2-1-1996

The Self-Reported Need for Treatment Among an Arrestee Population: Results of the Omaha Drug Use Forecasting Program

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THE SELF-REPORTED NEED FOR TREATMENT AMONG AN ARRESTEE POPULATION: RESULTS OF THE OMAHA DRUG USE FORECASTING PROGRAM

A Thesis

Presented to the

Department of Criminal Justice

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirement for the Degree

Master of Arts

University of Nebraska at Omaha

by

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February 1996

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789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

ACCEPTANCE PAGE

THESIS (OR THESIS-EQUIVALENT PROJECT)
(OR ED.S. FIELD PROJECT) ACCEPTANCE

Acceptance for the faculty of the Graduate College,
University of Nebraska, in partial fulfillment of the
requirements for the degree Master of Arts,
University of Nebraska at Omaha.

Committee

Name	Department/School
Vincent J Webb	Criminal Justice
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Mary Ann Remmers	Sociology

Chairperson Vincent J Webb

Date 3/8/96

ABSTRACT

Over the past 30 years, the use of self-reported data paired with urinalyses testing for estimating drug use has received increasing popularity in the field of criminal justice. Since 1987, the city of Omaha, Nebraska has been collecting self-reported data and urinalyses results from its arrestee population. The purpose of this thesis is to examine several demographic and situational variables related to the self-reported need for treatment among an arrestee population. Data were obtained from 4,255 arrestees who participated in the Omaha Drug Use Forecasting (DUF) Program from 1990 to 1995. Initial evidence suggests that those arrestees who are closely tied to standard social institutions are more likely to self-report a need for treatment. In addition, those arrestees who had recently used a drug (s) were also more likely to self-report a need for treatment.

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ACKNOWLEDGEMENTS

Much thanks is due to a number of people. First of all, I would like to thank everyone in the Department of Criminal Justice at the University of Nebraska at Omaha. The education and experience was first rate. A special thanks goes out to Vincent Webb, Ph.D. and Miriam Delone, Ph.D. I would like to thank Vince for all of his guidance on this thesis and for all of his support on other projects. Numerous opportunities awarded to me by Vince allowed for the completion of this project and overall knowledge in other areas. I am deeply grateful.

Thanks to Miriam for all of her assistance. Her ideas, suggestions, and recommendations helped make this thesis possible. She has been a role model for me since I first met her over two years ago. Her sincerity and true desire to teach will never be forgotten. A special thanks is extended to Mary Ann Lamanna, PH.D., who was also on my thesis committee-- thank you for all of your input. Thank you to all of my committee for their time, effort, and expertise. You guys were outstanding.

All of this could not of been as successful without the encouragement of my family. I owe a big thanks to my husband, Vincent Perez. His support, understanding, and patience keep me going when it seemed easier to quit. At times when this project took on a life of its' own, he was always there to encourage me. The late nights and last minute proof-readings are more appreciated than he will know.

I would like to thank Dorcas Elliot-Haddock, Ph.D. Dee has been an inspiration for me since my years as an undergraduate. Her desire for me to succeed and fulfill my potential has helped guide me to this point. She is an exceptional woman. I will be in debt

to her for all of my life. Deep gratitude to the rest of my family for all of their encouragement and support. Thank you everyone!

INTRODUCTION

America's War on Drugs has two purposes: to eliminate the sale/distribution of drugs and to discourage the possession and use of narcotics. It is assumed, to possess drugs either means an individual has the intent to sell the substance or to use it for personal means. In addition, it is assumed if an individual is using drugs, he/she has the potential need for drug treatment. A secondary effect of the War on Drugs has been to heighten the public's awareness of those who are using drugs; hence, those who are likely candidates for drug treatment.

There are several pieces of on-going research that attempt to measure the involvement of individuals with drugs. Research on drug use reveals information such as trends in drug use, attitudes towards drugs, and identification of a drug-crime relationship. One recent program used to assess drug use is the Drug Use Forecasting Program (DUF) sponsored by the National Institute of Justice. The DUF program monitors drug related behaviors among a special population: America's arrestee population.

The Drug Use Forecasting data consists of treatment, demographic, and situational information collected in an interview format. The purpose of this thesis is to examine the Omaha DUF data and offer initial findings on the relationship between demographic and situational characteristics and an individual's perception of his/her need for drug treatment. The DUF information is important beause an individual is reporting whether they need and/or want treatment. Although the interview is anonymous (use of a coded number

attached to the interview), a general picture of who is asking for treatment can be derived. As Marshall and Webb (1993: 21) offer, "If the premise that the first step to effective substance abuse treatment is the expression of the need for treatment by the abuser, then analysis of Drug Use Forecasting data can be potentially useful in helping to identify target subpopulations of arrestees that are ready to take the first step."

This thesis will address nine main issues, beginning with "History: America's War on Drugs". The war on drugs will be discussed here to introduce America's relationship to drugs and to show that by choosing to adhere to an anti-drug regiment the government has created a special group of offenders, a group of individuals who are now the State's responsibility and who must be dealt with in a unique manner. The second section will address the "Extent of the Drug Problem and the Drug-Crime Connection". How we come to the conclusions we have about the drug problem and the drug-crime connection will be offered in the third section, "Methods for Estimating Drug Use in the United States".

The methods for estimating drug use are central to this thesis; therefore, a discussion of how they are administered, upon what group they are administered, and what types of errors can and do exist will receive attention in the fourth section, "Issues in the Measurement of Drug Use". Since the DUF Program uses urinalysis testing as a cross reference to self-reported data, "Issues in Urinalysis Testing" are covered in section five. In particular, validity and reliability issues surrounding urinalysis testing will be discussed.

Just as it was important to establish the climate surrounding drug involvement in this country, it is also particularly important to discuss "Drug Treatment in the United

States", the sixth section, since we are talking about a section of the population who exhibits the potential need for drug treatment. The seventh and eighth sections ("Why Drug Use Forecasting to Identify Substance Abusers" and "Drug Use Forecasting: Relevancy to the Present Study") will tie together the Drug Use Forecasting Program's role with the rest of the information in this thesis. The final portion of this thesis will be devoted to an "Analysis" section where a description of the present study, analysis of the present study, a summary of the analysis, and a conclusion of the findings can be found. In addition, policy recommendations will be offered.

HISTORY: AMERICA'S WAR ON DRUGS

The issue of whether to treat or to prosecute substance abusers has been a pressing issue for the criminal justice system. Arguably, no other concern has forced the criminal justice system to evaluate this question more than the "War on Drugs". In recent years, the war on drugs has become a highly debated topic both on a political level and on a social level. Politically, issues of cost effectiveness continue to burden the system while social issues such as the creation of an underclass (Currie, 1992) and how to deal with substance abusing criminal offenders continue to be debated.

All entities of the system have been touched by the aggressive anti-drug tone. The police, the prosecution, the courts, the jails, the prisons, probation, and diversion programs have become overwhelmed simply by having to deal with this particular group of offenders. And, not only is there a large influx of this group of offenders, there are also

those offenders who enter the system on other, non-drug offenses that are themselves substance abusers. Some see this significant increase of offenders into the system as a success, but others see it as a waste of time, effort, and resources, both material and social.

In the mid-1980's the "War on Crime" took a shift in focus and adopted a specific goal to combat narcotics and so, the "War on Drugs" was born. Or was it? America's war on drugs is not a new concept. Since the late 1800's society and the American legal system have concerned themselves with those who are involved in theuse and sale of illegal substances. The current war on drugs is merely a continuation of a long, on-going drug-reactive political agenda. The presence of narcotics in the United States has been documented since the 1800's (Bureau of Justice Statistics, 1992b). Early in the twentieth century numerous factors such as, advances in chemistry and medicine, social and political changes, and the passage of legislation contributed to the regulation of narcotics (Bureau of Justice Statistics, 1992b; Helmer, 1975; Inciardi, 1990). These advances in chemistry and medicine began to expose the properties, side-effects, addictive, and even lethal potential of certain drugs. Narcotics such as opium, cocaine, and morphine could be found in such common over the counter medicines as cough syrups, pain killers, "women's friend", and even in the soda pop Coca-Cola. So, from a medical, chemical aspect, a need to curb Americans' reliance on such substances was being called upon.

Separate from a concern about the physical influences of narcotics, concern about substance abuse can also be traced to political influences and medical influences. One

theory offered by Helmer (1975: 20), is that it was "economic goals and motivation.....an underlying pattern of economic crisis and class conflict" that initiated the regulation and then prohibition of narcotics in the United States. Specific examples Helmer uses include: the Chinese Opium Crusade, Blacks and Cocaine, and Mexicans and Marijuana. Issues of race, economic potential, and class/power struggle were all influential factors in generating government involvement.

A third key factor contributing to the reform movement was legislation. Two major pieces of legislation were passed restricting and/or regulating the availability of narcotics. In 1906 the Pure Food and Drug Act was passed prohibiting the interstate transportation of adultraded or misbranded food and drugs. Then, in 1914 the Harrison Narcotics Act was enacted thereby imposing standards of quality, packaging, and labeling. This Act also included criminal penalties for violations of its' guidelines. As stated by Inciardi (1990: XIII), "collectively these (the two acts) served to place controls over the manufacture, sale, and distribution of a variety of substances." Primarily the "substances" referred to were opium, morphine, heroin, and cocaine.

Before the passage of the 1906 Food and Drug Act and the 1914 Harrison Narcotics Act, narcotics use was accepted and wide spread throughout all levels of society. However, as history has shown, when the government stigmatizes something and/or prohibits it, an alternative in the form of a black market surfaces to fulfill the supply and demand needs. This was the case with the enactment of the two regulatory acts and later prohibition. Helmer (1975: 6) states, "the pattern of working-class or lower-class

narcotics use--which has been the acknowledged one since 1920, along with the related delinquency and crime required to finance drug purchases on the black market--have been the 'effect' of the legislation, and an unintended one at that." Moreover, for the first time a drug-crime connection is recognized. The drug-crime connection will be discussed further in a later section.

