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Reducing Drug Use, HIV Risk, and Recidivism Among Young Men Leaving Jail: Evaluation of the REAL MEN Reentry Program

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Abstract

Purpose—This study assesses the impact of REAL MEN, an intervention designed to reduce drug use, risky sexual behavior and criminal activity among 16 to 18 year old males leaving New York City jails.

Methods—Participants (N=552) were recruited in city jails and randomly assigned to receive an intensive 30-hour jail/community-based intervention or a single jail-based discharge planning session. All participants were also referred to optional services at a community-based organization (CBO). One year after release from jail, 397 (72%) participants completed a follow-up interview. Logistic and OLS regression were used to evaluate the impact of the intervention on drug use, risky sexual behavior, criminal justice involvement, and school/work involvement post release.

Results—Assignment to REAL MEN and, independently, use of CBO services, significantly reduced the odds of substance dependence (OR=.52, $p \leq .05$; OR=.41, $p \leq .05$, respectively) one year after release. Those assigned to the intervention spent 29 fewer days in jail compared with the comparison group ($p \leq .05$). Compared to non-CBO visitors, those who visited the CBO were more likely to have attended school or found work in the year after release (OR=2.02, $p \leq .01$).

Conclusions—Jail and community services reduced drug dependence one year after release and the number of days spent in jail after the index arrest. While these findings suggest that multi-faceted interventions can improve outcomes for young men leaving jail, rates of drug use, risky sexual behavior, and recidivism remained high for all participants after release from jail, suggesting the need for additional policy and programmatic interventions.

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Keywords

Incarcerated youth; Drug abuse; Sexual behavior; Randomized controlled trial

Introduction

Many adolescents are incarcerated on drug use or sales charges [1,2] and many incarcerated youth struggle with drug and alcohol problems [3,4], as well as educational [3,5] and psychological difficulties [4,6]. Adolescents in jail have higher rates of HIV risk behaviors and sexually transmitted infections than comparable non-jailed populations [7,8,9,10]. Between adolescence and the early adult years, both HIV/STI risk and drug use increase significantly among the incarcerated [1,11], demonstrating the need for preventive intervention.

Most adolescents are released from jail within a few weeks of arrest, usually without access to community services. The majority is rearrested within a year [3,12]. Our previous research [13,14,15], as well as other studies [16,17], suggest that interventions while individuals are in jail – or in the days and weeks after they are released – have the potential to be cost-effective, achieve high retention rates, and protect adolescents from returning to drug use, crime, or HIV risk behavior. However, further investigation is needed into what configuration and intensity of services would best benefit adolescent males returning from jail.

In this study, we compared the impact of a 30-hour intervention that started inside the jail and continued for three weeks after release to that of a single pre-release jail-based discharge planning session. Our broader goal was to provide evidence that could assist public health and correctional officials in designing effective and efficient interventions to reduce drug use, sexual behavior that puts one at risk for HIV, and re-incarceration among male adolescents – one of the fastest growing sectors of the population involved in the criminal justice system [18]. Our more immediate goal was to offer jailed adolescents a path out of drug involvement, disease and reincarceration and toward education and employment in the legitimate economy.

Our study used a standard random assignment design and an intention to treat analysis to test the hypothesis that incarcerated male adolescents who were at least 16 but less than 19 years old who have the opportunity to participate in both a jail and community intervention will be more likely to achieve desirable outcomes than a comparable group that receives only a single discharge planning session in jail. The hypothesized outcomes for those assigned to the jail and community intervention were: 1.) lower frequency of alcohol and illicit drug use and fewer drug-related problems; 2.) lower rates of sexual risk behavior; 3.) lower rates of recidivism; and 4.) greater involvement in education and employment one year after release. Another aim was to investigate the effect of additional voluntary participation in a community-based organization (CBO) that offered services to young people released from jail.

Successful health interventions must take into account the living circumstances of their participants. In New York, poverty is concentrated in a few neighborhoods in the Bronx, Brooklyn, and Manhattan; these communities are also most affected by incarceration and reentry [19]. About a quarter of the city's 16–24 year olds live below the federal poverty line [19] and a recent study found that 8.7 % of 16–19 year olds and 15.8% of 20–24 year old young men in New York City were “disconnected”, not in school or working [20]. These high poverty neighborhoods also have higher incarceration rates. Fourteen of the poorest neighborhoods in New York City's 59 community districts account for 50% of all city jail discharges [21]. These areas also have the worst performing public schools and the fewest employment opportunities, further constraining the pathways to successful reentry for adolescents returning from jail [3].

