Published in final edited form as:

Subst Use Misuse. 2011 ; 46(6): 716–727. doi:10.3109/10826084.2010.526981.

Stimulant Use by Young Adult African Americans in a Rural Community: A Pipeline to Prison?

Teresa L. Kramer, Ph.D.¹, LaVerne Bell-Tolliver, Ph.D.², Shanti P. Tripathi, M.S.¹, and Brenda M. Booth, Ph.D.^{1,3}

¹Division of Health Services Research, Department of Psychiatry and Behavioral Sciences, College of Medicine, University of Arkansas for Medical Sciences, Little Rock, AR

²The School of Social Work, University of Arkansas at Little Rock, Little Rock, AR

³HSR&D Center for Mental Healthcare Outcomes & Research, Central Arkansas Veterans Healthcare System

Abstract

The association between stimulant use and legal outcomes was examined in rural adults 18–21 years (n=98) in the Mississippi River Delta of Arkansas from 2003 through 2008. Participants were interviewed at baseline and every six months for two years using the Substance Abuse Outcomes Module, Addiction Severity Index, Short-Form 8 Health Survey, Brief Symptom Inventory, Patient Health Questionnaire Depression Screen, and an abbreviated Antisocial Personality Disorder measure. More than three-quarters were arrested before baseline; 47 were arrested over the next two years. Early arrest but not substance use was related to subsequent arrest. Limitations and implications for interventions are discussed.

Keywords

cocaine; adolescence; rural; African American; arrest; criminal justice

Introduction

In recent years, methamphetamine and cocaine have increasingly infiltrated rural areas (Strom, Wong, Weimer, & Rachal, 2005; Substance Abuse and Mental Health Services Administration, 2007; Substance Abuse and Mental Health Services Administration & Office of Applied Studies, 2004). This trend of escalating trafficking and use of stimulants has the potential to wreak havoc on rural communities already experiencing significant disparities in health and social capital. Of particular concern are rural African Americans, whose rates of illicit drug use are higher than those of rural Caucasians and only slightly below those of urban African Americans (Thomas & Compton, 2007).

Abuse of or dependence on alcohol and/or other substances has been a contributing factor to the commission of a crime in a large percentage of the total federal inmate population (Bureau of Justice Statistics, 2005). In the case of African Americans, those who were sentenced because of drug-related offenses represent almost one quarter of the sentenced population (Sobel, Couture, Harrison, & Bureau of Justice Statistics, 2007). Although African Americans are 13.4 percent of the U.S. population (US Census Bureau Public

Information Office, 2007), they comprise the majority of the prisoners housed within federal and state correctional facilities (Sobel et al., 2007). While African American males in the age categories of 25–29 and 30–34 were the largest sentenced groups (19% and 17% respectively), overall about 1 in every 33 African American males is a sentenced prisoner, compared to 1 in every 205 Caucasian males (Sobel et al., 2007). Moreover, African Americans' average sentencing for all offenses (88 months) far exceeds that of Caucasians (48 months), as does the average sentencing for drug-related offenses (110 months for African Americans and 68 months for Caucasians) (Bureau of Justice Statistics, 2003). Importantly, African Americans are the largest racial/ethnic group among *parents* in federal prison (44%), followed by Hispanics (30%) and Caucasians (22%) (Mumola, 2000).

The current study focuses on a sample of 18–21 year old African American rural stimulant users, who are transitioning from adolescence to adulthood. Generally, rural African Americans are more likely to drop out of school, are half as likely to hold a college degree and are more likely to be subjected to poverty and unemployment when compared to their urban counterparts (U.S. Department of Agriculture, 2004; Williams, Yu, Jackson, & Anderson, 1997). Substance use at this age has the potential to increase these disparities. In fact, results from previous studies substantiate the group's low educational level, high unemployment and severe poverty (Kramer, Booth, & Han, 2010; Kramer, Han, & Booth, 2009). If arrested or incarcerated, the individual may experience even harsher consequences, including escalation of drug use while incarcerated (Rounds-Bryant, Motivans, & Pelissier, 2004), acquisition of infectious diseases (Golembeski & Fullilove, 2005), and exposure to violence and other criminal behaviors (Seal, Margolis, Morrow, Belcher, Sosman, & Askew, 2008), further altering internal and external resources needed to succeed.

Despite the risk of incarceration for African American substance users, little is known regarding the natural history of criminal justice involvement in a group of young adult, African American stimulant users living in a rural area *who are neither in treatment nor imprisoned* at the onset of study. For the purposes of this report, we were specifically interested in describing the criminal trajectory of this sample and exploring factors associated with arrests during the two-year follow-up. Although we understand that the relationship between substance use and criminal behaviors is complex, we hypothesized based on a review of the literature, that multiple individual factors assessed at baseline would be associated with arrest during the follow-up period, including demographics (age, sex, marital status, income, high school graduation, employment), substance abuse/dependence, antisocial personality traits, carrying a weapon, mental health symptom severity, a propensity for violent behavior, prior history of exchanging sex for money, lifetime arrest prior to baseline, and violence received in the past 12 months (Herrenkohl, Maguin, Hill, Hawkins, Abbott, & Catalano, 2000; Loeber, Burke, & Pardini, 2009; McLellan, Luborsky, & O'Brien, 1986; Schwartz, Kelly, O'Grady, Peterson, Reisinger, Mitchell, Wilson, Agar, & Brown, 2008; Stenbacka & Stattin, 2007).

Methods

The study was part of a larger multi-state research project to examine not-in-treatment stimulant users (methamphetamine and cocaine) in Arkansas, Kentucky and Ohio (Booth, Leukefeld, Falck, Wang, & Carlson, 2006). The study used a natural history research design to identify a stratified community sample of rural stimulant users in each state selected to be non-metropolitan areas by the Census definition, with small towns (usually the county seat) under 20,000 people to serve as a central recruiting base (See Booth et al., (2006), for detailed information on methodology.) The Arkansas sample was recruited from the Arkansas "Delta" region adjacent to the Mississippi River, a rural area with a high concentration of African Americans. Data for the current study, conducted from 2003 to

2008 are based upon an over-sample of the 18–21 year old African American population in the final twelve months of recruitment in Arkansas.

