Childhood Conduct Problems and Other Early Risk Factors in Rural Adult Stimulant Users

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Abstract

Context—Understanding childhood risk factors associated with adult substance use and legal problems is important for treatment and prevention.

Purpose—To examine the relationship of early substance use, conduct problems before age 15, and family history of substance abuse on adult outcomes in rural, stimulant users.

Methods—Adult cocaine and methamphetamine users (N=544) in rural Arkansas and Kentucky were interviewed. Data were analyzed using both bivariate analyses and multiple logistic and log-linear regression models, with dependent variables being any substance abuse/dependence, stimulant abuse/dependence, total number of arrests since age 18 and days incarcerated since age 18.

Findings—One-third reported three or more conduct disorder problems prior to age 15; half reported initiation of substances (excluding alcohol) before age 15; and 60% reported family history of substance problems. All three variables were associated with adult substance abuse/dependence but only the latter two were associated with stimulant abuse/dependence.

Conclusions—This study highlights early risk factors for adult substance abuse/dependence among rural stimulant users.

Keywords

Cocaine; Methamphetamine; Substance Abuse; Conduct Disorder; Rural

Introduction

Salient, interrelated risk factors for adult substance abuse are childhood conduct problems, early initiation of substance use, and family history of substance abuse. Models of developmental psychopathology suggest that conduct disorder (three or more conduct problems) represents a pervasive deviance that directly and indirectly (through school, family and peer mediators) influences adult substance use/abuse.[1] Youth with conduct problems are more likely to have parents who abuse substances,[2] which may be attributable to a combination of environmental factors, including reduced parental monitoring, increased

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stress in substance-abusing families, or genetic factors, such as increased heritability of disinhibition.[3-5] Conduct problems in adolescence often precede initiation of substance use; [6,7] increase the risk of early alcohol and marijuana use;[8] and strongly predict alcohol and marijuana abuse in adulthood,[7-11] particularly in males.[5] The relationship between childhood conduct problems and other risk factors and adult cocaine or methamphetamine use/abuse has received less attention from researchers. However, in at least one prospective study, two subgroups of youth without conduct problems became cocaine users in adulthood.[12]

Although previous studies link childhood risk factors with adult substance abuse, particularly alcohol and marijuana, no published studies examine these links in rural areas, where stimulant use in particular has dramatically increased, largely due to widespread use of methamphetamine and cocaine.[13-15] This dearth of information about the trajectory of stimulant use in rural communities highlights the need for further investigation. The present study assesses childhood risk factors associated with adult substance abuse/dependence and criminal involvement in a community sample of rural adult stimulant users. We hypothesized a relationship among childhood conduct problems before age 15; family history of alcohol, drug or mental health problems; and onset of substance use before age 15. We also hypothesized that the above-named risk factors would be associated with adult outcomes, including any substance abuse or dependence in the past 12 months, stimulant abuse or dependence in the past 12 months, number of arrests since age 18, and number of days incarcerated since age 18, controlling for demographic and other variables. We included urban versus rural childhood residence in the analyses as the cultural differences between rural and urban settings may influence substance abuse. Rural areas' strong social networks, community cohesiveness and lack of personal anonymity may discourage drug use and criminal behavior, while urban settings might offer easier access to illegal substances but also more alternatives to adolescent boredom and thrill-seeking.

METHODS

This study was part of a larger project that used a natural history design to examine a stratified community sample of not-in-treatment rural stimulant (methamphetamine and cocaine) users in three non-metropolitan counties in eastern Arkansas and three in western Kentucky.[16] The study was approved by the relevant institutional review boards and received a Certificate of Confidentiality from the National Institute of Drug Abuse (NIDA).

Sampling

Eligible subjects were age 18 or older and: (1) used crack or powder cocaine or methamphetamine within the previous 30 days; (2) were not in treatment within the past 30 days; (3) resided in one of the targeted counties; and (4) consented to participate. Participants were remunerated $50 for the 2-3 hour baseline interview. Interviews were postponed if an interviewer suspected intoxication or a participant admitted to using substances immediately prior to the interview.

