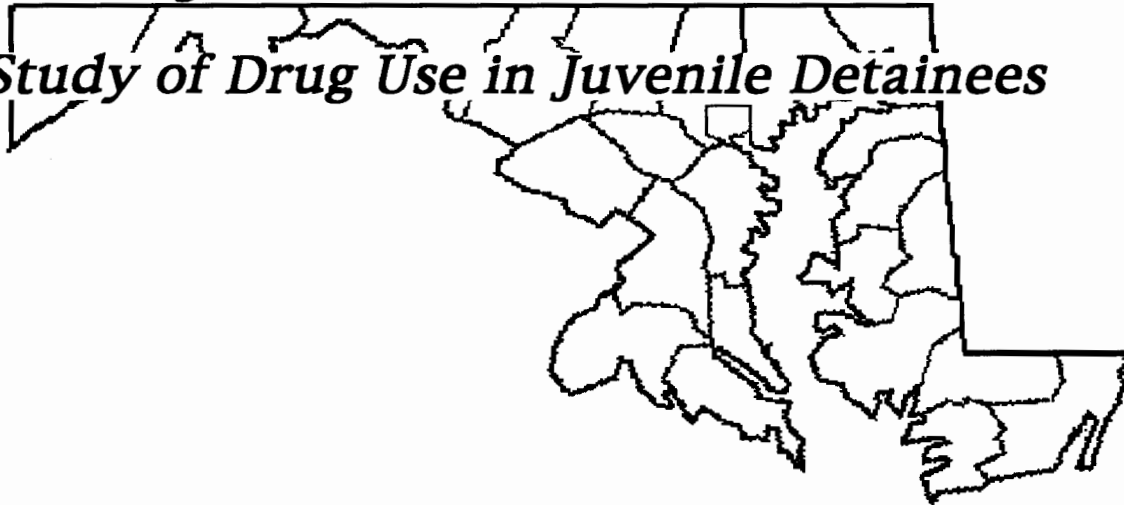


Maryland Youth at Risk:

A Study of Drug Use in Juvenile Detainees



Study 3

**Recent Drug Use in Female Juvenile Detainees:
Estimates from Interviews, Urinalysis, and Hair Analysis**

**Thomas J.S. Waxter Children's Center
Laurel, Maryland**

**Prepared by
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Center for Substance Abuse Research
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INTRODUCTION

This report presents the results of a study of female juvenile detainees at Thomas J.S. Waxter Children's Center in Laurel, Maryland. It is the third in a series of studies on drug use among juvenile detainees in Maryland.* This study expanded the data collection efforts of the two previous studies to include the collection and testing of hair specimens to supplement the interview data and urine test data collected in the earlier studies. The methodology for the three studies was modeled after that used by the national Drug Use Forecasting (DUF) Program operated by the National Institute of Justice.

This is the second time a study was conducted at Waxter Children's Center. Waxter was selected as a study site again because of the availability of a sample with adequate hair length (a large sample of female detainees) and the staff's data collection experience from the previous study.

The results presented in this report were tabulated from the facility's admissions data, interview data self-reported by study participants, and laboratory test results for urine and hair specimens provided by the respondents.

This study was made possible by Ruth Phillips of the Maryland Department of Juvenile Justice and the data collection efforts of Kay Schoo, Sharlene Martin, and Robert Holste of the Waxter Children's Center.

* See T.A. Gray and E.D. Wish, *Maryland Youth at Risk: A Study of Drug Use in Juvenile Detainees. Study 1.* Thomas J.S. Waxter Children's Center, Laurel, Maryland. February 1993. Also, E.D. Wish, T.A. Gray, and H.A. Zimmeroff, *Maryland Youth at Risk: A Study of Drug Use in Juvenile Detainees. Study 2.* Alfred D. Noyes Children's Center, Rockville, Maryland. August 1994. Both studies were conducted by the Center for Substance Abuse Research, University of Maryland at College Park.

METHOD

- * Like the previous two studies in this series, this project was designed to collect self-reported interview data and a urine specimen from a sample of detainees recently admitted to the facility. Participation by subjects was voluntary, and data collected for the study were anonymous and confidential.

- * Trained facility staff introduced the study to all eligible female detainees and conducted the interview with those agreeing to participate. In addition to the urine specimen that is collected as part of the DUF-like studies, subjects were asked to provide a hair sample for drug testing.