The 2000 Census and other population data indicate relatively impoverished conditions for the three Arkansas counties (University of Arkansas at Little Rock, 2006). The Arkansas counties were 49–59% African American. In 2007 (the most recent year figures are available), Helena School District had 99.4% of students enrolled in free and reduced price lunches, Lee County School District had 99.3% and Forrest City School District had 99.6% (compared to the state rate of 58.6%) (Federal Education Budget Project, 2007). In 2005, the unemployment rates in these three counties were 10.4%, 9.0%, and 8.3% compared to the 4.9% state average. In 2000 (the latest year for which figures are available), 34.7%, 42.8% and 43.3% of adults in each county did not have a high school diploma or general equivalency degree, compared to 24.6% of adults statewide. Rates of unemployment and lack of high school education for African Americans in these three counties are slightly higher than these rates for all races. In addition, one-third of the region's African Americans live in poverty and in the more rural areas, the poverty level is as high as 41% (U.S. Census Bureau, 2005).

Participants

The study used Respondent-Driven Sampling (Draus, Siegal, Carlson, Falck, & Wang, 2005; Heckathorn, 1997; Heckathorn, 2002), a variant of snowball sampling, to identify study participants. Such non-probabilistic sampling methods are critical for recruiting community “hidden populations” such as illegal drug users (Booth et al., 2006). Study eligibility was broad in order to capture the potential range of stimulant users age 18 or older. Participants (1) reported they had used crack or powder cocaine or methamphetamine by any route of administration in any amount within the previous 30 days; (2) were not in formal treatment within the past 30 days; (3) had a verified address within one of the targeted counties; and (4) provided consent to participate in the study. The study was approved by the relevant institutional review boards, and we received a Certificate of Confidentiality from NIDA. Follow-up interviews were conducted every six months up to 24 months for a total of four follow-ups.

Measures

Key portions of the baseline assessment were used to determine demographics and family background as well as lifetime (including age of onset) and recent substance use. Data on physical and mental health symptoms as well as legal involvement were obtained using instruments described in Table 1.

Procedures

Interviewers for the study were selected from the respective communities based on their skill sets, experiences with and knowledge of the population as well as their ability to represent the racial diversity of the communities. Interviewers were extensively trained in field recruitment and interviewing procedures with emphasis on being cognizant of the participants' needs for privacy and respect while maintaining the interviewers' safety. For example, interviewers approaching potential participants in the field introduced the study as one focusing on health behaviors. No further information was provided in a public setting. If participants seemed interested and wanted additional information, they were informed that the interview included questions about substance use but specific eligibility criteria were not provided. Potential participants were subsequently given cards by the interviewer to contact him/her by telephone in private at a later date if they were interested in obtaining more information about the study.

When a participant contacted the interviewer for more information about the study, the interviewer indicated the study was about health behaviors, including substance use. The screening questions were posed in such a way that the participant was not aware of the specific eligibility criteria. Once it was determined that the individual was eligible to participate and completed the consent process, the interview was scheduled at a time and place convenient to the participant. Interviewers were instructed to inquire further about risk for suicidal or homicidal behaviors if the participant endorsed such items on any measures, to respond appropriately to participants if they became angry or agitated during the interview, and to reschedule the interview if there were signs that the participant was under the influence of any substance at the time of the appointment. Participants were remunerated \$50 for the baseline interview that took 2–3 hours. They were also given additional cards with the interviewer's contact information to give to acquaintances who might be interested in participating.

Analysis

Descriptive statistics were conducted for 1) sociodemographic variables; 2) mean days of substance use in the past 30 days for powder cocaine, crack cocaine, methamphetamine, alcohol, marijuana and other illicit substances and diagnosis of substance abuse or dependence; 3) mean age of first arrest and incarceration; and 4) number of individuals with an arrest reported at baseline and follow-up assessments as well as total arrests during the two-year follow-up period. Because there were only two individuals with methamphetamine abuse/dependence at baseline, analyses of stimulant abuse/dependence included only past 12-month diagnosis of cocaine abuse/dependence and past 12-month diagnosis of any other substance abuse/dependence.

Individuals were grouped accordingly: 1) no arrest ever (None), 2) no arrest at baseline but at least one arrest during the follow-up period (New Arrest), 3) arrest at baseline but no arrest during the follow-up period (Arrest Remission), and 4) arrest at baseline and at least one during the follow-up period (Multiple Arrests). These categories were subsequently collapsed into no arrest versus arrest during the two-year follow-up period. Independent variables hypothesized to be associated with arrest were examined using bivariate analyses. These included sex; high school graduate; full- or part-time employment at baseline; income; alcohol, cocaine, marijuana or other substance abuse/dependence; behaviors indicative of antisocial personality disorder; lifetime arrest at baseline; violence received in the past 12 months at baseline; carrying a weapon prior to baseline; having exchanged or traded sex for money prior to baseline; and ASI subscales and clinical symptoms. Paired t-tests were performed to compare mental, physical and substance use outcomes for individuals with and without an arrest during the follow-up period.

Results

Ninety-eight 18–21 year old African Americans were recruited into the study. The majority of the sample was male (n=65; 66.3 %). Mean age was 19.9 ($SD = 1.04$). Almost all participants (n=93, 98%) had an income of less than \$10,000 in the past year. Only six (6%) were married or cohabitating, although 50% reported they had children. Seventy-two (73.5%) reported they were living in someone else's apartment, house or trailer; only 25 (25.5%) were living in their own home or apartment. One individual was living in a boarding or halfway house. The majority of individuals had not graduated from high school (n=75, 76.5%), were unemployed (n=86, 87.8%), and only thirty-one (31.33%) were paid for working in the past 30 days. Final follow-up rates were 94%, with only six participants lost to follow-up at 24 months (three were incarcerated, 2 were not locatable, and 1 refused the interview). There were no significant differences on key demographic variables for participants with baseline only versus baseline plus final follow-up assessments. There were

also no significant differences between men and women on key demographic variables with one exception: There was a significant difference in the number of participants who had children (70% of women versus 40% of men, $\chi^2 = 7.7$, 1df, $p < .05$).

Substance Use

Although all participants had used some type of stimulant in the 30 days prior to baseline as a condition of eligibility for the study, the majority used cocaine. Only four percent reported at baseline they had used methamphetamine in the past month, which decreased to no participants using methamphetamine by the final follow-up. At the initial assessment, 49% met criteria for cocaine abuse or dependence; more than half (57.1%) met criteria for marijuana abuse or dependence at baseline; and 44.9% met criteria for alcohol abuse/dependence. Prior findings from this sample indicate that these rates declined over the two-year period (Kramer et al., 2010).

