal” to “disliked yourself a great deal.”

**Depressive Symptoms**—The 10-item short form of the Center for Epidemiological Studies Depression (CES-D) scale<sup>35</sup>, used to assess depressive symptoms in homeless populations<sup>36</sup> was used in this study. The 10-item self-report CES-D scale measures the frequency of 10 depressive symptoms in the past week on a 4-point response scale from 0 (Rarely or none of the time) (Less than 1 day) to 3 All of the time (5–7 days). Scale scores ranged from 0 to 30 (internal reliability of the scale was .80). The higher the CES-D scale score, the greater the severity of the symptoms. Participants are said to be experiencing high level of depressive symptomology if they score 10 or higher on the CES-D scale. For this study, the continuous version was used; the item “self-reported depression” was measured as a yes/no question asked of participants.

**Hostility**—This variable was measured by the five-item hostility subscale of the Brief Symptom Inventory (BSI)<sup>37</sup>, a 53-item self-report inventory in which participants rate the extent to which they have been bothered (0 “Not at all” to 4 “Extremely”). An example is “having the urge to break or smash things”. Confirmatory factor analysis revealed Hostility as follows: chi-square – 187.0; df=5, Root Mean Square Error of Approximation (RMSEA) .16

## Data Analysis

Sample characteristics and drug use patterns were described with frequencies and percents, means and standard deviations, or medians. Men with a score of at least 2 on the CAGE

screeners were considered to have a history of a drinking problem or risky alcohol use. Associations with lifetime risky use of alcohol and methamphetamine use were assessed with chi-square tests or t-tests, depending on underlying distributions. Variables that were related to risky alcohol use or methamphetamine use at the 0.10 level were then used as predictors in multiple logistic regression models for these two outcomes. For each model, predictors that were not significant at the 0.10 level were successively removed starting with the predictor with the highest p value. Final models were assessed for multicollinearity; the Hosmer-Lemeshow test was used to gauge model goodness of fit.

## Results

### Sociodemographic Characteristics

Among the 157 parolees, the average age was 41.9 (18–60 years of age; SD: 10.1) and the mean education level was 11.6 years (range 3–20; see table 1). In terms of race/ethnicity, the majority were either African American (47%) or Latino (29%). Serious lifetime depression and anxiety/tension were reported by over a quarter of the participants. Over one-third (34%) reported trouble controlling violent behavior, while serious reading or learning problems were reported by 19%. Slightly less (17%) admitted to having been hospitalized for a substance abuse problem. Self-reported anxiety/tension was also associated with both substances.

Criminal history was pervasive among the sample. More than half (53%) reported having arrested at least 20 times. In terms of childhood history, over one-third (37%) reported that their family relationships were not close. More than 15% reported childhood sexual abuse, and 31% reported childhood physical abuse. Social support exclusively or partially from drug-using friends was reported by over two thirds (69%).

### Substance Use Profile

Over the last six months prior to incarceration, the most commonly abused substance was alcohol; in particular, over one-third (37%) of participants consumed 4 or more drinks per day several times per week. Marijuana and crack use were reported by over 40% several times per week, followed by methamphetamine used by over one third (36.6%) of the participants. Cocaine (33.3%), heroin (20.9%) and hallucinogens (21.6%) were used by fewer of the parolees.

### Associations with Problem Drinking and Methamphetamine Use

Among categorical background variables, trouble understanding/concentrating/remembering, trouble controlling violent behavior and reporting a serious reading or learning problem were found to be significantly associated with methamphetamine use (Table 3a). On the other hand, a high level of hostility was strongly associated with risky alcohol use; being arrested 20 or more times and having been hospitalized for a substance use problem was also related to risky alcohol use. Being a child in a two-parent family and having a childhood family that was not close were both associated with methamphetamine use; verbal abuse in childhood was associated with risky alcohol use.