We used Respondent-Driven Sampling (RDS),[17-19] a variant of snowball sampling, to identify study participants. Such non-probabilistic sampling methods are critical for recruiting "hidden populations" such as illegal drug users. Theoretically, RDS can generate a sample more representative of the hidden population because RDS is less reliant on an initial sample being random. Initial recruits ("seeds") are not required to be random samples of the target population because RDS has been shown to converge to stable characteristics of the population following successive recruitment waves.[17-19]

Study staff and local outreach workers used preliminary ethnographic methods such as participant observation to identify 5-9 initial participants ("seeds") meeting study criteria. Seeds who completed the baseline interview were asked to give referral coupons to friends, relatives, and acquaintances they knew used drugs. Coupon recipients telephoned the study office and were screened for eligibility over the phone. Eligible individuals scheduled the baseline interview in the local study office. All interviews were conducted in English by trained research assistants using computer-assisted software on laptop computers. If referrals resulted in study contact, seeds received $10 per contact for up to three contacts, and up to six referrals were allowed. Of the 738 individuals recruited, 544 were eligible for the study, with 194 ineligible due to: no recent methamphetamine or cocaine use (123), not residing in target counties (4), currently in treatment for substance abuse (2), outside age restrictions (2), or not a seed or referral (2). Sixty-one additional crack cocaine users were not recruited because we sought to balance between crack, powder cocaine, and methamphetamine, and we had filled our quota of crack users.

Measures

The baseline interview included the following measures:

Lifetime and Recent Substance Use—A "drug matrix" queried lifetime, past six months use, past 30 days use, and age of first use of substances including alcohol, methamphetamine, crack and powder cocaine, marijuana, heroin, LSD, and non-prescription use of prescription tranquilizers and painkillers (including Oxycontin®). Participants were grouped according to whether they did or did not use any illicit substances (excluding tobacco and alcohol) before age 15.

Past year substance abuse or dependence was determined using 17 questions from the Substance Abuse Outcomes Module (SAOM),[20] derived from the Diagnostic and Statistical Manual (4th Edition) criteria.[21] The SAOM has high internal consistency (alpha = .89) and high agreement on a diagnosis of substance abuse or dependence (93%) with the Composite International Diagnostic Interview (CIDI-SAM).[22] Substance abuse was scored if the respondent endorsed any one of the following for the previous 12 months: 1) recurrent use despite neglect of family or failure to fulfill work obligations; 2) recurrent use in hazardous conditions e.g., driving a car; 3) continued use despite interpersonal problems, e.g., arguments and physical fights; or 4) use despite recurrent legal problems. Substance dependence was scored if the respondent endorsed any three of the following: 1) tolerance; 2) withdrawal; 3) ingestion of the substance over longer periods than intended; 4) unsuccessful efforts to cut down; 5) great deal of time spent in substance-related activities; 6) social or occupational activities decreased due to substance use; and 7) substance use continues despite knowledge of negative consequences. For all items, if the response was in the affirmative, participants were queried whether it was due to alcohol, cocaine, methamphetamine, opiates and/or marijuana. All responses were possible.

Child/Adolescent Conduct Problems—Respondents were asked whether they experienced any of the following conduct problems prior to age 15, based on Diagnostic and Statistical Manual III-R (DSM-III-R)[21] criteria and the Diagnostic Interview Schedule (DIS) for conduct disorder: a) Did you ever skip school or play hooky as much as 5 days a year in at least 2 school years, not counting your last year in school? b) Did you tell a lot of lies when you were a child or teenager? c) Did you more than once swipe things from stores or from other children or steal from your parents or from anyone else? d) Did you ever rob or mug anyone or snatch a purse or threaten to hurt anyone if they didn't give you money or jewelry? and e) Were you ever expelled or suspended from school?[23] Although the DSM contains 12 symptom items, the interview was abbreviated by excluding low prevalence

items (for example, cruelty to animals and fire-setting). Items a and e were combined into one item reflecting truancy. Following DSMIII-R criteria for conduct disorder, participants were grouped according to whether they endorsed 0 to 2 symptoms or three or more symptoms. Reliability of self-reporting on conduct problems among adult substance users has been found to be fair to good.[24]

Childhood Rural or Urban Residence—Respondents were asked how they would describe "the area where they spent most of their time, between the ages of 6 to 16 while they were growing up." Choices included a city or town with a population of 25,000 or more, a town of 5,000-25,000, a town of fewer than 5,000, or out in the country. Participants were grouped as urban (towns with 5,000 or more) or rural (towns with fewer than 5,000 or out in the country).

Parental History—We asked whether respondents' natural mother or father ever had any of the following health problems: nervous/mental disorder or alcohol or drug problems or alcoholism or drug addiction.

