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The Illinois Statewide Drug Use Forecasting Project: Final Results

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INTRODUCTION

Since 1987 the National Institute of Justice (NIJ), in conjunction with the Bureau of Justice Assistance (BJA), has conducted the Drug Use Forecasting (DUF) program. The DUF program surveys arrestees for recent and past drug use through the administration of a self-report questionnaire and urine testing. In addition to drug use data, the self-reported information includes basic demographics, top arrest charge, drug and alcohol treatment history and perceived need for treatment, and AIDS risk behaviors such as injection practices and number of sexual partners. The urine testing screens for the presence of 10 drugs: opiates, cocaine, marijuana, barbiturates, PCP, amphetamines, benzodiazepines, methaqualone, propoxyphene, and methadone.¹ Each of the 24 participating DUF sites collects data quarterly on approximately 225 male arrestees. The majority of sites also collect data on a smaller sample of female arrestees with 11 sites surveying juvenile detainees as well.

The DUF data have been used for a variety of purposes on both the national and local levels. Nationally, patterns and trends in drug use have been tracked since the program's inception. One strikingly consistent finding has been the high prevalence of cocaine use by arrestees which, despite some variability between sites, has been a predominant pattern in many locations since 1988. And, it has been found that the use of certain drugs, especially amphetamines, is largely confined to specific regions of the country. Conversely, the DUF program has also shown that despite much concern over ice, a smokable and highly addicting form of amphetamines, it has never become a widely used or available drug to date. On the local level, both law enforcement and drug treatment agencies have used DUF data for policy development and program planning. For instance, funded by BJA, the National Consortium of TASC Programs (NCTP) produced a series of papers that explored the treatment implications of the DUF data (NCTP, 1989, 1990, 1991). Among other findings, these reports showed that drug abusing arrestees have multiple treatment needs, that drug use is beginning at earlier ages for younger offenders, that there is a direct relationship between crack and freebase cocaine use and increasing numbers of sexual partners (and hence AIDS risk), and that the levels of illicit drug use among juvenile detainees are much higher than the levels of their same age peers represented in the National Survey of High School Students (Johnson et al. 1989).

The 24 sites currently participating in the DUF program are mainly located in larger metropolitan centers such as Chicago, Manhattan, Los Angeles, San Antonio, and

¹ The majority of participating sites send their urine samples to a central laboratory for testing where a complete battery of the 10 tests is done. Two of the 24 sites currently participating in the DUF program, Phoenix and Portland, conduct their own urinalyses on a reduced set of drugs that varies depending on the population sampled (see NIJ, 1991 methodology section for details).

Miami. As a consequence, it is difficult to extrapolate the national DUF data to smaller urban and rural areas. It could be, for example, that the levels of drug use are much lower in smaller communities or even that the types of drugs that predominate are different; while cocaine may be the predominant drug of choice in large urban communities, marijuana may be much more frequently used in suburban and rural areas. Because of this potential gap in the DUF data, the Illinois Treatment Alternatives for Special Clients (TASC) program, which administers DUF in Chicago, applied for and received funding from the Illinois Department of Alcoholism and Substance Abuse (DASA), to expand the DUF study into 8 counties throughout the state.² The goal of this expansion was to use the DUF methodology to comprehensively and objectively assess drug use in multiple and varied communities throughout the state. Subsequently, TASC staff collected data for the Illinois statewide DUF project between September of 1990 and June of 1991. This paper is the first of three reports based on the results of the Illinois DUF project. The objectives of this paper include:

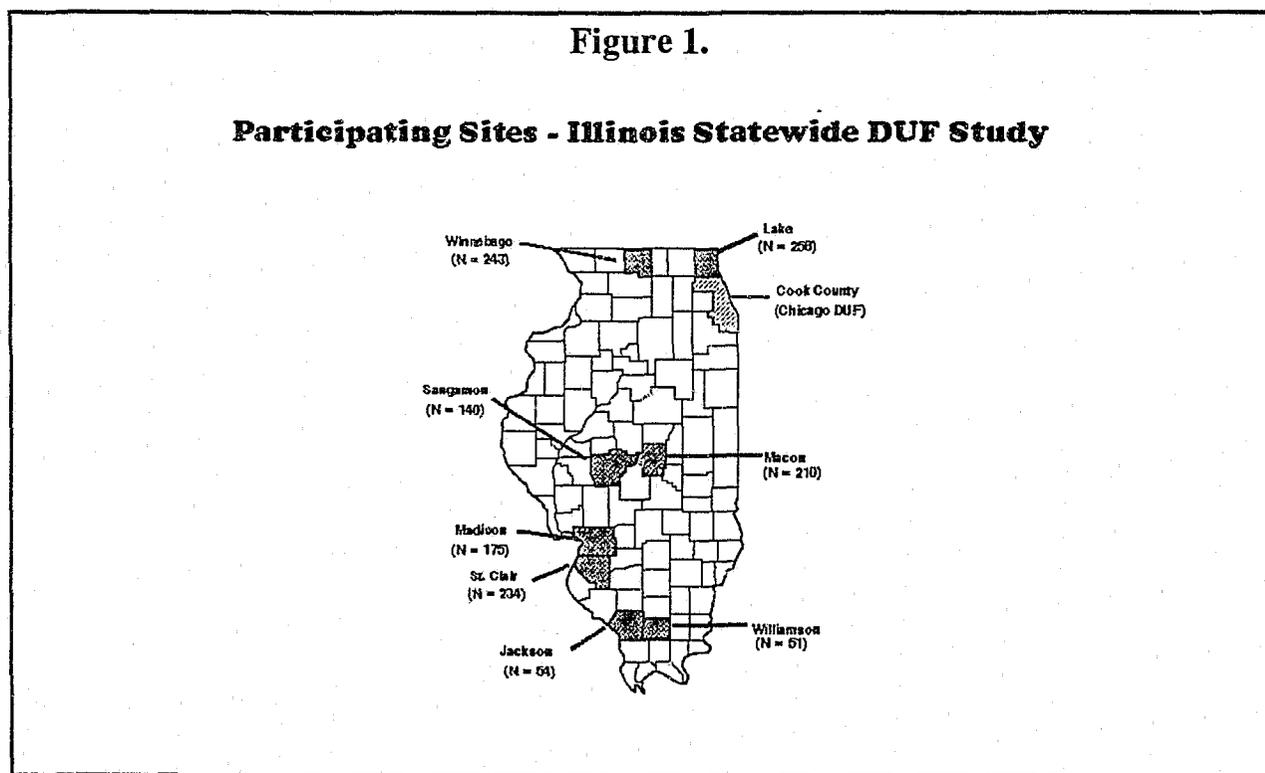
- Describe the drug use and arrest patterns of Illinois arrestees in smaller urban and rural communities.
- Given that crack cocaine use on a widespread basis is a relatively new phenomenon in Illinois, determine where the use of crack is more prevalent and how its use might spread throughout the state.
- Explore the relationship between drug and alcohol use and arrest charge.
- Determine the validity of the self-reported drug use information of arrestees in smaller communities.
- Assess the level of AIDS risk in this population.
- Describe the treatment history and perceived need for treatment with special reference to TASC programming.

² Over approximately the same time period, the Portland TASC program also initiated an extension of the DUF project to smaller jails in Oregon. At this point, these have been the only such projects undertaken. However, because of the utility of the DUF data, other states such as California have expressed interest in conducting similar studies.

Methodology

Site and Sample Selection

This study was conducted in 8 geographically diverse county jails in Illinois including: in the northern part of the state, Lake and Winnebago counties; Sangamon and Macon Counties in the central part of the state; Madison and St. Clair in the southwest; and Jackson and Williamson counties in the mid-south. Figure 1 shows the location of the



study sites on a map of the state along with the sample sizes obtained. For reference purposes, Cook County, where Chicago is located is also highlighted. The selection of these particular jails was based on a number of criteria. Except the jail in Williamson, all had a capacity of at least 100 inmates. The larger capacity jails allowed for bigger sample sizes due to the greater numbers of arrestees going through the booking process. The larger samples would, in turn, yield more accurate prevalence estimates of illicit drug use (Kalton, 1983).³ Second, from a standpoint of feasibility, all of the

³For simple random samples, the precision of a prevalence estimate is contingent upon the estimated population proportion and the sample size. All things being equal, the larger the sample size the more accurate the estimate. The main problem with determining the precision of estimates based on the data in this study is the high refusal rate which potentially biases the estimates in ways that can be difficult to

jails were located in proximity to TASC offices. This permitted closer on site monitoring as the research staff reported the results directly back to TASC supervisors in each local office. It also allowed for easier access to the criminal justice system. Because the officials in these particular jails were familiar with TASC personnel, closer cooperation in conducting the study was elicited. Third, the booking procedures at each site had to insure a reasonable window of opportunity for accessing the arrestees. For instance, if the majority of arrestees at a given site were bonded out immediately, this would have greatly limited the number of potential subjects. At most of the sites included in the study, arrestees waited a minimum of 3 hours prior to their bond hearing. The exception to this was Macon County where some arrestees, dependent on several conditions, bonded out within two hours. This was a rare enough event so that it did not pose an inordinate problem and staff were able to obtain sufficient numbers at this site. Finally, while not representative of every community in the state, the counties surveyed in this study do represent a broad and heterogeneous cross-section of the state's arrestee population.

Subject Selection

At each site, the sampling methodology used in the national study was followed as closely as possible with several exceptions. All of the sites have a county jail where arrestees are booked and detained until their bond hearing. With the exception of East St. Louis in St. Clair County, all arrestees are individually brought from the area of their local jurisdiction to the county jail as they are arrested. East St. Louis arrestees are transported in groups via vans. As per the national protocol, arrestees were excluded from the study if they were charged with a traffic or DUI offense or if it had been longer than 48 hours since the time of their arrest. The latter provision is necessary because the urinalysis procedures used to detect most of the drugs are sensitive to use within a 48 hour time frame.⁴ Unlike the national study of male arrestees however, no attempt was made to minimize the proportion of subjects charged with drug related offenses. Excluding these subjects would have reduced the sample sizes. It should be pointed out, however, that the broader inclusion criteria employed in this study are similar to those used nationally with juveniles and female

assess. Assuming, however, that the bias in this case is minimal and that the population prevalence rate of any illicit drug use is about 40 percent (the composite sample prevalence rate), then for samples of size 200 (the approximate total sample sizes for most of the sites), the estimate will be within ± 7 percentage points of the population rate. In Jackson and Williamson counties where the sample sizes were much smaller (about 50 cases each), the precision level of the estimates decreases substantially to ± 14 percentage points. This means, for example, that in Jackson County the population level of illicit drug use lies between 14 percent and 42 percent (28 ± 14). In St. Clair County where a larger sample was obtained, the estimate is much more precise, between 32 percent and 46 percent (39 ± 7).

⁴ The exceptions to this are marijuana and PCP, both of which can be detected for up to several weeks after use dependent upon the intensity of use.

arrestees where sample size is also an issue. The second exception was again related to acquiring an adequate sample. In some sites, the study was carried out for a period of 30 consecutive days rather than 14 as is the case nationally.

The study was administered quarterly at 6 of the sites beginning in September of 1990 and ending in June of 1991. At two of the sites, Jackson and Williamson, data were collected only during the first and last quarters. This is because of difficulties in volume and the availability of research staff encountered in these particular jails. Relative to the other jails, these 2 had fewer numbers of arrestees and hence the amount of time needed to attain a reasonably adequate size sample was longer than at the other sites. Also, these jails were located the greatest distance from a TASC office and required longer travel times of staff. Therefore, because both time and staff resources were limited, the middle two collection periods were eliminated at these 2 sites. Table 1 shows the final sample sizes obtained at each site broken down by the number of subjects who agreed to an interview only and subjects who agreed to both an interview and to providing a urine specimen. A total of 1,869 subjects agreed to the interview and 1,365 of these consented to the full protocol.

Table 1. Sample Sizes by County and Participation Level

County	Lake		Winnebago		Macon		Sangamon		Madison		St. Clair		Jackson		Williamson		Totals		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Participation Level																			
Interview Only	113	30.5	102	29.6	24	10.3	85	37.8	31	15.0	113	32.6	18	25.0	18	26.1	504	27.0	
Interview + Urine Sample	258	69.5	243	70.4	210	89.7	140	62.2	175	85.0	234	67.4	54	75.0	51	73.9	1,365	73.0	
Totals	371	19.9	345	18.5	234	12.5	225	12.0	206	11.0	347	18.6	72	3.9	69	3.7	1,869	100.0	

Reported participation rates for the national DUF program have been consistently high. Typically, 90 percent of all subjects approached agree to an interview and about 80 percent of these further consent to provide a urine sample (NIJ, 1991). Although an overall participation rate for this study could not be calculated because some sites did not collect information on refusals (i.e., subjects who declined to be interviewed), Table 1 shows that the statewide rate of 73 percent for providing a urine sample once an interview had been granted was somewhat lower than the national figure. There was also considerable variation between sites ranging from a low of 69 percent in Lake County to a high of 89 percent in Macon County. Anecdotally, the higher refusal rate was attributed by study staff to greater subject concerns over anonymity. Compared to the Cook County Jail in Chicago for example, where literally hundreds of arrestees are booked every day, the much smaller county jails may process fewer than 15 arrestees per day. Individual subjects in these jails were apparently more concerned that their

illicit drug use, if any, could more easily be traced back to them and so were less willing to cooperate.⁵

In order to get a sense of how the higher refusal rates may have biased the sample, subjects who did not provide a urine sample were compared with those who did on a number of demographic variables: race, age, and top arrest charge category. Chi-Square tests of race and age group revealed no significant differences, however, the two groups were significantly different on top arrest charge category

($\chi^2_{(3, N = 1,859)} = 24.3, p < .001$). Specifically, a higher proportion of arrestees charged with a drug related offense declined to participate compared to those with other types of arrest charges (e.g., violent, or property crimes). Given that arrestees charged with drug related crimes are more likely than other offenders to have used drugs (Wish, 1987), this pattern might result in an underestimate of the level of illicit drug use among this population, making the obtained results somewhat conservative. On the other hand, the lower participation rates of these particular offenders had the unintended but beneficial result of making the statewide sample closer in arrest charge composition to the national sample, which is also projected to conservatively estimate the level of drug use for the population of all arrestees.