In the years to follow, federal divisions to combat drugs were created and other pieces of legislation were passed further limiting and penalizing the possession of narcotics. In the 1930's the Federal Bureau of Narcotics was created to enforce the Harrison Narcotics Act of 1914. In 1937 the Marijuana Tax Act was passed placing the substance under the same controls as its predecessors. During the 1950's (the Boggs Act, 1951 and the Narcotics Control Act, 1956) federal sanctions for drug violations increased, including severity of criminal penalties carrying mandatory minimum sentences. Primarily at this point violations were in relation to import/export laws and internal revenue laws (Bureau of Justice Statistics, 1992b).

In the early 1960's responsibility for monitoring narcotics was shifted to the Department of Justice (DOJ) and the Bureau of Narcotics and Dangerous Drugs. Amphetamines and barbiturates received much attention during the 1960's. In the 1970's, under the Controlled Substance Act, a "common standard of dangerousness to rank all drugs rather than focusing on specific substances" was created (Bureau of Justice Statistics, 1992b: 84). In 1973 the Drug Enforcement Administration (DEA) was created thereby absorbing any previous narcotics divisions. Initially, the DEA's (placed within the

DOJ) main goal was international supply reduction (Bureau of Justice Statistics, 1992b). By the 1980's an increased interest in controlling supply and later to control demand, flourished. In 1982 the DEA was moved into the Federal Bureau of Investigations (FBI). The 1984 Comprehensive Crime Control Act expanded forfeiture laws, targeted pretrial detention of serious drug offenders, established determinate sentencing, and increased drug offenses penalties. Only two years later, in 1986, the Anti-Drug Abuse Act was passed. Under the 1986 Act, money was budgeted for prevention and treatment programs, enforcement (stiffer sanctions, mandatory prison terms, and international controls) was further strengthened, designer drugs were added to the drug schedule, and law enforcement grants were created to assist local agencies. Although this was not the first time money had been budgeted for such assistance, it was the first time a strong emphasis was placed on these issues. Only two years following the 1986 Act, the 1988 Anti-Drug Abuse Act was passed. Here again, harsher penalties were imposed, even more money was budgeted to prevention and treatment, and coordination of federal anti-drug efforts were established (Bureau of Justice Statistics, 1992b). In 1989, President Bush appointed a "Drug Czar" to oversee the war on drugs efforts.

The 1990's have seen no change in agenda; only furtherance of this "get tough" approach. As exemplified by the 1990 Crime Control Act, appropriations for local and state assistance were doubled, education programs were expanded, penalties for manufacturing, trafficking, international provisions, and drug-free zones were all heightened and treatment programs were funded but not to the extent as in previous

provisions. Although not directly a drug act, the 1994 Crime Bill does incorporate provisions (100,000 new officers and "three strikes you are out" rule) related to handling drug offenses.

THE EXTENT OF THE DRUG PROBLEM AND THE DRUG CRIME CONNECTION

For 100 years now the United States has been getting tough on drugs. However, the last 10 years of rigorous enforcement has greatly impacted the criminal justice system and the public. Since 1982, as reported by state and local officials, drug violations have increased 144.6 percent for the sale and manufacturing of drugs. And, arrests for the possession of drugs have increased 25 percent (Bureau of Justice Statistics, 1992a). The 1990 Uniform Crime Reports (Federal Bureau of Investigations, 1991) estimates that 1.1 million drug arrests were made by state and local agencies, and another 21,799 arrests were made by federal agencies.

Since the American justice system operates off a "chain reaction" effect, the impact of individual increases are felt throughout all facets of the system. Between 1983 and 1989, 147 percent more drug offenders were detained in jails where as federal prisons had an increase of 36 percent from 1980 to 1991. That is to say in 1991, 58 percent of all admissions to federal prisons were drug offenders. In state prisons, 26 percent of addmissions are drug offenders, th elargest single category (Bureau of Justice Statistics, 1992a).

The decision to prosecute these cases hovers around 75 percent (Bureau of Justice Statistics, 1992c). What this means is that if all drug cases were prosecuted, there would be a 25 percent increased drug caseload for the courts to handle and a significant increase in the probation, jail, or prison population. Of the cases that were prosecuted in 1990, federal courts convicted 86 percent (the equivalence of 18,698 offenders) of all drug cases heard (Bureau of Justice Statistics, 1992c).

In contrast to the prison statistics, national self-report studies suggest that the general population's drug usage has been on the decline for over 20 years. The overall trend shows that use of most drugs rose in the late-1970's, peaked between 1979 and 1982 and has sharply declined since then (Bureau of Justice Statistics, 1992b; Johnson et al., 1991). Similar findings are reported by the High School Senior Survey. For example, marijuana use by high school seniors fell 50 percent from 1983 to 1990 and use of any illicit drug ever fell below 50 percent which had not occurred since 1975 (Johnson et al., 1991). A further discussion of the High School Senior Survey and its' results will be offered later.

Despite the general conclusion that drug use is on the decline, one segment of the population, arrestees, test positive (by a urinalysis check) at a much higher rate for drug use than does the general population (Wish and Gropper, 1990). Approximately 50 percent to 80 percent of the adult, male, arrestee population tests positive for "any drug" (National Institute of Justice, 1992). What this suggests is that there is a positive correlation between drugs and crime (Ball et al., 1981, 1982; Chaiken and Chaiken, 1982;

Inciardi, 1981, 1986; Johnson, et al., 1985; Nurco et al., 1991; Visher, 1991; Wish and Gropper, 1990). What is not clear is the direction of the relationship. Is it a drug-crime connection or a causal influence? Either way, a strong relationship for cocaine and narcotics use and crime is apparent; other illicit drugs have a less clear or weaker relationship (Nurco et al., 1991).

Numerous studies have analyzed the drug-use-crime connection. One major piece of research conducted by Chaiken and Chaiken (1982), who studied over 2000 prison inmates from three states, by means of self-reports of crime and drug use, shows that high levels of criminal activity occur during high levels of drug use. Similarly, low levels of drug use are associated with low levels of criminal activity. Chaiken and Chaiken identified "violent predators" as offenders who commit the most serious crimes at high rates; 83 percent of these offenders reported illicit drug use 1 to 2 years preceding detection for their most current incarceration. Furthermore, most of these "violent predators" had histories of hard drug use, heavy involvement in multiple drug use, and committed serious crimes as juveniles.

A study by Ball et al. (1981) found that 97 percent of male addicts studied in Baltimore committed crimes for an average of 11 years while "at large" in the community. Inciardi (1986) reported that of the 387 male heroin abusers studied in Miami, 99.7 percent admitted to participating in crime the year prior to the interview. As stated by Nurco, et. al. (1991: 223 & 224), "It is rare for heavy users of narcotic drugs not to have participated in crime.....Although other factors also influence crime rates, the

parsimonious explanation for these findings is that crime is functionally related to narcotic addiction." Interestingly enough, the rate of detection is low.

Two self-report studies (Ball et al., 1982; Inciardi, 1981, 1986), both of which guaranteed confidentiality and immunity from prosecution, indicated that only a small percent of the crimes reported by the narcotic uses result in their arrest. What types of crimes do drug abusers commit? Research indicates that these individuals do not specialize in crime. Nurco et al. (1991: 222) states, "The implications of these findings are that while narcotic addicts as a group commit a great amount of crime, they cannot be regarded as a homogenous class because of the extent of individual variability in type, amount, and severity of crime committed."

Inciardi (1986) found that 84 percent of 573 male and female heroin addicts in Miami were involved in drug sales, 62 percent shoplifted, 53 percent burglarized, 38 percent committed robbery, 38 percent forgery, 21 percent assault, and 19 percent were involved in auto theft. In a one year period, 215,105 offenses were committed for an average of 375 crimes per person. A study by Johnson et al. (1985) also found that drug sales and/or drug distribution was the most frequently committed crime by drug abusers, accounting for 65 percent of the total number of crimes. With regard to violent offenses, although they may appear to be a small amount, the actual number is still large simply based on the fact that addicts commit so many crimes (Inciardi, 1981, 1986). The following studies have shown that drug abusers can run the gamut of offenses. Abusers cannot be categorized as thieves, robbers, shoplifters, etc; they are heterogenous in their

offending behavior.

Who are these high rate offenders? Typically, the offender is a young, minority, male, living in the inner-city, minority, from a low income, dysfunctional, single parent family, whose criminal involvement and illicit drug use begin at an early age, he dislikes/ fails/drops-out of school and cannot keep a steady, legitimate job (Chaiken and Chaiken, 1982; Farrington et al., 1987). Although, these are not definite indicators that an individual will become a criminal offender and/or drug abuser, these etiological "risk factors" have been shown to contribute to such a lifestyle.

METHODS FOR ESTIMATING DRUG USE IN THE UNITED STATES

A 1989 Gallup Poll listed drug abuse as the most serious problem facing the United States. Public opinion polls are only one of numerous methods employed to solicit the public's views on drugs, crime, policy, etc. In addition to individual surveys, four major surveys are used to measure drug trends, drug facts, figures, rates, and opinions. The four surveys are: the High School Senior Survey, the National Household Survey on Drug Abuse (NHSDA), the Drug Abuse Warning Network (DAWN), and the Drug Use Forecasting (DUF) program.

High School Senior Survey

The High School Senior Survey, which was originally administered in 1975, is a

self-report instrument. Once a year, the interviewers administer the questionnaire to 2,400 high school seniors from 125-135 public and private schools during regular school hours in one of the students' classes (additionally, follow-up surveys are mailed out each year to each senior class in the sample). The survey is completely voluntary. Questions that are deemed "inappropriate" to answer may be left blank by the student. About 80 percent of all seniors selected participate. Johnson et al. (1991) state that high school seniors are the optimum group for measuring drug use among teenagers and related attitudes of youth for three reasons. First, the senior year marks the completion of a important developmental stage in society. Second, it is a "jumping-off" point where youth can now diverge into different social environments. Lastly, it is a final point to collect a good national, age-specific cohort.