Criminal Justice Involvement—Interview items were taken directly from the legal severity measure of the Addiction Severity Index Version 5,[25] which queries respondents about number of days in the past 30 days of committing illegal acts for profit, number of arrests for specific types of crimes, date of first arrest (from which age of first arrest could be calculated), date of first incarceration (from which age could be calculated) and months (converted to days) detained or incarcerated. Participants were grouped based on whether an arrest occurred prior to age 15 (yes/no).

Analysis

Using chi-square tests of independence, we compared two groups (individuals reporting two or fewer childhood conduct disorder symptoms and those reporting three or more childhood conduct disorder symptoms) on demographics (gender, race, employment and education status), childhood (age 6-16) residence (urban versus rural), onset of substance use before age 15, arrest prior to age 15, and parental history of substance use or mental health problems. We also included study site in these analyses, given differences in community demographics. Age of participants was categorized into 18-20 years versus 21 and over, since 18-20 year olds are in some respects considered minors.

Chi square analyses were conducted to compare the two groups on the bivariate outcome of substance abuse/dependence. In a separate analysis we compared the two groups on cocaine and methamphetamine abuse/dependence. Wilcoxon's rank-sum tests were used to compare the groups on continuous variables, given that the distribution of these was skewed. Where there were significant differences on a bivariate basis, we used a logistic regression model to test for the effects of conduct disorder symptoms on adult substance abuse/dependence, controlling for the potentially confounding effects of gender, race, age (18-20 years versus >20 years), marital status, education, childhood residence, employment status, parental substance abuse, age of first substance use, and recruitment site. Because there was no significant difference on the Wilcoxon test for number of arrests (i.e., conduct problems were not associated with adult arrests), we used a generalized log-linear model only for days of incarceration since age 18. Because this variable was highly skewed to the right and used non-negative integers, we used the generalized log-linear model with log link and negative binomial distribution to test the association between the conduct group and this outcome measure, controlling for the same demographic and early childhood variables as those listed above. We also checked interactions between child conduct problems and each of the adjusted variables; none were significant at the .05 level.

RESULTS

Recruitment yielded 319 eligible participants (59% of the total sample) from Arkansas and 225 (41% of the total sample) from Kentucky. As Table 1 indicates, the sample (N=544) was primarily male, non-Caucasian, and unemployed. Mean age was 32 years (SD=11). Stimulants used in the past month were cocaine only (56.8%), methamphetamine only (23.0%) and both (20.0%). Other substances used are listed in Table 1. On average, the sample first used cocaine at age 22 (SD=7, range 8-51 years) and methamphetamine at age 24 (SD=9 years, range 9-54 years). Overall, the age range of first use for various substances was large. The minimum age was four years for alcohol and marijuana; nine years for non-prescription tranquilizers; and ten years for non-prescription painkillers. (Given these extraordinary young ages of first use, we verified the data with the interviewers' qualitative summaries and the interviewers themselves. A frequency analysis confirmed fewer than 5% initiated substance use prior to age 10.) Since age 18, 242 (44%) had been arrested and 179 (33%) had been incarcerated.

Conduct Problems and Other Early Risk Factors

Almost one third (29%) of the sample reported at least three conduct problems before age 15. As Table 2 indicates, several demographic and childhood variables were associated with having three or more conduct problems before age 15. Substance abuse or dependence in the past 12 months as well as, separately, alcohol, marijuana, and cocaine abuse or dependence were also associated with having three or more conduct problems. Because methamphetamine abuse or dependence was not significant in the bivariate analyses, the logistic regression model for *stimulant* abuse/dependence included only powder/crack cocaine abuse/dependence.

Individuals with three or more versus two or fewer conduct problems did not differ on number of arrests since age 18. However, individuals with three or more conduct problems had more days of incarceration since age 18 when compared with individuals reporting two or fewer conduct problems.

Early Risk Factors and Adult Outcomes

As anticipated, having three or more conduct problems before age 15 was positively associated with past-year adult substance abuse or dependence (see Table 3). Individuals reporting three or more childhood conduct problems were almost 2.5 times more likely to have adult substance abuse/dependence when compared to individuals reporting two or fewer childhood conduct problems. There was no relationship between having three or more conduct problems and adult cocaine abuse/dependence. (As noted earlier, we did not include methamphetamine in the regression model for *stimulant* abuse/dependence.) Being older than 20 at the time of the study, using substances before age 15, and having a history of parental substance abuse were all positively associated with substance abuse/dependence as well as cocaine abuse/dependence in participants. Being non-Caucasian was associated with cocaine abuse/dependence only.