Criminal justice policies impose starkly different impacts by race/ethnicity. Ninety-five percent of the inmates in New York City jails are African-American or Latino, while these two groups make up only about half the city's population. A recent report of marijuana arrests in New York City further illustrates racial/ethnic disparities in law enforcement [22]. Between 1997 and 2006, the New York Police Department arrested and jailed nearly 400,000 people for possessing small amounts of marijuana, a tenfold increase in marijuana arrests over the previous decade. During the recent decade, 52% of those arrested on marijuana charges were African-American, 31% Hispanic or Latino, 15% White, and 91% were male [22]. The authors concluded that the police department's systematic "racially biased, discriminatory, unfair, and unjust" focus on African-American and Latino young men rather than racial/ethnic differences in marijuana use accounted for the disproportionate impact on these groups.

Methods

Recruitment, Interviews, and Randomization

Participants were recruited into the REAL MEN (Returning Educated African-American and Latino Men to Enriched Neighborhoods) project from two facilities located at the New York City Department of Correction's Rikers Island Detention Center that house all New York City male adolescent inmates. In New York State, youths 16 and older are sent to adult jails; those under 16 enter the juvenile justice system. During the study period (2003 to 2007), about 1,700 adolescent males over the age of 16 and less than 19 were incarcerated in city jails on any given day. In general, adolescents are housed in separate facilities from adults but as the jail census fluctuates, this separation is not always maintained.

After being recruited for the study in the jail, participants completed an informed consent process approved by the Hunter College and New York City Department of Health and Mental Hygiene Institutional Review Boards. Males at least 16 but under 19 years old, individuals determined to be eligible for release within 12 months of intake, and those planning to return to the Bronx, Brooklyn or Manhattan – the New York City borough's with the highest incarceration rates – were eligible for enrollment. Individuals with psychiatric conditions that would preclude participation in a group intervention were excluded. All participants were volunteers who received no special legal considerations for enrollment and the program had no formal relationship with the parole system. In general, the sample resembled the adolescent population leaving New York City jails on racial/ethnic and criminal justice characteristics.

Intake interviews were conducted in the jail by project staff and included questions on demographics, education and employment histories, criminal justice involvement, health, substance use, HIV knowledge, sexual behavior, and attitudes about racial/ethnic identity and gender norms. After the interview, participants were randomly assigned to receive a single jail-based discharge planning session or a 30-hour psychosocial educational group-based intervention that began in jail and continued in the community after release. Figure 1 provides an overview of the key characteristics of the intervention. The program and its development have been described elsewhere [23,24].

The REAL MEN project contracted with The Center for Urban Epidemiologic Studies (CUES), a research group at the New York Academy of Medicine, to conduct follow-up interviews with enrolled participants approximately 12 months after release from jail. The Time 2 interview was completed by 397 participants – a follow-up rate of 72%. The majority of participants completed the follow-up interview in a CUES office, while others completed the interview in a city jail or state prison by telephone, or at another location. On average, interviewers had 11 contacts with those who successfully completed interviews, and 23 contacts with those who were not successfully re-interviewed. The data collected in these interviews were used to evaluate the impact of the REAL MEN intervention.

Participants in both the intervention (REAL MEN) and comparison groups were referred to a community-based organization (CBO) that serves young people leaving criminal and juvenile justice facilities with education, employment, and social services. This was the site for REAL MEN post-release support groups and other services. Some participants accepted this offer (CBO group) and made one or more CBO visits while others did not. Since individuals were not randomly assigned to the CBO, their participation reflects self-selection. We hypothesized that those who accepted the offer of such services in both the REAL MEN and comparison groups would reduce drug use, sexual risk behavior, and re-arrest more than those who did not accept. By comparing those who accepted and those who did not one year after release, we were able to assess the relative contribution of more sustained community services to the short, more intensive intervention.

Variables and Data Analysis

Based on the objectives for the REAL MEN study, we defined specific outcomes in four domains: substance use, sexual risk behavior, criminal justice, and engagement in constructive activities (e.g. school and work). Table 1 provides definitions for the 13 outcomes used in the analyses presented here. These were selected because of their common usage in the existing literature, as well as their relevance to public health and policy.