Legal Involvement

At baseline, none of the participants were incarcerated; however, five were either on probation or parole. Three quarters (75.5%) had been arrested some time prior to baseline. Average age of first arrest was 16.8 years ($SD = 2.4$; range = 12–21) for females and 15.2 years ($SD = 2.9$; range = 7–20) for males. Within this sample of stimulant users, 18 had been arrested once, 17 had been arrested twice, and 38 had been arrested three or more times during their lives. More than one third (39 %) had been incarcerated. Average age of first incarceration, including juvenile detention, was 16.6 years ($SD = 2.2$; range = 14–20) for females and 15.8 years ($SD = 2.8$; range = 9–20) for males. As Table 2 indicates, more than one third (35.5%) of participants reported they had been engaged in illegal activities for profit in the past 30 days, resulting in a mean of 6.8 days ($SD = 11.5$). Six participants reported they had been detained or incarcerated in the past month with an average of 0.4 ($SD = 2.9$) mean days.

During the next two years, participants reported engaging in illegal activities for profit at rates slightly lower than those observed at baseline, with the decline continuing through the fourth follow-up; however, McNemar's test revealed no significant difference between the rates at baseline and final follow-up. Percent of participants arrested also declined over the two years with the rates for the past six months at each assessment hovering between 14% and 19%. Forty-seven were arrested at least once during the two years. However, McNemar's test showed no significant difference between rates at baseline versus final follow-up. Most crimes for which participants were arrested fell into one of three categories – drug-related offenses, crimes against persons and “other.” Of those who had children, 45 % reported they were arrested at some point during follow-ups. Mean number of arrests also varied over time: baseline (0.50; $SD = 1.52$); first follow-up (0.20; $SD = 0.52$); second follow-up (0.30; $SD = 0.8$); third follow-up (0.24; $SD = 0.70$); and final follow-up (0.20; $SD = 0.43$). There was no significant difference between means at baseline and final follow-up. Fifty-three (54.1%) of the participants reported no arrest during the two years between baseline and final follow-up, contrasted with 31 (31.6%) who reported one arrest, 11 (11.2%) who reported two arrests, and 3 (3.1%) who reported three or more arrests. Eighteen (20.2%) reported no arrest including lifetime prior to baseline and during the study period (No Arrest); five (5.6%) reported no arrest prior to baseline but were arrested during the study period (New Arrest); 26 (29.2%) had at least one arrest prior to baseline but no arrest during the study period (Remission); and 40 (44.9%) had an arrest prior to baseline and during the study period (Multiple Arrests).

Rates of incarceration in the past 30 days varied across the follow-ups from 13.1% of those arrested at baseline to 56.2% of those arrested at 12-month follow-up to 35.7% of those

arrested at the final follow-up. There was no significant difference between mean rate of incarceration at baseline versus final follow-up. During the two-year period, 21 participants were incarcerated, representing 47.7% of those arrested. (Although we included incarcerated participants in the overall arrest data, we were unable to obtain specific information from those participants regarding reason for arrest, other arrests and incarcerations and outcomes.)

In bivariate analyses, the only variable associated with arrest during the follow-up period was arrest prior to baseline ($\chi^2 = 5.51$, $df = 1$, $p = 0.0045$, see Table 3). At baseline and final follow-up there were no significant differences on the PHQ9, BSI GSI, PCS8, MCS8 or ASI or diagnostic criteria for cocaine, marijuana, alcohol or other substance abuse/dependence among individuals with or without any arrest during the two years.

Discussion

The demographic data for this group of rural, African American substance users present a compelling context for interpreting their two-year legal and substance abuse outcomes. Compared to other African Americans living in these three counties, this sample is more impoverished, less educated, and probably more estranged from community resources, treatment options and other health-promoting networks that would have a positive influence on their overall health and well-being (De Silva, McKenzie, Harpham, & Huttly, 2005; Kim & Kawachi, 2006). Furthermore, the region of the Arkansas Delta has been described as “the poorest region of the country” (Holly, 1993). Thus, the social environment’s limitations coupled with individual economic and educational disadvantages create multiple barriers to successful adult transition. Consequently, early onset of substance use, particularly early initiation of “harder” drugs such as cocaine, could have substantial implications for negative outcomes in early adulthood, particularly among African Americans in this region. However, when comparing their overall mental and physical health functioning to normative data, they report mild to moderate problems despite their substance use with two exceptions: Scores were higher than the normative data (means = 50) on the paranoia and psychoticism subscales. These differences would not be surprising given that psychotic and paranoid symptoms are often associated with chronic stimulant usage.

In this sample, more than three quarters reported an arrest prior to the baseline interview, indicating very early involvement with the criminal justice system. Average age of first arrest was during mid-adolescence, approximately the same time participants reported also initiating substance use including, most notably, marijuana and alcohol (Kramer et al., 2009). These mean ages of arrest and initiation of marijuana and cocaine use were younger than the larger, more demographically diverse three-state sample (Booth et al., 2006), suggesting an early trajectory of combined substance use and criminal involvement. As noted by Slade et al. (2008) onset of a substance use disorder by age 16, but not later, was associated with a fourfold risk of adult incarceration for substance-related offenses – one of the primary reasons for arrests in our sample – in disadvantaged, incarcerated youth from an urban community, 65% of whom were African American. Our sample, consisting only of young adult rural African Americans who also admitted to cocaine use, also appears to be criminally active at a comparable age, despite the fact they were sampled from the community at large rather than the criminal justice system. Thus, as emerging adults, these African Americans are at extremely high risk for becoming entangled in a cycle of criminal behaviors and imprisonment.

One quarter to one third of participants admitted to engaging in illegal activities for profit in the 30 days prior to each assessment interview, with the majority reporting such activities occurring 10 or more days during the month and more than half experiencing an arrest at some point during the two-year follow-up period. By comparison, McClellan and his

colleagues (1986) reported that 25% of their sample had a lifetime history of arrests. Although the sample consisted of individuals seeking treatment for drug-related problems, the majority were Caucasian with a high school diploma (or GED) with an average age of 30 years. Nonetheless, their rates were still lower than our 18–21 year old African American sample.

Not surprisingly, in our sample, most of those arrested had committed a drug offense, which may be due to actual use and/or trafficking of an illegal substance. Crimes committed against another person were approximately 20% of total arrests and increased over time, confirming results of other studies (Bennett, Tolman, Rogalski, & Srinivasaraghavan, 1994; Denison, Paredes, & Booth, 1997; Logan, Stevenson, Evans, & Leukefeld, 2004; Miller, Gold, & Mahler, 1990) and public health concerns regarding the relationship between expressed violence and stimulant use. Neither robbery nor burglary offenses were high in this group, suggesting participants may not be committing crimes solely for monetary purposes to support their addiction. Unfortunately, we do not have additional data to better understand the category of “other crimes.” It is possible that participants were arrested for solicitation, given that almost one quarter of the participants reported having exchanged or traded sex for money during their lifetimes.

