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# Criminality Among Rural Stimulant Users in the United States

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## Abstract

Despite the increase in media attention on “meth cooking” in rural areas of the United States, little is known about rural stimulant use, particularly the criminality associated with stimulant use. Data were collected from community stimulant users in rural Ohio, Arkansas, and Kentucky (N=709). Findings from three logistic regression models indicate that younger stimulant users (x =32.55, SD = 10.35), those with more convictions, and those who used crack frequently were significantly more likely to have been arrested for committing a substance-related crime, a property crime, or another crime in the 6-months before entering the study. Implications include the need for longitudinal studies to further understand rural stimulant use as well as increasing community and corrections-based drug abuse prevention and treatment interventions for stimulant users who live in rural areas.

### Keywords

rural; stimulants; crack cocaine; methamphetamine; arrest

The link between drug use and crime in the United States has been consistently documented (see Belenko, 2001; Goldstein, 1998; Leukefeld, 1985; Leukefeld et al., 2002). In fact, the Arrestee Drug Abuse Monitoring (ADAM) system indicates that 64% of male arrestees and 67% of female arrestees in major U.S. cities tested positive for drugs (National Institute of Justice [NIJ] 2003). However, little is known about criminality and drug use among criminal offenders in rural regions of the U.S. (Leukefeld, 1985; Leukefeld, Tims, & Farabee, 2002); and, even less is known about rural stimulant use. This study examines 709 rural stimulant users to determine the independent correlates of an arrest for a substance-related crime, an arrest for a property crime, and an arrest for other crimes. The independent correlates of interest include demographics, frequency of different types of stimulant use, and criminal involvement.

## Rural Stimulant Use

Stimulants are psychoactive substances that increase activity in the central nervous system and can produce physical dependence (National Institute on Drug Abuse [NIDA], 2004, 2005, 2006). Crack-cocaine, powder cocaine, methamphetamines, and amphetamines all fall within the category of stimulants and can be grouped together because they produce an increase in alertness, attention, and energy (NIDA, 2004, 2005, 2006). However, it is also important to examine each stimulant separately as a first step because their relationships with crime may differ as a result of their pharmacological properties as well as social and cultural contexts of use. This section provides an overview of the prevalence and availability of stimulants in rural areas of the United States.

According to the National Household Survey on Drug Abuse, between 2002 and 2003 there was an increase in the lifetime prevalence of cocaine use (33,910 to 34,891) but a decrease in the lifetime prevalence of crack use (8,402 to 7,949), methamphetamine use (12,382 to 12,303), and other stimulant use (21,072 to 20,798) among U.S. citizens age 12 or older (SAMSHA, 2006). During the same timeframe, past month use increased for cocaine, crack, and methamphetamine use; however, other stimulant use slightly declined (SAMSHA, 2006).

There is conflicting research about the availability of stimulants in rural areas of the United States. More specifically, some research indicates that cocaine and crack are less prominent in rural areas which could be attributed to limited availability (Leukefeld et al., 2002; Mateyoke-Scrivner, Webster, Staton, & Leukefeld, 2004; Schoeneberger, Leukefeld, Hiller, & Godlaski, 2006). However, other research indicates that cocaine and crack are available and prevalent in rural areas (Booth, Leukefeld, Falck, Wang, & Carlson, 2006; Falck, Siegal, Wang, Carlson, & Draus, 2005; Zule et al., 2007). In addition, a report by the National Center on Addiction and Substance Abuse (CASA) (2000) indicates that rural 8$^{th}$ graders (who are approximately 13–14 years old) were significantly more likely to have used cocaine, crack, amphetamines, and methamphetamines in the past year when compared to 8$^{th}$ graders in large metropolitan areas. Moreover, there was essentially no difference in the proportion of rural and urban individuals who report that these stimulants are easy to obtain (CASA, 2000). These data suggest that while cocaine and crack may not be the drugs of choice in rural areas, they are available. Likewise, methamphetamines are often prevalent in rural areas since cooking is considered to be easier in rural areas because ingredients like anhydrous ammonia (a farm fertilizer) are more readily available (Anglin, Burke, Perrochet, Stamper, & Dawud-Noursi, 2000; Logan, 2001; Miller, 1997); however, the majority of use has been reported on the west coast and in mid-western states (Sexton, Carlson, Leukefeld, & Booth, 2008b). Although stimulant use has been reported in rural states (Maxwell, 2004), there is limited data to fully understand its use and association with specific criminal behaviors.