The High School Senior Survey does reach a fair number of individuals yearly. However, the instrument misses those who have dropped-out of high school. Annually, 15 to 20 percent of each age cohort are not included in the survey (Johnson et al., 1991; Wish and Gropper, 1990). These individuals represent a "target population" which has been excluded from the statistics. Chaiken and Chaiken (1982) and Farrington et al. (1987) note, a typical high-rate offender, one who is involved in crimes and illicit drugs at an early age is apt to leave school early or has poor school performance. With that in mind, not only is vital information being lost, but a less accurate picture of trends, views, and opinions are being offered.

There are other validity problems which affect the High School Survey. On the

average, 66 percent to 80 percent of the selected schools, which are selected on by a multi-stage random sampling procedure, participate (Johnson et al., 1991). Conversely, 20 percent to 34 percent of the selected schools do not participate. Although the refusals are replaced by similar schools, the potential for bias to enter into the sample is definitely prominent. For example, some schools refuse to participate simply because of the drug content in the survey (Johnson et al., 1991).

As mentioned previously, on the average, 20 percent of the students do not complete the questionnaires. Absence from class is the single most cited reason for lack of participation. As stated by Johnson et al. (1991: 22), "Students with fairly high rates of absenteeism also report above average 'rates of drug use; therefore, there is some degree of bias introduced into the prevalence estimates by missing the absentees."

One type of validity error which impacts any self-report study relates to the honesty of reporting. When sensitive questions about personal habits (i.e. drug use, sexual behaviors, arrest records, etc.) are asked, the potential for under-reporting and/or over-reporting for socially acceptable reasons or fear of repercussions, a communication gap, memory loss or distortion, and a response that is a guess can all exist (Ball, 1967; Harrell, 1985; Sudman and Bradburn, 1982). Wish and Gropper (1990) state that when high school seniors are asked (on the questionnaire) if they would report ever using an illicit substance, a significant number of black seniors indicated they "would not" report illicit drug use. Similarly, Bachman and O'Malley (1981) indicated that the senior classes from 1976 to 1979 either under-reported the annual frequencies or over-reported the monthly

frequencies due to inconsistencies between the two.

Finally, the High School Senior Survey has an additional problem checking on the validity of student responses. The researchers do not have access to such "cross-check" data as official police reports, school performance reports, or secondary methods like urinalysis tests or hair analysis for verification. Therefore, responses given must be considered truthful and accurate.

National Household Survey

A second instrument used to measure drug trends is the National Household Survey. The National Household Survey is sponsored by the National Institute on Drug Abuse (NIDA). The survey is a large instrument used to annually solicit a random selection of the U.S. household population aged 12 and over. It is a nationally representative survey which means, it is representative of 98 percent of the population. Self-report data is collected from 4,000 to 9,000 Americans. Collection periods occur periodically throughout the designated rotation period. Interviews are conducted in person, in an individual's home, by a trained staff of interviewers.

The survey has been carried out since 1972. Information collected from the survey includes prevalence of cigarette use, alcohol use, and illicit drug use. Its' primary focus is to "provide information about the patterns of use, problems resulting from use, and perceptions of the harmfulness of illicit drugs, alcohol, and cigarettes among members of the U.S. household population" (NIDA, 1990: 1). The survey reports that more than 75

million persons have used any illicit substance at least once in their lifetime.

Additionally, the survey collects information such as, the respondents' age, sex, ethnicity, socio-economic status, education, employment, and geographic region. The National Institute on Drug Abuse states that the National Household Survey has two strengths. First, information that is absent from administrative, medical, or correctional authorities can be extracted. Secondly, the survey purposely over-samples minority groups, under the age of 35, who live in rural areas so as to increase validity (NIDA, 1990).

While it is the broadest drug use survey, and while NIDA has attempted to control some validity issues, the survey has a number of limitations. The most serious problem being the exclusion of the very poor, transients, and the homeless. This category of individuals tends to be some of the heaviest users of those substances the survey inquires about. Wish and Gropper (1990: 332) further explain that, "While this survey does include more than 98 percent of the U.S. population, it excludes persons living in group quarters or institutions such as military installations, dormitories, hotels, hospitals, and jails and transient populations such as the homeless." Since this "special" group of individuals is missing from the National Household Survey findings, estimates of prevalence are likely to be lower than reported.

Another built-in validity flaw which inflicts the National Household Survey is the lack of cross-checks. Since the survey is cross-sectional and not longitudinal (one interview with no follow-up), information received at the interview time must be taken as

accurate. Two improvements could be made to counter this problem. A pre-test and/or post-test could be devised and a follow-up interview could be done.

In addition to its own unique problems, The National Household Survey also encounters the same "self-reporting" problems experienced by the High School Senior Survey. The questionability of truthfulness and complete memory retention must be taken into account.

Drug Abuse Warning Network

Better known as DAWN, the Drug Abuse Warning Network like the National Household Survey is sponsored by the National Institute on Drug Abuse (NIDA) however, DAWN is also sponsored by the Drug Enforcement Agency (DEA). The DAWN survey is unique from the National High School Senior Survey and the National Household Survey in that, it is not a self-report instrument. Information from 21 metropolitan area hospitals (over 700 hospitals) and 27 metropolitan area medical examiners/coroners (87 examiners) is reported on drug-related deaths and drug-related visits to emergency rooms. Some demographic information on the patient or deceased, type of substance(s) used, along with circumstances of the incident are recorded. Although DAWN is not a nationally representative of the U.S. population, is does capture special information from a section of the drug-using population that the other two surveys miss.

Information released from the 1989 DAWN survey reports that there were 42,145 cocaine-related emergency room episodes as compared to 10,248 in 1985. Cocaine-related

deaths increased from 717 to 2,496 in the same time period (NIDA, 1989). One cited reason for the peak was the introduction of crack-cocaine on the streets (Currie, 1993). In 1992, emergency room visits for a drug-related episode rose to 433,493 with 7,532 ending in death. This would appear to be a contradiction to the High School Senior Survey and the National Household Survey which both show a down-ward trend in drug use.

Not only does information collected from the DAWN survey offer insight into drug trends, it also provides information on the serious consequences of drug abuse. Four purposes of DAWN as stated by the National Institute on Drug Abuse (1975:1) are:

> "the identification of drugs that are being used by individuals; the examination patterns and trends of known drugs and new drugs being introduced into the population; the collection of data that assesses the potential harm of specific drugs on individuals; and the collection of data to control and schedule drugs."

Even though Dawn offers something that self-report surveys do not, with regards to validity and reliability, it is not without its' own flaws. Since it is not a self-report survey, validity issues of honesty and memory recall are obsolete. However, Bachman et al., (1980) offer limitations that do afflict the DAWN data. First, the number of episodes reported cannot be construed as a direct correlation to the individuals. That is to say, since no records are kept on the identification of the individual, the number of episodes reported are not necessarily synonymous with the number of individuals treated in the emergency room. Hence, one person can have numerous emergency room visits. Secondly, an individual has to be admitted to an emergency room before he/she can become a statistic.

Therefore, it is "situational" data. Lastly, information collected from DAWN is not an estimate of drug abuse but rather an indicator of drug abuse within the population represented. Aside from its' downfalls, DAWN data offers another piece of the drug using population.

Drug Use Forecasting Program

The fourth estimate of drug use in America is the Drug Use Forecasting (DUF) program. The Drug Use Forecasting project, which was established by the National Institute of Justice (NIJ) in cooperation with the Bureau of Justice Assistance, was created to monitor drug use trends in an arrestee population. In 1984, NIJ authorized a pilot project in New York City to determine the scope of drug use among arrestees at Manhattan's central booking facility. Results from the New York City project indicated, "a startlingly high rate of drug use among arrestees" (Herbert and O'Neil, 1991: 11). Subsequently, a supplemental project was created in Washington, D.C. Here again, results indicated a high rate of drug use among arrestees.

In both cities, over 50 percent of those arrested were testing positive for at least one of four substances. These results showed that the level of drug use was much higher than previously indicated, as much as four times higher (Herbert and O'Neil, 1991: 11). And, since arrestees are only a small part of the general population, their rate of drug use is "vastly" disproportionate to their representation (Reardon, 1993: 2). To further examine the preliminary results from New York and Washington D.C., NIJ felt it necessary to

explore the recent findings.

By 1987, NIJ had expanded the DUF program to include 24 cities. The 24 different sites collect data on a quarterly basis for 14 consecutive days. Self-report interviews and urine specimens are obtained from approximately 225 male arrestees, within 48 hours of arrest, at a designated booking facility. All 24 sites interview and test adult male arrestees and 21 sites interview and test adult female arrestees (National Institute of Justice, 1992). Furthermore, half, 12, of the cities collect data from male juvenile arrestees/detainees (10 out of those 12 also collect data from female juveniles). Sites that collect information from women and juveniles strive to interview 100 women and 50 juveniles (Reardon, 1993). Some variations do exist within a few sites. For example, Omaha interviews and samples ALL males (traffic violations included) arrested or detained, quarterly, over a twenty-one day period, so as to reach a sufficient sampling size.

The DUF program is characterized by a high rate of compliance. Ninety percent of arrestees agree to the interview and approximately 80 percent of those who agree to the interview provide a urine specimen. (National Institute of Justice, 1992). Data is collected on a voluntary, anonymous, and confidential basis.

A site coordinator, using the arrest or booking slips, decides which individuals are eligible for interviewing. The number of drug related offenses are balanced within the sample to avoid over-representation hence, drug related offenses cannot make-up more than 25 percent of the sample. A trained interviewer then conducts the interview with the

arrestee on a one to one basis in a confidentially secluded area. In general, the interview usually takes 15 minutes to conduct (Reardon, 1993).

The interview questionnaire requests information about five areas: demographics; current and or past drug and or alcohol treatment; a perceived need for drug treatment; current and past use of alcohol, drugs, tobacco; and behaviors related to AIDS (number of sexual partners and use of needles, or needle sharing). Including alcohol and tobacco, 23 drugs are asked about; both illicit and prescription. After an interview is completed, the interviewer then solicits a urine specimen. As mentioned, over 80 percent of those interviewed provide a urine specimen (National Institute of Justice, 1992).

To achieve proper representation, the DUF project does not use random sampling. DUF uses what has been coined "convenience sampling". This technique is used to ensure that the number of offenders charged with drug related offenses are not over-sampled. Those individuals charged with a drug related offense are assumed to have higher levels of substances in their system. Eighty percent to 90 percent of persons charged with drug offenses test positive for one or more illegal substances (Visher, 1991).