Approximately one third to one half of those arrested reported they spent time in jail or prison, depending on when the follow-up was conducted. Interestingly, the rates vacillated over time with noticeable jumps at the first and second follow-ups and gradual declines occurring thereafter. Because our follow-up rate was high across each of the six-month assessments and we did not interview any participants while they were in custody, it is assumed that the total amount of time actually spent in jail or prison was less than six months for most participants. By comparison, in two separate substance use treatment samples with approximately three-quarters of the samples being African American, rates of incarceration were much higher at 44% (Cacciola, Alterman, McLellan, Lin, & Lynch, 2007); however, the average age for these two samples was 40 and 47 years, and they had much longer histories of alcohol (15–16 years), heroin (5–7 years), cocaine (6 ½–7 years) and marijuana (8–9) use when compared to our sample.

The only variable associated with later arrests in this African American sample was an arrest history prior to baseline. Two findings were particularly surprising. First, we anticipated higher arrest rates for men when compared to women, yet they were equally as likely to report such events. Although in recent years the federal inmate population of African American females has been increasing at a more rapid rate when compared to African American males, (Arditti, Lambert-Shute, & Joest, 2003; Harrison & Beck, 2006; Sobel et al., 2007), our findings suggest that at least among cocaine users, there are few differences in likelihood of incarceration between men and women. In addition, we had expected substance abuse/dependence to be associated with higher rates of arrest and/or incarceration, given that chronic use of illicit drugs (e.g., marijuana and cocaine) places an individual at risk for arrest and is usually associated with increased criminal behaviors (Bureau of Justice Statistics, 2005). We had also expected that individuals with a history of arrest would report poorer mental and physical health. However, we found no differences between groups. In fact, participants’ scores on most clinical measures were similar to those of community samples.

We also found that one half of these young adults had no arrests and three-quarters reported no incarceration during the two years of follow-up, despite multiple, individual risk factors (unemployment, lack of education, and illicit drug use) for criminal behaviors. As noted above, about one fifth of the sample was not arrested prior to baseline or during follow-up. Although they used illicit substances – a criminal behavior in and of itself – they did not

behave in such a way as to attract the attention of local law enforcement officers. It is also plausible that identification with adult roles, such as getting married and becoming employed (two positive outcomes reported previously for this sample by (Kramer et al., 2010), contributed to criminal desistance, characterized as involvement in conventional social institutions that contributes to de-escalation in offending (Beaver, Wright, DeLisi, & Vaughn, 2008). Therefore, the sub-group that was arrested during adolescence but not arrested thereafter (approximately one quarter of the sample) may have, in part, modified their behavior to facilitate their transition into the larger community. The decrease in arrests may have also been associated with less substance use over time – reported by Kramer et al (2010), in this sample, and Borders et al (2008) in the parent study – which may be one of the most important risk factors for criminal behaviors measured in this study. Finally, a combination of factors – individual differences in proclivity toward antisocial acts, transitioning into roles of emerging adulthood, and decreased involvement in the substance use community – may have interacted to provide more conducive conditions for lawful behaviors.

Admittedly, there are limitations that may bias the results of the study. Most notably, participants were not randomly sampled from the general population nor the drug-using population, even though there is some confidence that the samples obtained through Respondent Driven Sampling are representative (Heckathorn, 2002; Wang, Carlson, Falck, Siegal, Rahman, & Li, 2004). Both studies demonstrated that multiple referral waves result in increasingly few demographic changes in sample composition over successive waves and almost none after four to five waves (known as “convergence”). However, our sampling strategy through recruitment networks may not have reached certain potential sub-groups of stimulant users. For example, participants of higher socioeconomic class, if any existed in the areas studied, may not have received referrals from other participants or may have been reluctant to participate for fear of public identification. Furthermore, because we were interested specifically in stimulant use, given increasing rates of cocaine and methamphetamine in rural areas, participants were screened according to whether they had used these substances in the past 30 days. It is possible that we missed individuals who were occasional users in adopting this criterion. Because we were also interested in studying a community sample that had not recently been in treatment, given that this group may have altered their use patterns due to receiving services, we may have missed individuals who had successfully transitioned back into the community. By establishing both these criteria, we may have limited our findings to only individuals with very recent use and/or individuals with no inclination toward treatment. In addition, we are aware that our instruments may not be culturally sensitive and therefore may exaggerate or underestimate the true rates of problems in this population. We also did not include measures to assess an individual’s perception of social capital, such as trust, social cohesion and informal networks; individual strengths, such as skills, competencies and values that may have contributed to their avoidance of substances and enhanced their overall functioning; and relevant family, peer, community and other social variables negatively associated with drug use and criminality. These are important factors to consider in future work targeting populations already known to be vulnerable. It is just as important to know what contributes to a decline in substance use in impoverished communities as it is to know what prevents de-escalation of substance use in sub-groups with shared demographic, geographical and historical roots. Within this study, the time frames for substance abuse and dependence diagnoses as well as arrest and incarceration differed from baseline to follow-up, limiting our ability to compare rates prior to baseline through follow-up. In addition, we were unable to directly compare our sample with those of non-substance-abusing African Americans in rural areas, preventing us from determining whether substance use was associated with criminal behaviors and arrests or whether other factors contributed more substantially to such outcomes. Our sample size was also small, which may have diminished our ability to detect differences for some of the

independent variables. Finally, the implications of collecting information from substance-using individuals who do not directly benefit from the study, but do receive compensation for their participation, should be noted. This may not only influence data integrity and participants' assessment of risk in the study but is also a critical issue when considering whether and how the results of this study will be used to improve services and outcomes for this population (Einstein, 1986; Slomka, Ratliff, McCurdy, Timpson, & Williams, 2008).

In summary, this study shows that a large number of African American cocaine users have multiple contacts with the criminal justice system and that such contacts occur at an early age. Unfortunately, high rates of unemployment, high-school failure, and poverty among African Americans in general (Williams et al., 1997) and the participants in our study specifically (Arkansas Department of Health, 2001; University of Arkansas Agricultural Experiment Station and Cooperative Extension Service, 2000) limit their life opportunities, which may contribute to a downward spiral for many of these individuals. Compounding their difficulties is the lack of access to resources, treatment, and social services that might provide some assistance to those interested in decreasing their substance use (Kosten, Rounsaville, & Kleber, 1985; Lee, Mavis, & Stoffelmayr, 1991; Petry, 2003; Rounds-Bryant et al., 2004).