## Stimulant Use and Criminality in Rural Areas

The relationship between stimulant use and crime might be different in rural versus urban areas for several reasons. For example, there are differences in drug preferences, drug use patterns, drug treatment availability, and drug treatment utilization across geographical contexts (Leukefeld et al., 2002; Warner & Leukefeld, 2001). These differences could be associated with crime. Moreover, rural areas have higher rates of unemployment, illiteracy, and poverty, which may ultimately lead to criminal behavior among rural drug users (Leukefeld et al., 2002). Based upon the various environmental and economic conditions impacting stimulant users in rural areas, it is important to examine the relationship between stimulant use and crime (Sexton, Carlson, Leukefeld, & Booth, 2006). Specifically, research is needed to examine the various types of crimes committed by rural stimulant users in the U.S. including substance-related crimes, property crimes, and other crimes.

It is expected that the use of any stimulant (e.g., cocaine, crack cocaine, meth-amphetamine, or amphetamines) will be related to substance-related crimes due to their pharmacological properties (Goldstein, 1985; Oser, Mooney, Staton-Tindall, & Leukefeld, 2008). Specifically, stimulants are highly reinforcing (NIDA, 2004, 2005, 2006) and rural stimulant users may become involved in the criminal justice system because of an arrest for a substance-related crime such as possession or driving while intoxicated.

Stimulant use may also be related to an arrest for a property crime, especially in economically deprived rural areas of the U.S. Goldstein (1985) suggests that expensive drugs, such as cocaine, are most relevant for the economic compulsive model since they usually reflect habitual patterns of use. In fact, the Bureau of Justice Statistics (BJS) reports that in 2002, approximately a quarter of the nation’s convicted property and drug offenders had committed their crimes to get money for drugs (Karberg & James, 2005). One stimulant in particular –methamphetamine - is cited by one-third of law enforcement agencies as the drug that contributes most to property crimes (National Drug Intelligence Center, [NDIC], 2005).

In examining the relationship between rural stimulant use and an arrest for any other crime, the majority of the existing studies focus on violent crimes such as robbery or crimes against persons. Oser and colleagues (2008) examined the drugs-violence nexus in rural areas and found support for both the psychopharmacological and economic compulsive models of violence. Specifically, having used stimulants (including crack, cocaine, methamphetamine, and amphetamine) was a significant correlate of engaging in more violent crime among rural drug users. It was also found that economic compulsive violence occurred when rural drug users engaged in profit-oriented criminal activity (e.g., robbery) to maintain their expensive drug habits or pay for living expenses (Oser, Mooney, Staton-Tindall, & Leukefeld, 2008).

## Study Purpose

Because stimulant use and criminality are highly associated (Rodriguez, Katz, Webb, & Schaefer, 2005), examining the types of crimes that stimulant users are arrested for in rural areas would lead to a more complete and broader understanding of this relationship. Therefore, the purpose of this study is to describe rural criminality and drug use among active community stimulant users and to identify significant correlates of arrests for a substance-related crime, property crime, and other crimes.

## Method

### Sample

Data were derived from a natural history project of stimulant users in western-central Ohio, the Mississippi Delta region of Arkansas, and western Kentucky. Recruitment occurred in three rural counties in each state. U.S. Census Bureau (2000) data indicates that each of the nine rural counties in these three states had populations which were less than 60,000 with small communities under 20,000. The 2000 Census also indicated that the nine counties were very similar, but differed on race-ethnicity and socioeconomic status. Specifically, the three Mississippi Delta Arkansas counties were about half (49% to 57%) African American, while African Americans represented about 5 to 10% of the counties in Kentucky and Ohio. The Ohio counties were in closer geographic proximity to large urban areas than those in Kentucky or Arkansas. The Kentucky and Arkansas counties were also poorer with about 20% of the households having incomes under $10,000, compared to Ohio with less than 10% with incomes under $10,000. Unemployment rates also varied and ranged from 31% to 57% with the lowest unemployment rate in Ohio (U.S. Census, 2000). All three sites used the same recruitment procedures and data collection protocol.

Study eligibility criteria included the following: recent (past 30 day) active illicit stimulant use, over the age of 18, no recent formal substance abuse treatment (past 30 days), residence in one of the nine rural counties, and consent to participate. Participants were recruited using Respondent-Driven Sampling (RDS). This sampling approach has been successful in recruiting samples of hidden populations, including active substance users (Heckathron, 1997, 2002). For this study, ethnographers initially contacted potential participants or “seeds” who met study criteria to inform “seeds” about the study. Potential participants were contacted in local hangouts like pool halls, bars, and restaurants which were identified through ethnographic research (Booth et al., 2006; Draus, Siegal, Carlson, Falck, & Wang, 2005). Study seeds, after completing the baseline interview, were asked to give referral coupons to no more than three other possible active stimulant users who might wish to participate in the study. If a referral produced a contact, each seed received $10 for up to three contacts for a total of $30. Study eligibility criteria were not discussed with seeds to avoid misrepresentation. Confidentiality was maintained by requiring potential participants to initiate study contact via the information provided on the referral coupon (e.g., toll-free phone number).