Figure 1 shows the random assignment and participation data. Several randomization variable categories were examined, beginning with assignment into different treatment groups to assess the success of these random assignments. Second, since not everyone assigned to the REAL MEN arm of the study actually participated, we then compared those who had participated in at least four sessions (i.e., the 4+ RM group) with those who had participated in fewer than four sessions or had been assigned to the comparison group. Third, the CBO offered a range of services to male adolescents in both intervention groups. We therefore compared those who chose to use community-based services at least once to those who did not irrespective of assignment. Finally, we also created mutually exclusive treatment groups, defined as participants in *only* REAL MEN educational sessions, *only* community-based involvement, both components, or neither one. These comparisons were used to determine whether there was added benefit from participating in both.

We used logistic regression to measure the relationship between treatment status and the four main outcome categories (see Table 1) [25]. We assessed the statistical significance of odds ratios in each model. Models were controlled for baseline characteristics (see bottom of Table 2 for full list of control variables). Since conventional approaches to problems around multiple-inferences, like Bonferroni adjustments and stepwise regression, have low efficiency and poor accuracy, we utilized confidence intervals and p-values to aid in interpretation of point estimates. Based on exploratory bivariate analysis of treatment status and outcomes, we also ran an OLS regression of treatment status with number of days incarcerated in the past year, as this was an important outcome for our study [26]. Betas and the statistical significance of t-statistics are reported here. (See bottom of Table 3 for full list of control variables for this analysis.) All analyses were conducted with SPSS Version 16.1 (SPSS Inc., Chicago, Ill).

Results

Participants

Project staff recruited and interviewed participants for the study between 2003 and 2007. Of the 552 participants who completed the intake interview, 397 (72%) completed the follow-up interview. All participants were male, and the mean age at the time of the intake interview was 17.99 (SD 0.71). One year after release from jail, their mean age was 19.60 (SD 0.93), suggesting that on average, these adolescents spent seven months in jail prior to release. The

majority of the sample was African-American (55.8%) or Latino (38.1%). Of the criminal charges on their index arrest, 37% were violence-related (e.g., robbery, weapons, assault, burglary), 29% were drug-related, 17% status violations, 9% property-related and 16% in other categories. A full description of participants' demographic characteristics, life circumstances, health, substance use, and reported sexual behavior has been previously reported [23].

The participants who completed the follow-up interview (N=397) were different from those who did not (N=155) on a few indicators: participants who completed the follow-up interview were more likely to live with parents or a legal guardian ($p \leq .001$), less likely to live with other family members ($p \leq .05$) or alone ($p \leq .05$), less likely to have status violation charges ($p \leq .05$) for the arrest that made them eligible for the study, and more likely to be diagnosed with asthma ($p \leq .05$). All models in this evaluation controlled for these factors.

Participants randomly assigned to the intervention (N=277) differed from participants who received only services at the jail (N=275) on the following indicators: comparison group participants were more likely to live with parents or a legal guardian ($p \leq .05$), less likely to live with other family ($p \leq .01$), slightly older at the time of the first arrest ($p \leq .05$), and less likely to have reported a diagnosis of depression ($p \leq .01$). These differences suggest that those assigned to the intervention group were at a slight disadvantage, compared to their peers in the comparison group. In multivariate analyses of treatment effectiveness, we controlled for these baseline characteristics, along with several other baseline controls.

Levels of Participation

In general, the impact of an intervention depends in part on levels of participation. Of the 277 male adolescents assigned to jail and community services, 177 (64%) participated in at least four educational sessions, 125 (45%) made at least one visit to the CBO, and 111 (40%) participated in four or more educational sessions and made a visit to the CBO. Of the 275 individuals assigned to the group that received only jail-based services, 17% made at least one visit to the CBO. Thus, the offer of more intensive services and active outreach increased overall post-release participation rates almost three-fold (45% vs. 17%, $p \leq .001$).