Whether incarceration has any impact on subsequent drug use and criminal activity continues to be a controversial topic as researchers and public health officials promote treatment, educational, and diversion programs as alternatives to prison for substance users, particularly if crimes are drug-related rather than violence against others (Moore & Elkavich, 2008). Importantly, targeted interventions with youth when they are first identified as having a substance use problem, preferably before their initial contact with the juvenile justice system but certainly at that point, are critical to prevent escalation of substance use and parallel criminal behaviors. Because a large number of arrestees reported they are parents, family interventions are indicated to prevent inter-generational transfer of drug and criminal behaviors and support the social and emotional development of the children.

Acknowledgments

Research was supported by R01 DA 015363 from the National Institute of Drug Abuse (NIDA).

Glossary

Stimulant Use	Use of powder or crack cocaine or methamphetamine
Rural	A non-metropolitan area by the Census definition with small towns under 20,000 people
Respondent-Driven Sampling	A variant of snowball sampling used to recruit "hidden populations"

Reference List

- Alterman AI, Bovasso GB, Cacciola JS, McDermott PA. A comparison of the predictive validity of four sets of baseline ASI summary indices. *Psychology of Addictive Behaviors*. 2001; 15(2):159–162. [PubMed: 11419233]
- American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 3 (revised) ed.. Washington, D.C.: American Psychiatric Association; 1987.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: DSM-IV*. 4th ed.. Washington, DC: American Psychiatric Association; 1994.

4. Arditti JA, Lambert-Shute J, Joest K. Saturday morning at the jail: Implications of incarceration for families and children. *Family Relations*. 2003; 52:195–204.
5. Arkansas Department of Health. Arkansas County Trends in Maternal and Child Health 1994–1998. 2001 [On-line]. Available: <http://www.healthyarkansas.com/stats/trends98/TRND.htm>.
6. Beaver KM, Wright JP, DeLisi M, Vaughn MG. Desistance from delinquency: the marriage effect revisited and extended. *Social Science Research*. 2008; 37:736–752. [PubMed: 19086113]
7. Bennett LW, Tolman RM, Rogalski CJ, Srinivasaraghavan J. Domestic abuse by male alcohol and drug addicts. *Violence and Victims*. 1994; 9(4):359–368. [PubMed: 7577762]
8. Booth BM, Leukefeld C, Falck R, Wang J, Carlson R. Correlates of rural methamphetamine and cocaine users: results from a multistate community study. *Journal of Studies on Alcohol*. 2006; 67(4):493–501. [PubMed: 16736068]
9. Borders TF, Booth BM, Han X, Wright P, Leukefeld C, Falck RS, et al. Longitudinal changes in methamphetamine and cocaine use in untreated rural stimulant users: Racial differences and the impact of methamphetamine legislation. *Addiction*. 2008; 103:800–808. [PubMed: 18412758]
10. Bureau of Justice Statistics. Compendium of Federal Justice Statistics, 2003. Washington, DC: US Department of Justice, Office of Justice Programs; 2003.
11. Bureau of Justice Statistics. Substance Dependence, Abuse, and Treatment of Jail Inmates, 2002. Washington, DC: US Department of Justice, Office of Justice Programs; 2005. (Rep. No. 209588)
12. Cacciola JS, Alterman AI, McLellan AT, Lin YT, Lynch KG. Initial evidence for the reliability and validity of a "Lite" version of the Addiction Severity Index. *Drug and Alcohol Dependence*. 2007; 87:297–302. [PubMed: 17045423]
13. Cottler LB, Robins LN, Helzer JE. The reliability of the CIDI-SAM: A comprehensive substance abuse interview. *British Journal of Addiction*. 1989; 84(7):801–814. [PubMed: 2758153]
14. De Silva MJ, McKenzie K, Harpham T, Huttly SRA. Social capital and mental illness: A systematic review. *Journal of Epidemiology and Community Health*. 2005; 59:619–627. [PubMed: 16020636]
15. Denison ME, Paredes A, Booth JB. Alcohol and cocaine interactions and aggressive behaviors. *Recent Developments in Alcoholism*. 1997; 13:283–303. [PubMed: 9122499]
16. Derogatis, LR. BSI: Brief Symptom Inventory: Administration, scoring, and procedures manual. Minneapolis, MN: NCS Pearson, Inc.; 1993.
17. Draus PJ, Siegal HA, Carlson RG, Falck RS, Wang J. Cracking the cornfields: Recruiting illicit stimulant drug users in rural Ohio. *Sociological Quarterly*. 2005; 46:165–189.
18. Einstein S. Intervening in the use and misuse of drugs and alcohol: Critical issues, specious actions, misplaced faith, and ironic outcomes. *The International Journal of the Addictions*. 1986; 21(4&5):411–448. [PubMed: 3771009]
19. Federal Education Budget Project. 2007 [On-line]. Available: <http://febp.newamerica.net/k12/ar>.
20. Golembeski C, Fullilove R. Criminal (in)justice in the city and its associated health consequences. *American Journal of Public Health*. 2005; 95(10):1701–1706. [PubMed: 16131637]
21. Harrison, PM.; Beck, AJ. Prisoners in 2005. Washington, DC: U.S. Department of Justice, Office of Justice Programs; 2006.
22. Heckathorn DD. Respondent-driven sampling: A new approach to the study of hidden populations. *Social Problems*. 1997; 44(2):174–199.
23. Heckathorn DD. Respondent-driven sampling II: Deriving valid population estimates from chain-referral samples of hidden populations. *Social Problems*. 2002; 49(1):11–34.
24. Herrenkohl TI, Maguin E, Hill KG, Hawkins JD, Abbott RD, Catalano RF. Developmental risk factors for youth violence. *Journal of Adolescent Health*. 2000; 26(3):176–186. [PubMed: 10706165]
25. Holly, D. The plantation heritage: Agriculture in the Arkansas Delta. In: Whayne, J.; Gatewood, WB., editors. *The Arkansas Delta: Land of Paradox*. Fayetteville, AR: The University of Arkansas Press; 1993. p. 3-25.
26. Kessler RC, Demler O, Frank RG, Pincus HA, Walters EE, Wang P, et al. Prevalence and treatment of mental disorders, 1990 to 2003. *New England Journal of Medicine*. 2005; 352(24):2515–2523. [PubMed: 15958807]