Moreover, as stated by Decker (1992: 2), "those charged with drug-related offenses are more likely to test positive for drugs, thus their inclusion in the sample does not provide much information above that which would be expected." Therefore, the number of drug related offenders must be limited within the sampling pool so as to not skew the results and to allow information to be collected on other arrestees. It must be noted since a limited number of arrestees charged with a drug related offense are sampled,

DUF statistics are "minimum estimates" of drug use in an arrestee population (National Institute of Justice, 1992).

Completed interviews are reviewed on site by an editor who monitors for accuracy and error. At quarter's end, the interviews are then sent for a second round of editing. And, all urine specimens from all sites are sent out to be tested and analyzed by a single contracted laboratory. Specimens are analyzed by a process known as EMIT for 10 drugs: cocaine, opiates, marijuana, PCP, methadone, benzodiazepines, methaqualone, propoxyphene, barbiturates, and amphetamines. If a sample tests positive for amphetamines, an additional gas chromatography test is executed to eliminate any false positives occurring from an over-the-counter-drug. The EMIT test can detect use of most drugs within the past 2 to 3 days (National Institute of Justice, 1992) hence, the reason for limiting data collection from individuals within 48 hours of arrest.

The DUF program possess two unique qualities: the use of urinalysis to determine drug use; and second, it examines an arrestee population. Together, the ability to compare empirical data, the urinalysis, with self-reports of drug use moves the results up on the accuracy spectrum. As stated by Herbert and O'Neil (1991: 11), "It complements traditional self-report data by providing the results of chemical tests--hard data for the first time on the offender population." Additionally, Visher (1991: 1) offers, "Faced with large numbers of offenders who use illegal drugs, criminal justice agencies have found drug testing to be one way to improve decisions and perhaps reduce criminal activity."

There are legitimate criticisms of DUF. The limitations mentioned by Wish and Gropper (1990: 369) are: conservative estimates of drug use due to under-sampling; ambiguous link between drug use and crime since drug use resulting in positive urinalysis may be temporally linked to neither the crime nor arrest; and underestimates of self-reported behaviors.

Despite its limitations, the DUF project is a vital source of information, not only for the criminal justice realm, but also for the public. DUF is the only new measurement of drug use, on a national level, in the past ten years (Herbert and O'Neil, 1991). As previously mentioned, the other "drug indicator systems" are; The National Household Survey, The High School Seniors Survey, and The Drug Awareness Warning Network (DAWN). Whereas these measurements collect information from the general public, DUF captures a previously hidden population; those charged with a criminal behavior. This is particularly important because DUF provides information on a segment of individuals among which drug use is wide spread (Herbert and O'Neil, 1991). It is also postulated that this segment of the population (arrestees) are more likely, than an individual within the general population to take risks; to partake in illegal behaviors and to use or experiment with new drugs (Decker, 1992). Therefore, this group is worth monitoring to help project future trends before they reach the general population (Wish and Gropper, 1990).

As stated, information solicited from the DUF project offers some beneficial and insightful information on a unique group of individuals (a captive population) who as shown are more prone to engage in risky behaviors such as drug use. If an individual is

involved in drug use, the potential need for drug treatment exists. The implications for needing and/or wanting to treat these individuals are, but not limited to, reducing the spread of AIDS, reducing a drug-crime connection, and enabling these individuals to become productive members of society.

ISSUES IN THE MEASUREMENT OF DRUG USE

Validity and reliability are two factors which can plague any research project. Numerous types of such errors exist. As a precaution, steps to eliminate or minimize both types of error must be taken into consideration by a researcher to assure accurate and consistent findings. A review of what validity and reliability are as well as how they impact different data sets will be offered.

Strengths of Self-Report Data

Several estimates of drug use in the United States rely on self-reports for their data collection. As stated by researchers involved with the different drug estimate methods, self-reports are beneficial for identifying facts, trends, and opinions. Harrell (1985: 12) states that, "Self-reported data are the mainstay of much social research."

The method of self-reporting is widely used in numerous, major data collections (i.e. Drug Use Forecasting, the National Household Survey, the High School Senior Survey). Information released from the different reports aid in decision and policy making (Visher, 1991). In recent years, self-reports, have been used to supplement official data.

Due to the unorganization, the under-reporting and/or over-reporting that occurs, and lack of a Nationwide system, official data has been unreliable in and of itself. Amsel et al. (1976); Ball (1967); and Bonito, Nurco, and Shaffer, (1976), all found that when comparing official data with self-reports, no evidence of intentional 'cover-up' was found. However, two types of error did exist, memory recall on the respondents behalf and incompleteness of official data.

One benefit of self-report data is cost-effectiveness. It is relatively cheap to execute while at the same time, a large number of people can be reached in a short period of time (Whitehead and Smart, 1972). Besides the practical issues, what better way to find out all that is going on than by asking? Right?

Validity and Reliability Problems in Self-reports of Drug Use

Unfortunately, self-report methods are not without flaws. Simply by the nature of design, to ask a question, a margin of error is created. Harrison (1990) found evidence that discrepancies exist between an arrestee's self-reported drug use and their urinalysis results. Thus, indicating they lie about their drug use.

Responses to interview questions can be inaccurately answered in two forms. The first form of a reporting error is known as a false positive. A false positive occurs when the respondent reports having used or done something he/she has not. For example, an arrestee would be report having used a substance when in all actuality they had not. This type of error is much less common than the second type of error, which is a false negative.

A false negative occurs when a respondent reports not having used or done something when in fact he/she had. Falck et al. (1992) discovered that 21 percent of their sample were false negatives. That is to say, 20 out of 95 injection drug users reported no drug usage, but their urinalysis tested positive. Results from a DUF study in 1988 reveals that 18 percent of the respondents were labeled false negatives for marijuana use (Harrison, 1992).

Generally, self-report questionaires are trying to solicit personal information from an individual. Some questions are sensitive in nature and may be considered offensive or too sensitive to answer. Hence, a "cleaned-up" answer is offered or an individual may refuse to answer completely, either way vital information is lost. Researchers must be aware of the potential for error and they must be cautious when interrupting findings.

On positive a note, some literature shows that the validity of self-reported drug-use is accurate when obtained in a non-threatening atmosphere with guarantees of confidentiality and freedom from prosecution (Harrell, 1985; Wish and Gropper, 1990). However, such variables as ethnicity, socio-economic status, and chronic offending particularly influence the validity and reliability of a study (Amsel et al., 1976). Kandel and Davies (1991: 153) found that, "under-reporting is not randomly distributed in the sample but is more prominent among certain social groups, in particular school drop-outs and blacks." Furthermore, in response to a 1985 National Household Survey, Blacks consistently reported lower rates of cocaine use than Whites, with Hispanics falling somewhere in between the two. Similarly, Flack et al. (1992) found that among injection

drug users, those who injected both crack and cocaine and those who were Black significantly misrepresented their current drug status. Another study conducted by Harrison (1990) reported that only 50 percent of arrestees with positive urinalysis reported current drug use.

Discussions of "validity" and "reliability" have occurred throughout this text. Two types of validity play an important role with regards to this paper: concurrent and construct validity . Concurrent validity as stated by Nurco (1985:6), "is the degree of agreement between the test results and some other measure of the same thing that is obtained concurrently and that is generally regarded as valid." The DUF data is one example of concurrent validity. Error can occur either in the interview, the urinalysis, or when comparing the two results. Construct validity can be interrupted as meaning how well are we measuring (the construct) of what we intended to? In the case of DUF, the construct is drug use. Basically, researchers are looking for the truth, which can be difficult to find due to the potential for error.

"Whether a particular technique, applied repeatedly to the same object, would yield the same result each time" (Babbie, 1992: 135). What Babbie is asking is: is there stability across the measurement over time? Is there reliability? Reliability also refers to consistency of results over measures. Several checks have been devised to eliminate or at least reduce errors associated with reliability. The test-retest method, the split-half method, and comparison of two instruments measuring the same phenomenon are basic techniques used to control reliability. The DUF program employees the comparison of two

instruments to control reliability.

ISSUES IN URINALYSIS TESTING

In recent years, urinalysis testing in conjunction with self-report instruments has been used by numerous researchers. Urinalysis testing has become a standard procedure in the criminal justice arena (Visher, 1991). Over the last 30 years the use of drug testing has not only received acceptance, but has expanded beyond the criminal justice system.

Drug testing essentially began in the 1960's. In the 1960's and 1970's drug testing was being used as a routine check among arrestees. During the 1980's when the strong push for anti-drug use prevailed, the use of drug testing expanded beyond criminal justice agencies into the military and the workplace.

In general, the use of drug testing has been seen as a success for gathering data, discouraging drug use, and identifying users. It is essential to understand the various drug-testing techniques employed as well as to understand their benefits, limitations, and standard of accuracy. All technologies are not the same. Some techniques of drug-testing vary in their ability to detect certain drugs, some are more costly than others, and some require highly trained individuals to execute the process.

Two Procedures Used to Conduct Drug Testing

The Enzyme Multiplied Immunoassay Test (EMIT) is one of the most commonly used and well established urinalysis, drug detection methods, it is also one of the two

techniques used to analyze the urine specimens collected from the DUF program. As indicated in the title, EMIT is a immunoassays testing method. Immunoassays are used for the initial screening of specimens. They rank moderate to good in terms of sensitivity. Sensitivity refers to a methods ability to detect a substance in the urine sample. Highly sensitive tests can detect low levels of drug concentrations whereas a less sensitive tests may miss the presence of a substance, hence more false negative results. The other validity check is the specificity of a measure. The specificity is the measures ability to discriminate between similar substances. A highly specific tests produce fewer false positives (Bureau of Justice Statistics, 1992b). For example, the EMIT tests can detect small amounts of specific drugs or drug metabolites in the urine. However, one problem exists, since a chemical reaction verifies the presence of a substance the test cannot determine the difference between drugs with similar properties. For example, the test cannot distinguish cocaine from crack or amphetamines from over-the-counter substitutes (Visher, 1991).