In terms of drug use, hard drugs like heroin and cocaine were significantly associated with methamphetamine use; marijuana was also associated with methamphetamine use. Hallucinogen use was associated with both risky alcohol and methamphetamine use, while injection drug use was associated with methamphetamine use only. A number of trends were also observed.

Turning to continuous variables, more severe depressive symptoms and/or lower self-esteem were strongly related to risky alcohol use, while lower emotional well-being and poorer relationship with family or friends were related to methamphetamine use. Older age was positively related to risky alcohol use but negatively related to methamphetamine use (Table 3b).

### Multivariate Results

The logistic regression model revealed that being African American compared to White and being older were negatively related to methamphetamine use, while being older was positively related to risky alcohol use. Having had a two-parent family and having experienced cognitive problems were related to methamphetamine use. Being more hostile was related to risky alcohol use.

### Discussion

Beyond prison walls, parolees who are homeless face a multitude of challenges to reintegrating into the community. Aside from the problems endemic to homelessness, parolees often have preexisting and unmanaged substance use and dependence, and discordant family relationships and social networks. These factors may often prevent successful community reintegration and increase the propensity for reincarceration. Multivariate analyses demonstrated that homeless parolees who were older and more hostile were more likely to report risky alcohol use, whereas African Americans compared to Whites and those older were less likely to report methamphetamine. Being placed in an RDT may be deemed coercive; further work needs to determine this method and how it mediates recidivism, relapse and illicit drug use cessation.

Data on homeless parolees has not yet been reported; however, these study findings confirm a body of literature that supports the association between alcohol and drug abuse and a propensity for incarceration.<sup>4, 38, 39</sup> In one study, 14% of drug-dependent or abusing inmates were homeless prior to incarceration.<sup>4</sup> Clearly, to break the cycle of untreated substance abuse issues, correlates of risky alcohol and methamphetamine and other drug use among homeless persons need to be considered in terms of intervention research. In terms of types of drugs used among one sample of youthful offenders on parole in the State of California as a whole, positive tests were found for marijuana, amphetamines, and cocaine (49.6%, 24.4%, and 15.7%, respectively).<sup>40</sup>

Among this sample, self-reported cognitive problems, defined as trouble understanding, concentrating or remembering, were related to methamphetamine use. Despite being an important finding, the cross-sectional design of this study could not determine whether cognitive problems preceded drug use or resulted from drug use. For example, the use of methamphetamine is related to neuronal damage and difficulties with prospective memory.<sup>41</sup> In one study, prospective memory challenges were found with methamphetamine users.<sup>41</sup> However, it is important to note that cognitive problems may exist despite substance use and may also be exacerbated if use persists. Therefore, it is imperative that nurses and other health care professionals working in community-based settings provide education tailored to long-term consequences of substance use, as well as, help individuals manage care if cognitive problems exist. However, cognitive sequelae of drug use/abuse should be an integral part of interventions working with drug-addicted populations in terms of continually reminding participants of appointments, procedures and the importance of following up with healthcare appointments.

The nexus between hostility and alcohol use is a persistent challenge among homeless parolees. Data suggest that pharmacological properties of substances, such as cocaine and

alcohol, are associated with violence.<sup>42</sup> In our multivariate model, greater hostility was found to be related to alcohol use. While we found no relationship with methamphetamine use and hostility, a trend was detected. This confirms other researchers' reports that drug offenders who reported methamphetamine use were three times more likely to have violent or other property offenses<sup>4</sup>.

The role of social support cannot be underestimated; in fact, one of our key findings was that parolees who reported two parent families as children were more likely to use methamphetamine than those without this type of support. The study did not assess the type of relationship which participants had with their parents or if there was domestic violence in the home; future research should focus on these relationships. However, for many parolees, familial relationships and social bonds may be strained.<sup>43</sup> These data suggest the need not only for parenting skills for current parents who will be reunited with their children, but also for strategies to heal family relationships that can be salvaged.