Impact of the REAL MEN Intervention

Table 2 shows results from the REAL MEN evaluation. Participants assigned to the REAL MEN intervention were less likely (OR=.519, $p \leq .05$) than the comparison group to report alcohol or drug dependence at the time of the follow-up interview. For those participants who attended four or more sessions, the effect was more pronounced (OR= .401, $p \leq .05$), as was the case for those who made at least one visit to the CBO (OR=.412, $p \leq .05$) compared to those who did not make any CBO visits. Assignment to the REAL MEN group also reduced the likelihood that jailed adolescents would engage in hard drug use after release (OR=.166, $p \leq .05$), although only 5% of the sample reported such use in the 90 days prior to the follow-up interview. However, the REAL MEN intervention did not have a significant effect on post-release daily marijuana smoking, reported by 32% of the sample in the follow-up interview.

While neither assignment to the REAL MEN intervention alone nor participation in the CBO alone reduced risky sexual behaviors, the combined impact of these services did. Those who participated in both were one-third as likely to engage in sexual risk behaviors (OR=.33, $p \leq .05$) post-release as those who attended only REAL MEN sessions but did not visit the CBO.

As Table 2 shows, participation in either the REAL MEN intervention or visits to the CBO did not appear to affect criminal justice outcomes post-release. However, in exploratory bivariate analysis of outcomes (not shown), random assignment to REAL MEN was associated with fewer days spent in jail after the initial incarceration. Because reduced jail time brings

significant benefits to the individual and to society (by lowering the costs of incarceration), we ran additional analyses of this outcome (see Table 3). Compared to the group assigned to the jail-based session only, participants assigned to the REAL MEN intervention who were incarcerated after the index incarceration spent about 29 fewer days in jail ($p \leq .05$).

Finally, participants who visited the CBO were more than twice as likely ($OR=2.02$, $p \leq .01$) to have been either in school or have worked for at least seven months after release, compared to those who did not seek services from the CBO. As discussed earlier, those who participated in both the REAL MEN intervention and the CBO experienced even higher levels of constructive outcomes after leaving jail ($OR=2.68$, $p \leq .05$).

Discussion

In summary, the REAL MEN project demonstrated the capacity to recruit and engage male adolescents to voluntarily participate in services while in jail and after their release, as well as the ability to maintain contact with them after release. These findings demonstrate the feasibility of conducting randomized intervention trials that follow incarcerated people after release. They also highlight the labor-intensive process that goes into achieving high response rates in such studies. Our data on participation levels suggest that about two-thirds of the adolescents who volunteered for a jail and community reentry program actually participated in the program, while about one-third participated at a more intensive level (i.e., engaged in both the REAL MEN and the CBO components of the intervention). The more intensive outreach associated with random assignment to REAL MEN significantly increased the proportion of individuals visiting the CBO, demonstrating the value of more intensive services for program uptake.

The main finding of this study is that participation in various components of the REAL MEN intervention and community-based services is associated with several beneficial outcomes. For example, random assignment to REAL MEN and, independently, making at least one visit to the CBO partner substantially reduced the likelihood of reporting drug or alcohol dependence one year after release from jail compared to those assigned to the comparison group or not making any CBO visits, respectively. Male adolescents who participated in both the REAL MEN educational sessions and who visited the CBO were also less likely to engage in risky sexual behavior and more likely to report engagement in education and gainful employment than those who participated in REAL MEN but did not visit the CBO.

Finally, of those incarcerated for at least one day after release, the participants assigned to REAL MEN reported on average 29 fewer days in jail in the year after their release compared to those who only received services while in jail. Given that a 2003 estimate of the full cost of a day in jail in New York City was \$252 [27], this difference could yield a savings of as much as \$7,308 per person. However, since these calculations are based on self-reports of days in jail, caution is warranted in interpreting this finding.

Our study does not assess New York State's policy of considering 16 to 18 year old adolescents as adults. Our findings do show that these participants were struggling with the developmental tasks of adolescence: establishing romantic relationships, completing school, considering work, and re-defining relationships with family. Given evidence on the adverse consequences of treating juveniles as adults [28,29], our findings support re-consideration of this policy. Unfortunately, reports also show New York State's juvenile justice system often fails adolescents, suggesting deeper reforms are needed [30].