Instruments

The self-report form used was identical to that used nationally. Senior TASC staff experienced in administering DUF at the Chicago site provided training and consultation to study staff to further insure uniformity with the national protocol. All subjects were briefly oriented to the purpose of the project and assured of the confidentiality and anonymity of their responses. At the conclusion of the interview, research staff asked subjects to provide a urine sample. Following each quarterly administration, all forms were sent to the Chicago TASC office for collating and storage. Urine samples were transported from the study sites to Chicago on a weekly basis during collection periods. The transport of the samples followed strict chain of custody procedures and all samples were kept refrigerated during the period prior to shipping.

The Chicago-based laboratory of Illinois TASC analyzed the urine samples for the presence of 8 drugs: marijuana, cocaine, opiates, PCP, amphetamines, barbiturates, benzodiazepines, and methadone.⁶ The analytic technique employed was Fluorescent

⁵In a personal communication to the author, the Oregon study coordinator noted similar difficulties. He also attributed the higher refusal rates to problems assuring subjects of anonymity in the context of smaller jails.

⁶Strictly speaking, the urinalyses do not test for the presence of drugs per se. Instead, the recent use of a drug is determined by the presence of the metabolites of that drug at concentration levels above a

Polarization Immunoassay (FPI). Comparative studies of FPI and the EMIT procedure, which is used nationally, show them to be comparable in terms of their sensitivity (false negative rates) and specificity (false positive rates) for these drugs (Edinboro, Hall, & Pokliz, 1989; Visher & McFadden, 1991).

Analyses

At the conclusion of the collection phase, the self-report data and urinalysis results for all subjects were entered into a LAN-based data base system developed by TASC for this project. Data were checked for completeness and accuracy and where possible corrected.⁷ The completed and corrected data were then ported from the network to a local PC and converted into an SPSS system file using SPSS for OS/2 Version 4.1 (SPSS, Inc. 1991). The value and variable labels for all data elements were identical to those used nationally. All of the results reported in the next section are based on the 1,365 cases from whom both urinalysis results and self-report information were obtained.

RESULTS

Demographics

Sample demographics for all of the male arrestees by county are shown in Table 2. Ethnically, the sample consisted of almost equal numbers of white (49 percent) and black subjects (44 percent) but there was considerable site variation. Most notably, St. Clair County had the highest proportion of blacks (73 percent), while Williamson had the largest percentage of whites (80 percent). Lake County was the only site with an appreciable number of Hispanics (10 percent). There were also differences among sites with respect to employment: Lake County had the highest proportion of fully employed subjects (52 percent); Macon the highest rate of unemployment (41 percent);

certain threshold. Cocaine use, for example, is indicated when Benzoylcegonine, a cocaine metabolite, is detected in greater concentrations than 300 ng/ml. Similarly, Tetrahydrocannabinol-9-carboxylic acid above a concentration level of 100 ng/ml indicates marijuana use. The threshold levels used by the TASC laboratory are in accord with the NIDA guide lines for drug detection and are the same as those used by PharmChem, the laboratory that analyzes the national samples.

⁷In many instances, because of the lag time between data collection and entry, it was not possible to speak with the interviewer about questionable or missing information or it was unlikely that specific responses for individual subjects would be remembered. As a result, few changes were made to the self-reported information. This did not seem to pose a significant problem, however, as the rate of missing information for most items was generally low. The exception was with top charge at arrest where, mostly because of differences in terminology, about 20 percent of the subjects had this field coded as "Other". Because most of the interviewers had written in the charge name, it was possible to go back and recode many of these cases.

**Table 2. Demographics for All Arrestees
by County**

County	Lake		Winnebago		Macon		Sangamon		Madison		St. Clair		Jackson		Williamson		Totals		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Race																			
Black	81	31.4	99	40.7	107	51.0	68	48.6	46	26.3	170	72.6	23	42.6	8	15.7	602	44.1	
White	129	50.0	124	51.0	98	0.5	72	51.4	125	71.4	54	23.1	30	55.6	41	80.4	673	49.3	
Spanish Speaking	26	10.1	10	4.1	1	0.0	0	0.0	0	0.0	1	0.4	1	1.9	2	3.9	41	3.0	
Other	1	0.4	3	1.2	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	5	0.4	
Missing	21	8.0	7	2.8	4	0.0	0	0.0	3	1.7	9	3.8	0	0.0	0	0.0	44	3.2	
Age																			
15 - 20	67	26.0	51	21.0	39	18.6	36	25.7	52	29.7	57	24.4	10	18.5	18	35.3	330	24.2	
21 - 25	62	24.0	64	26.3	42	0.2	37	26.4	51	29.1	54	23.1	12	22.2	9	17.6	331	24.2	
26 - 30	56	21.7	43	17.7	44	0.2	24	17.1	30	17.1	58	24.8	11	20.4	7	13.7	273	20.0	
31 - 35	27	10.5	37	15.2	47	0.2	19	13.6	17	9.7	33	14.1	10	18.5	12	23.5	202	14.8	
36+	45	17.4	45	18.5	38	0.2	24	17.1	24	13.7	32	13.7	11	20.4	5	9.8	224	16.4	
Missing	1	0.4	3	1.2	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	5	0.4	
Marital Status																			
Single, Never Married	158	61.2	155	63.8	105	50.0	66	47.1	107	61.1	142	60.7	25	46.3	27	52.9	785	57.5	
Married	40	15.5	30	12.3	37	17.6	14	10.0	25	14.3	29	12.4	9	16.7	12	23.5	196	14.4	
Separated, Divorced	37	14.3	51	21.0	55	26.2	31	22.1	40	22.9	24	10.3	8	14.8	9	17.6	255	18.7	
Other	21	8.1	5	2.1	9	4.3	26	18.6	2	1.1	37	15.8	11	20.4	3	5.9	114	8.4	
Missing	2	0.8	2	0.8	4	1.9	3	2.1	1	0.6	2	0.9	1	1.9	0	0.0	15	1.1	
	121																		
Employment																			
Full Time	133	51.6	100	41.2	54	25.7	58	41.4	53	30.3	56	23.9	15	27.8	11	21.6	480	35.2	
Part-Time	23	8.9	36	14.8	21	10.0	23	16.4	24	13.7	27	11.5	4	7.4	9	17.6	167	12.2	
Working Odd Jobs	17	6.6	14	5.8	13	6.2	9	6.4	18	10.3	8	3.4	4	7.4	10	19.6	93	6.8	
Mainly in School	14	5.4	3	1.2	5	2.4	2	1.4	16	9.1	13	5.6	6	11.1	4	7.8	63	4.6	
Unemployed	38	14.7	47	19.3	87	41.4	11	7.9	47	26.9	44	18.8	3	5.6	6	11.8	283	20.7	
Welfare	19	7.4	36	14.8	18	8.6	19	13.6	15	8.6	63	26.9	10	18.5	10	19.6	190	13.9	
Other	12	4.7	5	2.1	9	4.3	16	11.4	1	0.6	13	5.6	11	20.4	1	2.0	68	5.0	
Missing	2	0.8	2	0.8	3	1.4	2	1.4	1	0.6	10	4.3	1	1.9	0	0.0	21	1.5	
Education																			
Less than High School	24	9.3	33	13.6	26	12.4	18	12.9	7	4.0	23	9.8	7	13.0	11	21.6	149	10.9	
Some High School	65	25.2	78	32.1	65	31.0	35	25.0	52	29.7	51	21.8	11	20.4	13	25.5	370	27.1	
High School Graduate	67	26.0	37	15.2	68	32.4	30	21.4	48	27.4	31	13.2	10	18.5	6	11.8	297	21.8	
GED	27	10.5	35	14.4	26	12.4	17	12.1	20	11.4	19	8.1	6	11.1	6	11.8	156	11.4	
Some College	47	18.2	29	11.9	12	5.7	17	12.1	28	16.0	39	16.7	14	25.9	11	21.6	197	14.4	
College Graduate	8	3.1	14	5.8	5	2.4	9	6.4	7	4.0	9	3.8	4	7.4	4	7.8	60	4.4	
Professional or Graduate	1	0.4	1	0.4	1	0.5	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	4	0.3	
Missing	19	7.4	16	6.6	7	3.3	14	10.0	12	6.9	62	26.5	2	3.7	0	0.0	132	9.7	
Totals	258	100.0	243	100.0	210	100.0	140	100.0	175	100.0	234	100.0	54	100.0	51	100.0	1365	100.0	

and St. Clair had the largest percentage of subjects on welfare (27 percent). Most subjects were 30 years old or younger (68 percent) with almost half of the sample (48 percent) under the age of 26. A majority reported being single at the time of arrest (58 percent). Many subjects were poorly educated. Over one-third of the subjects had not completed a high school education although approximately another third reported having either a high school degree or a GED. Relatively few subjects had attained either a college degree or advanced technical or professional training.

Arrest Charges and Urinalysis Results

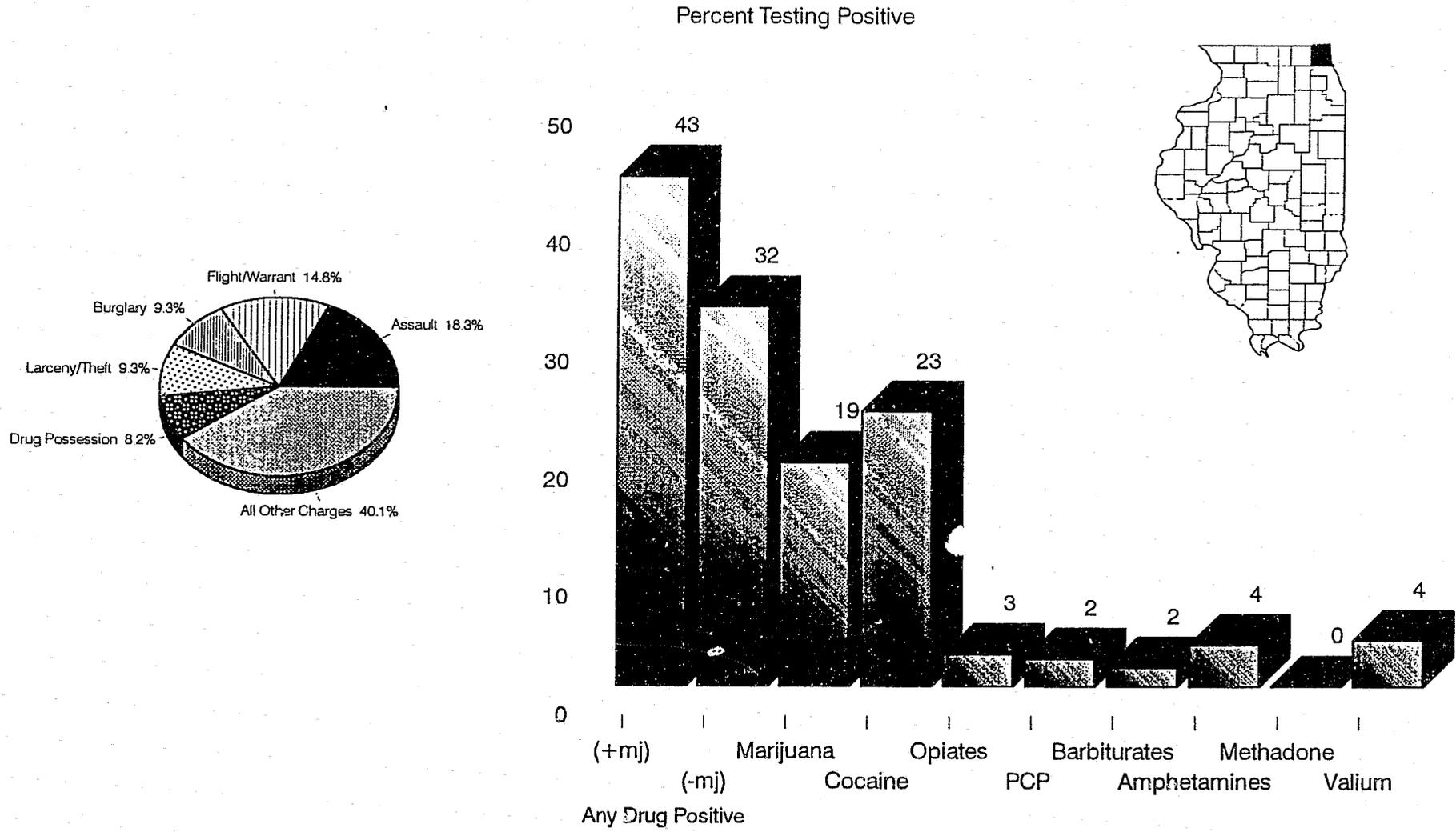
Figures 2 through 9 show the top five arrest charges and urinalysis results for each study site followed by a composite profile presented in Figure 10. Assault was the most frequently occurring top arrest charge with almost one-fifth of the arrestees included in the study charged with this offense; larceny/theft was the second most common charge (13 percent) followed by burglary (10 percent), flight or bench warrant (8 percent) and drug possession (7 percent).

The composite urinalysis results may be described as follows: over 36 percent of all the arrestees studied had positive urinalysis results for any drug including marijuana. A little more than one-fourth (26 percent) of the subjects had positive results exclusive of marijuana use. The most frequently used illicit drug was cocaine (21 percent), followed by marijuana (15 percent). Use of the other six drugs (opiates, PCP, barbiturates, amphetamines, methadone, and valium) was extremely low with fewer than 4 percent of the total sample testing positive for any of these other substances.

There were considerable deviations among individual sites from the composite pattern. The proportion of arrestees testing positive for any drug ranged from a high of 43 percent in Lake County, located in the northeast corner of the state, to a low of 23 percent in the central Illinois County of Macon. Cocaine use was highest in St. Clair (32 percent) and Winnebago (29 percent) counties but was virtually non-existent in the most rural county, Williamson, where only 2 percent tested positive. Compared to the geographical variances in cocaine use, there was greater homogeneity of marijuana use across 6 of the 8 sites, with most results in the range of 11 to 19 percent. The exceptions were Madison County at the high end with a rate of 24 percent and Macon County at the low end with only 7 percent testing positive for recent marijuana use. Beyond marijuana and cocaine, the detection rates for any of the remaining 6 drugs were also uniformly low; except for amphetamines, the proportion of positive results did not exceed 5 percent. In Williamson County, 6 percent of the urines tested were positive for amphetamines. These results suggest that the main drugs of choice for Illinois arrestees are cocaine and marijuana.