Contrary to our hypothesis, having three or more conduct problems was not associated with days of incarceration since age 18 when controlling for other factors. Being older, having an early history of substance use, being male and having resided in an urban environment as a child were positively associated with this variable.

DISCUSSION

Twenty-nine percent of rural stimulant users reported three or more childhood conduct problems. Three or more problems would be consistent with a diagnosis of childhood

conduct disorder, although we recognize this may be an under-estimate, given that we did not include all DSM symptoms in our screening tool. Our rates of three or more conduct problems are higher than rates of conduct disorder found in the non-drug using community26 or primary care samples,27 which is not surprising given that many in our sample of multi-substance users have been incarcerated (33%) and/or have sought treatment (30%). Among our participants, 15% were arrested, while half were using illicit substances (excluding alcohol) prior to age 15. Sixty percent reported parental substance use problems.

Conduct Problems and Other Early Risk Factors

Early initiation of substance use, three or more conduct problems, parent history of substance problems, and arrest before age 15 were interrelated. Consistent with previous findings, males were more likely than females to report three or more conduct problems.28 Our study also shows an association between childhood rural residence and a lower incidence of conduct problems. This may be the result of strong social networks, community cohesiveness, and lack of personal anonymity in rural areas that may mitigate adolescent criminal behavior. An alternative explanation might be that some families with children already experiencing conduct disorder in urban environments move to rural settings to remove their children from the negative influences of the city. Multiple moves have also been associated with early initiation of illicit drugs among adolescents and young adults.29 Unfortunately, examining the reasons for urban to rural household moves is beyond the scope of our study, but is deserving of future investigation.

This study also demonstrated a link between parental substance use problems—but not mental health problems—and three or more conduct problems in offspring. Both conduct disorder and substance dependence likely share genetic heritability,30,31 although environment certainly plays a role in the expression of both in youth and adults. Although parental mental health problems, particularly depression, have been associated with substance use in offspring32 we were not able to confirm this relationship, perhaps because our participants were unaware of or unable to recall parental mental health problems.

Early Risk Factors and Adult Outcomes

In bivariate analyses, we found higher rates of adult alcohol, marijuana and cocaine abuse/ dependence in participants reporting three or more conduct problems before age 15 versus participants reporting two or fewer conduct problems. However, we did not find a difference in conduct problems (two or fewer versus three or more) for those currently abusing or dependent on methamphetamine. Interestingly, regression modeling results also suggested that conduct problems were not associated with adult cocaine abuse/dependence. In other words, this study did not find a relationship between childhood conduct problems and adult stimulant use/dependence. While subject to the vagaries of self-reported data, the results suggest alternative trajectories for both cocaine and methamphetamine use. Participants were, on average, in their early twenties when they initiated cocaine and methamphetamine use. Two hundred sixteen stimulant users reported no conduct problems and no substance use (excluding alcohol) before age 15, and 48 stimulant users reported substance use before age 15 with no conduct problems. These individuals may resemble the "partiers" or "conformists" described by Hamil-Luker et al (2004), who later in adulthood initiate cocaine (and in this case methamphetamine as well).12 Substance use may also "launch" an individual into antisocial behaviors or "snare" them into continuing such behaviors beyond adolescence.33

Childhood conduct problems, parental substance problems and substance use prior to age 15 were associated with overall substance abuse or dependence. Notably, educational attainment did not factor into the substance abuse/dependence models, but this may be due

to a ceiling effect, given the high proportion of participants who had not graduated from high school. Age was significant in all models, given that the older an individual is, the more time he or she has to acquire an abuse/dependence or arrest/incarceration history. In addition, Caucasians were less likely to be abusive of or dependent on cocaine, which is consistent with evidence that African American users' risk of cocaine dependence soon after onset of cocaine use is higher when compared to other racial groups.34

Conduct problems were not associated with number of arrests since age 18 (in the bivariate analysis) or days of incarceration since age 18 (in the log-linear regression model). Other factors not assessed in this study may be more relevant for arrest, conviction and sentencing, including type of crime and prior convictions. Not anticipated was the relationship between days of incarceration and urban dwelling as a youth. There may be a unique contribution of having lived in an urban versus rural environment as a child that should be investigated further. Variables to consider would be whether urban-raised individuals were exposed to higher rates of drug use, violence and criminal activities; whether they continued ties with urban drug users once they relocated to rural areas; and their reasons for relocation into rural areas, including the possibility of engaging in drug trafficking. As expected, males had a greater number of days of incarceration when compared to females.