The REAL MEN intervention was designed to help participants shift some health-damaging norms, beliefs, and behaviors by offering health-promoting alternative pathways at both the group and individual levels [23,24]. The intervention built on prior HIV risk reduction and

substance abuse interventions that focused on knowledge and skills-building [31,32,33]. We also incorporated elements of more intensive psycho-social [34,35,36] and jail-to-community interventions that recognized the role of life circumstances and social services in helping people succeed after leaving jail [3,37,38]. In our design of the intervention, we attempted to address the more complex role of racism, gender discrimination, and work and employment barriers that block male adolescents from attaining positive health and social outcomes, such as reduced risk behavior and engagement in school and work [23,24]. Given the positive results of this evaluation, this approach warrants further exploration.

This study has several limitations. It relies on self-reported data on drug and sexual behavior and on the number of days spent incarcerated – all subject to memory lapses and social biases. In addition, it is possible that attrition from the original sample may have biased results, although we controlled for relevant variables we were able to identify. While our sample resembles the larger population of adolescent males leaving New York City jails on basic demographic characteristics, it may differ on other unmeasured dimensions, which limits our ability to make generalizations. Similarly, our sample was recruited entirely from one city, limiting generalizability to other jurisdictions. In addition, none of the participants enrolled in the study identified as gay, bisexual or transgendered, or reported any sexual contact with other young men, perhaps reflecting both the powerful social desirability of heteronormativity and the danger of such a disclosure within a jail. Thus, findings reported here do not address the special needs of jailed adolescents who identify as gay. Finally, we did not conduct a cost-benefit analysis, and were thus not able to assess whether the benefits of this approach exceed its costs.

In conclusion, our study showed that it is possible to recruit, engage, and retain jailed male adolescents in multi-faceted interventions to reduce recidivism and improve post-release prospects. We also showed that those who participated in various components of the intervention reported modest but significant reductions in drug problems, risky sexual behavior, and number of days spent in jail after the initial incarceration – outcomes that contribute to improved public health and safety. On the other hand, the levels of marijuana and alcohol use, risky sexual behavior, and recidivism remained high for all groups at the time of the second interview. And, ultimately, the study did little to address the context of racial and economic inequality in New York City, in which subsequent generations of adolescents find themselves vulnerable to arrest, incarceration, and the health-damaging effects of those unequal policies. Still, our findings show that some adolescents in New York City who have experienced incarceration are eager to explore alternative pathways. That this intervention helped participants to make some changes should be a cause for cautious optimism.

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Topic/Characteristic	Description
Target	... (text describing target population)
Intervention	... (text describing the intervention components)
Outcomes	... (text describing the outcomes measured)
Context	... (text describing the setting and context)
Notes	... (text providing additional notes or details)

Figure 1.
REAL MEN Intervention Characteristics

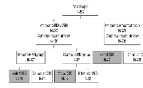


Figure 2. Participant Enrollment, Randomization, and Service Use

Note: Shaded boxes include those who accepted offer to visit CBO (N= 172). Data were missing for three participants on RM group/CBO attendance.

Table 1

Definitions of Outcomes

Outcome	Definition
<i>Substance Use</i>	
Alcohol/drug dependence (past year)	Dependent on drugs or alcohol in past year, based on DSM IV criteria
Hard drug use trial (past 90 days)	Tried any hard drug, in past 90 days, from list
Daily Marijuana use (past 90 days)	Percent who smoked marijuana on a daily basis in past 90 days
<i>Sexual Risk Behavior</i>	
Had 3+ partners (past 90 days)	Respondent reported 3+ partners in past 90 days in at least one sexual practice category (vaginal, oral or anal).
Engages in risky sexual behavior (past 90 days)	Respondent engaged in at least one high-risk sexual practice in past 90 days, as reported at follow-up interview. These are: <ul style="list-style-type: none"> • using condoms half the time or less with long term partner • using condoms less than always with casual partners • being high on drugs/alcohol when having sex with long term or other partners about half the time or more
<i>Criminal Justice</i>	
Re-arrest	Has respondent has been rearrested in past 12 months since release?
Re-incarceration	Has respondent has been reincarcerated in past 12 months since release?
Number of days incarcerated (past year)	How many days has respondent spent incarcerated in past year?
Often engage in problematic behavior (past year)	Respondent reported that he “often” engaged in behavior that could lead to legal trouble in past year
<i>Constructive Outcomes</i>	
Enrolled in education/vocational programs (past year)	Respondent reported participation in any of a variety of educational and vocational programs in jail or community in past year
Advanced at least one grade (between T1 and T2)	Respondent reported at least one more year of school in interval between intake and follow up interview.
Never engaged in problematic behavior (past year)	Respondent reported “never” engaged in behavior that could lead to legal trouble in past year
Positive engagement (past year)	Respondent reported either working for 7+ of last 12 months or being in some type of educational program or both