27. Kim D, Kawachi I. A multilevel analysis of key forms of community- and individual-level social capital as predictors of self-rated health in the United States. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. 2006; 83(5):813–826. [PubMed: 16810567]
28. Kosten TR, Rounsaville BJ, Kleber HD. Ethnic and gender differences among opiate addicts. *International Journal of Addiction*. 1985; 20(8):1143–1162.
29. Kramer TL, Booth BM, Han X. Two-year trajectory of stimulant use in 18–21 year old rural African Americans. *Substance Abuse*. 2010; 31(1):12–23. [PubMed: 20391266]
30. Kramer TL, Han X, Booth BM. Young adult, rural, African American stimulant users: Antecedents and vulnerabilities. *Journal of Ethnicity and Substance Abuse*. 2009; 8(4):378–399.
31. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*. 2001; 16(9):606–613. [PubMed: 11556941]
32. Lee JA, Mavis BE, Stoffelmayr BE. A comparison of problems-of-life for blacks and whites entering substance abuse treatment programs. *Journal of Psychoactive Drugs*. 1991; 23(3):233–239. [PubMed: 1663546]
33. Loeber R, Burke JD, Pardini DA. Development and etiology of disruptive and delinquent behavior. *Annual Review of Clinical Psychology*. 2009; 5:291–310.
34. Logan TK, Stevenson E, Evans L, Leukefeld C. Rural and urban women's perceptions of barriers to health, mental health, and criminal justice services: Implications for victim services. *Violence and Victims*. 2004; 19(1):37–62. [PubMed: 15179745]
35. Makela K. Studies of the reliability and validity of the Addiction Severity Index. *Addiction*. 2004; 99:398–410. [PubMed: 15049734]
36. McLellan AT, Kushner H, Metzger D, Peters R, Smith I, Grissom G, et al. The Fifth Edition of the Addiction Severity Index. *Journal of Substance Abuse Treatment*. 1992; 9(3):199–213. [PubMed: 1334156]
37. McLellan AT, Luborsky L, O'Brien CP. Alcohol and drug abuse treatment in three different populations: Is there improvement and is it predictable? *American Journal of Drug and Alcohol Abuse*. 1986; 12(1&2):101–120. [PubMed: 3788893]
38. McLellan, AT.; Parikh, G.; Bragg, A.; Cacciola, J.; Fureman, B.; Incmikoski, R. *Addiction Severity Index: Administration Manual*. 5 ed.. Philadelphia, PA: Pennsylvania Veterans' Administration Center for Studies of Addiction; 1990.
39. Miller NS, Gold MS, Mahler JC. A study of violent behaviors associated with cocaine use: Theoretical and pharmacological implications. *Annals of Clinical Psychiatry*. 1990; 2(1):67–71.
40. Moore LD, Elkavich A. Who's using and who's doing time: Incarceration, the war on drugs, and public health. *American Journal of Public Health*. 2008; 98:S176–S180. [PubMed: 18687610]
41. Mumola, CJ. *Incarcerated parents in their children*. Washington, DC: US Department of Justice, Office of Justice Programs; 2000.
42. Petry NM. A comparison of African American and non-Hispanic Caucasian cocaine-abusing outpatients. *Drug and Alcohol Dependence*. 2003; 69:43–49. [PubMed: 12536065]
43. Pyne JM, Fortney JC, Tripathi S, Feeny D, Ubel P, Brazier J. How bad is depression? Preference score estimates from depressed patients and the general population. *Health Services Research and Educational Trust*. 2009; 44:1406–1423.
44. Robins LN, Helzer JE, Croughan J, Ratcliff KS. National Institute of Mental Health Diagnostic Interview Schedule: Its history, characteristics, and validity. *Archives of General Psychiatry*. 1981; 38:381–389. [PubMed: 6260053]
45. Rounds-Bryant JL, Motivans MA, Pelissier BM. Correlates of drug treatment outcomes for African American and white male federal prisoners: Results from the TRIAD study. *American Journal of Drug and Alcohol Abuse*. 2004; 30(3):495–514. [PubMed: 15540489]
46. Schwartz RP, Kelly SM, O'Grady KE, Peterson JA, Reisinger HS, Mitchell SG, et al. In-treatment vs. out-of-treatment opioid dependent adults: Drug use and criminal history. *American Journal of Drug and Alcohol Abuse*. 2008; 34:17–28. [PubMed: 18161640]
47. Seal DW, Margolis AD, Morrow KM, Belcher L, Sosman J, Askew J. Substance use and sexual behavior during incarceration among 18- to 29- year old men: Prevalence and correlates. *AIDS Behavior*. 2008; 12:27–40.

48. Slade EP, Stuart EA, Salkever DS, Karakus M, Green KM, Ialongo N. Impacts of age of onset of substance use disorders on risk of adult incarceration among disadvantaged urban youth: A propensity score matching approach. *Drug and Alcohol Dependence*. 2008; 95:1–13. [PubMed: 18242006]
49. Slomka J, Ratliff EA, McCurdy S, Timpson S, Williams ML. Perceptions of risk in research participation among underserved minority drug users. *Substance Use and Misuse*. 2008; 43:1640–1652. [PubMed: 18752165]
50. Smith GR, Burnam MA, Mosley CL, Hollenberg JA, Mancino M, Grimes W. Reliability and validity of the Substance Abuse Outcomes Module. *Psychiatric Services*. 2006; 57(10):1452–1460. [PubMed: 17035565]
51. Sobel, WJ.; Couture, H.; Harrison, PM. Prisoners in 2006. Rockville, MD: U.S. Department of Justice, Office of Justice Programs; 2007. Bureau of Justice Statistics.
52. Spitzer RL, Kroenke K, Williams JBW. Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. *Journal of the American Medical Association*. 1999; 282(18): 1737–1744. [PubMed: 10568646]
53. Stenbacka M, Stattin H. Adolescent use of illicit drugs and adult offending: A Swedish longitudinal study. *Drug and Alcohol Review*. 2007; 26:397–403. [PubMed: 17564875]
54. Strom, KJ.; Wong, L.; Weimer, B.; Rachal, V. NFLIS Special Report: Synthetic drugs, 2001–2004. Washington, DC: U.S. Department of Justice, Drug Enforcement Administration; 2005.
55. Substance Abuse and Mental Health Services Administration. Results from the 2006 National Survey on Drug Use and Health: National Findings (Office of Applied Studies, NSDUH Series H-32, DHHS Publication No. SMA 07–4293). Rockville, MD: 2007.
56. Substance Abuse and Mental Health Services Administration & Office of Applied Studies. Drug Abuse Warning Network, 2003: National estimates of drug-related emergency department visits, DAWN Series D-26, DHHS Publication No. (SMA) 04–3972. Rockville, MD: DHHS; 2004.
57. Thomas YF, Compton WM. Rural population are not protected from drug use and abuse. *Journal of Rural Health*. 2007; 23:1–3. [PubMed: 18237317]
58. U.S. Census Bureau. [Retrieved July 1, 2007] American Community Survey, 2005. 2005. from: <http://factfinder.census.gov>. [On-line]
59. U.S. Department of Agriculture, E. R. S. Progress and Partnerships in a dynamic rural America. 2004. [On-line]. Available: <http://www.ers.usda.gov/AmberWaves/February04/Features/blackhistory.htm>
60. University of Arkansas Agricultural Experiment Station and Cooperative Extension Service. Rural profile of Arkansas 2001: A look at social & economic trends affecting rural Arkansas. University of Arkansas Division of Agriculture; 2000.
61. University of Arkansas at Little Rock, C. o. B. I. f. E. A. Risk Factors for Adolescent Drug and Alcohol Abuse in Arkansas. Little Rock, AR: University of Arkansas at Little Rock; 2006.
62. US Census Bureau Public Information Office. Facts for features. 2007. [On-line]. Available: http://www.census.gov/press-release/www/releases/archives/facts_for_features_special_editions/010969.html
63. Wang J, Carlson RG, Falck RS, Siegal HA, Rahman A, Li L. Respondent-driven sampling to recruit MDMA users: A methodological assessment. *Drug and Alcohol Dependence*. 2004; 78(2): 147–157. [PubMed: 15845318]
64. Ware, JE.; Kosinski, M.; Dewey, J.; Gandek, B. How to Score and Interpret Single-Item Health Status Measures: A Manual for Users fo the SF-8 Health Survey. Lincoln, RI: Quality Metric Incorporated; 2001.
65. Ware, JE.; Snow, KK.; Kosinski, M.; Gandek, B. SF-36 Health Survey Manual and Interpretation Guide. Boston, MA: The Health Institute; 1993.
66. Williams DR, Yu Y, Jackson J, Anderson NB. Racial differences in physical and mental health. *Journal of Health Psychology*. 1997; 2:335–351. [PubMed: 22013026]