In this study, 98 RDS seeds produced a sample of 711 rural stimulant users. The number of seeds (5 to 32) and waves (4 to 10) varied across the nine counties. Seeds do not have to be randomly sampled from the target population because after successive recruitment waves the sample's stable characteristics converge with the target population's (Heckathorn, 1997; Wang et al., 2005). RDS has been shown to produce a sample that is more representative of "hidden" populations than other sampling methods such as snowball or targeted sampling (Heckathorn, 1997; Heckathorn, 2002; Wang et al., 2005). Additional information about RDS procedures used in this study is available elsewhere (Draus et al., 2005; Siegal, Draus, Carlson, Falck, & Wang, 2005).

## Data Collection

The study was approved by each of the three participating university Institutional Review Boards, and a Certificate of Confidentiality was obtained from the National Institute on Drug Abuse. Before an interview, each potential participant signed a consent form and was told of the monetary compensation for their time. Interviews were completed with 711 participants using a Computer Assisted Personal Interview (CAPI) in field offices between October 2002 and September 2004. Respondents who completed the 2–3 hour interview were given $50 for their time.

## Measures

Demographic characteristics, frequency of stimulant use, and criminality measures were used for the current study as variables. These variables were used as independent correlate measures of an arrest in the past six months.

**Dependent variables—**Three variables were selected as measures of self-reported arrest history. Specifically, participants were asked if they had been arrested for a substance-related criminal offense (0=no; 1=yes), a property crime (0=no; 1=yes), or any other crime (0=no; 1=yes) in the previous six months. The any other crime category was created to encompass crimes that occurred less frequently in the previous six months and were not substance-related or property-related. The any other crime category included the crimes of robbery (*M*=0.6%), crimes against persons (*M*=5.6%), disorderly conduct (*M*=7.3%), driving violations (*M*=8.3%), and any other crime (*M*=3.8%). It should be noted that participants could have engaged in more than one of the crimes in the other crime category.

**Demographic characteristics—**Seven variables were included. Four variables were dichotomous measures (0=no; 1=yes) -- whether the participant was non-white, male, single (never married), and employed in the past 6 months. Both age and education were measured in number of years. Current annual income was self-reported and included three dichotomous variables -- annual income less than $5,000 (0=no; 1=yes), annual income between $5,000 and $9,999 (0=no; 1=yes) and annual income of $10,000 or above (0=no; 1=yes). In the multivariate models, annual income less than $5,000 was the reference group. Geographic region included dichotomous variables to determine where a participant was interviewed -- Arkansas (0=no; 1=yes), Kentucky (0=no; 1=yes) or Ohio (0=no; 1=yes). In the multivariate models, Ohio was the reference group.

**Substance use—**A modified version of a "drug matrix," developed by Wright State University researchers (Falck et al., 2005), was used to measure substance use in the past six month pattern for crack cocaine, powder cocaine, non-pharmaceutical methamphetamine, and other amphetamine use. These four frequency measures were indicated on a four-point continuum (0=none, 1=less than once a month, 2=more than once a month, but less than three days per week, 3=three days per week or more).

**Criminal Involvement—**Two variables were used to measure criminal involvement. Participants were asked if they had ever been arrested, questioned, or warned by police as a result of their lifetime substance use (0=no; 1=yes). Convictions were measured as the number of lifetime convictions with the Addiction Severity Index Version 5 (McLellan et al., 1990).

### Analytic Strategy

The descriptive statistics including the percentages or means and standard deviations as well as the range for the variables of interest, were first explored. Data on past six-month stimulant use was not available for two participants; therefore all analyses were conducted with 709 participants. Next, logistic regression was used to determine the independent correlates of an arrest for a substance-related crime in the past six months, an arrest for a property crime in the past six months, and an arrest for any other crime in the past six months. Results of the three logistic regression models reported the unstandardized coefficient, standard errors, 95% confidence intervals, and odds ratios.

## Results

### Descriptive Analyses

Table 1 presents the descriptive statistics of the variables included in the multivariate models. Overall, participants were white (68%), male (61%), and about half were single, never married (48%). Most participants were adults in their early thirties and reported having about one child. The average participants had completed 11 years of education, which is less than the 12 years required for a high school degree in the United States. Over two-thirds were employed in the past six months (68%) and over half of the sample (55%) reported an annual income less than $5,000 per year.