Figure 2.

Top Arrest Charges and Urinalysis Results Lake County

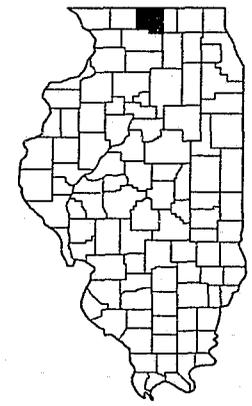
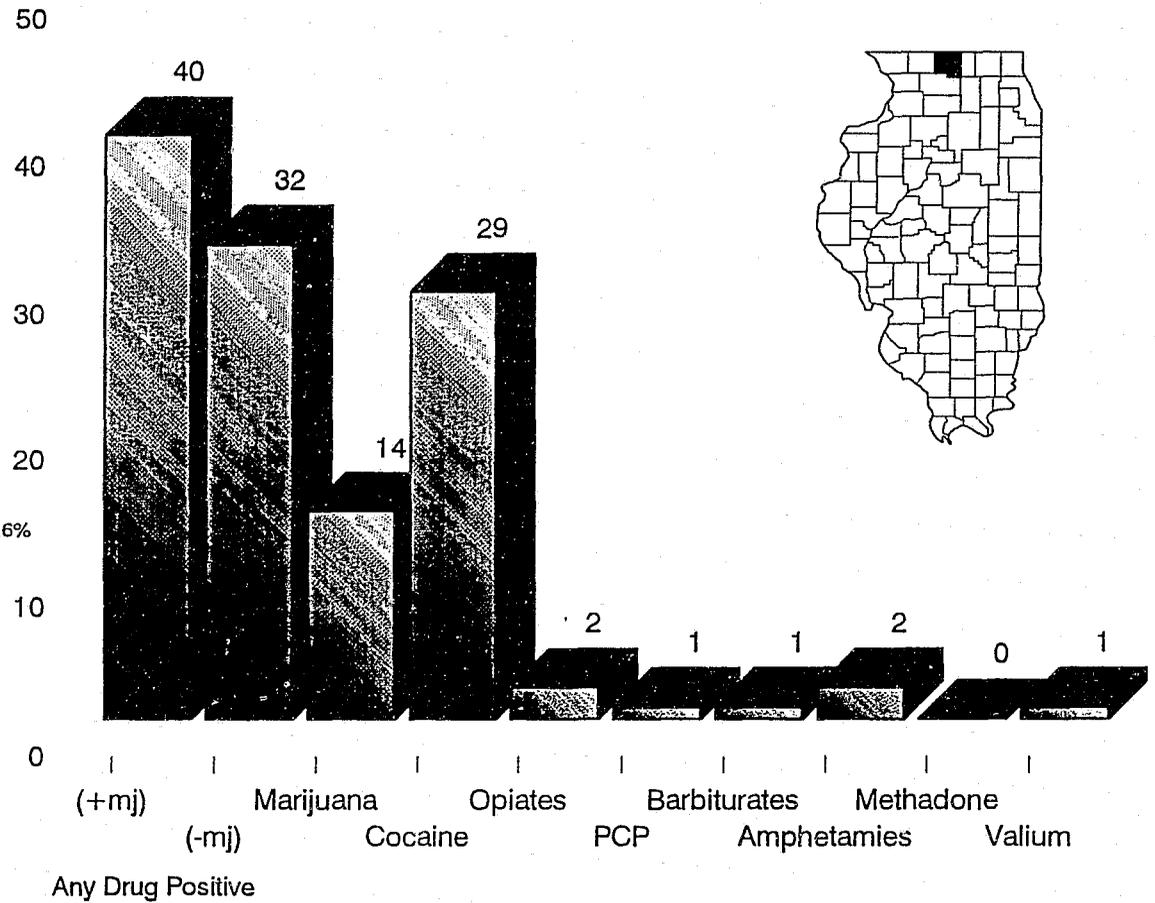
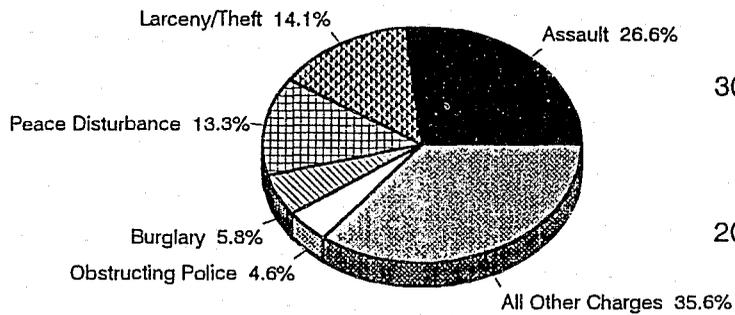


Based on 258 cases

Figure 3.

Top Arrest Charges and Urinalysis Results Winnebago County

Percent Testing Positive

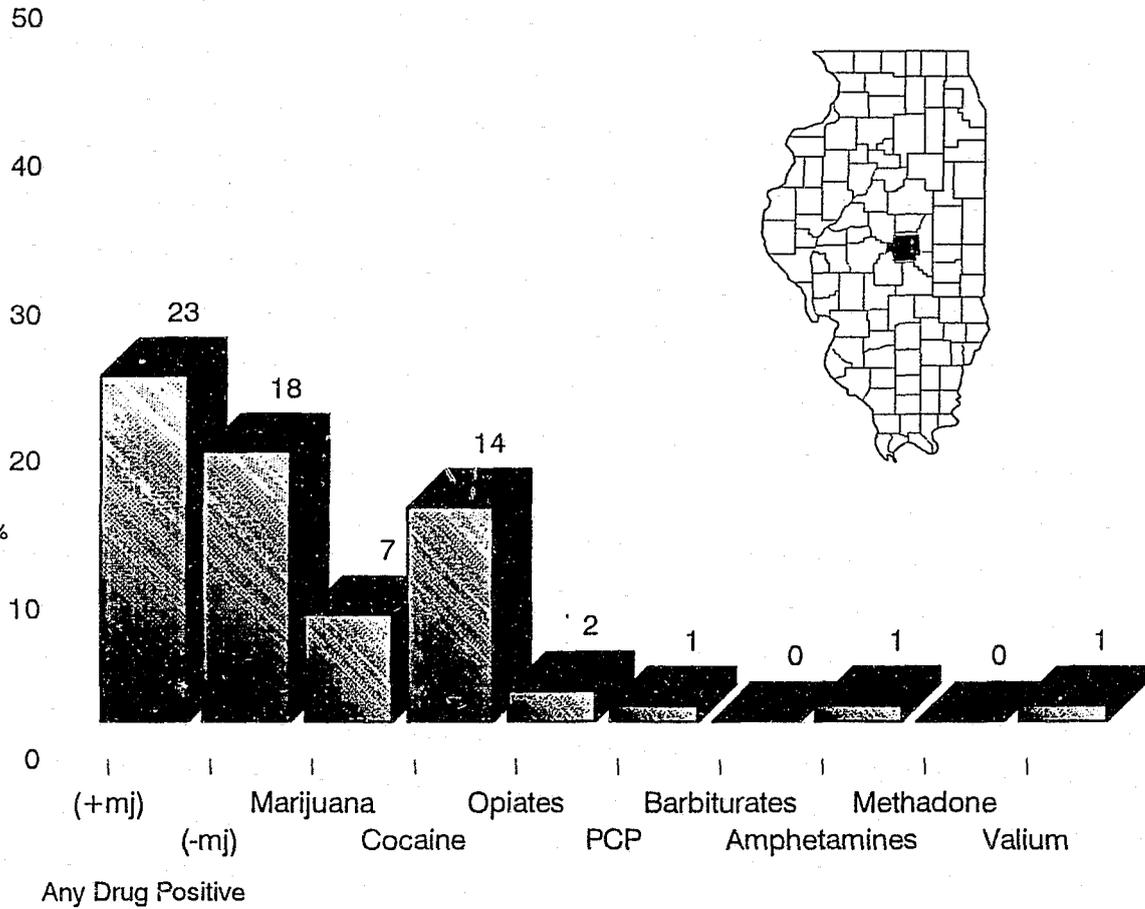
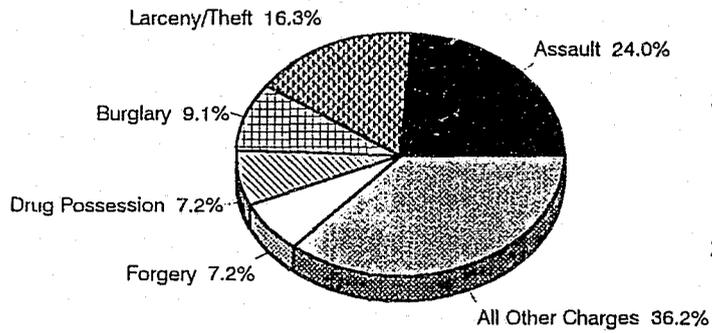


Based on 243 cases

Figure 4.

Top Arrest Charges and Urinalysis Results Macon County

Percent Testing Positive

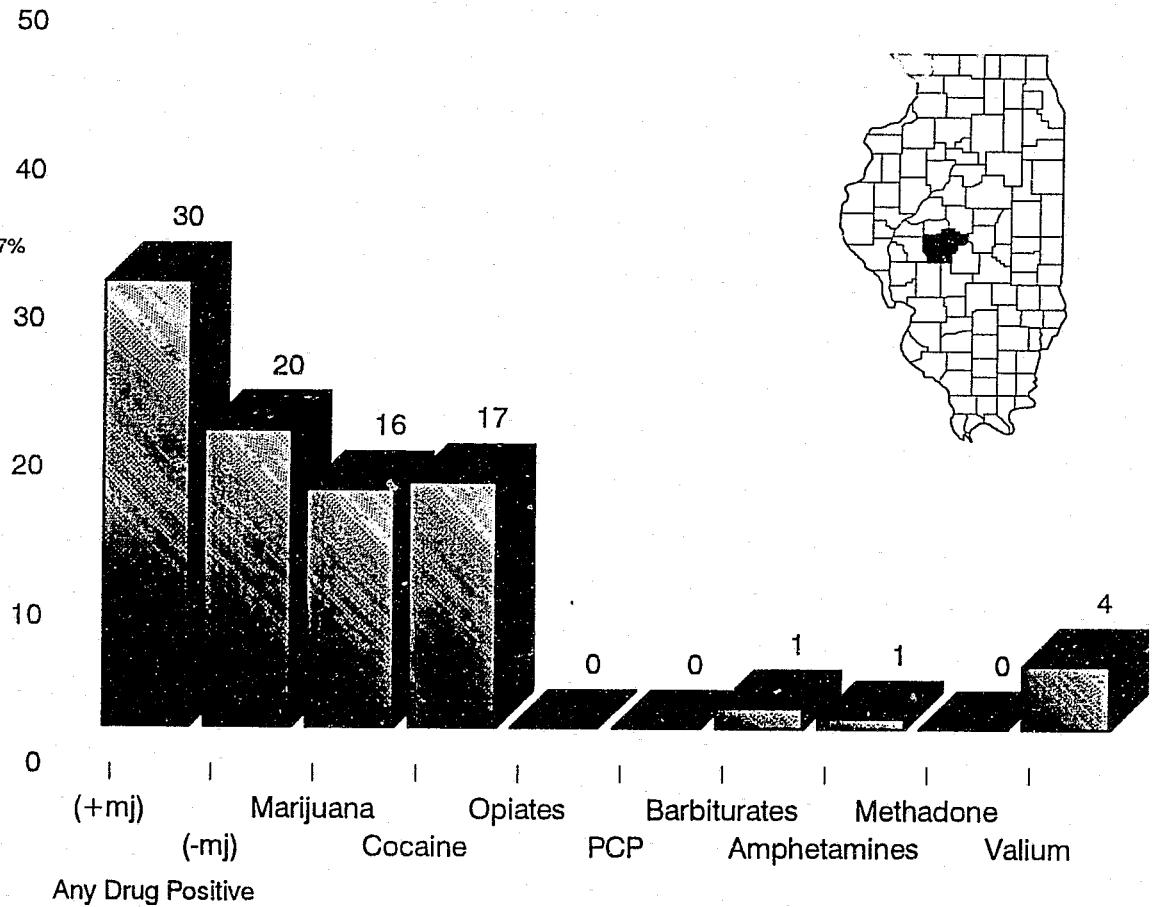
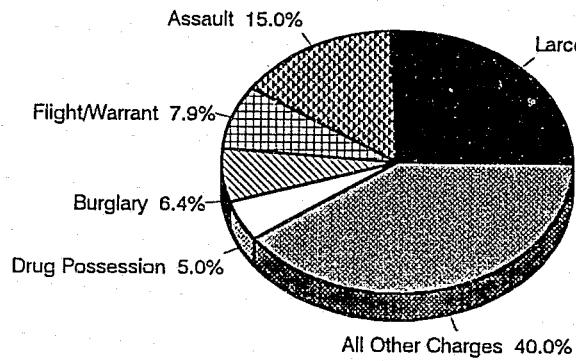


Based on 210 cases

Figure 5.