Our results should be considered in light of the following limitations. We did not randomly sample the entire population or the drug-using population in these communities, because, as we note earlier, there is considerable confidence that our methodology would result in a representative sample.18,19 However, our sampling strategy may have missed certain potential sub-groups of stimulant users; for example, those of higher socioeconomic class, if any existed in the areas studied. Our abbreviated list of conduct problems may have also limited our findings. A thorough, clinical interview using full diagnostic criteria, though ideal, was not feasible, given that the study was conducted in the community by lay interviewers. Finally, our use of retrospective, self-reported data prevents our verifying the validity of our participants' reports. Although the accuracy of self-reported drug use varies depending on the survey environment, drug type and target sample characteristics, participant anonymity and interviewer credibility (two conditions emphasized in the current study) decrease the likelihood of under-reporting.35 Moreover, our participants may be unable or unwilling to accurately report childhood problems, thereby limiting the reliability and validity of their data.

CONCLUSIONS

To our knowledge this is the first study of rural stimulant users that examines the influence of early childhood risk factors associated with adult substance abuse/dependence and criminal outcomes. Although three or more conduct problems were associated with substance abuse or dependence, they were not associated with stimulant abuse or dependence. The results suggest there may be a subgroup of adolescent users without behavioral problems who would therefore not be detected through the usual channels of school or court. Future research should focus on educational and preventive strategies to address multiple risk factors; feasibility of screening instruments in different settings (e.g., primary care) in rural areas; and acceptability and effectiveness of innovative outreach services for rural youth.

Acknowledgments

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Table 1

Descriptive Statistics (N=544)

Variable	N (%)
Age	
18-20	117 (21.5)
21 and Older	427 (78.5)
Gender	
Male	326 (59.9)
Female	218 (40.1)
Race	
African American	268 (49.3)
Caucasian	264 (48.5)
Hispanic/Latino	3 (0.6)
Native American (American Indian)	2 (0.4)
Other	7 (1.3)
High School Education	
Yes	202 (37.1)
No	342 (62.9)
Income	
Below $10,000	429 (79.6)
$10,000 or Above	110 (20.4)
Employment Status	
Currently Employed	152 (27.9)
Not Currently Employed	392 (72.1)
Marital Status	
Never Married	289 (53.1)
Other (Married, Widowed, Separated, Divorced, Living as Married)	255 (46.9)
Study Site	
Arkansas	321 (59.0)
Kentucky	223 (41.0)
Parental Substance Abuse	
Yes	329 (60.5)
No	215 (39.5)
Childhood Residence (Ages 6-16)	
Rural	186 (34.3)
Urban	356 (65.7)
Past Month Use	
Alcohol	426 (78.3)
Marijuana	443 (81.4%)
Crack Cocaine	257 (47.2)

Variable	N (%)
Powder Cocaine	247 (45.4)
Methamphetamine	234 (43.0)
Heroin	6 (1.1)
Oxycontin	23 (4.2)
Non-Prescription Pain Killers	165 (30.3)
Ecstasy	27 (5.0)
Non-Prescription Tranquilizers	101 (18.6)
LSD	5 (0.9)
Pharmaceutical Methamphetamine (Desoxyn)	6 (1.1)
Substance Use before Age 15 [a]	273 (50.8)
Childhood Conduct Problem — Type	
School Truancy	380 (69.9)
Frequent Lies	268 (49.7)
Stealing without Confronting Victim	243 (44.7)
Stealing with Confronting Victim	49 (9.0)
Childhood Conduct Problem — Number	
Two or Fewer	387 (71.1)
Three or More	157 (28.9)
Criminal Justice Involvement	
Average Age at First Arrest (SD, Range, Median)	20.9 (8.0, 4-53, 18)
Arrest before Age 15	62 (15.1)
Adult Outcomes	
Methamphetamine Abuse/Dependence (Past 12 Months)	157 (28.9)
Cocaine Abuse/Dependence (Past 12 Months)	276 (50.7)
Any Substance Abuse/Dependence in Past Year	455 (83.6)
Total Arrests Since Age 18, Mean (SD/Median)	8.6 (18.4, 4)
Total Days of Incarceration Since Age 18, Mean (SD/Median)	689.2 (1039, 240)

[a] Excludes alcohol and tobacco.