Finally, more than two-thirds of the sample experienced sexual abuse and that was weakly associated with methamphetamine use. Data suggest that among state prisoners, 23.4% had ever experienced abuse.<sup>4</sup> For those working with homeless parolees, it is imperative to understand that provision of services needs to be afforded for those with histories of physical and sexual abuse.

### Limitations

This study reported unique findings with respect to alcohol and methamphetamine use among homeless parolees; however, our findings must be interpreted within the limitations that existed. First, the sample consisted of homeless male parolees; therefore, we are unable to generalize to female parolees and other populations of parolees. We also utilized a convenience sample of parolees in one RDT program and parolees who had a history of drug use prior to incarceration. Thus, it is difficult to know whether our participants differed from those in other treatment programs in the same geographic area, from those in RDT programs in other geographic areas, and from those who did not attend RDT programs. Thus, the findings may not be generalizable. In our sample, the second highest ethnic group was Hispanic, and our sample was likewise predominantly middle age. Finally, the data were all derived by self-report and people's memories of details may not be quite accurate.

### Conclusions

There is a degree of disquiet among academicians, policy makers and community-based organizations regarding the early release of prisoners and the propensity for relapse and recidivism. Our findings indicate that a multiplicity of factors related to methamphetamine and risky alcohol use which span a lifetime. The overall findings of our study emphasize the need to understand the interrelationships among variables and challenges related to co-occurring mental health issues; and for risky alcohol users, the need for positive social support in an effort to manage substance abuse and dependence.

These findings are important due to the lack of data on those who are both homeless and on parole. Data suggest that less than half of both state and federal prisoners enter drug treatment<sup>4</sup> and due to California's fiscal crisis, substance abuse programs for inmates and parolees have been subsequently reduced.<sup>44</sup> Thus, parolees often need to seek resources on their own; however, when resources are lean and substance abuse has not been managed well, homelessness becomes a reality for many. Utilization of therapeutic communities post prison release is an effective means to provide substance abuse counseling and management. Further, these centers should work closely with public health nurses to tailor the provision of health care services and facilitation of care.

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**Table 1**

## Sample Characteristics (n = 157)

Characteristics	Mean	SD	Range
Age	41.9	10.1	22–60
Education	11.6	1.8	3–20
	N	%	
Race/Ethnicity:			
African-American	73	46.5	
Latino	46	29.3	
White	23	14.7	
Other	15	9.6	
Serious Depression <sup>a</sup>	47	29.9	
Serious Anxiety/ Tension <sup>a</sup>	44	28.0	
Trouble Understanding/Concentrating/Remembering <sup>a</sup>	69	44.0	
Trouble Controlling Violent Behavior <sup>a</sup>	54	34.4	
Serious Reading or Learning Problems <sup>a</sup>	30	19.1	
Upper Quartile Hostility <sup>b</sup>	35	22.3	
Ever Hospitalized for Substance Abuse Problem	26	16.6	
Risky Alcohol Use <sup>c</sup>	61	38.9	
Lifetime Injection Drug Use	53	33.8	
Characteristics	N	Percent	
Arrested 20 times	83	52.9	
Childhood:			
Two-Parent Family	66	42.0	
Family Not Close	58	36.9	
Physical Abuse	48	30.6	
Sexual Abuse	25	15.9	
Verbal Abuse	74	47.1	
Social Support: <sup>c</sup>			
Primarily Drug/Alcohol Users	60	38.5	
Primarily Non-Users	47	30.1	
About Equal	48	30.8	
None	1	0.6	
	Mean	SD	Range
Depressive Symptoms	8.4	5.7	0–25
Emotional Well Being	65.3	21.6	4–100
Self – Esteem	14.1	4.9	0–23
Relationship with Spouse/Partner or Friends <sup>d</sup>	3.2	0.8	1–4.8

Feeling About Self as Teenager	2.1	1.2	1-5
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<sup>a</sup>Not due to alcohol or drug use, lifetime by self-report