Top Arrest Charge and Urinalysis Results Sangamon County

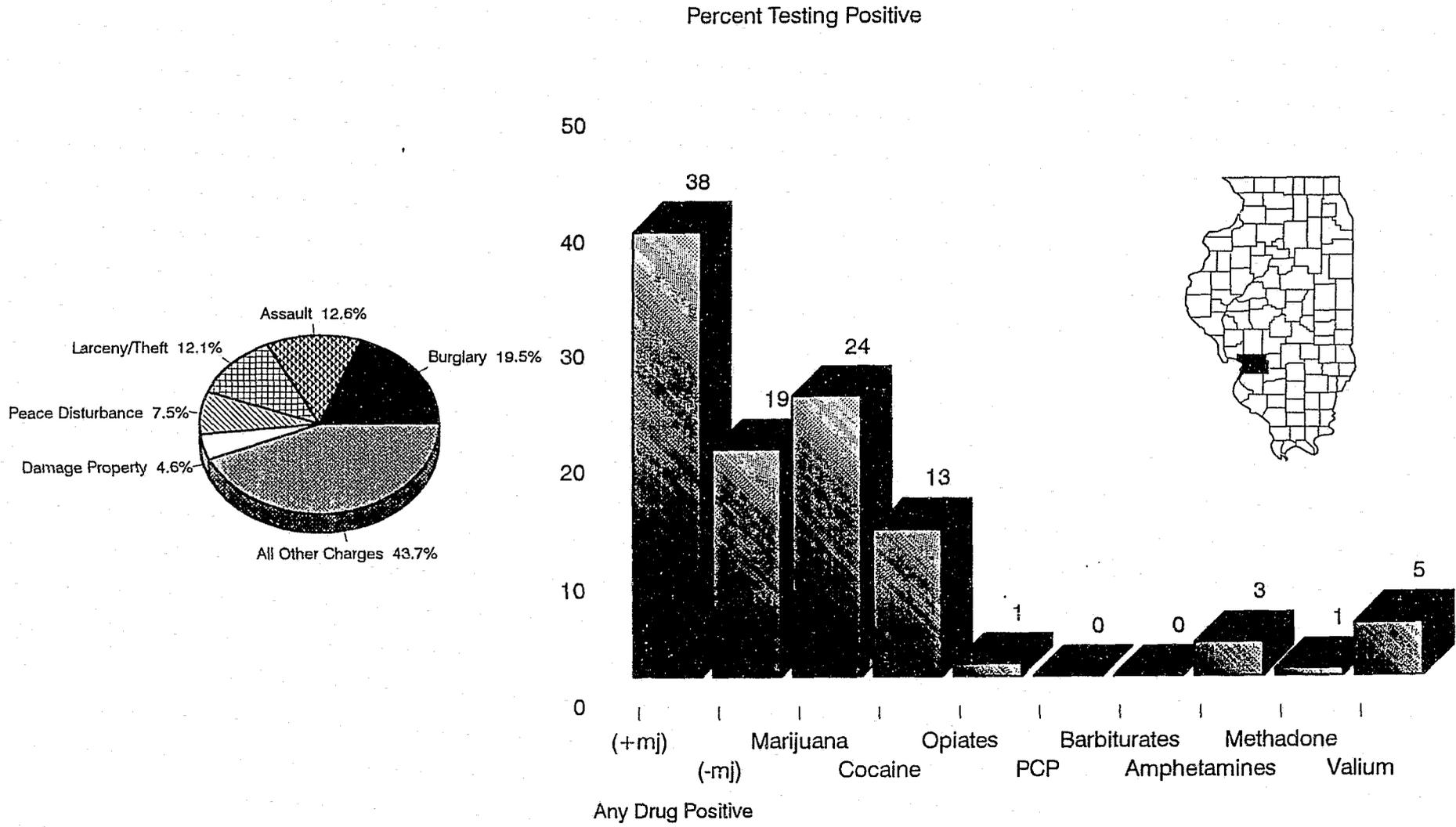
Percent Testing Positive



Based on 140 cases

Figure 6.

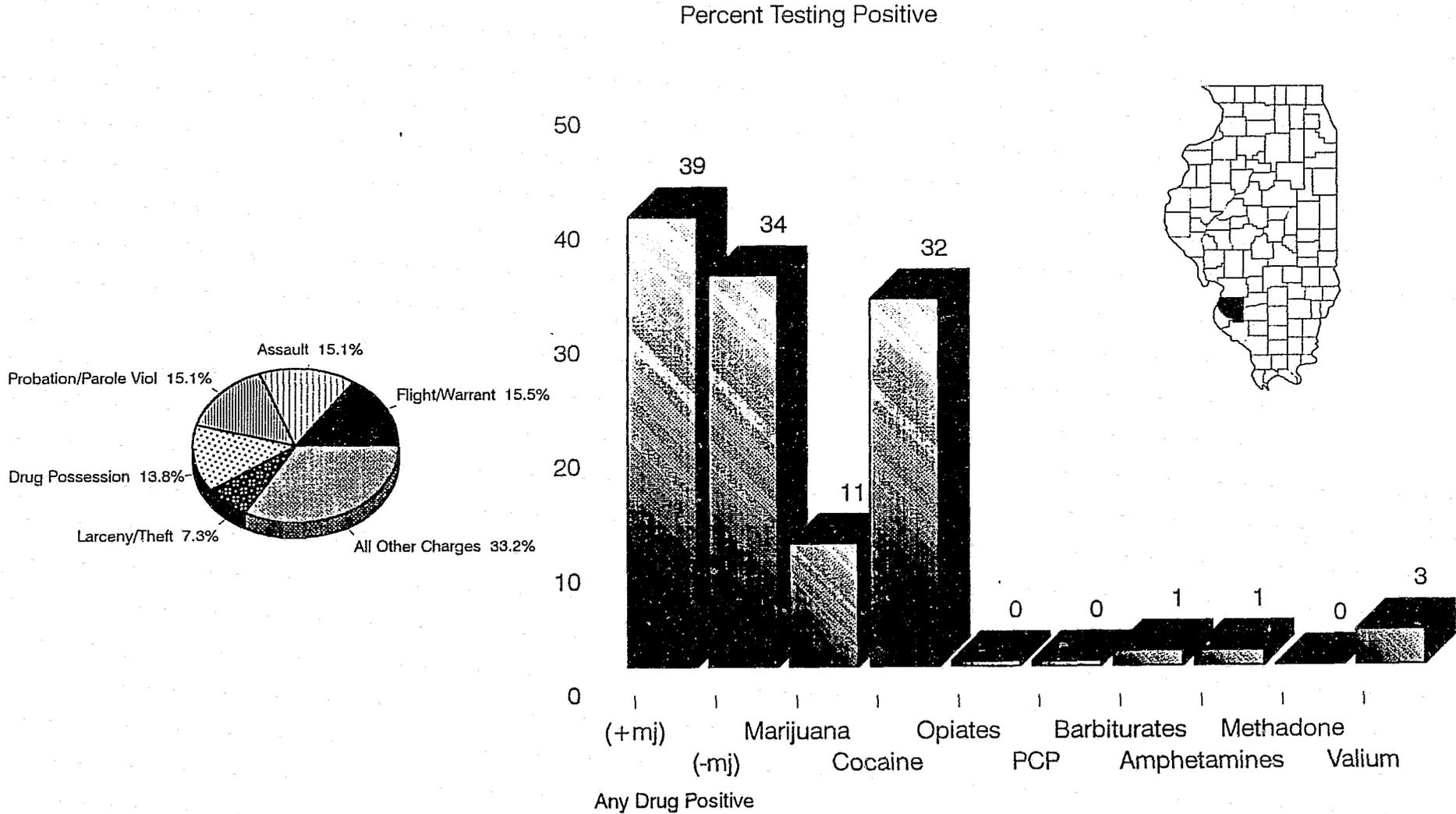
Top Arrest Charges and Urinalysis Results Madison County



Based on 175 cases

Figure 7.

Top Arrest Charges and Urinalysis Results St. Clair County

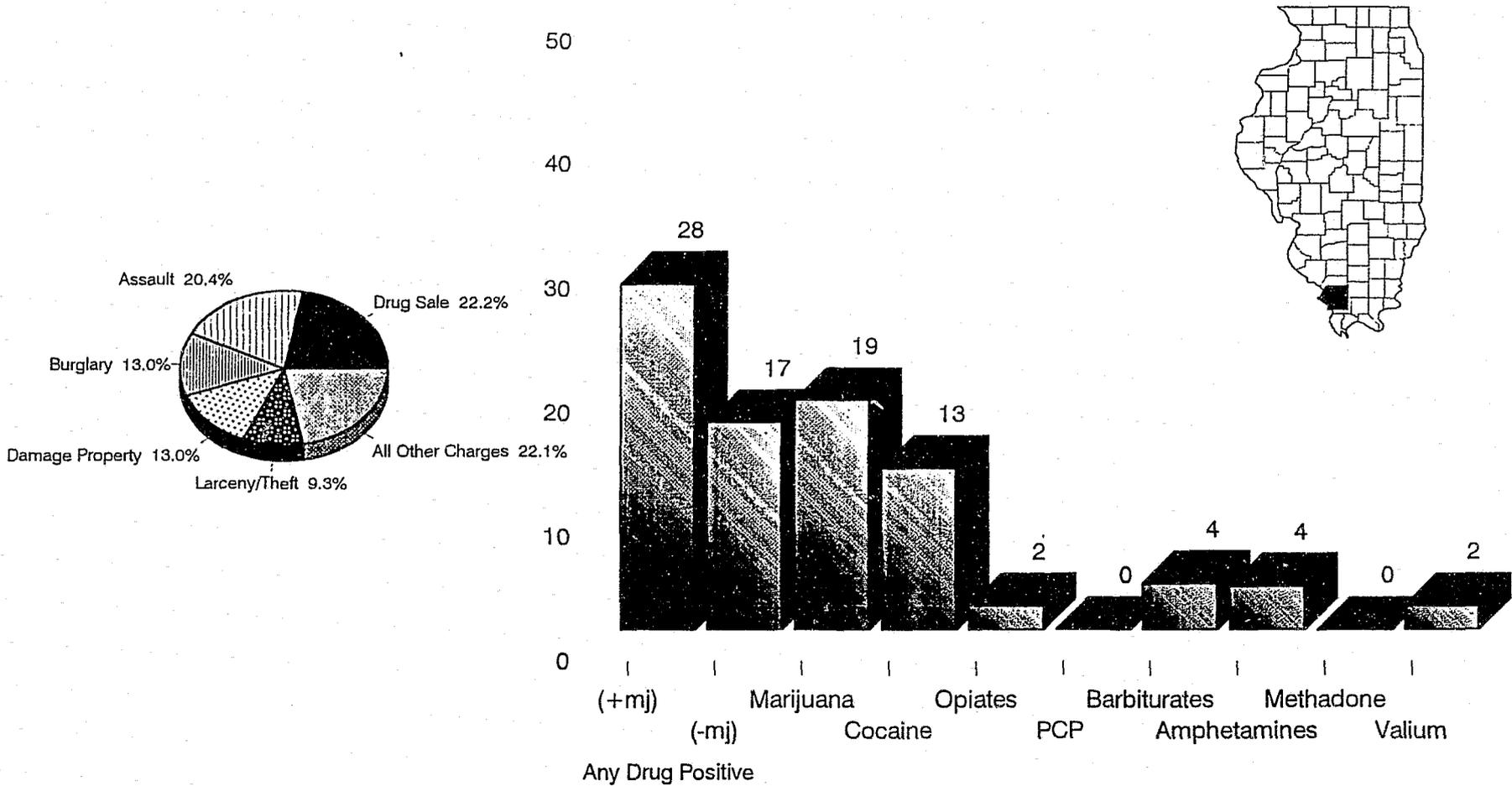


Based on 234 cases

Figure 8.

Top Arrest Charges and Urinalysis Results Jackson County

Percent Testing Positive

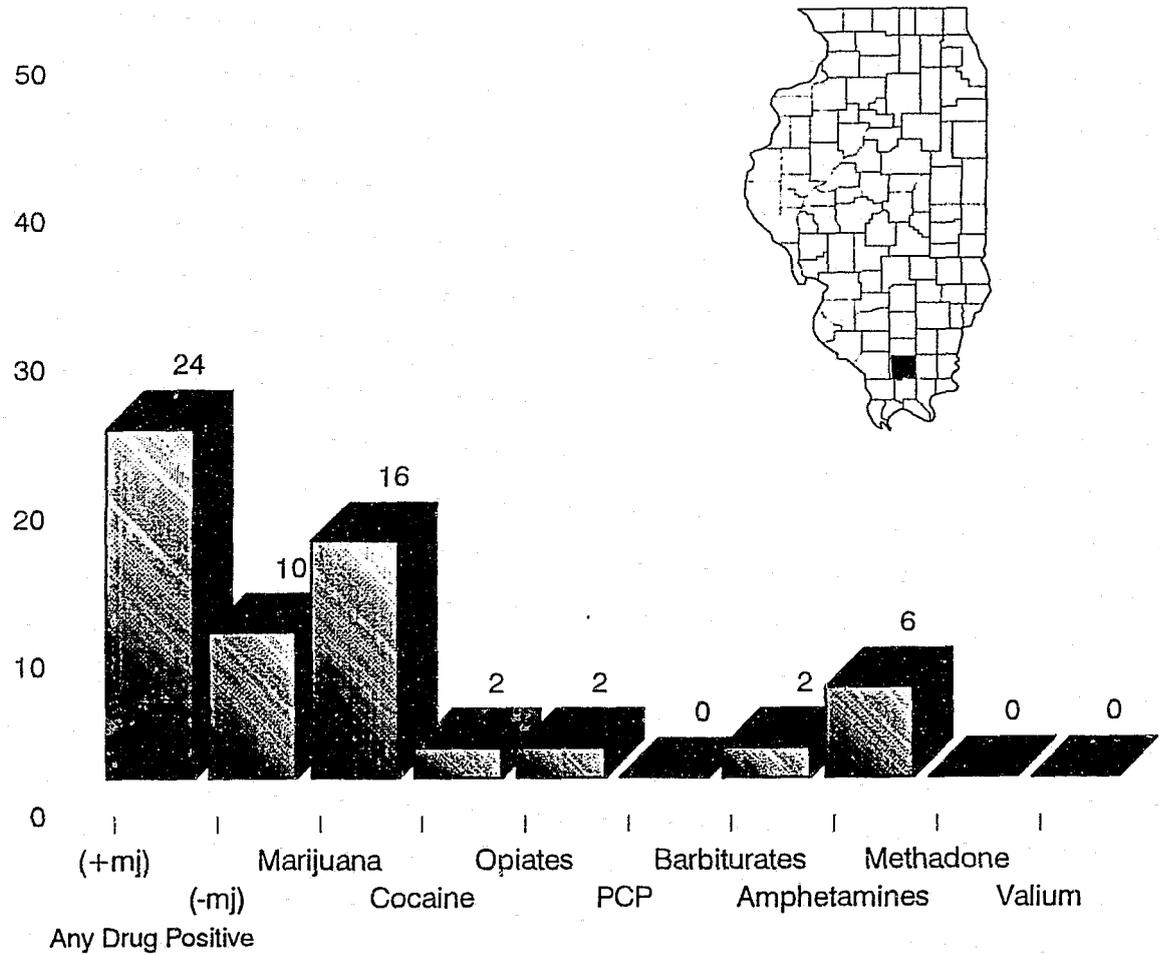
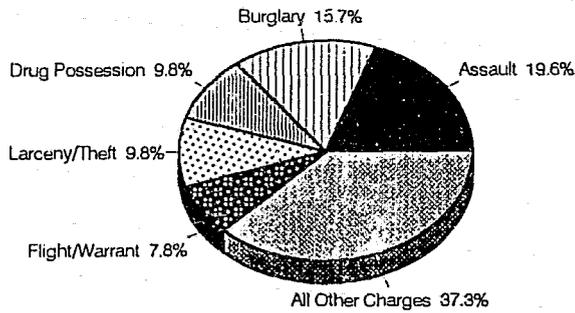


Based on 54 cases

Figure 9.