Table 2

Demographic, Substance Use and Legal Variables Associated with Childhood Conduct Problems (N=544)

	3+ Child Conduct Problems (total=157) N (%)	0-2 Child Conduct Problems (total=387) N (%)	Chi Square Value
Age (18-20)	47 (29.9)	70 (18.1)	$\chi^2 (1) = 9.3$ [c]
Male	109 (69.4)	217 (56.1)	$\chi^2 (1) = 8.3$ [c]
White	66 (42.0)	198 (51.2)	$\chi^2 (1) = 3.7$
Never Married	102 (65.0)	187 (48.3)	$\chi^2 (1) = 12.4$ [d]
High School Education	37 (23.6)	165 (42.6)	$\chi^2 (1) = 17.4$ [d]
Currently Employed	29 (18.5)	123 (31.8)	$\chi^2 (1) = 9.8$ [c]
Urban Childhood	120 (76.9)	236 (61.1)	$\chi^2 (1) = 12.3$ [d]
Study Site (Arkansas)	101 (64.3)	220 (56.9)	$\chi^2 (1) = 2.6$
Parent Substance Problem	109 (69.4)	220 (56.9)	$\chi^2 (1) = 7.4$ [c]
Any Substance Use before Age 15 [a]	106 (68.8)	167 (43.6)	$\chi^2 (1) = 28.0$ [d]
Any Arrest before Age 15	61 (38.9)	135 (34.9)	$\chi^2 (1) = 9.1$ [c]
Type of Substance Abuse/Dependence (Past 12 Months)			
Alcohol	99 (63.1)	169 (43.7)	$\chi^2 (1) = 16.8$ [d]
Marijuana	82 (52.2)	131 (33.9)	$\chi^2 (1) = 15.8$ [d]
Cocaine	91 (58.0)	185 (47.8)	$\chi^2 (1) = 4.6$ [b]
Methamphetamine	48 (30.6)	109 (28.2)	$\chi^2 (1) = 0.3$
Opiates	10 (6.4)	13 (3.4)	$\chi^2 (1) = 2.5$
Any Substance	142 (90.5)	313 (81.9)	$\chi^2 (1) = 7.5$ [c]
Total Arrests Since Age 18 (Mean/SD)	13.1 (26.4)	7.0 (14.6)	Wilcoxon's z (74) = 1.7
Total Days of Incarceration Since Age 18 (Mean/SD)	1003 (1346.7)	557.1 (850.0)	Wilcoxon's z (70.1) = 2.1 [b]

[a] Excludes alcohol and tobacco

[b] $p < .05$

[c] $p < .01$

[d] $p < .001$

Table 3

Results of Logistic Regression Models for Cocaine Abuse/Dependence and Substance Abuse/Dependence and Loglinear Model for Total Days of Incarceration Since Age 18

| Variable | Cocaine Abuse/Dependence | | Substance Abuse/Dependence | | Total Days of Incarceration since Age 18 | |
	Odds Ratio (CI)	p-value	Odds Ratio (CI)	p-value	Parameter estimate	p-value
3+ Child Conduct Problems	1.4 (0.9-2.2)	0.1313	2.4 (1.2-4.6)	0.0109	0.3197	0.1466
Age (18-20)	0.3 (0.2-0.5)	<.0001	0.5 (0.2-0.9)	0.0146	-1.9097	0.0013
Male	0.8 (0.5-1.2)	0.2699	1.5 (0.9-2.4)	0.1364	0.8434	<.0001
White	0.1 (0.1-0.2)	<.0001	1.6 (0.8-2.8)	0.1809	-0.2676	0.2389
Unmarried	0.8 (0.6-1.5)	0.2318	0.9 (0.5-1.6)	0.6843	0.2082	0.3029
High School Education	0.8 (0.5-1.2)	0.3526	0.8 (0.5-1.3)	0.4173	-0.3690	0.0745
Employed	1.0 (0.7-1.6)	0.8865	1.4 (0.8-2.5)	0.2750	-0.2057	0.3308
Urban Childhood	0.9 (0.6-1.3)	0.5305	0.8 (0.5-1.4)	0.4971	0.4069	0.0304
Parent Substance Abuse	2.2 (1.5-3.3)	<.0002	1.7 (1.1-2.8)	0.0286	0.3299	0.0917
Any Substance Use before Age 15[a]	1.6 (1.0-2.3)	0.0360	1.9 (1.1-3.1)	0.0181	-0.0351	0.8596
Study Site (Arkansas)	1.2 (0.7-1.9)	0.5017	1.3 (0.7-2.4)	0.3512	0.3580	0.1126

[a]Excludes alcohol and tobacco