Table 1

Description of Assessment Measures and Key Variables

Measure and Subscales	Description	Scoring	Psychometrics	Normative Data
Short Form (SF-8)^a <ul style="list-style-type: none"> Physical Composite Score (PCS) Mental Composite Score (MCS) 	Eight-item self-report questionnaire assessing health-related quality of life.	Items scored on a 1–5 scale can be aggregated into a Physical Composite Scale (PCS) and Mental Composite Scale (MCS).	Test-retest reliability of the SF-8 is high, and the instrument is highly correlated with its parent questionnaire, the SF-36 ^b .	Each scale has a mean of 50 (SD = 10). All scores above and below 50 can be interpreted as above and below the US population norm, respectively.
Brief Symptom Inventory (BSI)^c <ul style="list-style-type: none"> Somatization Obsessive-compulsive Interpersonal sensitivity Depression Anxiety Hostility Phobic anxiety Paranoia Psychoticism Global Severity Index (GSI) 	53-item scale assessing nine symptom dimensions of mental distress in the past week.	Items rated on a 5-point scale (0–4) with 0 indicating no distress and 4 indicating extreme stress.	Demonstrated good test-retest reliability for sub-scales (reliabilities of 0.68–0.91), high internal consistency (coefficient alphas of 0.71–0.85), and sensitivity to change.	T scores reported in the current study are based on normative data from a general community sample where mean = 50.
Antisocial Personality Disorder (ASPD) Scale^d	11-item scale screening for conduct problems prior to age 15 (five items) and problems indicative of adult antisocial personality disorder (6 items) using an abbreviated version of the Diagnostic Interview Schedule (DIS) ^d .	Following DSM-III-R criteria ^e participants were grouped according to whether they endorsed 0 to 2 symptoms or three or more symptoms of conduct disorder and four or more symptoms of antisocial personality disorder.	The antisocial personality scale showed 75% sensitivity and 96% specificity for DSM-III-R criteria ^d .	Normative data are unavailable for the modified screening instrument.
Substance Abuse Outcomes Module^f <ul style="list-style-type: none"> Substance Abuse Substance Dependence 	17-item survey based on criteria from the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) ^g substance abuse and dependence. Questions covered alcohol, cocaine, methamphetamine, opiates and marijuana.	Items scored as present or absent; scoring based on DSM-IV criteria.	High internal consistency (alpha = .89) and high agreement on a diagnosis of substance abuse or dependence (93%) with the Composite International Diagnostic Interview ^h .	12-month prevalence in general population is 3.1% for alcohol abuse; 1.3% for alcohol dependence; 1.4% for drug abuse; 0.4% for drug dependence; and 3.8% for any substance use disorder ⁱ .
Addiction Severity Index (ASI) Version 5^j <ul style="list-style-type: none"> Medical Employment Legal (composite score and 	Assesses problems associated with substance use.	Composite score for each domain; level items are scored individually as present or absent.	Developers report ASI is reliable and valid ^k but other studies dispute psychometric properties depending on scale used ^l .	Mean composite scores published for substance-using samples ^m .

Measure and Subscales	Description	Scoring	Psychometrics	Normative Data
individual items reported) <ul style="list-style-type: none"> Family Psychiatric 				
Patient Health Questionnaire (PHQ-9) <ul style="list-style-type: none"> Depression Screenⁿ 	9-item scale derived from the Primary Care Evaluation of Mental Disorders (PRIME-MD) ^o for depression.	PHQ-9 scores range from 0 to 27, with each of the nine items scored from 0 (not at all) to 3 (nearly everyday). Criteria for major depression are met if five or more of nine depressive symptoms have been present more than half of the days in the past two weeks or the total sum of the nine items is 12 or more.	Internal reliability and test-retest reliability are excellent, with a Cronbach's α of 0.86–0.89. ^m A PHQ-9 score of 10 or greater had a sensitivity of 88% and a specificity of 88% for major depression ^o .	PHQ-9 scores of 5, 10, 15, and 20 represented mild, moderate, moderately severe, and severe depression, respectively. Mean score for the generation population is 4.4 (SD = .60) ^p .