The main reason EMIT tests are preferred is due to their cost effectiveness. Minimal equipment at a relatively inexpensive cost can be acquired. Paraprofessionals can run the tests, and a large volume of specimens can be analyzed quickly (Bureau of Justice Statistics, 1992b).

Although the EMIT is a good method for detecting the presence of specific drugs in urine, it is limited in purpose. Due to the limitation listed above, further testing must be done. Often times, additional testing is necessary to confirm a positive detection by the EMIT. The second type of testing is a chromatographic method known as Gas

Chromatography/ Mass Spectrometry (GC/MS). Unlike the EMIT which relies on a chemical reaction for detection of a substance, GC/MS either extracts substances or cause them to attach to something (a type of material or particle). GC/MS is believed to be the most conclusive method of detection (Visher, 1991). This technique is used by the DUF program to confirm the presence of amphetamines. Wish and Gropper (1990) , strongly support the use of GC/MS testing. They have likened it to fingerprints of an individual. Since the GC/MS instrument is so specific, there is a very distinctive identification pattern.

Better does mean more: time, money, and resources. The GC/MS technique is time consuming, separate tests are necessary to identify each drug. More complex, expensive equipment is necessary and specialized individuals are needed to perform the tests. Amphetamines are the one substance, that if positively detected in an EMIT test, will be subjected to a GC/MS test.

Validity and Reliability Problems Related to Drug Testing

To examine the validity and reliability of the EMIT and GC/MS technologies, Visher (1991) examined 2,470 urine specimens of parolees within the California Department of Corrections between May and August of 1988. An additional 198 specimens from males arrested in San Diego were added to the analysis for a total sample size of 2,568. An average false positive rate of 1 percent to 2 percent, for five drug types was found. So, one to two of every 100 hundred samples would be a false positive error. Or, one to two persons would be falsely tested as negative for a substance when they were

actually positive. False negative rates averaged 20 percent for the five different drug types. Of the three most commonly used drugs, cocaine, marijuana, and opiates, the drug tests correctly identified 75 percent of the positive specimens and 98 percent of the negative specimens. It should be noted that even if the urinalysis technologies were perfect, error would still exist. The interjection of human error is unsurpassable.

The longevity of a substance within the human body is another factor which influences the ability of an instrument to detect drugs. The Bureau of Justice Statistics (1992b: 119) offers that the average window of time in which to detect cocaine in the urine is 2 to 3 three days, marijuana 3 to 10 days, opiates 2 days, PCP 8 days, amphetamines 2 days, and barbiturates 1 to 7 days. Therefore, frequency of use and type of drug reflect whether a test result will be negative or positive.

Urinalysis provides a limited validity check on self-reported drug use. As mentioned, urinalysis testing has a relatively short time frame in which it needs to detect drugs in a specimen. Other limitations of urinalysis are collection must be done under supervision, handling can be problematic, and storage (refrigeration) may be unavailable (Mieczkowski and Newel, 1993).

A technique worth mentioning is hair analysis. Hair analysis was used for the first time in the 1950's for identifying psychoactive drugs. Radioimmunoassay (RIA) is the screening method used to analyze hair specimens. RIA is a very sensitive process therefore a low level of drugs can be easily detected.

The National Institute on Drug Abuse sets specific guidelines for cut-off levels of

urinalysis testing. As of September 1995, the cut-off levels for the 10 drugs tested for the DUF program by means of EMIT are as follows: Amphetamines-300, Methamphetamine-1,000, Barbiturates-300, Cocaine-300, Propoxyphene-300, Methadone-300, Methaqualone-300, Opiates-300, Benzodiazephines-300, Marijuana-100, and PCP-25. All amounts are reported in nanograms per millimeter. As mentioned previously, Amphetamines are also subjected to a confirmation test. GC/MS levels are 300 for both Amphetamines and Methamphetamines. As Visher (1991) notes, lower cut-off levels lead to more positive test results.

Results of the urinalysis technologies are vitally important. They provide useful information to researchers and scholars alike. Accuracy of their results are necessary to better understand the drug using individual.

DRUG TREATMENT IN THE UNITED STATES

Estimates of drug use in the United States, especially the Drug Use Forecasting project, suggest that there is a large group of individuals who appear to be in need of drug/substance abuse treatment. Wish and Gropper (1990) calculated that recent drug use in a arrestee population was 17 to 25 times higher than recent reported use in the general population.

Over time, there have been shifts in social views and legislation pertaining to how and by whom criminal substance abusers should be dealt with. In its' most basic form, the argument is concerned with "whether the drug abuser is properly regarded as a concern of

the health care system or the criminal justice system" (Brown, 1990: 51). The country has debated for many years rather drug abuse is a medical issue or a legal issue; sometimes converging, sometimes diverging in their ideals.

Conflict between the medical and legal culture became apparent during the passage of the Harrison Act of 1914. The Harrison Act which originated out of the Treasury Department, imposed standards of quality, packaging, and labeling along with establishing criminal penalties for violations of the Act. Collectively, the 1906 Pure Food and Drug Act and the Harrison Narcotics Act placed controls over the manufacturing, sale, and distribution of a variety of substances. A statement released, shortly after passage of the Harrison Act, by the Treasury Department held that, "medical maintenance of opiate addicts [treatment through declining usage] was not permissible" (Bureau of Justice Statistics, 1992b: 80). And, so, the debate begins.

After the passage of the two Acts and the release of the Treasury Departments stance on treatment, sides immediately formed. One the one hand, the medical community felt that they had the right to prescribe maintenance regimes. On the other hand, public opposition and a higher court ruling (Webb v. U.S., 1919) against the right to treatment made the issue stagnant for the moment. However, in 1929, under the Porter Narcotic Farm Act, Federal hospitals were opened for the treatment of incarcerated addicts. Although these facilities were nothing more than "modified prisons", it was a minor success for the treatment movement and a first time acknowledgement by the Federal government that there were a group of individuals who needed to be dealt with in a

separate manner.

From 1935 to the mid-1950's "treatment" usually consisted of withdrawal techniques, some therapy, and some rehabilitation services but without "great confidence in either" (Brown, 1990: 52). In 1947 Addicts Anonymous (currently Narcotics Anonymous) was formed. Narcotics Anonymous, is a counterpart of Alcoholics Anonymous which was created in 1939. Both NA and AA are based on the philosophy that once an addict always an addict but there are steps to recovery which can be achieved by complete abstinence.

By the mid-1950's the Therapeutic Community Treatment idea was being used. The therapeutic community views drug abuse as a "disorder capable of being treated through a use of psychosocial and rehabilitative strategies" (Brown, 1990: 53). Through this time period, efforts to offer treatment were small scale and primarily privately ran. It is not until the 1960's that the Federal government starts playing a more active role.

In 1963, when the President's Advisory Commission on Narcotics Drug Abuse called for more involvement by the Federal government in the treatment of narcotics addicts. Also in 1963, the Community Mental Health Centers Act allowed the Federal support for community-based treatment centers. One year later, in 1964, the first "methadone maintenance" program was opened in New York City. By 1968, "specialized addict treatment grants" were awarded to private entities. And, by the end of the 1960's, Congress included "narcotic addiction" in the definition of mental illness (Bureau of Justice Statistics, 1992b: 81). The idea of treatment flourished in the 1960's as well as a

drug culture.

The idea of treatment carried over into the 1970's. In 1972, the Drug Abuse Office and Treatment Act created the Special Action for Drug Abuse Prevention (SAODAP) and the National Institute on Drug Abuse (NIDA). The two divisions were to focus on treatment, rehabilitation, prevention, training, education, and research in ways to reduce demand (Bureau of Justice Statistics, 1992b). One major reason the government took such initiatives was because of the large number of addicted veterans of the Vietnam War and the large number of addicted citizens (fall-outs of the 1960's drug culture). It was estimated that there were 30,000 addicted veterans and 250,000 addicted citizens (See Brown, 1990: 58). Another reason for increased government involvement, separate from the sheer number of addict, was public concern with crime. Reports of street crime and a drug-crime connection filled the media in the 1970's. Primarily out of fear, individuals supported treatment as a means to control crime.

Although we see continued funding in the 1980's, the tolerance for drug abuse is almost zero and so the pendulum begins to swing in the direction of individual responsibility. In the mid-1980', the country's support shifted towards a "Crime Control" model. By the late-1980's (under the 1986 and the 1988 Anti-Drug Abuse Act) increased spending is budgeted for treatment and prevention due to two public-safety threatening events.

Recent Events and Their Influence on Treatment

Two major influential incidents occurred in the mid-1980's; the explosion of crack-cocaine on the streets and the AIDS epidemic (Brown, 1990; Bureau of Justice Statistics, 1992b). Crack-cocaine is an altered, crystallized, form of the original derivative cocaine. Crack is highly addictive and is smoked rather than snorted. Inciardi (1990) offers three reasons as to why crack-cocaine is so popular; it is absorbed by the body within six seconds which produces an instantaneous high, it is cheap (it can be purchased for as little as $5 for one "rock" compared to $60 per gram of coke), and it is easily transportable. Further, Inciardi states

> "the drug seemed to be devastating the social fabric of the inner cities.....crack distribution rivalries had touched off homicide epidemics that turned entire stretches of urban America into 'dead-zones'-anarchic badlands written off by law enforcement officials as too dangerous to patrol" (1990: 20-21).

This bold statement demonstrates the impact crack-cocaine had on society when it was first introduced.

AIDS, Acquired Immune Deficiency Syndrome, started receiving press attention in the early-1980's. The first case of AIDS was diagnosed in 1981 and since then, no other disease has received such public attention. Currently, IV drug users constitute the second largest group of AIDS cases or the equivalent of 25 percent of all new cases (Des Jarlis and Hunt, 1988; McBride and Inciardi, 1990). The spread of AIDS is strongly correlated to the frequency of drug injection. Further implications are that IV drug users are the

predominant source of heterosexual, perinatal, and minority groups infection (McBride and Inciardi, 1990).