Top Arrest Charges and Urinalysis Results Williamson County

Percent Testing Positive

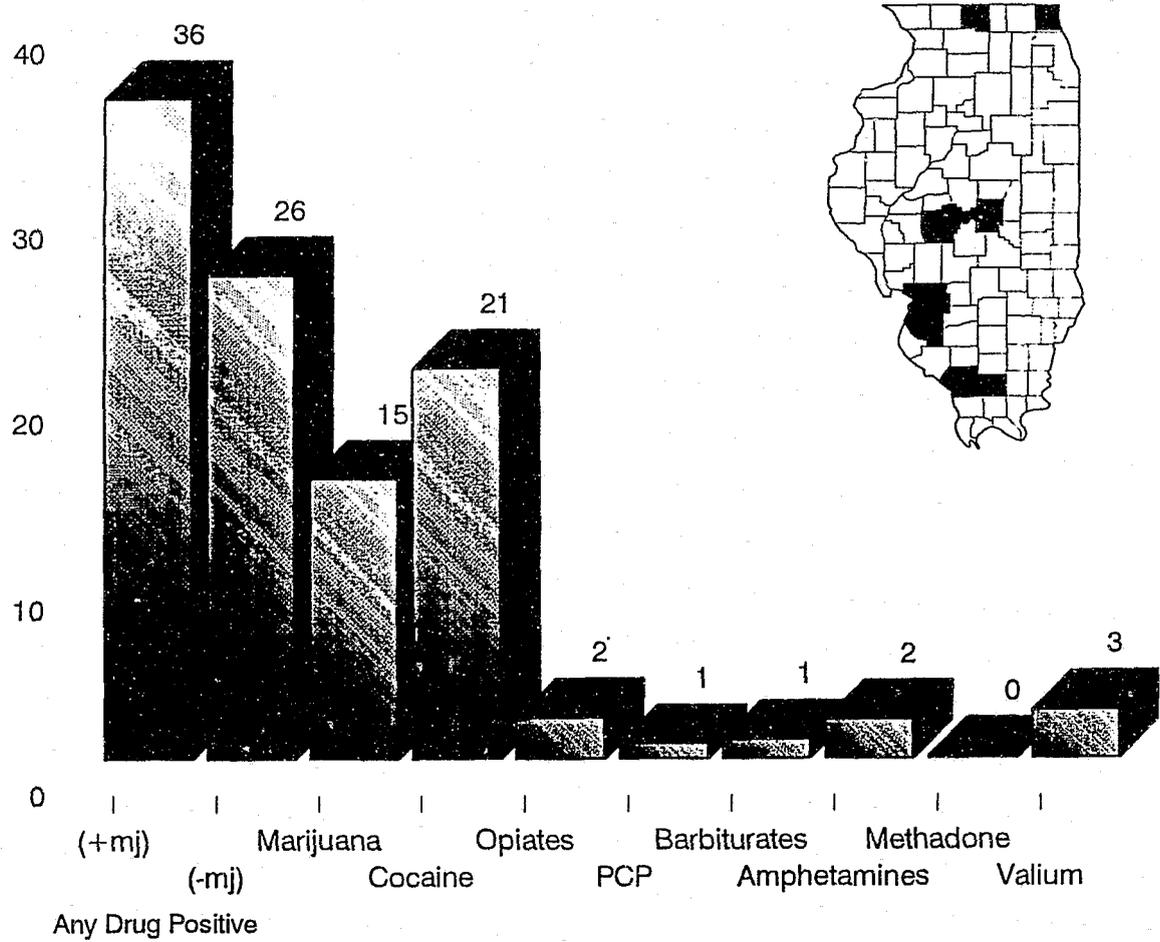
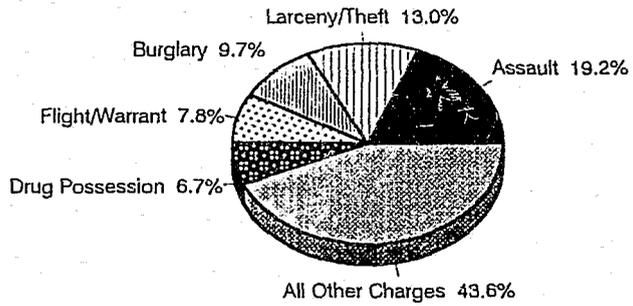


Based on 51 cases

Figure 10.

Top Arrest Charges and Urinalysis Results Composite

Percent Testing Positive



Based on 1,365 cases

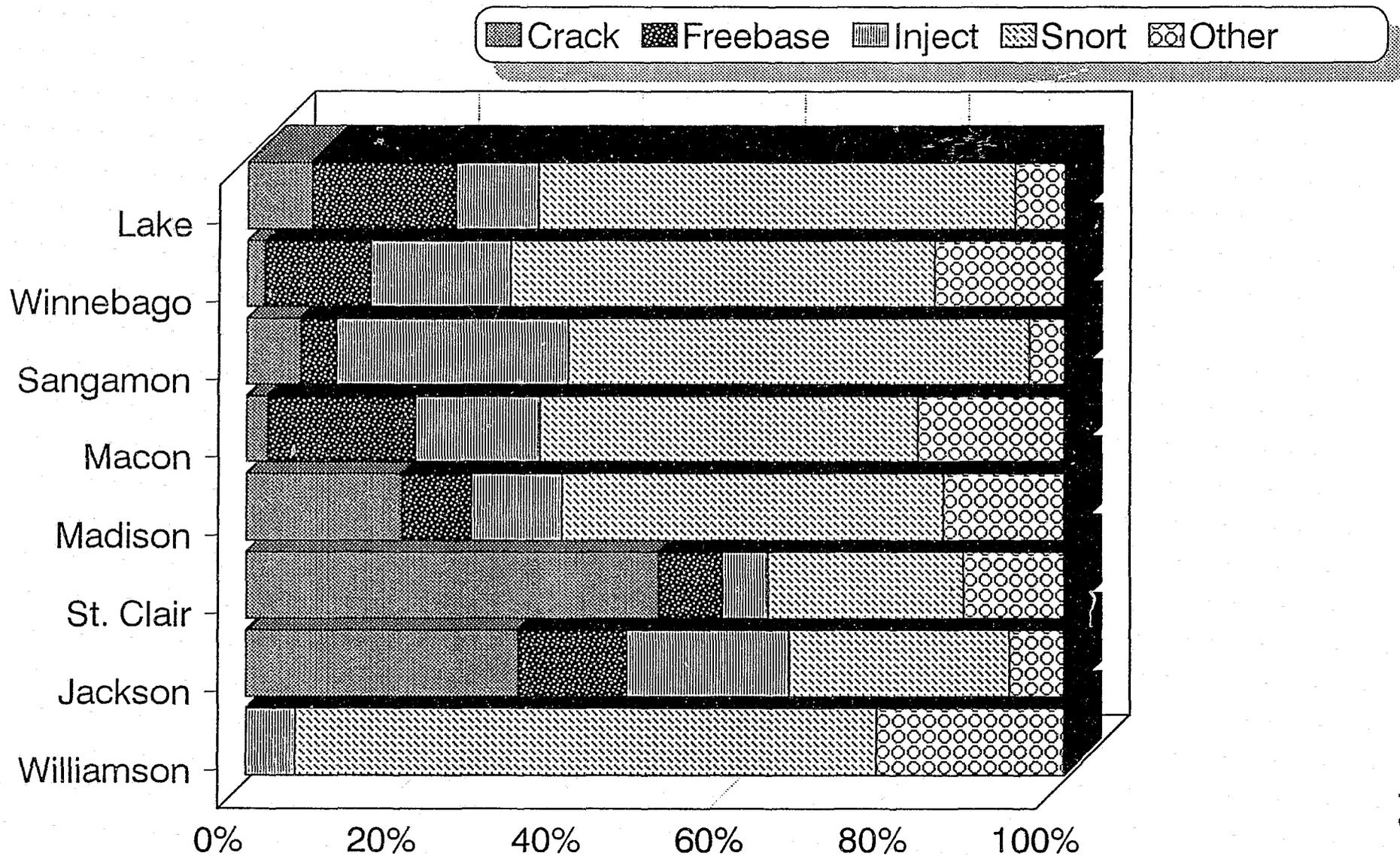
The increasing availability and use of cocaine in areas beyond Chicago and suburban Cook County over the past two years have been the focus of growing concern for both the criminal justice and substance abuse treatment communities. It is both interesting and informative to compare the DUF results obtained in this study with data gathered by the Illinois State Police (ISP) and local police departments that trace the spread of cocaine. The ISP data show that in 1990 and the first half of 1991, the counties where cocaine use was highest are those located in relative proximity to major metropolitan areas. St. Clair County is just across the Illinois-Missouri border near St. Louis. Winnebago County includes the city of Rockford, one of Illinois' largest cities outside of Chicago, and is directly linked to Chicago and suburban Cook County via the interstate. A recent ISP report indicates that the high rate of cocaine use in St. Clair County is attributable to a distribution channel established by Los Angeles based gangs (the Crips and the Bloods) that have established themselves in the St. Louis area and are now controlling the distribution and sale of cocaine in the poor neighborhoods and housing projects in East St. Louis, Illinois and beyond into southern and central Illinois (ISP, 1991).

Other data further suggest that the increasing levels of cocaine use in St. Clair County, and in the rest of the state, are attributable to the influx of a specific form of cocaine, crack. For instance, in 1989 the ISP reported virtually no seizures of crack cocaine in the entire state. In 1990, however, a total of 1,500 grams of cocaine were reported seized (ISP, 1991). Aside from Cook County, which includes Chicago, the St. Clair area was one of the first distribution points for crack cocaine in Illinois. A report issued by the Illinois Criminal Justice Authority (ICJIA), reveals that in 1990, seizures of crack cocaine sold in St. Clair accounted for 40 percent of all such seizures outside of Chicago (ICJIA, 1992). Figure 11, based on the statewide DUF data collected over roughly the same time period, supports these findings. Arrestees in St. Clair County had the highest self-reported rates of crack use by a considerable margin. Almost 50 percent of all St. Clair arrestees admitting cocaine use said their preferred route of ingestion was either crack or freebase cocaine.⁸ St. Clair was the only county in which smoking crack cocaine was preferred over snorting the cocaine powder. The next highest counties for percentage of crack users were Jackson and Madison, which are

⁸Technically, crack and freebase cocaine are not chemically equivalent, nor is crack a "purer" form of cocaine than cocaine hydrochloride or cocaine powder. Free base cocaine is made through a complex process whereby pure cocaine is extracted from the powder and then smoked. On the other hand, crack is made by combining cocaine hydrochloride with baking soda and then cooking the mixture in a test tube to create another smokable form of the drug. Unlike free base cocaine, crack contains all the original adulterants. Crack's potency is derived not from its purity, but rather from the fact that smoking is a much more efficient method of delivering greater concentrations of a drug to the central nervous system in a shorter period of time compared to insufflation or snorting (see Inciardi, 1992 for a detailed discussion of the origins and common misconceptions of crack).

Figure 11.

Self-Reported Preferred Route of Cocaine Ingestion by County



Percentages based on subsample of users admitting ever using cocaine (461/1,365 = 34% of sample).

located just to the north and south of St. Clair respectively. These data therefore further support the notion that St. Clair has been a primary port of entry for crack cocaine in the southern and central portions of the state.