- * Interview data collected from study participants were entered into a data file and merged with the laboratory test results for the hair and urine specimens collected. All data items were linked by study ID numbers assigned to protect anonymity.

- * Urine specimens were analyzed for the 10 drugs tested for in DUF programs: marijuana, cocaine, opiates, PCP, amphetamines, methaqualone, methadone, benzodiazepines, propoxyphene, and barbiturates. Specimens were also tested for alcohol. Urine specimens were only tested if subjects had been detained for less than 48 hours. Positive urine results generally indicate drug use 1 to 3 days prior to the interview.

- * Hair specimens were analyzed for marijuana, cocaine, opiates, amphetamines, and PCP. Hair specimens were cut to a uniform length prior to testing in order to represent an approximate test period of 90 days prior to the interview (each half inch of hair represents a 30-day testing window).

RESPONSE RATES

- * **During the study period of May 17, 1994 to October 19, 1994, 200 subjects were approached for the study. Eight dropped out of the study prior to being interviewed because they were transferred to another facility, in court, or released.**

- * **Of the remaining 192 subjects, 97% (186) provided their informed consent and completed the interview administered by facility staff. Eighty-eight percent of the interviews were conducted by medical unit staff or the substance abuse counselor.**

- * **At the conclusion of the interview, 93% (173) of study participants agreed to provide a hair specimen (approximately 60 strands of hair cut from the scalp within the crown region of the head).**

- * **Study participants in detention for less than 48 hours at the time of the interview were asked to provide a urine specimen at the conclusion of the interview. Of the 153 study participants meeting this criterion, 93% provided a urine specimen.**

- * **Data presented in this report are based upon the 132 study participants who provided a completed interview, urine specimen, and hair specimen. Some statistics presented in the tables that follow are based on case totals of less than 132 due to missing data.**

SAMPLE DEMOGRAPHICS

(see Table 1)

- * The majority (55%) of the youths were aged 16 or older.**

- * 65% were African-Americans and 35% were white.**

- * The county of residence most represented in the sample was Baltimore City (36%), followed by Prince George's County (21%) and Baltimore County (13%).**

- * 64% of the youths were attending school prior to admission. 18% had dropped out of school and 12% were either currently expelled or on suspension from school. 87% of the sample had previously been suspended or expelled from school.**

- * Prior to admission, 29% lived with both parents (includes stepparents). 50% lived in single-parent households. 5% indicated that they lived with children of their own.**

- * 11% indicated that they were currently pregnant. 20% (including those currently pregnant) indicated being pregnant in the past 90 days.**

TABLE 1
SAMPLE DEMOGRAPHICS
(N = 132)

<u>Age</u>	<u>%*</u>
<14	5
14	14
15	26
16	21
17	23
≥18	11
<u>Ethnicity</u>	
African-American	65
White	35
<u>County of Residence</u>	
Anne Arundel	8
Baltimore City	36
Baltimore County	13
Carroll	1
Charles	6
Frederick	<1
Harford	5
Howard	2
Montgomery	<1
Prince George's	21
St. Mary's	2
Wicomico	2
Outside of Maryland	4
<u>Education</u>	
In School Now	64
Dropped Out	18
Suspended/Expelled	12
Graduated/Other Reason	4
Prior Suspension/Expulsion	87
<u>Lives With</u>	
Two Parents	29
Single Parent	50
Other than Parent(s)	21
Lives with Own Children	5

* Sample size may vary because of missing data. Percents may not add to 100 due to rounding.

CRIMINAL JUSTICE CHARACTERISTICS

(see Table 2)

- * **63% of the youths were under court-ordered detention. The remainder were being held under emergency detention.**

- * **37% had been detained previously.**

- * **The most frequent charge was an offense against persons (35%), mainly assault, followed by property offenses (29%).**

- * **10% were charged with sale or possession of drugs.**

TABLE 2
CRIMINAL JUSTICE CHARACTERISTICS
(N = 132)

<u>Admission Type</u>	<u>%</u>
Court Ordered	63
Emergency Detention	37
 Prior Detention	 37
 <u>Charge</u> *	
Person	35
Property	29
Probation	15
Drug	10
Other	11

* Charge Groupings:

Person: assault, homicide, robbery

Property: arson, burglary, destruction, theft, stolen vehicle

Probation: violation of probation, violation of community detention

Drug: sale, possession

Other: weapons, failure to appear, obstruction of justice, disorderly conduct

SELF-REPORTED DRUG HISTORY

(see Table 3)