This now is of particular importance for the criminal justice officials since research has shown that more serious, deeply involved drug abusers will come into contact with the system. McBride and Inciardi's (1990) study of 413 IV drug users in Florida demonstrates that almost 90 pecent had been in jail at some point and time. AIDS awareness needs to be a concern for the criminal justice system since their involvement is two-fold; spread among a confined population and the potential for infection to criminal justice professionals. Moreover, the criminal justice system is in an excellent position to provide information and/or drug abuse treatment.

Up to this point the focus has been on men simply because little research exists on women, crime, and drug abuse. The fastest growing segment of the criminal justice population is women. The National Institute of Justice (1992) reports that 44 percent to 85 percent of female arrestees test positive for any drug. Women are testing significantly higher for drug use than are men. Males and females are similar in the aspect that both commit crimes to support their drug usage. The type of crime committed does differ to some degree though. Women are arrested for fraud, larceny, burglary, and prostitution (Wellisch et al., 1993). A fair number of women in their child-bearing years, 15 to 44 years of age are current drug users. What the research tells us is that not only are women in need, they may be more in need than men, of drug abuse treatment and AIDS awareness information.

Once again fear, fear of crime and fear of illness, provoke society to support treatment. As for the 1990's, not only is funding expected for such programs as treatment, rehabilitation, and demand reduction, but funding is also expected for risk-reduction/fatal disease awareness, and to some degree for mental health services. A recent approach to meet a wider range of needs has been the invention of new programs or an expansion of the old models.

Issues in Drug Treatment

Typically, four major modalities have been followed by the treatment community. The four modalities used for substance abuse treatment are: detoxification, methadone maintenance, drug-free outpatient settings, and residential therapeutic communities (De Leon, 1990). Numerous versions of each modality exist. Along with the above mentioned reasons to provide information and/or treatment, AIDS, shifts in the drug of choice, and public opinion, De Leon (1990) also offers that from 1965 to 1985 epidemics of drug abuse (heroin and cocaine) and the enculturation of drug abuse occurred. Enculturation meaning; a social-psychological phenomenon where the group of drug abusers widens, there is an increased variety of substance abuse (poly-drug use and the creation of new substance derivatives), and there is a decrease in the age of onset. De Leon (1990) explains that it is these numerous reasons why a variety of treatment strategies have been developed in addition to the four major modalities. New varieties of treatment include: combining strategies, revising older programs, and designing individualized programs for

specific drugs. To clarify, research has offered that there are a new group of substance abusers who must be dealt with in a modern manner hence the need for a variety of substance abuse treatment strategies.

Several discouraging factors face researchers and criminal justice agencies when trying to asseses treatment. One enabling feature to treatment is the ever changing nature of the drug culture. Envision a time-line, the drug of choice in the early-1900's was narcotics (heroin, morphine, opium, and cocaine), in the 1930's it was marijuana, in the 1940's there was a serious decline in drug usage due to WWII, in the 1950's heroin once again surges, in the 1960's numerous drugs were popular, especially LSD, amphetamines, barbiturates, and Quaaludes, in the 1970's there is a resurgence of marijuana use, PCP also hit the scene, in the 1980's synthetic hallucinogens (designer drugs) such as MDMA and "Ecstasy" appeared, and as mentioned, cocaine in the form of crack-cocaine reappears. As illustrated, there had been a recycling, if you may, of substances over the years. Irregardless what the drug of choice or acceptance is , it is apparent that the drug culture is ever present.

The existence of a drug culture means that there is a desire for illegal substances. Walker (1994: 255) states, "Here is the heart of the drug problem: the enormous American appetite for illegal drugs." So, is that where a treatment or prevention should start, with a decline of the supply? Gallup (1989) reports that when respondents were asked, "What is the most important thing that can be done to help reduce crime?" The most frequent response (25 percent) was to cut the drug supply. Although it sounds good

in theory, a simple review of the "drug-of-choice" time-line indicates that a definite displacement phenomenon is taking place. A drug gets a bad rap, enforcement focuses on cleaning it up so, an individual shifts their preference. As long as there is a demand, there will be a supply.

Prediction is another factor which effects the assessment of treatment. One problem is that a good measurement tool is not utilized by the treatment community to better assist in predicting who is in need of drug and/or alcohol treatment. Some generalizations and stereotypes are often times attached to an individual, but there are no clear cut characteristics defining who is in need of treatment. As Chaiken and Chaiken, (1982) and Farrington, et al. (1987) point out, there are certain etiological issues which place an individual at a disadvantage due to numerous "risk factors" but not all persons subjected to these risk factors become drug abusing, criminal offenders. Additionally, methodological and ethical problems inhibit treatment operations from matching or assigning individuals to treatment (Anglin and Hser, 1990).

Even if the treatment system could predict which individuals are good candidates for treatment, would they be able to predict who would succeed? Besides avoiding drug abuse treatment altogether (Johnson et al., 1985), their outcome is poor.

Even getting an individual into treatment, an additional barrier exists when drug abusers have a strong attachment to a criminal lifestyle. The rate of failure is relatively high among individuals in treatment. Readdiction coupled with a return to criminal activity has been a troublesome, consistent finding for drug treatment outcomes (Anglin and Hser,

1990; Ball et al., 1983; Wexler et al., 1988). However, Anglin (1988) finds that the rate of drug use and the rate of criminal activity decline during periods of treatment. Moreover, evidence suggests that legal supervision paired with periodic urine testing limits the above activities. A recent study conducted in Portland, Oregon and Washington, D.C. revealed that, when case management was delivered to over 1,400 " drug-involved" arrestees for 6 months, drug use in one city and lowered rates of recidivism in both cities, occurred (NIJ, 1996).

Chaiken and Chaiken (1982) suggest that strict surveillance and tight controls are necessary to manage and rehabilitate criminal, drug abusers. Wexler et al. (1988) offer that cohersion, surveillance, and time served may help to get substance abusers (in this case heroin-cocaine abusers) into treatment. Wexler et al. proposes that the reason it would work is because heroin-cocaine abusers strive to avoid changing their lifestyles including spending a lengthy period of time in incarceration.

One likely reason for the high rate of failure is that it has not been until recently that treatment has focused on non-narcotic and multi-drug abuse (Anglin and Hser, 1990; Brown, 1985). Another reason cited for failure is the lack of a "multi-problem" approach throughout treatment (Lightfoot and Hodgins, 1988; Oppenheimer et al., 1988; and Wexler et al., 1988). Wexler et al., (1988: 3) offer that "Frequent users of heroin and cocaine in the general population exhibit a multi-problem lifestyle that may include a pattern of persistent behavior."

Lack of research in the field of treatment constitutes another possible reason for

failure. Since it, an individual's perception of their own substance abuse, is rarely asked about, their wants and needs may not be met. Oppenheimer et al., (1988: 638) found that 150 drug abusers in London sought treatment because: lack of control over their lives, no self-respect, drug addiction, chronic use, and a daily need for drugs. Failure has also occurred when the medical model (an individual is seen as "sick") and the deterrence theory is used to guide treatment. Lightfoot and Hodgins (1988: 689) state, "there is a lack of strong empirical evidence for supporting any particular form of treatment for offender (or, for that matter, non-offender) populations. They offer that it is mainly due to the inability to "align client needs".

Another problem encountered by the treatment industry is that the criminal justice system, where it has been shown that a large number of drug abusers are found, does not want to involve itself with anything other than the arrest, adjudication, probation, incarceration, or parole of its' clientele. While in contact with the system, little to no information is gathered on individuals regarding drug use (Wexler et al., 1988). One reason for this is that the system is not in contact with the offender for a long enough period of time to make a difference. As exemplified by the AA theory, treatment needs to be a continuous, life-long adjustment. Although the picture painted of dug abuse treatment looks rather grim, the suggestion that "nothing works" is not absolutely true. Some individuals can and do succeed (Ball et al., 1983; Anglin and Hser, 1990).

Treatment and prevention are only two of a number of tactics used by the criminal justice system to "control" illegal drugs. Other tactics include, taxation and testing.

Taxation, which will not be covered in this paper, requires those individuals who produce, distribute, or possess drugs to pay a fee based on the volume or value of the drug (Bureau of Justice Statistics, 1992b). Testing is simply screening individuals for the presence of drugs. Testing is done mainly for three purposes, safety reasons (employment purposes), monitoring of individuals on probation or parole, and for research, as is done in the Drug Use Forecasting program (DUF).

WHY DRUG USE FORECASTING TO IDENTIFY SUBSTANCE ABUSERS?

Why utilize the Drug Use Forecasting data to study drug abusing individuals? One prominent reason is the well researched drug/crime connection. There are three proposed reasons offered by Mays et al. (1991), as to why substance abusers enter the criminal justice system. First, substance abusers commit a high volume of crime. Second, the types of crime they commit are "high-visibility" crimes. Lastly, the longer a person takes drugs or the more involved the individual is in the drug culture, the more impaired he/she becomes hence, the less efficient he/she is to commit crime or escape detection.

Chaiken and Chaiken (1982) found that chronic drug users, especially cocaine and heroin users, individuals who use drugs frequently and over long periods of time commit crimes at a higher rate than do other offenders. Therefore, the criminal justice system, particularly the jails, have access to individuals who are using drugs and who may need or want treatment. Either way, the population is there to study. Wish and Gropper (1990:

324), offer four purposes for drug testing: "to detect persons who have recently ingested an illicit substance, to identify chronic drug users, to monitor and deter drug use among persons under the authority of the criminal justice system officials, and to estimate national and local drug-use trends among criminal justice system populations."

Secondly, evidence does suggest that treatment can and does work. Ball et al. (1983) and Anglin and Hser (1990) found that crime rates are reduced when drug use, either self chosen or through treatment, is reduced. In addition, De Leon (1990) offers that improvements, both on a social adjustment (drug use, criminal activity, and employment) level and a individual level are possible through a treatment regime. The nature of drug abuse is complex and treatment is difficult to administer therefore, a collaboration of individuals and individual agencies must unite so as to better understand the clientele and improve treatment effectiveness .