Table 2

REAL MEN (RM) Evaluation Logistic Regression Models for 12 Outcomes at Time 2 Key Independent Variables of Interest (controls not shown) Odds Ratios

OUTCOMES (Dependent Variables)	RM Intervention (Intent to Treat) Reference Group: Comparison Group	4+ RM groups Reference Group: Comparison group and those who attended < 4 sessions	Community-Based Organization (CBO) Reference Group: Those who never visited CBO	Both RM and CBO Reference Group: Attended 4+RM sessions only	Both RM and CBO Reference Group Visited CBO only
<i>Substance Use/Abuse¹</i>					
Alcohol/Drug dependence (17%) (past year)	.519*	.401*	.412*	.462	.459
Hard drug use trial (5%) (past 90 days)	.166*	.140 [^]	1.137	.000	.086 [^]
Daily Marijuana use (32%) (past 90 days)	.751	.715	.663	.729	.842
<i>Sexual Risk Behavior¹</i>					
Had 3+ partners (30%) (past 90 days)	1.027	.922	1.078	1.437	.995
Engages in risky sexual behavior (44%) (past 90 days)	.856	.763	.680	.344*	.462 [^]
<i>Criminal Justice</i>					
Re-arrest (68%) ²	.871	1.338	1.036	.522	.982
Re-incarceration (47%) ²	1.019	1.248	1.107	.737	.973
Often engage in problematic behavior (29%) ² (past year)	.789	.994	.789	.744	1.145
<i>Constructive Outcomes¹ (past year unless otherwise noted)</i>					
Enrolled in education/vocational programs (53%)	1.330	1.301	1.567 [^]	1.890	1.310
Advanced at least one grade (44%) (between T1 and T2)	.742	.850	1.248	1.138	.552
Never engaged in problematic behavior (33%)	1.095	1.052	1.323	1.555	.951
Positive engagement (61%)	1.307	1.444	2.020**	2.681*	1.453

¹ These models include all the following control variables plus a control for number of days incarcerated in past year (at Time 2); hard drug use, daily marijuana use, age at first intercourse, age at first arrest, age at time of interview, highest grade achieved prior to index arrest, living with parents or legal guardian at time of index arrest, race, having past experience with child welfare services, with homelessness, with physical or sexual abuse, having had a diagnosis of depression, a diagnosis of a learning disability, a diagnosis of asthma, reporting a previous suicide attempt or ideation, experiencing substance dependence, having participated in substance abuse treatment prior to the index arrest, having been prescribed psychiatric medication in past, having had three prior arrests and the respondent's Time 1 scores on indices measuring hyper-masculinity and racial/ethnic pride. Models also include whether or not the respondent reports having a supportive adult in his life across multiple life domains at Time 2 and the number of days between release from jail on the index arrest and the 2nd interview.

² Controls for rearrest and re-incarceration include all the above baseline (Time 1) variables, except for number of days incarcerated in past year (at Time 2).

p ≤ .001;
**
p ≤ .01;
*
p ≤ .05;
^
p ≤ .10

Table 3

Effect of Intent to Treat, Treatment, and Community-Based Organization Participation on Mean Number of Days Incarcerated in Past Year at Time 2

	Beta (S.E.) t-statistic (p)
Assigned to REAL MEN (Intervention=1) (n=306)	-29.419 (13.362) -2.202 (.028)
Participated in 4 or more REAL MEN Groups vs. all others (4+ Groups = 1) (n=306)	-17.169 (13.902) -1.235 (.218)
Visited CBO vs. all others (Participation=1) (n=306)	-14.374 (13.629) -1.055 (.292)

Time 1 controls are: charges for index arrest, substance dependence, daily marijuana use, any mental illness, any learning disability, ever stayed back a grade, ever been in child welfare system, ever homeless, ever physically abused, number of previous arrests, age at first sex, number of past 3-month vaginal sex partners, had supportive adult in life, living with a parent or not. Demographic controls: race, age.