- * **84% of the youths reported ever using alcohol; 71% reported ever using cigarettes; and 71% reported ever using marijuana.**

- * **The median age for first use of drugs was 13 years old for alcohol, cigarettes, and inhalants and between 13 and 14 years old for LSD. It rose to 14 for marijuana, amphetamines, cocaine, and PCP and to between 15 and 16 years old for heroin. (Data not shown.)**

- * **Cigarettes was the drug most likely used in the 3 months prior to the interview (59%); 41% of the youths reported daily use in this period (not shown), and 52% reported use in the 3 days prior to the interview.**

- * **30% reported using marijuana and 17% reported using alcohol in the 3 days prior to the interview.**

- * **15% reported trying LSD, and about the same percentage reported trying either cocaine or crack. 10% reported ever trying PCP.**

- * **A number of the youths indicated they used drugs "to forget about problems" or things troubling them. The most frequently mentioned substances in this context were cigarettes (18%), marijuana (17%), and alcohol (13%).**

- * **13% reported previous experience with drug or alcohol treatment. 2% reported ever injecting drugs. (Data not shown.)**

TABLE 3
SELF-REPORTED DRUG USE
(N = 132)

<u>Ever Tried</u>	<u>%</u>
Alcohol	84
Cigarettes	71
Inhalants	8
Marijuana	71
Amphetamines	11
Cocaine/Crack	14
PCP	10
LSD	15
Heroin	6
<u>Used Past 90 Days</u>	
Alcohol	57
Cigarettes	59
Inhalants	3
Marijuana	54
Amphetamines	2
Cocaine/Crack	9
PCP	3
LSD	5
Heroin	3
<u>Used Past 3 Days</u>	
Alcohol	17
Cigarettes	52
Inhalants	<1
Marijuana	30
Amphetamines	0
Cocaine/Crack	6
PCP	2
LSD	2
Heroin	2
<u>Used to Forget Problems</u>	
Alcohol	13
Cigarettes	18
Inhalants	<1
Marijuana	17
Amphetamines	2
Cocaine/Crack	2
PCP	2
LSD	2
Heroin	3

LABORATORY TEST RESULTS

(see Table 4)

- * **21% of the youths were positive for a drug, excluding alcohol, by urinalysis, and 33% were positive by hair analysis. Overall, 43% of the youths tested positive for a drug by urinalysis and/or hair analysis.**

- * **The drug most frequently detected by urinalysis was marijuana (13%), followed by cocaine (8%). Using a lower urinalysis cutoff for marijuana, 20 ng/ml rather than 100 ng/ml, marijuana positives increased to 26%; however, the lower cutoff was not used in calculating the overall rate of positive drug tests.**

- * **The drug most frequently detected by hair analysis was cocaine (32%), followed by marijuana (8%). In some cases, the hair specimen was not sufficient to test for all 5 drugs. In such cases the marijuana test was eliminated.**

- * **In all cases in which the urine specimen was positive for cocaine, the hair specimen was cocaine positive. Less than a third of those positive for marijuana by urinalysis were positive for marijuana by hair. Marijuana, unlike cocaine, is currently not as easily detected in hair.**

TABLE 4
LABORATORY TEST RESULTS
(N = 132)

Positive For	%Positive by Urinalysis	%Positive by Hair Analysis
Marijuana*	13	8
Cocaine/Crack	8	32
Opiates	2	2
PCP	<1	2
Amphetamines	0	0
Benzodiazepines	2	N/A
Propoxyphene	0	N/A
Methaqualone	0	N/A
Methadone	0	N/A
Barbiturates	0	N/A
Alcohol	2	N/A
 Any Positive (excluding alcohol)	 21	 33
 Positive by urine and/or hair:	 43%	

* Cutoff level of 100 ng/ml

SELF-REPORT VS. LABORATORY RESULTS

(see Table 5)

- * **Only 23% of the youths who tested positive for cocaine by hair analysis admitted to ever having tried cocaine. Of those positive who admitted to having tried cocaine, all indicated some use in the 90 days prior to the interview.**

- * **Of the 10 youths who tested positive for cocaine by urinalysis, 2 indicated never having tried cocaine. Seven (70%) indicated having used the drug 3 days prior to the interview (the approximate window of detection for the urine test).**

- * **Of the 9 youths who tested positive for marijuana by hair analysis, only 1 indicated never having tried marijuana. The remaining 8 (89%) indicated using the drug in the 90 days prior to the interview.**

- * **Seventeen youths tested positive for marijuana by urinalysis. All 17 admitted to some use in the 90 days prior to the interview. Thirteen (76%) admitting use in the 3 days prior to the interview .**

With the lower urinalysis cutoff for marijuana--20 ng/ml--the number of marijuana positives increased to 34. Of the 34 positives, only 3 indicated never having tried marijuana; 25 (74%) reported use in the 3 days prior to the interview.