As demonstrated by the DUF program, drug testing is one way to identify substance abusers. Numerous questions within the DUF drug-grid, ask the interviewee about treatment related matter. Such questions asked are, " Have you ever received treatment?" and "Do you feel like you could use treatment?" can be found. Since DUF has the luxury of comparing the two distinct measures of drug use (self-reports and urinalysis), information pertaining to who is looking for treatment and who may be in need of treatment (chronic, multi-drug users, and/or a positive urinalysis) can be solicited. As offered by Decker (1992: 1) the three primary goals of the DUF project are: "1) document the level and nature of drug use among arrestees, 2) identify treatment needs among

arrestee populations, and 3) forecast increases in drug use before they hit the general population."

However, consideration must be given to the fact that a single positive drug test does not identify an individual as a substance abusers. That is to say, "while a single drug test does not measure the level of drug involvement, it can identify persons for further testing or assessment" (Wish and Gropper, 1990: 328). Similarly, some arrestees come through the system more than once (Decker, 1992). Other information must be acquired to distinguish who is or is not a chronic substance abuser. Drug testing is just one step in the identification process.

HYPOTHESES

Since arrestees are a small portion of the population, yet they use drugs at a higher rate than the general population; analyses to understand their differences are important (Wish and Gropper, 1990). Reardon (1993: 2) states, "DUF findings underscore the belief that addressing the crime problem requires addressing the drug problem." Moreover, information obtained from the DUF interview allows for further study of the "drug problem".

After an initial review of the Omaha Drug Use Forecasting data, some basic hypotheses have been formulated. Respondent characteristics and/or situational factors may influence the way an arrestee responds to the question, "Do you feel you could use treatment for drug or alcohol use?" This is particularly important considering that an

arrestee is being asked to identify himself as a candidate for drug treatment. The influence of situational factors has also been shown to play a major role in the validity of self-reported data with relationship to drug use (Chaiken and Chaiken, 1982; Weis, 1986). An attempt will be made to further understand how and to what extent different demographic measures are related to self-reported need for treatment. An attempt will also be made to determine the amount of influence situational factors have in relation to drug-related behaviors (i.e. positive urinalysis, an early age of onset, or multi-drug use). Due to a lack of research in this area findings here may prove to be useful, but will only be preliminary.

Previous research has revealed several variables that serve as the basis for the hypotheses that are examined in the present study. Social Control Theory is only one of numerous theories which will help to explain the proposed hypotheses. The premise of Social Control theory is that individuals who are connected to social institutions (i.e. the church, family, employment, etc) will more likely be productive members of society because of what they risk to lose if they deviate from the norm.

It is believed that a positive relationship between a perceived need for drug treatment and individual characteristics does exists the older an individual is, the more education he/she has, the more he/she has at stake (i.e. a marriage and employment), his/her race, seriousness of the offense pending, how old an individual was when he/she started using drugs, and how a drug has been used recently, between these variables and an individual's response to a perceived need for drug treatment. Results from individual urinalysis will also be compared to self-reported drug use and perceived need for

treatment. It is hypothesized that those who test positive for the presence of drugs will be more likely to self-report a need for treatment.

RESPONDENT CHARACTERISTICS

Age

As stated by Gottfredson and Hirschi (1990), "aging out" will occur. Basically, aging out is the phenomenon which takes place simply because an individual ages. The older an individual becomes the less likely he/she will be to engage or continue to engage in criminal activity. Therefore, based on this observation, an older individual will be less likely to be committing crime, including drug-related crimes (distribution and/or possession) and would be less likely to be arrested for any crime. Aging out may also apply to drug use. Decker (1992: 16) found in St. Louis that, "arrestees who were in their late twenties and early thirties were significantly more likely to express a need for drug treatment than were their younger or older counterparts." Furthermore, Decker states that these age categories correspond with the highest levels of drug use.

Social Control Theory

Social Control theory will be used to generalize the proposed hypotheses for education, marital status, employment, and income. Social Control theories are based on the idea that there are certain restraining or controlling forces that deter most individuals from committing crime. However, in certain situations, when those forces are broken

down individuals are propelled to commit crime and/or other "uncontrolled" behaviors. "Thus, individuals are said to commit crime because of the weakness of forces restraining them from doing so, not because of the strength of forces driving them to do so" (Vold and Bernard, 1986: 232). "Forces" can be a connection to school, church, family, marriage, or employment. These forces are what bind an individual and enable him/her to be a productive member of society.

Toby (1957) coined the term "stake in conformity". He found youth who did not have a high stake in conformity, those youths who did poorly in school and who had peers with low stakes in conformity, were more likely to be deviant simply because they did not have as much to lose; their futures were not as promising. Therefore, the more connected or the higher stake an individual has in his/her community the more likely they will be to not commit crime (s) or act in a deviant manner. Furthermore, Hirschi (1969) proposed that individuals who were tightly *bonded* to social groups would more likely be law-abiding citizens.

A recent study by Horney et al. (1995) supports the theory that involvement in marriage and family, school, and work structures an individual's daily activities. Their results suggest that, "meaningful short-term change in involvement in crime is strongly related to variation in local life circumstances" (Horney et al., 1995: 655). In this study, local life circumstances include: being school, employment, living with a wife or girlfriend, drinking heavily, or using drugs. The men studied were more likely to commit crime when using illegal drugs and were less likely to commit crimes while living with a

wife or girlfriend. To summarize, the greater investment and stability an individual has in the community, the less likely he/she will be to commit crime. Although there have been numerous studies documenting the relationship between crime and the influence of various demographic variables, research related to demographic variables (social control indicators) and a self-reported need for treatment is, to say the at the very least, sparse.

One study, utilizing the St Louis DUF data, analyzed relationship between certain demographic variables and a self-reported need for drug treatment. With regards to specific demographic variables and an expressed need for drug treatment, Decker (1992) found that some differences did exist. First, there were no significant differences in expressed need for drug treatment and marital status. The same held true for education. Although, those individuals who were separated/divorced or had the lowest level of education (less than 9th grade) were the most likely, 17 percent and 21 percent respectively, to express a need for drug treatment. There were significant differences in perceived need for treatment by employment status. Sixteen percent of those who were unemployed and 16 percent of those dealing drugs expressed a need for drug treatment. Some contradiction between Decker's findings and the proposed hypotheses stated in this study exists. A review of the Omaha DUF data by Marshall and Webb (1993: 21) found that, "Educational status, race, employment status, and marital status appear to serve as predictor variables for the identification of arrestees with the propensity to express a need for treatment." Similarities and differences between the above research and the current analysis of the Omaha DUF data will be studied.

Race [1]

The characteristic of race may or may not play a role in an arrestee's response to a need for treatment. A fair amount of research concerning the influence of race on self-reporting has been documented. The literature suggests that there is a positive correlation associated with ethnicity and the accuracy of self-reported drug use (Chaiken and Chaiken, 1982; Hirschi, 1969). The findings have been that Blacks have less accurate self-reported criminal activity. Unfortunately, the research on self-reported need for drug treatment and the influence of race and ethnicity is lacking. One study by Decker (1992) found no significant difference for the variable of race and expressed need for treatment among arrestees in St. Louis. However, a prior analysis of the Los Angeles DUF data by Longshore et al. (1992) determined that ethnic differences did exist with regards to treatment and that African Americans and Hispanics were less likely to seek drug abuse treatment than were Anglos. Marshall and Webb (1993) also found that White respondents were more likely to express a need for treatment than were non-Whites. Whether a relationship between ethnicity and a expressed need for drug treatment exists will be further examined with the Omaha DUF data.

SITUATIONAL FACTORS

Seriousness of Offense and Top Charge

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[1] Any reference to race or ethnicity throughout this thesis is stated as found in the original source (i.e. from a specific reference or the DUF interview form).

Hser et al. (1992) found that the reliability of self-reported drug use among narcotic users was affected by the extent of criminal activity. Those arrestees who were involved in extensive criminal activity were more likely to mis-represent their drug use. Although variation exists between offense types, in relation to offense severity, Decker (1992) reports that those arrestees charged with serious offenses (i.e. auto theft, drug offenses, larceny, and robbery) expressed the greatest need for drug treatment. Marshall and Webb (1993) also found that arrestees charged with a felony were more likely than those charged with misdemeanors to express a need for some form of treatment. Arrestees charged with felonies may be more likely to ask for drug abuse treatment simply to avoid criminal sanctions. Furthermore, Marshall and Webb (1993) suggest that, answering "yes" to a need for drug treatment would be a "moral balancing", an offset of the crime committed.

Age of Onset

Those arrestees who did not become involved in drug use until later in life will be less likely to report a need for treatment than those arrestees whose age of onset occurred earlier in life. The longer an individual has used a substance the more apt they are to not report a need for drug treatment. Decker (1992: 12) suggests that, " Those in the earlier stages of their drug use are more likely to indicate a need for drug treatment. However, this admission appears to decline with use over a protracted period of time as arrestees become more socialized into drug involvement." The extent of drug dependency may be a

strong indicator as to whether or not an individual perceives a need for substance abuse treatment.

Drug Use in the Past 72 Hours and Drug Use in the Past 30 Days

Those arrestees who have used a drug (s) recently (in the past 72 hours and/or the past 30 days) will be more likely to report a need for treatment than those who have not used a drug (s) recently. Decker (1992) found that there was a positive relationship between reporting a need for drug treatment and recent drug use. "In general, higher proportions of those who test positive, self-report drug use in the 72 hours, and have used more days in the last month report the need for drug treatment" (Decker, 1992: 15). Basically, an individual's present behavior is a better indicator of seriousness of use. An individual who has not ingested drugs for a long period of time or who does not ingest drugs on a regular basis will be less likely to perceive himself/herself as having a problem.

Self-Reported Need for Drug Treatment Versus Urinalysis Results

Hser et al. (1992) found that heavy narcotic users were more likely to have self-reports that did not match their urinalysis results. Conversely, Marshall and Webb's (1993) examination of 2,400 male arrestees found when comparing those whose self-reported drug use matched their urinalysis with those whose self-reported drug use did not match their urinalysis, the "matches" were more likely to self-report a need for drug use treatment. In addition, results from Decker's (1992) multi-cities examination of self-

reported need for treatment and urinalysis results indicates that cocaine, crack, and heroin users were 5 to 7 times more likely to express a need for treatment versus those who reported no drug use. Decker (1992: 46) offers that, "recency of use" (self-reported drug use in the past 72 hours) and "intensity of use" (number of days of use in the past 30 days) were stronger indicators of need for treatment than were UA results. Having the opportunity to compare two pieces of response, the present study will examine the urinalysis results compared to the self-reported need for treatment responses.