<sup>b</sup>Based on Brief Symptom Inventory (BSI) hostility subscale

<sup>c</sup>Based on a CAGE score of 2 or more

<sup>d</sup>Main source of social support six months prior to last incarceration

<sup>e</sup>Six months prior to last incarceration

Table 2

Substance Use Profile (n=153)<sup>a</sup>

Substance	Ever Used		Used Six Months <sup>b</sup>		Median Six-Month Us <sup>c</sup> Among Users <sup>c</sup>	
	N	%	N	%	N	%
Alcohol	142	92.8	122	79.7	5	5
Alcohol 4+ <sup>d</sup>	61	39.9	57	37.3	5	5
Marijuana	134	87.6	102	66.7	5	5
Crack	101	66.0	68	44.4	5.5	5.5
Cocaine	99	64.7	51	33.3	3	3
Methamphetamine	75	48.0	56	36.6	5	5
Heroin	60	39.2	32	20.9	5	5
Inhalants	29	19.0	6	3.9	1	1
Hallucinogens	75	49.0	33	21.6	2	2

<sup>a</sup> Four participants had missing values for drug use measures<sup>b</sup> Six Months prior to last incarceration<sup>c</sup> 1 = 1–3 times 2 = once a month 3 = 2–3 times/month 4 = once a week 5 = 2–6 times/week 6 = once a day<sup>d</sup> Drinks in one day

**Table 3**  
 a Unadjusted Associations of Categorical Variables with Lifetime Problem Drinking and Lifetime Methamphetamine Use (N=157)

	Risky Alcohol Use <sup>d</sup> (n = 61)			Methamphetamine Use (n = 75)		
	N	%	N	N	%	%
Race/Ethnicity						***
African-American	32	43.8	14		20.0	
Latino	15	32.6	35		77.8	
White	8	34.8	18		78.3	
Other	6	40.0	8		53.3	
Self-Reported Serious Depression <sup>b</sup>						
Yes	22	46.8	26		59.1	
No	39	35.5	49		45.0	
Self-Reported Serious Anxiety/Tension <sup>b</sup>		*			*	
Yes	24	54.6	27		65.9	
No	37	32.7	48		42.9	
Trouble Understanding/Concentrating/Remembering <sup>b</sup>					*	
Yes	30	43.5	40		60.6	
No	31	35.2	35		40.2	
Trouble Controlling Violent Behavior <sup>b</sup>		+			*	
Yes	26	48.2	32		61.5	
No	35	34.0	43		42.6	
Serious Reading/Learning Problems <sup>b</sup>					*	
Yes	15	50.0	19		65.5	
No	46	36.2	56		45.2	
Ever Hospitalized for Substance Abuse Problem						
Abuse Problem		*				
Yes	15	57.7	10		38.5	
No	46	35.1	65		51.2	
Arrested 20 times		**				
Yes	41	49.4	38		48.1	

	Risky Alcohol Use <sup>e</sup> (n = 61)			Methamphetamine Use (n = 75)		
	N	%		N	%	
No	20	27.0		37	50.0	
Social Support from Drug- Using Friends <sup>c</sup>						+
Yes	43	39.8		57	53.3	
No	18	37.5		17	37.8	
Upper Quartile Hostility <sup>d</sup>		***				+
Yes	22	62.9		21	61.8	
No	39	32.0		54	45.4	
<b>Childhood</b>						*
Two - Parent Family						
Yes	23	34.9		39	59.1	
No	38	41.8		36	41.4	
Family Not Close						*
Yes	20	34.5		34	59.7	
No	41	41.4		41	42.7	
Physical Abuse						
Yes	20	41.7		25	54.4	
No	41	37.6		50	46.7	
Sexual Abuse						+
Yes	11	44.0		16	66.7	
No	50	37.9		59	45.7	
Verbal Abuse		*				
Yes	35	47.3		39	54.9	
No	26	31.3		36	43.9	
<b>Substance Use<sup>e</sup></b>						%
Marijuana						**
Yes	49	36.6		71	53.0	
No	10	52.6		4	21.1	
Cocaine		+				**
Yes	43	43.4		58	58.6	