- * **Only 3 youths were positive for opiates by hair analysis. Two of the youths indicated never having tried heroin and the third indicated use in the 90 days prior to the interview. Three youths tested positive for opiates by urinalysis (only 1 positive overlapped between the hair and urinalysis results), of which 1 indicated never having tried heroin and the remaining 2 indicated use in the 3 days prior to the interview.**

TABLE 5
SELF-REPORT VS. LABORATORY RESULTS

	Persons Positive For/By					
	Cocaine		Marijuana *		Opiates	
	Urine	Hair	Urine	Hair	Urine	Hair
<u>Self-Reported</u> (N)	<u>(10)</u>	<u>(41)</u>	<u>(17)</u>	<u>(9)</u>	<u>(3)</u>	<u>(3)</u>
Never Tried	20%	77%	0%	11%	33%	67%
Use in Prior 3 Days	70%	N/A	76%	N/A	67%	N/A
Use in Prior 90 Days	80%	23%	100%	89%	67%	33%

* Cutoff level of 100 ng/ml

CORRELATES OF DRUG USE

- * Comparisons made across demographic and criminal justice characteristics of the sample based upon a positive drug result (by either hair analysis or urinalysis: 43% positive) provide the following results:**
- * By race, 47% of African-American youths were positive compared to 35% of white youths.**
- * The rate of drug positives did not necessarily increase with age. Youths under age 14 had the highest positive rate--57% positive (7 subjects were in this group). Percent positive dropped to 39% for 14 year-old-youths and to 40% for 15-year-old youths. Fifty-two percent of the 16 year olds were positive for a drug. Percent positive dropped to 42% for 17-year-old youths and to 36% for youths aged 18 and above.**
- * Baltimore County had the highest drug positive rate (59%), followed by Baltimore City (52%) and Prince George's County (37%). Other counties represented in the sample may have had higher rates, but with so few youths in those categories, the rates would be misleading.**
- * Thirty-nine percent of the youths currently in school tested positive compared to 51% of the youths who were not in school.**
- * The rate of drug positives was similar based on admission type and prior detention. Forty-five percent of the youths admitted as an emergency detention and 42% of the youths admitted by court order tested positive. Forty-seven percent of the youths who had a prior detention tested positive, compared to 42% of the youths admitted for their first detention.**

CORRELATES OF DRUG USE

(continued)

- * The charge grouping with the lowest rate of positive tests was probation offenses (37% positive). For offenses against persons, the positive rate was 40% and for property offenses it was 42%. As in the previous studies in this series, drug offenses had the highest rate--62% of the youths charged with a drug offense had a positive test result.**

- * While the differences for percent positive in some of the above comparisons appear large, none was significant. This is often the result of small sample sizes and/or multiple categories for comparison items.**

CONCLUSIONS

- * **As we found in the previous studies in this series, youths in this study significantly underreported the extent of their drug use. This study, in which hair testing was used to extend the window of detection, found that three-quarters of the youths who tested positive for cocaine by hair analysis indicated they had never tried cocaine.**

- * **The same relationships to drug use found in the previous studies were confirmed in this study. However, the rise in drug positives with age usually seen with results from urine testing did not occur with the results from hair testing. By urinalysis, the rate of drug positives went from zero for under age 14 to 36% positive for age 18 and above. By hair analysis, 57% of those under age 14 had a positive test, but the rate for the remaining age groups was approximately 30%.**

- * **While currently used mostly for research, hair analysis can be an effective tool for developing a baseline measure and monitoring drug use in a population shown to be at high risk for substance use.**

APPENDIX

Interview

MARYLAND JUVENILE DUF INTERVIEW: WAXTER II FEMALE STUDY

<<Complete Shaded Area Before Approaching Youth>>

SURVEY DATE: ___ / ___ / 9 4

INTERVIEWER: ___ ID #: ___

YEAR OF BIRTH (last 2 digits of year) ___

COUNTY OF RESIDENCE: _____

ETHNICITY (circle one)