By design, the sample of rural stimulant users was about equally split between the geographic regions of Arkansas, Kentucky, and Ohio. The last six month pattern of stimulant use was also examined, with crack being the stimulant most frequently used and amphetamines being used the least. Almost three-fourths of the sample (71%) has been arrested, questioned, or warned by police as a result of their lifetime substance use and the average number of lifetime convictions was about six. In the last six months, 19% had been arrested for a substance-related offense, 7% had been arrested for a property offense, and 14% had been arrested for any other crime.

### Multivariate Analyses

The results of the logistic regression model used to identify the correlates of a substance-related arrest in the six months before entering the study are presented in Table 2. Significant demographic associations with an arrest for a substance-related crime included being younger, unemployed, and having an annual income of $10,000 or more. Specifically, the odds that an older rural stimulant user is arrested decreases by 3% over that of a younger rural stimulant user with each year of age. Geographic region was not a significant correlate. However, using crack at least 3 or more times per week in the previous six months, as compared to not using crack at all during the same timeframe, increased the odds of a substance-related arrest by 1.7. Using powder cocaine less than once a month, as compared to no powder cocaine use, increased the odds of a substance-related arrest by almost two-fold. In addition, when compared to non-methamphetamine users, frequent methamphetamine users (defined as using at least three or more times per week during the previous six months) were almost twice as likely to have been arrested for a substance-related crime. Participants who had police contact for any substance use were almost 2.7 times more likely to have been arrested in the previous six months for a drug or alcohol

crime. There was also a positive association between the number of lifetime convictions and an arrest for a substance-related crime.

Table 3 displays the results of the logistic analyses for a property crime arrest among rural stimulant users in the previous six months. Age was independently associated with a property-related arrest in that each year of age decreases the likelihood of an arrest for a property crime by 4%. There was also a negative relationship between being in the $5,000 to $9,999 annual income category and an arrest for a property crime. Crack use at all three levels of frequency was positively associated with the likelihood of an arrest for a property crime in the past six months; and, the more frequent the crack use, the higher the odds of having experienced an arrest for a property crime. For example, using crack less than once a month during the previous six months increased the likelihood of a property-related arrest by 2.74; but, using crack at least 3 or more times per week increased the odds of a property-related arrest by 5.08. Also, compared to no amphetamine use, using amphetamines at least once a month but less than three days a week was associated with a 2.19 increase in the odds of being arrested for a property crime. The number of lifetime convictions was also positively related to having been arrested for a property crime in the previous six months.

As noted in Table 4, both age and years of education had a negative association with an arrest for any crime other than a substance- or property-related crime. Geographic region was correlated with an arrest for any other crime in the previous six months, holding all other variables constant. Specifically, odds ratios indicate that stimulant users who reside in either Arkansas or Kentucky were about twice as likely to have been arrested for any other crime in the past six months. When compared to non-crack users, frequent crack users (defined as using at least three or more times per week during the previous six months) were 2.47 times more likely to have been arrested for a crime in the other arrest category. Also, as compared to no amphetamine use, using amphetamines at least once a month but less than three days a week during the previous six months is associated with a 2.21 increase in the odds of being arrested for any other crime during the same timeframe. Participants who reported any police contact because of their lifetime substance use were almost twice as likely to have been recently arrested for another crime. Number of lifetime convictions was also positively associated with an arrest for any other crime in the past six months.

## Discussion

The purpose of this study was to examine arrests among active rural stimulant users in the United States. As expected, stimulant use was associated with arrests. When three logistic regression models were used to determine the independent correlates of an arrest in the 6-months before participants entered the study for three arrest categories – arrests for a substance-related crime, for a property crime, and for other crime -- there were interesting commonalities across these arrest categories. Specifically, each of the three logistic models indicated that younger rural stimulant users, those with more convictions, and those who used crack cocaine frequently were significantly more likely to have been arrested for committing a substance-related crime, property crime, or other crime during the past 6-months.