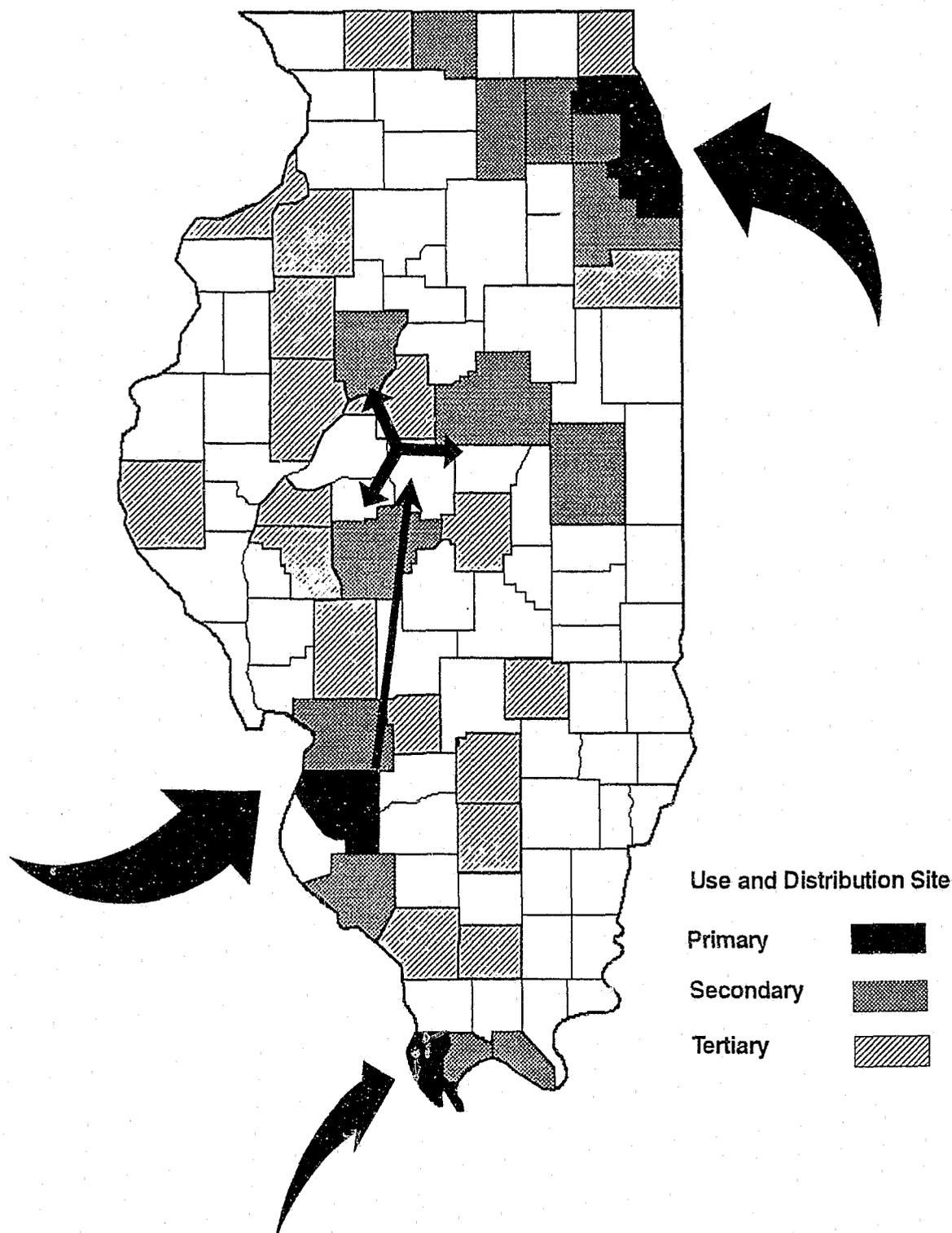
Since the time these data were collected, crack cocaine distribution and use have radiated out from St. Clair County, Chicago, and suburban Cook County to now include many more counties in the state. For instance, as of February 1991, 36 Illinois counties had experienced crack cocaine seizures of more than 1 gram compared to only 11 counties at the end of 1989 (ICJIA, 1992). The pattern of crack use and distribution as seen in Figure 12, appears to be one where the drug has been transported from St. Clair north to the larger central-state counties of Peoria, Sangamon, McClean, and Champaign, with counties lying on the distribution path also experiencing increased levels of crack cocaine use. According to the ISP, this distribution channel was established after Los Angeles based gangs infiltrated East St. Louis and displaced the local gangs who were then forced to seek out new markets in other communities. One of their first targets were the public housing projects in Springfield, followed by a rapid spread to other counties once the mid-state channels had become established. In the northern part of the state, Chicago was probably the first port of entry followed by the surrounding or "collar" counties and then radiating outward from these (ISP, 1991). To a lesser extent, Alexander County in the southern tip of the state, also appears to be another entry point for crack cocaine. For the most part, the distribution and use of cocaine has followed an opportunistic path determined by transportation routes (primarily access via air and train routes and the interstate highway system), population size (larger, urban centers are targeted first), and proximity to sites where crack use and distribution have already been established.

Were the DUF study to be repeated in 1992-1993, it is very likely that the proportions of arrestees testing positive for cocaine would be higher in most of the counties sampled and that there would be greater numbers reporting a preference for using crack cocaine as opposed to other forms of the drug. Whether the spread of crack to smaller urban and rural areas in Illinois brings with it the levels of violent crime seen in other areas of the country remains to be determined.

Alcohol Use

Despite the understandable concern over illicit drug use in general and the increase in crack cocaine use in particular, data based on TASC client usage in Illinois counties outside of Chicago reveal that alcohol abuse is still the main drug problem among arrestees. For example, in TASC's Springfield office, which provides assessment, placement and monitoring services to clients from both Sangamon and Macon Counties, 52 percent of all clients assessed between July of 1990 and June of 1991 reported that alcohol was their primary drug of abuse. The next highest reported primary drug used was marijuana at 11 percent. Other TASC offices located in, or providing services to

Figure 12.
The Pattern of Crack Cocaine Use and Distribution
in Illinois



the other counties surveyed in this study report similar figures.⁹

Although the DUF protocol does not include urine testing for alcohol, arrestees are asked about their alcohol use during the 72 hours preceding arrest. Figure 13 shows the results for the statewide sample. Because these data are based on self-report, and because an objective confirmatory measure is not available, their level of accuracy cannot be determined. Nevertheless, the uniformly high results across all sites is striking. The lowest level obtained was in Williamson County where over half of all arrestees reported some alcohol use within 3 days of arrest. In Winnebago County nearly three-fourths of the sample reported use of alcohol during the same time period. These data are consistent with the TASC client data that show high levels of alcohol use among criminal justice offenders throughout the state. The data are also concordant with the national figures (NIJ, 1991) suggesting that alcohol use by arrestees occurs at similarly high levels regardless of the size or compositions of the community or region. Perhaps the larger issue is that the current focus on illicit drug use should not displace or obscure the more pervasive and substantial problem of alcohol use and abuse by this population. Data on the relationship between drug and alcohol use and top arrest charge presented below further underscore this point.

Age at Arrest and Drug and Alcohol Use

Figure 14 illustrates the relationship between arrestee self-reported alcohol use, urinalysis results, and age at arrest. For this sample, both drug and alcohol use appeared to peak between the ages of 36 and 40 after which drug use begins to decline while alcohol use is maintained at the same level. No subjects under age 31 tested positive for opiates, possibly indicating that those who use narcotics do so after having first tried other drugs. Marijuana was the only drug where peak usage occurred in the younger age groups with arrestees in the 21 to 25 years of age range having the highest proportion of positive tests. Marijuana use then showed a steady decline by age group after this early peak. Excepting that the absolute levels of use are lower for the statewide data, the patterns of alcohol and drug use in relationship to arrest age are very similar to those of the national sample (see NIJ, 1991, page 22).

⁹The one exception to this pattern are the figures reported by TASC's Belleville office whose service area includes East St. Louis. As might be predicted from the data already presented, this office reports crack cocaine as the drug of choice for 38 percent of their clients compared to a level of 26 percent for alcohol.

Figure 13.

Self-Reported Alcohol Use by County

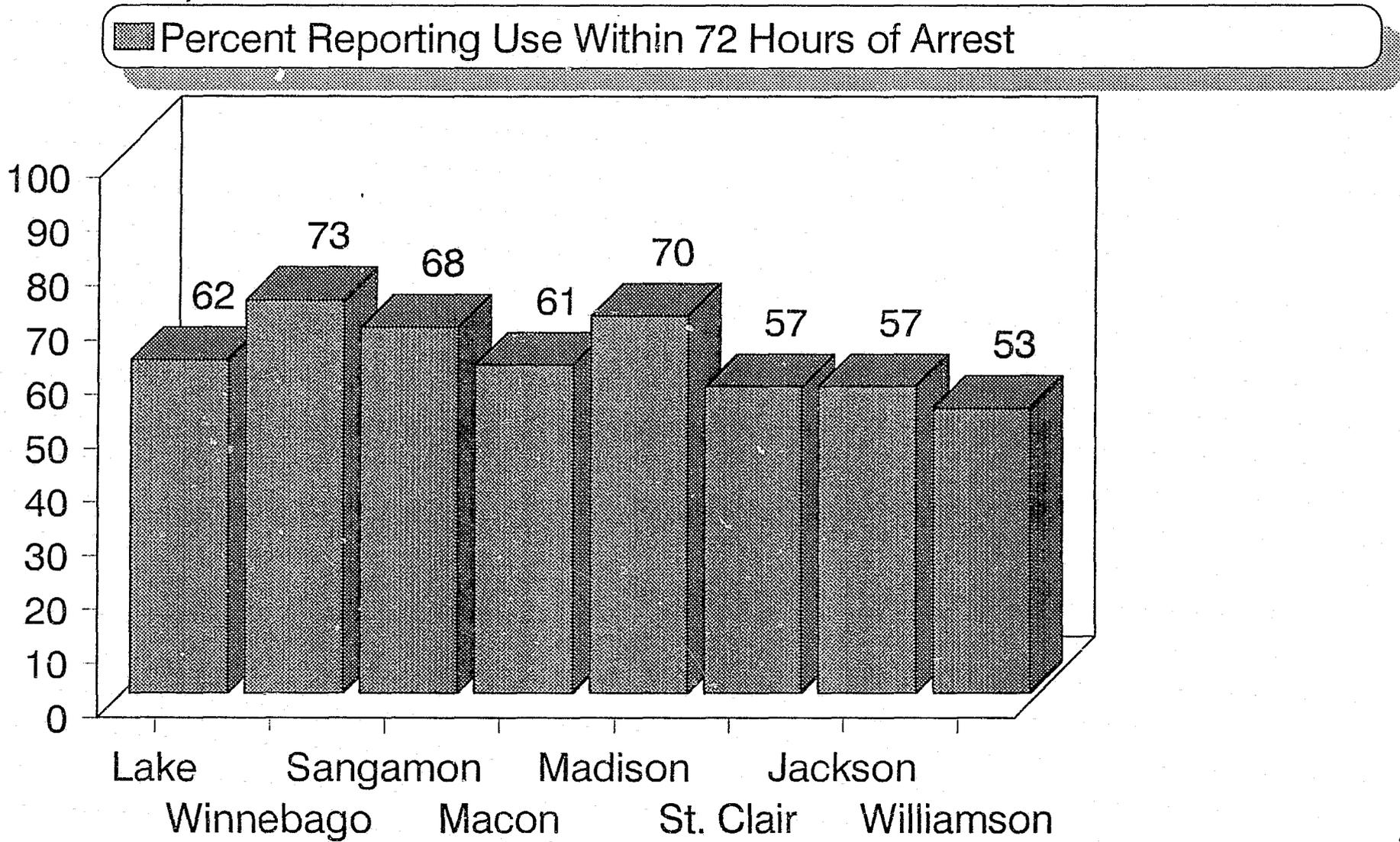
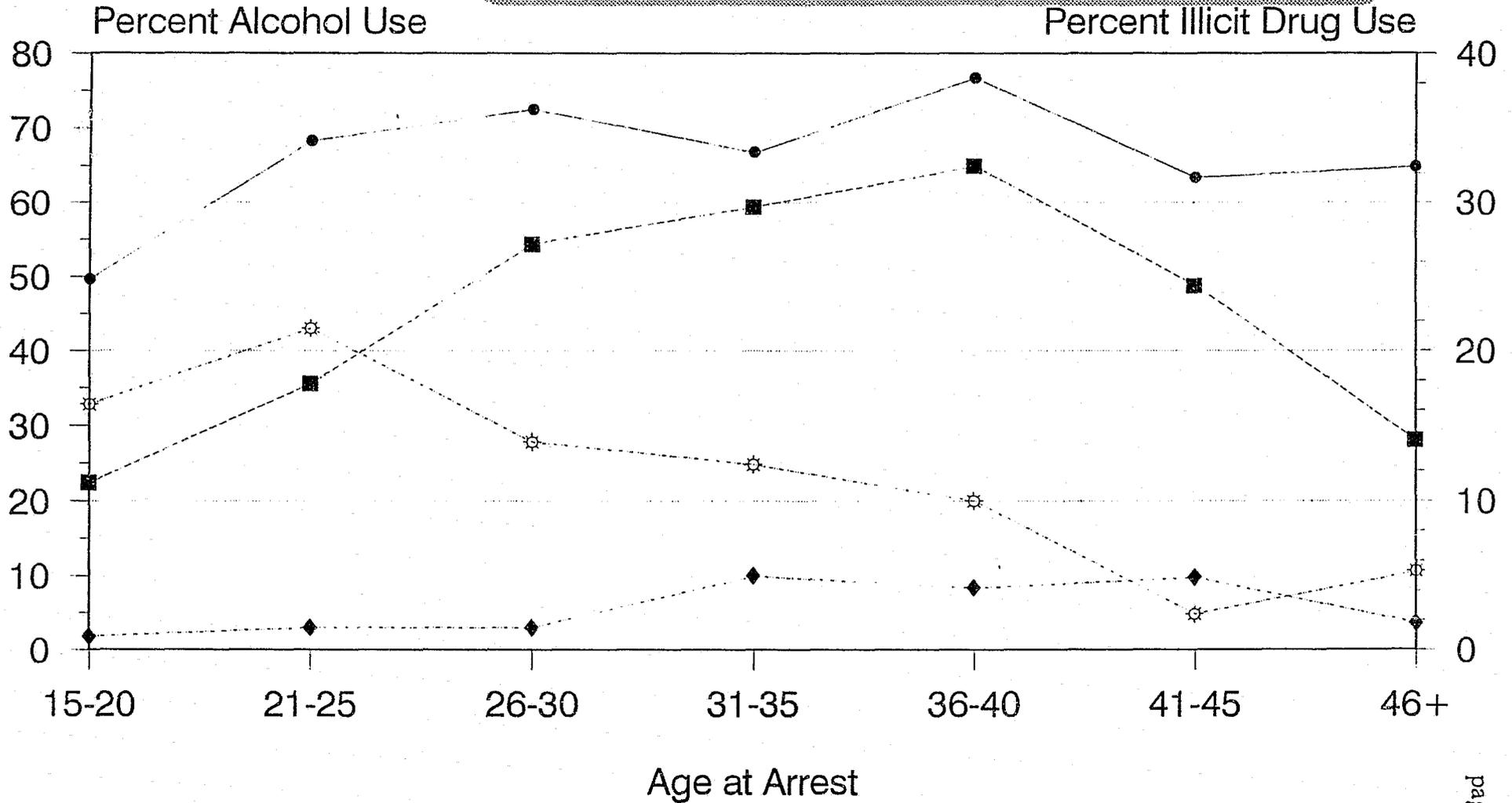


Figure 14.

Alcohol and Drug Use by Age at Arrest

● Alcohol ■ Cocaine * Marijuana ◆ Opiates



Charge at Arrest and Alcohol and Drug Use

In order to determine the relationship between alcohol use, drug use, and arrest charges, a hierarchical classification scheme was used whereby subjects were classified according to the most "serious" drug used. If subjects tested positive for opiates, they were classified in the opiate use group regardless of whatever other urine tests were positive (N = 30). Those testing positive for cocaine but not for opiates were placed in the cocaine use group (N = 268). Subjects who were detected to be using drugs other than cocaine or opiates were included in the other use group (N = 183) which consisted primarily of marijuana users. If a subject did not test positive for any drugs but reported using alcohol within 72 hours of arrest, they were classified in the alcohol use group (N = 528). Finally, subjects who did not test positive for any drugs and said they had not used alcohol prior to arrest were classified in the no drug use group (N = 348). Top arrest charges were then collapsed into 1 of 4 classes according to a scheme used in a prior NIJ study of DUF results (NIJ, 1991): violent, property crime, drug related, and other.¹⁰

The cross-tabulated results are shown graphically in Figure 15. The data reveal several patterns that are consistent with the literature and with the national DUF study. First, alcohol is the drug most closely related to the commission of violent crimes and second, that cocaine users are the most likely to be charged with drug related offenses such as possession and distribution (Collins, 1981; Johnson et al. 1985; McBride, 1976; Monahan, 1981). Beyond these main findings, the statewide DUF data also showed that of the drug using subjects, opiate users had the highest rate of arrests for property crimes and were the least likely to have been charged with a violent offense. Cocaine users were the most likely to be charged with a drug-related offense followed by the opiate group, users of other drugs, and alcohol users.