	Risky Alcohol Use <sup>a</sup> (n = 61)			Methamphetamine Use (n = 75)		
	N	%		N	%	
No	16	29.6		17	31.5	
Heroin		+			***	
Yes	28	46.7		42	70.0	
No	31	33.3		33	35.5	
Hallucinogens		**			**	
Yes	37	49.3		45	60.0	
No	22	28.2		30	38.5	
Injection Drug Use					***	
Yes	25	47.2		39	73.6	
No	36	34.6		36	36.0	

**Table 3b. Unadjusted Associations of Continuous Variables with Problem Drinking and Lifetime Methamphetamine Use (n=153)**

Characteristics	Risky Alcohol Use <sup>a</sup> (n = 61)						Methamphetamine Use (n = 75)					
	Yes		No				Yes		No			
	Mean	SD	Mean	SD		Mean	SD	Mean	SD	Mean	SD	
Age	44.2	10.1	40.5	10.0*		38.9	9.9	44.8	9.7***			
Education	11.5	1.6	11.7	2.0		11.3	1.9	11.9	1.8+			
Depressive Symptoms	10.4	6.2	7.1	5.0***		9.1	5.8	7.7	5.5			
Emotional Well-Being	61.5	23.8	67.7	19.9+		61.8	21.2	69.1	21.4*			
Self-Esteem	12.4	4.9	15.1	4.7***		13.5	4.9	14.6	4.9			
Relationship with Spouse/Partner/Friends <sup>b</sup>	3.1	0.8	3.3	0.8		3.0	0.8	3.4	0.6**			
Feelings About Self as Teenager	2.4	1.3	2.0	1.1*		2.3	1.2	1.9	1.1+			

<sup>a</sup>Based on a CAGE score of 2 or more

<sup>b</sup>Lifetime by self-report, excluding effects of alcohol or drug use

<sup>c</sup>Main source of social support for six months prior to last incarceration was alcohol/drug users or users and non-users evenly divided.

<sup>d</sup>Based on scores for Brief Symptom Inventory (BSI) hostility subscale



<sup>c</sup>Four men had missing values for drug use measures

<sup>+</sup>  $p < .10$ , chi-square test

<sup>\*</sup>  $p < .05$ , chi-square test

<sup>\*\*</sup>  $p < .01$ , chi-square test

<sup>\*\*\*</sup>  $p < .001$ , chi-square test

<sup>+</sup>  $p < .10$ , t test

<sup>\*</sup>  $p < .05$ , t test

<sup>\*\*</sup>  $p < .01$ , t test

<sup>\*\*\*</sup>  $p < .001$ , t test

<sup>a</sup>Based on a CAGE score of 2 or more.

<sup>b</sup>During six months prior to last incarceration.

**Table 4**  
Multiple Logistic Regression Results for Lifetime Problem Drinking and Lifetime Methamphetamine Use

Measures	Risky Problem Alcohol Use (n=157)		Methamphetamine Use (n=151)	
	$\beta$	s.e.	$\beta$	s.e.
Age	0.05	.02	-0.06	.02
Ethnicity (vs. White)				
African-American			-2.93	.67
Latino			-0.32	.69
Other			-1.23	.83
Two-Parent Family <sup>a</sup>			1.46	.49
Sexual Abuse			1.10	.66
Cognitive Problem <sup>b</sup>			1.31	.48
Anxiety <sup>c</sup>	0.76	.41		
Self-Esteem	-0.07	.04		
Hostile <sup>d</sup>	1.21	.44		

<sup>a</sup>In childhood

<sup>b</sup>Trouble understanding/concentrating/remembering in lifetime

<sup>c</sup>Self-reported serious anxiety/tension

<sup>d</sup>Upper quartile hostility S.E. is standard error