Consistent with a life course perspective of aging out of crime (Sampson & Laub, 1993), we expected age and an arrest for a crime in the past six months to be negatively associated; however, the consistency across the three arrest categories for rural stimulant users was not expected. While an earlier onset of substance use has been associated with crime (Ellickson, Tucker, & Klein, 2003; Slade et al., 2008), most studies have not examined specific types of crimes or the rural context. Based on findings from this study, it is critical to pay more attention to identifying and understanding younger rural stimulant users to intervene in the

rural drugs/crime cycle. This is important because rural youth have received little attention and resources, other than those youth under the age of 18 who enter the juvenile justice system. Consequently, rural youth should be targeted for drug abuse prevention, education, and early intervention activities in order to prevent and delay their use of stimulants and other drugs. These early interventions should include identification of initial use and brief interventions which are tailored for younger rural stimulant users. For example, youth could be identified in schools and as they come into contact with criminal justice settings like courts, detention centers, and jails. However, targeting youth can present an array of difficulties in rural areas. These difficulties include limited transportation and fewer locally available services which can make participation in prevention and treatment interventions cumbersome and fraught with negatives, particularly in poorer rural areas like those included in this U.S. study (Borders & Booth, 2007; Sexton et al, 2008a; Warner & Leukefeld, 2001) as well as in other countries (Chen & Huang, 2007; Donnermeyer, Barclay, & Jobes, 2002; Fiki, 2007; Wood, 1994).

Our expectation of a positive association between prior convictions and having been arrested for a substance-related crime, property crime, or other crime in the previous 6-months was supported. This finding confirms our experiences that stimulant use, possibly because of the psychopharmacology of the drugs, is positively associated with crime. What is not clear is why these crimes were committed (e.g., to obtain money to buy drugs), where these crimes occurred (e.g., in rural areas or during travel to more urban areas), and who were the victims of these crimes? These are areas for future study both in the U.S. and within an international context.

An additional finding is that rural drug users use different types of stimulant drugs, which have differing associations with arrests. In all three multivariate models, more frequent use of crack was a significant positive correlate of an arrest during the previous 6-months. Thus, this rural-community based study found a positive relationship between crack and crime, which is also commonly reported in studies conducted in urban areas (Blumstein, 1995; Smoyer & Blankenship, 2004). Powder cocaine, methamphetamines, and amphetamines were not consistently significant correlates of an arrest in the multivariate models; however, these findings should be interpreted with caution since the last six month pattern of use was much lower than for crack cocaine. In particular, the frequency of amphetamine use was very low, at less than once a month. As previously noted, this differential use is associated with drug availability as well as individual resources, including money and/or services to purchase illicit stimulants. In addition, preference and “taste” for a specific stimulant drugs as well as availability needs further examination, particularly combinations of drug use. This study didn’t examine poly-drug use and thus is an area for future studies.

Interventions are needed which are tailored for rural stimulant users. For example, findings from this study suggest that stimulant users should be evaluated and assessed to determine use level and referred to a local community substance abuse treatment program. This assessment and referral process is currently unavailable in most rural areas since rural areas have limited local drug abuse services and other services both in the U.S. (Borders & Booth, 2007; Sexton et al., 2008a; Warner & Leukefeld, 2001) and in other countries (Chen & Huang, 2007; Donnermeyer, Barclay, & Jobes, 2002; Fiki, 2007; Wood, 1994).

Nevertheless, these interventions are important and are necessary to decrease stimulant use, particularly crack cocaine use and new stimulant drug use initiation. Although few rural drug abuse interventions have been tailored and are available, there are examples which include treatment interventions like the one developed by Leukefeld and colleagues (2000). However, we were unable to locate interventions that are developed specifically for rural stimulant users. This supports the idea that community substance abuse treatment programs

as well as criminal justice treatment programs may not be prepared for stimulant users who may be distinct from other users with their geographically related problems. Designing drug- and rural- specific interventions may be sensible but costly.

There are study limitations. Study participants were selected using RDS which has been found to provide representative sampling of community drug abusers (Heckathorn, 2002; Wang et al., 2007). Specifically, Heckathorn (2002) and Wang et al. (2007) have shown that multiple referral waves increased fewer sample demographic changes over successive waves to almost none after four or five sampling waves. However, given the income level, the recruitment approach used in this project may not have reached more affluent stimulant users, if there were more affluent stimulant users in these poorer rural counties. It should also be noted that similar to snowball, chain-referral, and targeted samples, observation dependence exists in a RDS sample. Currently, it is still a challenge to accommodate intraclass correlations in analyzing the hierarchically structured RDS sample data (i.e., individuals are nested within personal networks) because it is difficult to appropriately identify the higher level units (i.e., personal networks) in the RDS data. A multi-site study can be considered a strength since it increases generalizability, as well as a limitation since data were collected in three geographically distinct regions in nine counties. Sampling strategies for each of the nine counties were independent because selecting the initial participants or “seeds” was not random but necessitated different contacts and different local recruitment. No data was collected on the number of participants who did not participate. Another limitation included combining data from different recruitment teams in three different sites, although this was reduced by data collection training, identical recruitment protocols, cross-site visits, and regular communication. Data were also self-reported which can be influenced by recall and truthfulness.