^aWare, Kosinski, Dewey, & Gandek, 2001

^bWare, JE, Snow KK, Kosinski M, & Gandek B, 1993

^cDerogatis, 1993

^dRobins, Helzer, Croughan, & Ratcliff, 1981

^eAmerican Psychiatric Association, 1987

^fSmith, Burnam, Mosley, Hollenberg, Mancino, & Grimes, 2006

^gAmerican Psychiatric Association, 1994

^hCottler, Robins, & Helzer, 1989

ⁱKessler et al, 2005

^jMcLellan, Parikh, Bragg, Cacciola, Fureman, & Incmikoski, 1990

^kMcLellan et al.,1992

^lMakela & Klaus, 2004

^mAlterman, Bovasso, Cacciola, & McDermott, 2001

ⁿKroenke, Spitzer, & Williams, 2001

^oSpitzer, Kroenke, & Williams, 1999

^pPyne et al., 2009

Table 2

Frequencies (Percentages) of Illegal Activities, Arrests and Incarcerations at Baseline, Six-Month (F1), 12-Month (F2), 18-Month (F3) and 24-Month (F4) Follow-up

VARIABLE/ASSESSMENT	BASELINE (N=98)	F1 (N=97)	F2 (N=96)	F3 (N=92)	F4 (N=92)
Traded Sex for Money ^a	23 (23.5%)	7 (7.2%)	5 (5.2%)	6 (6.5%)	3 (3.3%)
Illegal Activities for Profit ^b	33 (35.5%)	27 (27.8%)	24 (25.5%)	30 (32.6%)	23 (25.3%)
1-4 Days Past Month	5 (5.4%)	3 (3.1%)	6 (6.5%)	4 (4.3%)	4 (4.4%)
5-9 Days Past Month	5 (5.4%)	2 (2.1%)	1 (1.1%)	4 (4.4%)	1 (1.1%)
10 or More Days Past Month	23 (24.8%)	22 (22.7%)	17 (18.2%)	22 (28.4%)	18 (19.8%)
Arrests ^c , ^d	24 (24.5%)	13 (13.4%)	16 (16.7%)	15 (16.3%)	14 (15.2%)
Arrested for Drugs ^c , ^d	8 (25.0%)	2 (14.2%)	5 (27.8%)	4 (25.0%)	1 (7.7%)
Arrested for Theft ^c , ^d	1 (6.7%)	1 (7.1%)	1 (5.6%)	1 (6.2%)	0%
Arrested for Burglary ^c , ^d	2 (14.3%)	0%	1 (5.6%)	0%	0%
Arrested for Robbery ^c , ^d	1 (14.3%)	0%	1 (5.6%)	0%	0%
Arrested for Property Crime ^c , ^d	1 (20%)	1 (7.1%)	2 (11.1%)	0%	1 (7.7%)
Arrested for Crimes against Persons ^c , ^d	8 (29.6%)	3 (21.4%)	5 (27.8%)	2 (12.5%)	7 (50.0%)
Arrested for Disorderly Conduct ^c , ^d	3 (16.7%)	1 (7.1%)	5 (5.6%)	0%	2 (15.4%)
Arrested for Driving While Intoxicated ^c , ^d	1 (16.7%)	0	0	3 (18.8%)	1 (7.7%)
Arrested for Major Driving Violation ^c , ^d	4 (22.3%)	0%	2 (11.1%)	4 (25.0%)	1 (7.7%)
Arrested for Other Offense ^c , ^d	3 (23.1%)	7 (50.0%)	7 (38.9%)	5 (31.2%)	3 (23.1%)
Incarcerated ^b , ^d	3 (13.1%)	3 (23.1%)	9 (56.2%)	7 (46.7%)	5 (35.7%)

^a Lifetime rate at baseline; past six months at follow-ups.

^b Past 30 days at baseline and follow-ups.

^c Past 6 months at baseline and at follow-ups

^d Percentages represent proportion of total arrests at each assessment period.

Table 3Demographic, Substance Use and Clinical Variables by Report of Arrest during Follow-up (N = 98)^a

	No Arrest (n = 53)	Arrest (n = 45)	χ^2 p-value
Male	34 (64.2%)	31 (68.9%)	.6209
Married/Cohabiting	3 (5.66 %)	3 (6.67 %)	.8360
Employed	7 (13.2%)	5 (11.1%)	.7524
High School Graduate	14 (26.4%)	9 (20.0%)	.4552
Income < \$10K	51 (98.1%)	42 (97.7%)	.8918
Arrested ^b	34 (64.2%)	40 (88.9%)	.0045
Carried Weapon ^b	17 (32.1%)	12.2 (26.7%)	.5588
Traded Sex for Money ^b	11 (20.8%)	12 (26.7%)	.5588
Positive Screen for Antisocial Personality Disorder	22 (41.5%)	21 (46.7%)	.6082
Alcohol Abuse/Dependence ^c	24 (45.3%)	20 (44.4%)	.9337
Cocaine Abuse/Dependence ^c	25 (47.2%)	23 (51.1%)	.6973
Marijuana Abuse/Dependence ^c	29 (54.7%)	27 (60.0%)	.5984
Other Substance Abuse/Dependence ^c	1 (1.9 %)	1 (2.2 %)	.9068
SF-8 PCS	52.8 (6.83)	51.6 (8.60)	.5981
SF-8 MCS	48.6 (9.84)	45.9 (12.12)	.3423
BSI Subscales (Mean, S.D.) ^d			
Somatic	52.9 (16.44)	50.69 (9.78)	.6331
Obsessive-Compulsive	54.21(15.83)	54.61 (15.21)	.7914
Interpersonal Sensitivity	51.29 (13.18)	53.17 (14.95)	.7912
Depression	51.94 (11.06)	53.41 (11.95)	.8792
Anxiety	50.68 (15.18)	51.67 (11.95)	.4426
Hostility	58.24 (20.94)	59.10 (16.40)	.4320
Phobia	54.71 (19.32)	55.65 (16.40)	.6336
Paranoia	61.71 (18.90)	63.83 (18.82)	.5381
Psychoticism	60.51 (22.93)	62.46 (23.57)	.4560
Global Severity Index	56.64 (18.65)	57.48 (16.29)	.5396
PHQ-9 Depression Scale ^d			
Positive Screen	9 (17%)	5 (11%)	.4079
Mean (S.D.)	5.0 (5.41)	5.47 (5.28)	.6427
ASI Scales (Mean, S.D.) ^d			
Medical	0.10 (0.18)	0.11 (0.22)	.8080
Employment	0.80 (0.26)	0.77 (0.24)	.5880
Alcohol	0.16 (0.09)	0.23 (0.14)	.1013
Drugs	0.15 (0.10)	0.18 (0.09)	.0756
Legal	0.11 (0.15)	0.12 (0.18)	.9384
Family	0.04 (0.08)	0.08 (0.15)	.1419
Psychiatric	0.12 (0.13)	0.11 (0.12)	.7054

^aDue to missing values on select variables, row totals may not sum to 98.^bLifetime history^cPast 12 months^dWilcoxon Test