While these results are useful in illustrating the relationships between the use of different drugs and offense category, they are somewhat misleading because they imply the exclusive use of one drug or another. In actuality this is not the case, particularly when it comes to alcohol use in conjunction with illicit drugs. About 73 percent of the subjects in this study who tested positive for opiates, cocaine, and other drugs also said that they had used alcohol. Thus, it is possible to compare the arrest charges of those using both illicit drugs and alcohol with those using only illicit drugs. Figure 16 reveals a consistent pattern whereby alcohol use appears to make violent crime more likely to occur: when alcohol is used in combination with illicit drugs, the chances of an arrest

¹⁰Violent charges includes assault, family offense, homicide, robbery, sexual assault, and weapons. Property includes burglary, larceny/theft, forgery, fraud, possession of stolen property, and auto theft. Other includes traffic offenses, arson, destruction of property, resisting arrest, extortion, gambling, prostitution, obscenity, and miscellaneous offenses.

Figure 15.

Arrest Charge Category by Alcohol and Drug Use

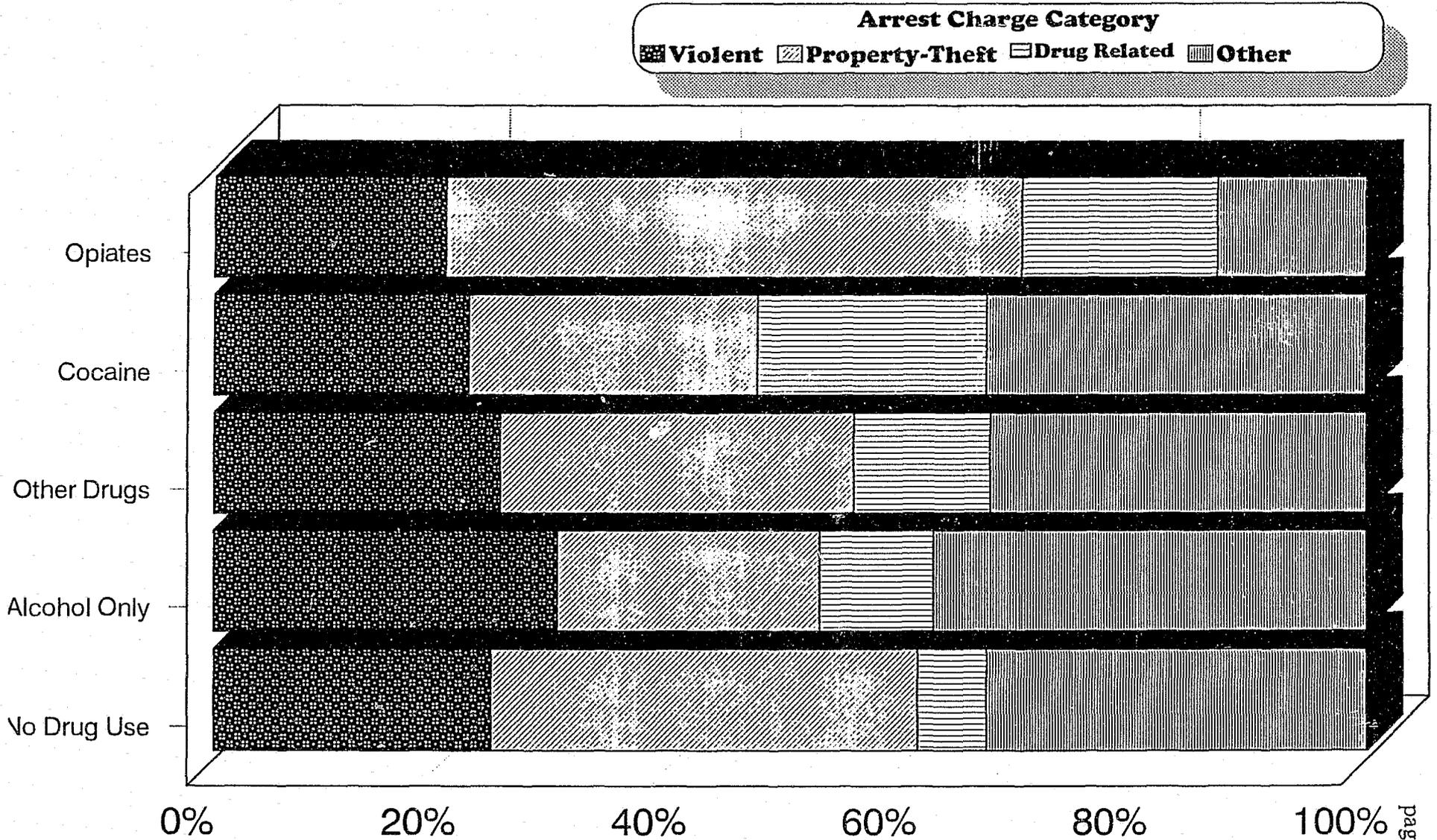
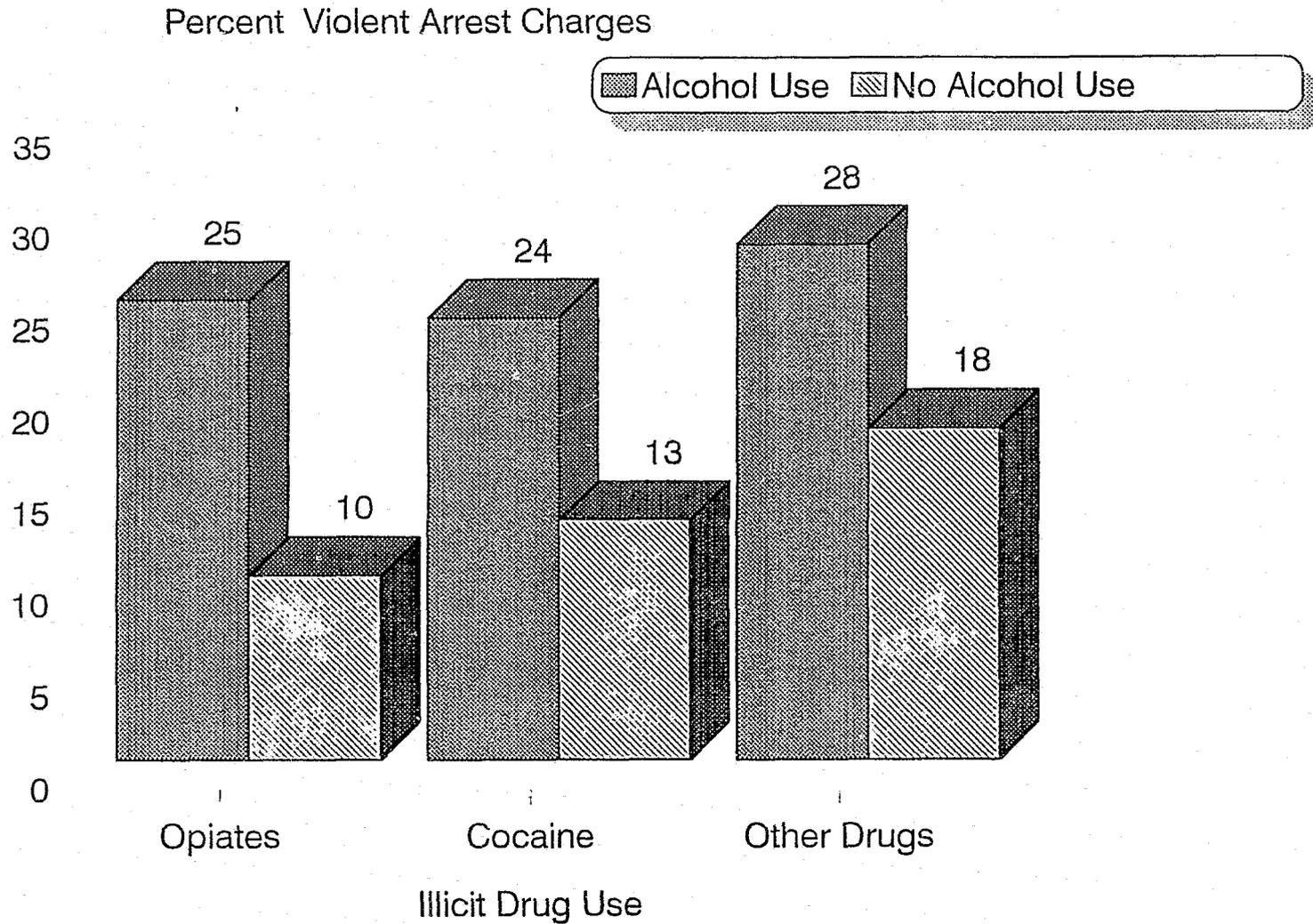


Figure 16.

The Effect of Alcohol Use in Conjunction With Illicit Drug Use on Violent Arrest Charges



for a violent crime are substantially increased. For example, 25 percent of opiate users who said that they had been using alcohol were arrested for a violent charge compared to only 10 percent of those who reported no alcohol use. Similarly, 24 percent of the alcohol and cocaine users were arrested for a violent crime as opposed to 13 percent of those with no alcohol use.

Care must always be taken in extrapolating from arrest data to the overall pattern and intensity of criminal behavior. A large body of research has found that arrests may represent as little as 1 percent of the total number of crimes committed by addicts (Nurco et al., 1990). However, these results highlight the importance of addressing the problem of alcohol use by the criminal justice population because of its pervasiveness and its established relationship to violent behavior (Collins, 1981; Monahan, 1981).

The Validity of the Self-Report Data

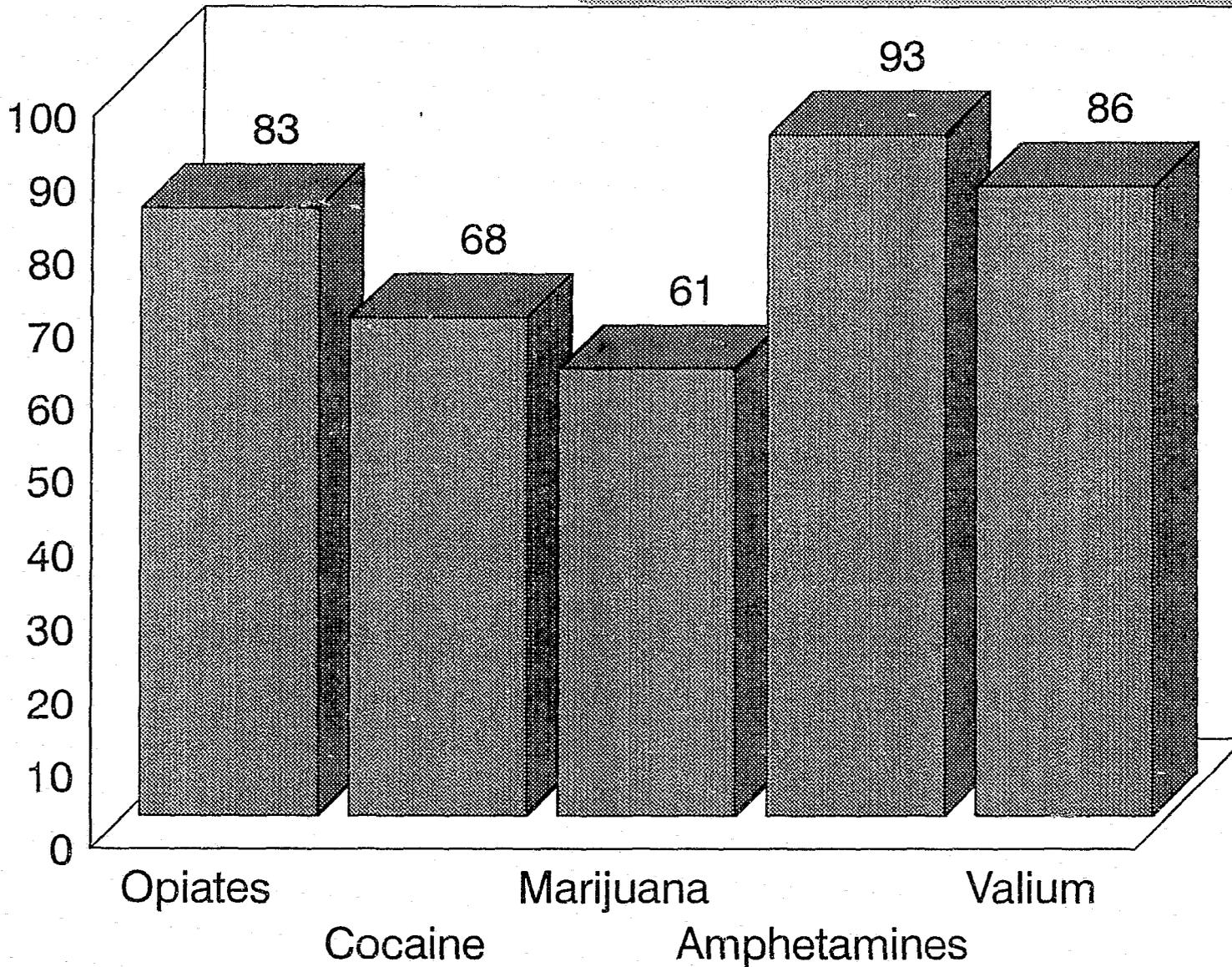
In the previous sections, drug use by offenders included in the statewide DUF study was presented in terms of the urinalysis results. In this section, the validity of the self-report data are assessed by comparing them with the urinalysis results. Figure 17 presents a graph of the percentages of arrestees testing positive for a given drug who denied using that drug within 72 hours preceding arrest. The results show that the majority of arrestees lied about their drug use during the interview. Moreover, the degree of misrepresentation by the statewide DUF subjects is much higher than that of the Chicago DUF subjects. In a report issued by the National Consortium of TASC Programs in 1989 (NCTP, 1989), 53 percent of all opiate and cocaine users denied use of these particular drugs. In contrast, for the Illinois statewide study, the denial rates were 83 percent of the opiate and 68 percent of the cocaine users.