Even with these limitations, findings from the present study suggest that stimulant use in rural areas was associated with arrests. Likewise, the type of crime reported by the participants was influenced by age, geographic area, prior criminal involvement, and the drug of choice (e.g., crack cocaine). Previous research provides evidence that rural substance abusers have less access to treatment and are less likely to utilize treatment (Borders & Booth, 2007; Sexton et al., 2008a; Warner & Leukefeld, 2001) and thus the needs for local community-based rural substance abuse treatment and prevention interventions remain. Data from this study also suggest that the schools and the criminal justice system could be a place to initiate interventions and to provide community referrals. Future research should develop and examine cost effective interventions tailored for rural stimulant users as well as replicate this study in other countries.

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## Table 1

Demographic Characteristics of Rural Stimulant Users (n=709)

| | % (n) | Mean (SD) | Minimum – Maximum |
|---|---|---|---|
| ***Demographic Characteristics*** | | | |
| % Non-white | 32.07 (228) | | |
| Age | | 32.55 (10.35) | 18.00–61.00 |
| % Male | 61.00 (437) | | |
| % Single | 48.38 (344) | | |
| Average # Children | | 1.66 (1.75) | 0.00–11.00 |
| Years of Education | | 11.27 (1.86) | 4.00–16.00 |
| % Employed in Past 6 Months | 68.46 (484) | | |
| % Annual Income Less than $5,000 | 55.30 (392) | | |
| % Annual Income $5,000 to $9,999 | 16.50 (117) | | |
| % Annual Income $10,000 or above | 28.20 (200) | | |
| ***Geographic Region*** | | | |
| % Arkansas | 33.33 (237) | | |
| % Kentucky | 31.65 (225) | | |
| % Ohio | 35.02 (249) | | |
| ***Last Six Month Pattern of Crack Use*** | | | |
| % No Use | 34.70 (247) | | |
| % Less than Once a Month | 13.90 (99) | | |
| % More than Once a Month, but Less than 3 Days per Week | 24.90 (177) | | |
| % Three or More Days per Week | 26.40 (188) | | |
| ***Last Six Month Pattern of Powder Cocaine Use*** | | | |
| % No Use | 42.60 (303) | | |
| % Less than Once a Month | 18.60 (132) | | |
| % More than Once a Month, but Less than 3 Days per Week | 25.00 (178) | | |
| % Three or More Days per Week | 13.80 (98) | | |
| ***Last Six Month Pattern of Methamphetamine Use*** | | | |
| % No Use | 51.80 (368) | | |
| % Less than Once a Month | 14.90 (106) | | |
| % More than Once a Month, but Less than 3 Days per Week | 20.00 (142) | | |
| % Three or More Days per Week | 13.20 (94) | | |
| ***Last Six Month Pattern of Amphetamine Use*** | | | |
| % No Use | 83.40 (591) | | |
| % Less than Once a Month | 5.80 (41) | | |
| % More than Once a Month, but Less than 3 Days per Week | 7.50 (53) | | |
| % Three or More Days per Week | 3.40 (24) | | |
| ***Criminal Involvement*** | | | |
| % Police Contact b/c Substance Use | 71.87 (511) | | |
| # of Lifetime Convictions | | 6.50 (11.98) | .00–121.00 |
| ***Arrested in Last Six Months*** | | | |

| | % (n) | Mean (SD) | Minimum – Maximum |
|---|---|---|---|
| % Drug or Alcohol Crime | 19.83 (141) | | |
| % Property Crime | 7.31 (52) | | |
| % Other Crime | 14.06 (100) | | |

[a]Notes: Last six month pattern of use is indicated on a four-point continuum (0=none, 1=less than once a month, 2=more than once a month but less than three days a week, 3=more than three days a week).

## Table 2

Logistic Regression Analysis of an Arrest for a Substance-Related Crime in the Past Six Months on Demographics, Geographic Region, Stimulant Use, and Criminal Involvement (n=700)