African American White Hispanic

Other (specify) _____

DETENTION CHARGE

(most serious) _____

1st TIME DETAINED: Yes No

ADMISSION TYPE (check one)

Court Ordered ___ Emergency Detention ___

3. Have you ever been suspended or expelled from school? No Yes

4. Who do you currently live with? (check all that apply)

- ___ Mother ___ Father
- ___ Brother/Sister ___ Grandparent(s)
- ___ Stepparent ___ Institution/Foster Home
- ___ Relatives (e.g. aunt) ___ Friends
- ___ Alone ___ Other (specify below)

After explaining the study and informed consent:
AGREED TO INTERVIEW No ___ Yes ___

1. How many hours has it been since you were on the street? ___

2. What is the highest grade in school you have completed (0-12)? ___

2a. Are you in school now? (Before detention) Circle one No Yes

If No: Indicate reason...

- ___ Graduated
- ___ Completed GED
- ___ Currently Expelled
- ___ Currently Suspended
- ___ Dropped Out
- ___ Other Reason (specify below)

5. Are you currently taking any medication or prescriptions for an illness or medical condition (this includes birth control/Norplant)? No Yes

If Yes, specify medication/prescriptions:

Any in last 90 days? No Yes

If Yes, specify medication/prescriptions:

6. How would you describe your current health/physical condition: (check one)

- ___ Poor (feel tired/ill)
- ___ Fair (feel ok, most times)
- ___ Good
- ___ Excellent
- ___ Don't Know

7. Now I am going to ask you some questions about drug use. Remember, your answers are confidential.

Have you ever tried [DRUG]? <i>(ASK FOR EACH DRUG BEFORE ASKING SPECIFIC QUESTIONS FOR THOSE DRUGS TRIED)</i>			How old were you when you first tried [DRUG]?	Have you used [DRUG] in the last 90 days (the last 3 months)?	Out of 90, on how many days?	Have you used [DRUG] in the last 3 days?	Have you ever taken [DRUG] to forget school, family, or other pressures/problems?	
Alcohol	No	Yes	___ ___	No	Yes	___ ___	No	Yes
Cigarettes	No	Yes	___ ___	No	Yes	___ ___	No	Yes
Inhalants (Glue)	No	Yes	___ ___	No	Yes	___ ___	No	Yes
Marijuana	No	Yes	___ ___	No	Yes	___ ___	No	Yes
Speed/Uppers	No	Yes	___ ___	No	Yes	___ ___	No	Yes
Powder Cocaine	No	Yes	___ ___	No	Yes	___ ___	No	Yes
Crack Cocaine	No	Yes	___ ___	No	Yes	___ ___	No	Yes
PCP/Angel Dust	No	Yes	___ ___	No	Yes	___ ___	No	Yes
LSD	No	Yes	___ ___	No	Yes	___ ___	No	Yes
Heroin/Opiates	No	Yes	___ ___	No	Yes	___ ___	No	Yes

8. In the last (3) days, have you used any drugs other than those mentioned above? No Yes
 If YES, which drugs? (specify) _____

9. In the last 3 months, have you touched drugs or been in the same room where drugs were being used? No Yes
 If YES, check each drug that applies: marijuana opiates/heroin PCP
 cocaine speed/uppers other

10. Have you ever received alcohol or drug treatment? No Yes
 If YES, for which drugs? (specify drugs) _____

11. Have you ever injected any drugs? No Yes

REMINDE YOUTH THAT ALL INFORMATION COLLECTED AS PART OF THE STUDY IS CONFIDENTIAL...THEIR NAME IS NOT USED AND ANY INFORMATION PROVIDED CANNOT BE LINKED TO THEM. THE INTEREST OF THE STUDY IS DESCRIBING CHARACTERISTICS OF THE GROUP, NOT THE INDIVIDUAL.

APPROACH YOUTH TO COLLECT URINE AND HAIR SPECIMENS. EXPLAIN HOW SPECIMEN IS TAKEN AND ANSWER ANY QUESTIONS THAT SHE MAY HAVE.

URINE SPECIMEN: Provided Not Provided

HAIR SPECIMEN: Provided Not Provided If not; reason _____

Was hair treated in any way (permed, dyed, bleached, 'freaked', other)? No Yes

If Yes, specify: _____ Date: _____

MEDICAL UNIT INFORMATION:

1) Pregnant No Yes Pregnant last 90 days No Yes

2) Drug Use No Yes (specify) _____