It appears then, that drug using arrestees in smaller communities are even less likely to be honest about their drug use than their peers in larger metropolitan areas, who are not particularly truthful either. The reasons for this are purely speculative but one possibility may have to do with the concerns over anonymity. As mentioned, the two state wide DUF studies (i.e., the current study and the one conducted by the Oregon TASC program) have experienced lower participation rates than those reported nationally and the lower rates have been attributed principally to subjects' increased concerns over anonymity in the smaller settings. It could be that the low validity of the self-reported drug use echo these same concerns among subjects who do participate. They also indicate that the need for objective monitoring of drug use among arrestees in smaller communities is at least as important as in larger communities, if not more so.

Figure 17.

The Validity of Self-Reported Drug Use for Selected Drugs

Percent Testing Positive Who Denied Use



AIDS Risk

The current literature on AIDS reports that the following risk behaviors greatly increase the chances that Intravenous Drug Users (IVDUs) or their partners will become infected with HIV, the virus that causes AIDS (e.g., Chitwood et al. 1991; see also Inciardi, 1992 for colorful and detailed but jarring anecdotal reports of the sexual and drug use practices in a Miami community of addicts):

- The relatively common practice of sharing needles and/or works either with a running partner or in shooting galleries. HIV infection occurs when an uninfected IVDU shoots up with a needle or uses the works of an infected user.
- The spread of HIV infection from IVDUs, who have become infected because of their drug use, to their non-drug using sexual partners through unprotected intercourse.
- Repeated anonymous sexual encounters in order to exchange sex for drugs or drugs for sex, particularly among freebase and crack cocaine users. This is a particular hazard for female users (see NCTP, 1990), but increased promiscuity related to cocaine use has also been described for males (Inciardi, 1992).

Only limited data on this topic are available through the DUF questionnaire and given the validity of the self-reported drug use noted in the previous section, the validity of the information provided on AIDS risk behaviors must also be called into question. Given that the majority of subjects who tested positive for opiates or cocaine denied use, it is unlikely that they were candid about their injection practices. Only about 10 percent (N = 133) of the total sample said that they had ever injected drugs with 43 percent of these (N = 58) saying that they have also shared their needles. The majority of those who reported sharing needles, 64 percent, said that they have stopped this practice though almost half of the injecting subjects also said that they had, in fact, shared needles since they heard about AIDS. Injecting drug users who had never shared needles were about equally split over why they had not done so: 47 percent said they didn't share because of AIDS while the remainder had other, unspecified reasons for not sharing. At best, these results can be taken as minimal estimates of the magnitudes of injection drug use and needle sharing in the 8 communities. It is probable that the actual level of risk associated with these practices is significantly higher.

Per the DUF questionnaire, subjects are asked to report on the number of sexual partners over the past year. In a prior study of female DUF subjects, there was a clear relationship between cocaine use, particularly crack and freebase cocaine, and increasing numbers of sexual partners (NCTP, 1991). In order to determine if the same

relationship holds for male arrestees, subjects were classified into one of three groups depending on their self-reported route of cocaine ingestion: no reported use (N=720); snorting (N = 198); or crack, freebase, or injection (N = 205). A 3-way analysis of variance was then done using the method of cocaine ingestion, ethnicity, and age group as the independent variables. The dependent variable was the number of sexual partners in the past year.¹¹ Using this model, all 3 main effects were significant; the number of sexual partners was influenced by the preferred route of cocaine administration, ethnicity, and age. However, none of the higher order two-way or three-way interactions reached significance.

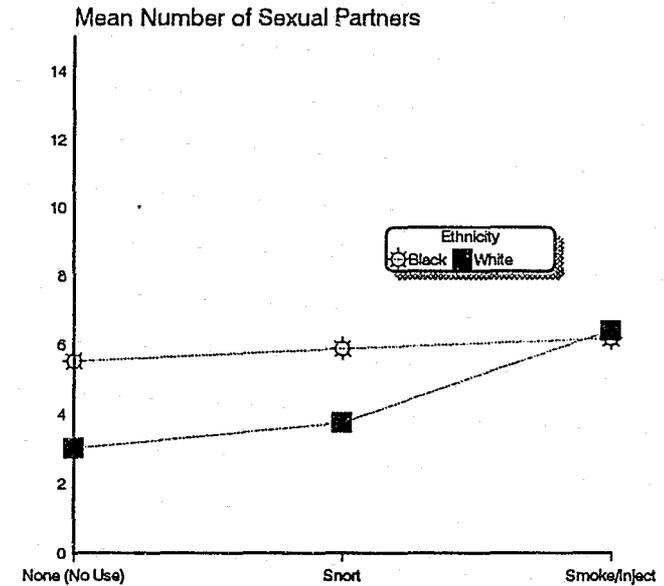
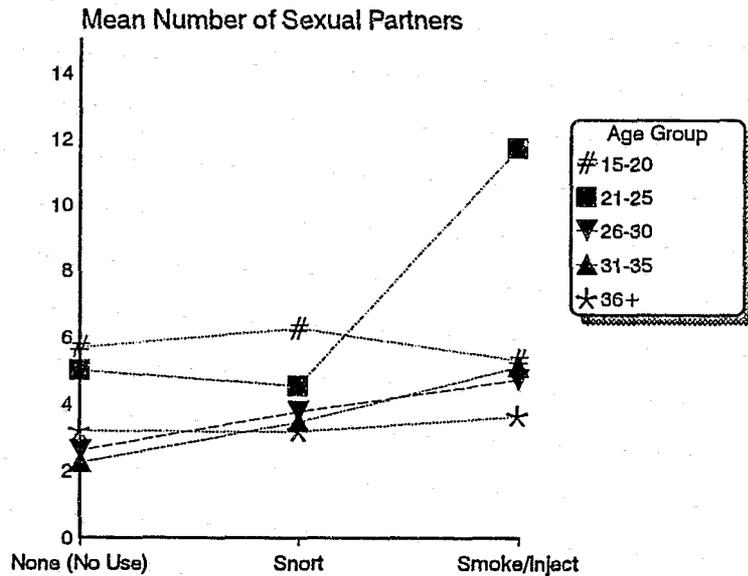
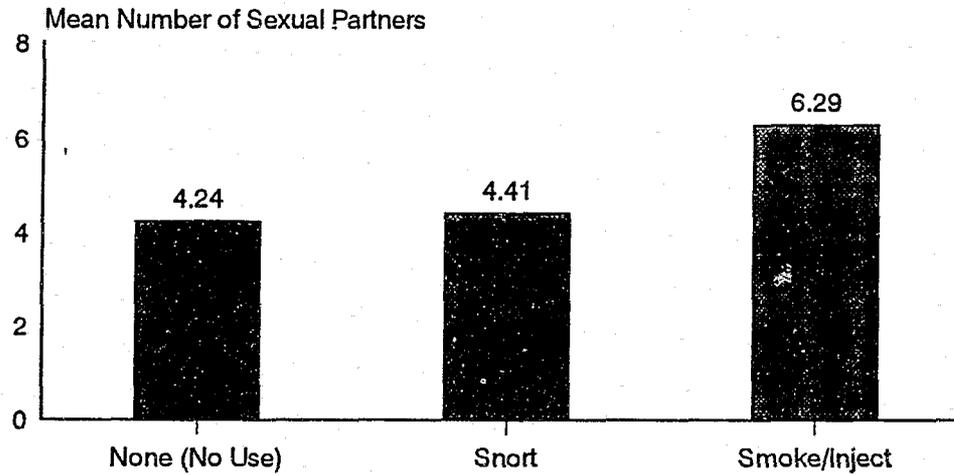
The results are illustrated in Figure 18, which contains 3 separate charts of the mean values for number of sexual partners by preferred route of administration, age group, and ethnicity. In the bottom two charts, the two-way interaction effects with preferred route of administration are plotted. Although these effects were not significant, they reveal interesting trends in the data that are worth presenting. The top chart in Figure 18 shows that, as with the female arrestees included in the NCTP study, the number of sexual partners tends to increase when cocaine is smoked or injected. Unlike the female arrestees however, the male arrestees who said they preferred snorting cocaine did not report greater numbers of sexual partners over those who said they did not use cocaine in any form. The bottom left chart shows the relationship between age group, route of administration, and preferred route of ingestion. On average, younger subjects, especially those between the ages of 17 and 25, had the highest number of sexual partners. For most age groups, the route of administration did not make much of a difference. However, for subjects between 21 and 25 years old who said that they smoked or injected cocaine, the difference was dramatic. Subjects in this group reported a mean number of 11.5 sexual partners in the past year compared to the sample mean of 4.6 partners. The third chart, located at the bottom right of the figure, shows that the main effect of ethnicity is due to the fact that black subjects, regardless of their cocaine use, reported having more sexual partners than white subjects. However, the chart also shows that the route of cocaine administration tended to

¹¹The distribution of the reported number of sexual partners was somewhat right skewed because a few subjects reported having many hundred partners in the past year. To correct for this, responses over 100 were recoded to 100, thus limiting the maximum possible response. Analyses were then run using both the raw and the recoded values of the dependent variable with the two models producing identical results; only the main effects were statistically significant. The results reported in the text are based on the analyses using the truncated responses.

~ A related issue is that these results are based only on self-reported cocaine use. Since many subjects misrepresented their cocaine use, some of the subjects in the No Use group are, in fact, cocaine users. To determine if this had any effect on the results, subjects in the No Use group who tested positive for cocaine were reclassified into the Snorting group. When the analyses were repeated using this configuration of subjects the results were again the same.

Figure 18.

Mean Number of Sexual Partners by Preferred Route of Cocaine Administration, Age Group, and Ethnicity



increase the number of sexual partners only for white subjects. Black subjects, regardless of their cocaine use, maintained consistent levels.

Because the validity of the self-reported drug use information was low, and because the information on sexual partners may be equally suspect, these results must be interpreted cautiously. They suggest that there may be an increased risk for HIV infection among cocaine users who use either crack or freebase cocaine or who inject the drug because these users also tend to engage in sex with greater numbers of people. In particular, younger users and white users are affected the most. Because none of the interactions were significant, however, the data do not show that white, 21 to 25 year old crack users have the most sexual partners; in other words, the effect attributable to age is not dependent on either ethnicity or on preferred route of administration though the data do show trends in these directions. Another limitation to the interpretation of these results is that an increased number of sexual partners is much more of a risk factor for HIV infection if unprotected sex is practiced. Lacking information in this regard (i.e., the degree to which those with greater numbers of sexual partners practiced safe sex), it is difficult to assess the absolute level of risk. However, anecdotal reports, which must also be interpreted cautiously, and data derived from ethnographic studies indicate that, in fact, many drug using offenders do not practice safe sex (or curtail their needle sharing) in spite of an awareness of the risk of HIV infection (Chitwood et al., 1991; Inciardi, 1992).

Substance Abuse Treatment History and Perceived Need

The last section of the data to be presented is the substance abuse treatment histories of the subjects presented in Table 3. These data are similar to past reports based on Chicago subjects (e.g., NCTP, 1989). Nearly three-fourths of the subjects (72.6 percent) have never received treatment for either drug or alcohol abuse. Less than 2 percent were in treatment at the time of arrest. Unfortunately, at the same time and despite the facts that 40 percent tested positive for an illicit drug and well over 50 percent reported alcohol use preceding arrest, only 25 percent thought that they needed any kind of treatment. If treatment on demand were a readily available option for these arrestees, a large supposition, many would probably enter only with the coercion of the criminal justice system. Such coercion, however, has been shown to be an effective source of external motivation for this population with coerced treatment subsequently reducing the levels of both criminal activity and drug use (Leukefeld & Tims, 1988).

Table 3. Treatment History and Perceived Treatment Need by County

County	Lake		Winnebago		Macon		Sangamon		Madison		St. Clair		Jackson		Willameon		Totals		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Have you ever had treatment?																			
No	185	71.7	178	72.4	179	85.2	101	72.1	138	78.9	137	58.5	38	70.4	37	72.5	991	72.6	
Yes, Drug Only	13	5.0	12	4.9	7	3.3	6	4.3	6	3.4	11	4.7	2	3.7	0	0.0	57	4.2	
Yes, Alcohol Only	23	8.9	31	12.8	12	5.7	8	5.7	19	10.9	24	10.3	10	18.5	8	11.8	133	9.7	
Yes, Drug & Alcohol	35	13.6	19	7.8	10	4.8	14	10.0	10	5.7	18	7.7	4	7.4	8	15.7	118	8.6	
Missing	2	0.8	5	2.1	2	1.0	11	7.9	2	1.1	44	18.8	0	0.0	0	0.0	66	4.8	
Are you in treatment now?																			
Yes	4	1.6	4	1.6	0	0.0	1	0.7	2	1.1	5	2.1	1	1.9	3	5.9	20	1.5	
Do you need treatment now?																			
No	194	75.2	174	71.8	176	83.8	100	71.4	141	80.8	156	66.7	39	72.2	38	74.5	1018	74.8	
Yes, Drug Only	16	6.2	11	4.5	7	3.3	9	6.4	3	1.7	26	11.1	2	3.7	1	2.0	75	5.5	
Yes, Alcohol Only	22	8.5	38	15.8	11	5.2	17	12.1	18	10.3	29	12.4	7	13.0	11	21.8	153	11.2	
Yes, Drug & Alcohol	24	9.3	18	7.4	12	5.7	13	9.3	12	6.9	22	9.4	5	9.3	1	2.0	107	7.8	
Missing	2	0.8	2	0.8	4	1.9	1	0.7	1	0.6	1	0.4	1	1.9	0	0.0	12	0.9	
Totals	258	18.9	243	17.8	210	15.4	140	10.3	175	100.0	234	100.0	54	100.0	51	100.0	1365	100.0	

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**The Illinois Statewide Drug Use Forecasting Project:
Final Results**

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**DATA CENTER AND
CLEARINGHOUSE
FOR DRUGS AND CRIME**

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