| | Coefficient (SE) | OR | 95% CI |
|---|---|---|---|
| ***Demographics*** | | | |
| Non-white | .14 (.32) | 1.16 | .62 – 2.16 |
| Age* | −.03 (.02) | .97 | .94 – 1.00 |
| Male | .31 (.25) | 1.36 | .84 – 2.19 |
| Single | .02 (.25) | 1.02 | .63 – 1.65 |
| Years of Education | .06 (.06) | 1.06 | .94 – 1.19 |
| Employed* | −.43 (.25) | .65 | .40 – 1.06 |
| Annual Income Category - $5,000 to $9,999[a] | .16 (.30) | 1.17 | .66 – 2.10 |
| Annual Income Category – $10,000 or above[a] * | .58 (.26) | 1.79 | 1.08 – 2.94 |
| ***Geographic Region***[b] | | | |
| Arkansas | .24 (.33) | 1.28 | .67 – 2.43 |
| Kentucky | −.01 (.30) | .99 | .55 – 1.79 |
| ***Last Six Month Pattern of Crack Use***[c] | | | |
| Less than Once a Month | −.13 (.36) | .88 | .43 – 1.78 |
| More than Once a Month, but Less than 3 Days per Week* | .56 (.29) | 1.75 | 1.00 – 3.08 |
| Three or More Days per Week* | .55 (.31) | 1.73 | .95 – 3.14 |
| ***Last Six Month Pattern of Powder Cocaine Use***[c] | | | |
| Less than Once a Month* | .68 (.29) | 1.96 | 1.11 – 3.47 |
| More than Once a Month, but Less than 3 Days per Week | .35 (.29) | 1.42 | .81 – 2.48 |
| Three or More Days per Week | .27 (.35) | 1.31 | .66 – 2.58 |
| ***Last Six Month Pattern of Methamphetamine Use***[c] | | | |
| Less than Once a Month | .09 (.32) | 1.09 | .58 – 2.05 |
| More than Once a Month, but Less than 3 Days per Week | .07 (.31) | 1.08 | .59 – 1.95 |
| Three or More Days per Week* | .67 (.35) | 1.95 | .99 – 3.84 |
| ***Last Six Month Pattern of Amphetamine Use***[c] | | | |
| Less than Once a Month | .09 (.46) | 1.09 | .45 – 2.67 |
| More than Once a Month, but Less than 3 Days per Week | .51 (.35) | 1.66 | .83 – 3.31 |
| Three or More Days per Week | −.03 (.58) | .97 | .31 – 3.01 |
| ***Criminal Involvement*** | | | |
| Police Contact b/c Substance Use ** | 1.00 (.30) | 2.73 | 1.53 – 4.89 |
| # of Convictions** | .04 (.01) | 1.04 | 1.02 – 1.05 |

[a] NOTES: Annual income less than $5,000 is the reference group;

[b] Ohio is the reference group;

[c] No stimulant use is the reference group; 2 Log likelihood = 615.24; Model $\chi^2$ = 79.74, p<.001; Nagelkerke $R^2$ = .17;

* p<.05,

** p<.01 (one-tailed significance test)

## Table 3

Logistic Regression Analysis of an Arrest for a Property Crime in the Past Six Months on Demographics, Geographic Region, Stimulant Use, and Criminal Involvement (n=700)

| | Coefficient (SE) | OR | 95% CI |
|---|---|---|---|
| ***Demographics*** | | | |
| Non-white | .48 (.47) | 1.61 | .64 – 4.07 |
| Age* | −.05 (.02) | .96 | .91 – 1.00 |
| Male | −.46 (.36) | .63 | .31 – 1.27 |
| Single | .16 (.37) | 1.17 | .57 – 2.40 |
| Years of Education | −.03 (.09) | .97 | .82 – 1.15 |
| Employed | .19 (.38) | 1.21 | .58 – 2.54 |
| Annual Income Category - $5,000 to $9,999[a] * | −1.49 (.64) | .23 | .07 – .79 |
| Annual Income Category – $10,000 or above[a] | −.39 (.41) | .68 | .30 – 1.53 |
| ***Geographic Region***[b] | | | |
| Arkansas | .20 (.49) | 1.22 | .47 – 3.15 |
| Kentucky | .40 (.46) | 1.49 | .61 – 3.67 |
| ***Last Six Month Pattern of Crack Use***[c] | | | |
| Less than Once a Month* | 1.01 (.56) | 2.74 | .91 – 8.27 |
| More than Once a Month, but Less than 3 Days per Week* | 1.16 (.51) | 3.19 | 1.18 – 8.63 |
| Three or More Days per Week** | 1.63 (.50) | 5.08 | 1.91 – 13.53 |
| ***Last Six Month Pattern of Powder Cocaine Use***[c] | | | |
| Less than Once a Month | .23 (.48) | 1.25 | .49 – 3.19 |
| More than Once a Month, but Less than 3 Days per Week | .45 (.43) | 1.57 | .68 – 3.64 |
| Three or More Days per Week | −.20 (.56) | .82 | .27 – 2.48 |
| ***Last Six Month Pattern of Methamphetamine Use***[c] | | | |
| Less than Once a Month | .21 (.49) | 1.24 | .47 – 3.25 |
| More than Once a Month, but Less than 3 Days per Week | .08 (.48) | 1.08 | .42 – 2.78 |
| Three or More Days per Week | .73 (.51) | 2.08 | .76 – 5.69 |
| ***Last Six Month Pattern of Amphetamine Use***[c] | | | |
| Less than Once a Month | −.31 (.80) | .74 | .15 – 3.52 |
| More than Once a Month, but Less than 3 Days per Week* | .79 (.47) | 2.19 | .87 – 5.51 |
| Three or More Days per Week | −.57 (1.09) | .57 | .07 – 4.75 |
| ***Criminal Involvement*** | | | |
| Police Contact b/c Substance Use | .11 (.38) | 1.11 | .53 – 2.36 |
| # of Convictions** | .03 (.01) | 1.03 | 1.01 – 1.05 |

[a] NOTES: Annual income less than $5,000 is the reference group;

[b] Ohio is the reference group;

[c] No stimulant use is the reference group; 2 Log likelihood = 315.15; Model $\chi^2$ = 50.20, p<.001; Nagelkerke $R^2$ = .17;

* p<.05,

** p<.01 (one-tailed significance test)

## Table 4

Logistic Regression Analysis of an Arrest for a Crime (Other than Substance Use or Property-Related) in the Past Six Months on Demographics, Geographic Region, Stimulant Use, and Criminal Involvement (n=700)

| | Coefficient (SE) | OR | 95% CI |
|---|---|---|---|
| ***Demographics*** | | | |
| Non-white | −.39 (.37) | .68 | .33 – 1.40 |
| Age* | −.03 (.02) | .97 | .94 – 1.00 |
| Male | .41 (.28) | 1.51 | .88 – 2.61 |
| Single | −.12 (.27) | .89 | .52 – 1.51 |
| Years of Education* | −.12 (.06) | .89 | .79 – 1.00 |
| Employed | −.05 (.27) | .95 | .56 – 1.63 |
| Annual Income Category - $5,000 to $9,999[a] | −.18 (.31) | .83 | .44 – 1.60 |
| Annual Income Category – $10,000 or above[a] | −.33 (.30) | .72 | .40 – 1.30 |
| ***Geographic Region***[b] | | | |
| Arkansas* | .70 (.38) | 2.01 | .95 – 4.25 |
| Kentucky* | .63 (.35) | 1.88 | .95 – 3.75 |
| ***Last Six Month Pattern of Crack Use***[c] | | | |
| Less than Once a Month | −.57 (.46) | .56 | .23 – 1.39 |
| More than Once a Month, but Less than 3 Days per Week | .40 (.34) | 1.49 | .77 – 2.87 |
| Three or More Days per Week** | .90 (.34) | 2.47 | 1.28 – 4.77 |
| ***Last Six Month Pattern of Powder Cocaine Use***[c] | | | |
| Less than Once a Month | −.15 (.34) | .86 | .44 – 1.69 |
| More than Once a Month, but Less than 3 Days per Week | −.15 (.33) | .86 | .45 – 1.63 |
| Three or More Days per Week | .15 (.37) | 1.17 | .56 – 2.42 |
| ***Last Six Month Pattern of Methamphetamine Use***[c] | | | |
| Less than Once a Month | .20 (.35) | 1.22 | .61 – 2.43 |
| More than Once a Month, but Less than 3 Days per Week | −.12 (.35) | .89 | .45 – 1.75 |
| Three or More Days per Week | .10 (.40) | 1.11 | .51 – 2.41 |
| ***Last Six Month Pattern of Amphetamine Use***[c] | | | |
| Less than Once a Month | .55 (.51) | 1.73 | .64 – 4.70 |
| More than Once a Month, but Less than 3 Days per Week* | .79 (.37) | 2.21 | 1.06 – 4.59 |
| Three or More Days per Week | −.12 (.67) | .89 | .24 – 3.33 |
| ***Criminal Involvement*** | | | |
| Police Contact b/c Substance Use* | .63 (.32) | 1.89 | 1.01 – 3.53 |
| # of Convictions** | .03 (.01) | 1.03 | 1.01 – 1.04 |

[a] NOTES: Annual income less than $5,000 is the reference group;

[b] Ohio is the reference group;

[c] No stimulant use is the reference group; 2 Log likelihood = 515.29; Model $\chi^2$ = 55.28, p<.001; Nagelkerke $R^2$ = .14;

* p<.05,

** p<.01 (one-tailed significance test)