In summary, this thesis offers 12 hypotheses. These hypotheses are as follows:

Hypothesis I: Age

Those arrestees who are older will be more likely to self-report a need for treatment.

Hypothesis II: Education

Those arrestees who have the minimum of a high school degree will be more likely to self-report a need for treatment.

Hypothesis III: Marital Status

Those arrestees who are married will be more likely to self-report a need for treatment.

Hypothesis IV: Employment

Those arrestees who are employed full-time will be more likely to self- report a need for treatment.

Hypothesis V: Income

Those arrestees who have a higher monthly income will be more likely to self-report a need for treatment.

Hypothesis VI: Race

It is believed that the variable "race" will have no influence on an arrestees perceived need for treatment.

Hypothesis VII: Seriousness of Offense

Those arrestees who are charged with a felony will be more likely to self-report a need for treatment.

Hypothesis IX: Top Charge

Those arrestees who are charged with a drug crime will be more likely to self-report a need for treatment.

Hypothesis X: Age of Onset

Those arrestees who started using a drug (s) early in life will be more likely to self-report a need for treatment.

Hypothesis XI: Drug Use Within the Past 72 Hours and Drug Use Within the Past 30 Days

Those arrestees who have used a drug (s) recently will be more likely to self-report a need for treatment.

Hypothesis XII: Urinalysis Results

Those arrestees who tested positive for the presence of a drug (s) will be more likely to self-report a need for treatment.

THE PRESENT STUDY

The purpose of the present study is offer further insight into the who perceives themselves as a drug abuse candidate as opposed to those who do not see themselves as candidates for drug abuse treatment. One means of accomplishing this is by utilizing the Omaha DUF data. Is there a difference with regards to age, race, education, marital status, employment status, and income level between those individuals requesting treatment and those individuals not requesting treatment? Situational factors that might differentiate the two groups will also be included in the analysis. Do these individuals respond based on seriousness of charge, multi-drug use, age of onset, or preferred method of drug use? A comparison will also be done to study the differences and similarities between self-reported need for treatment and urinalysis results. For example, are arrestees with a positive urinalysis more likely to report a need for drug treatment.

In 1984 the National Institute of Justice in conjunction with the Bureau of Justice Assistance, piloted a project in New York City to monitor drug use trends in an arrestee population. The project was known as Drug Use Forecasting or DUF. After preliminary findings from the first site, a second site, Washington D.C., was assigned to measure the same phenomenon. Both sites reported a substantially higher rate of drug use among arrestees as compared to the general population (Herbert and O'Neil, 1991). Since there appeared to be a drug-crime correlation occurring, NIJ further expanded the DUF program. As of to date, 24 urban cities participate in the DUF project.

In 1987, Omaha was selected as one of the DUF sites. After a short trial period,

the site became inactive and did not become active again until the second quarter of 1990. However, since the reactivation, Omaha has collected data consistently each quarter. Omaha is unique in that it deviates from the general DUF protocol. This will be discussed in further detail below.

The National Institute of Justice has set-up general guidelines for each site to follow. DUF data are collected for approximately 14 consecutive evenings each quarter, until 225 adult male arrestees are interviewed [2]. Arrestees who have been detained within the booking facility for over 48 hours cannot be included as part of the sample. Information is obtained from individuals being detained in a central, designated booking facility. Trained, local staff members interview and solicit for a urine specimen. The procedure is voluntary, anonymous, and confidential. Response rates are considerably high; 90 percent for those arrestees approached agree to an interview and 80 percent of those interviewed provide a urine specimen (National Institute of Justice, 1992).

Individual arrestees are selected for the interview process by a site coordinator, based on the booking slips. A limited number of adult males charged with the sale or possession of drugs are included in the sample to ensure an equal distribution of arrest charges. The National Institute of Justice (1992: 2) recognizes this strategy has its limitations, primarily "because such persons are likely to be using drugs at arrest and are under sampled, DUF statistics are frequently minimum estimates of drug use in the male

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[2]Some sites do sample females and/or juveniles.

arrestee population." Where possible, individuals are selected in this order; first, non-drug felonies, then non-drug misdemeanors, next drug felonies, and lastly, drug misdemeanors (Wish and Gropper, 1990). If females and/or juveniles are sampled, all individuals are selected, irregardless of charge.

Arrestees are taken to a secluded, specially reserved area of the booking or detention facility for the two step process. A trained interviewer conducts a one-on-one interview. In general, the interview takes 15 to 25 minutes. Self-reported information elicited from the interview includes; demographics, current and past use of alcohol, tobacco, and drugs, current and/or past alcohol and/or drug treatment, a need for treatment, and behaviors related to AIDS. Along with alcohol and tobacco, 23 other drugs are asked about. For further examination of the DUF interview, an example can be found in the appendix.

After the interview is complete, a urine specimen is then requested. All urine specimens are sent to one, government contracted laboratory for analysis. Ten drugs, cocaine, opiates, marijuana, PCP, methadone, benzodiazephines, methaqualone, propoxyphene, barbiturates, and amphetamines are analyzed by the Enzyme Multiplied Immunoassay Testing (EMIT) process. The EMIT test is capable of detecting the presence of drugs within the past 48 to 72 hours. Hence, the reason for eliminating arrestees detained for over 48 hours from the selection pool. An additional gas chromatography procedure is carried out on those specimens testing positive for amphetamines through EMIT.

At quarter's end, all interviews are sent to NIJ while all urine specimens are sent to the designated laboratory. After the interviews have been edited and the specimens have been analyzed, the results are merged together by NIJ. Results are then printed and available to anyone.

The Omaha Site

As mentioned, the Omaha site possess some unique qualities with regards to its' sampling procedure. The Omaha site does collect data on a quarterly basis as do the other sites, however, a typical collection period for Omaha is three weeks instead of two, or 21 consecutive days and evenings. An interviewer and a supervisor are present in the detention facility for two shifts, mornings and evenings, which is also different from the other sites. This schedule is necessary due to the smaller number of individuals detained in Omaha. As required by all sites, 225 adult male arrestees are sampled.

After an arrestee is "booked" into the detention facility, the on site supervisor selects which individuals are available and/or eligible for the DUF program. Omaha is an exception to the selection process. To obtain a sufficient sample size, all adult males, including those charged with a driving offense are included in the sample. A member of the detention staff then retrieves the selected arrestee from his cell where he is then taken by a trained interviewer to a interrogation room set aside for the DUF program. The interviewee is assured that his participation is voluntary, confidential, and anonymous. If the arrestee agrees, a coded ID number is attached and the interview begins.

After the interview is completed, a urine specimen is then solicited. If the interviewee agrees, he is then instructed to use a portable toilet in the same room, which is divided by a temporary wall (a screen), while the interviewer leaves the room. A blue dye is present in the toilet to ensure that the individual does not dip the bottle into it to obtain his sample. Omaha is the only site which utilizes a portable toilet; other sites have access to a regular restrooms. The urine sample is then coded with the same ID number as the interview. Strict precautions are taken to verify that the correct interview is matched with the correct specimen. If the interviewee will not provide a specimen, "refused, did not try" or "tried, could not" is marked on the back of the interview. As is the same with all other sites, at quarter's end, all pieces of data are packaged up by the on site supervisor and sent to their designated destination.

THE SAMPLE

The present study will use the Omaha DUF data set from second quarter 1990 through the first quarter of 1995 collection[3]. A total sample size of 4,255 interviews and urinalysis' are available. Only adult males will be analyzed[4].

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[3] Over time, minor adjustments have been made to the DUF instrument however, the changes will not effect the current analysis.

[4]Unfortunately, due to the low number of females and juveniles, they were excluded from this study. Moreover, the Omaha DUF site does collect information on adult females. However, fewer than 100, the stated number requested by the National Institute of Justice for reporting purposes, is not reached per quarter. Omaha does not collect data on juveniles.

One particular question found on the DUF interview form is of importance to this study. The question is, "Do you feel you could use treatment for drug or alcohol use?" If an affirmative response is indicated, additional information such as, type of treatment, drug, alcohol, or both is asked. Comparisons between the two groups, those answering "yes" to the treatment questions and those answering "no" will be the basis of the analysis in the present study.

Methodology

In all, 12 independent variables will be reviewed. Respondent characteristics to be analyzed include: age, education, marital status, employment, income, and race. The situational factors to be analyzed include: seriousness of offense, top charge, age of onset, use in the last 72 hours, use in the past 30 days, and urinalyses results. These variables will then be compared to responses to questions about a perceived need for treatment (the dependent variables). Frequency distributions will be run on all independent and dependent variables. An offering of the coding and recoding of variables can be found in Tables 1 and 2. Results of a bi-variate analysis, a chi-squared test, can be found in Table 3.

ANALYSIS AND FINDINGS

Univariate (Frequencies) Findings

This section presents the results of the frequency distributions for 13 different variables. The variables were broken down into two categories: respondent characteristics

and situational characteristics. Respondent characteristics included: Age at Arrest, Education, Marital Status, Employment, Income, and Race. Variables defined as situational characteristics are: Seriousness of Offense, Top Charge, Age of Onset, Use within the last 72 hours, Use within the last 30 days, Urinalysis results for Number of Drugs Positive, Marijuana, and Cocaine. These variables will be used to explain the outcomes for Need Treatment.

When asked "Do you feel you could use treatment for drug or alcohol use?", 86.9 percent of the arrestees replied "no". The other 13.1 percent answered, "yes"[5] . The mean age of arrestees was, 29.1 years with a standard deviation of 9.7 years at time of arrest. In the present analysis, most arrestees did have a high school education or the equivalence of (a GED). Almost 68 percent had at least a high school diploma as compared to 32.1 percent of arrestees who did not have a high school degree nor its equivalent. About three-fourths, (73.8 percent) of all arrestees self-reported "single" for marital status. Only 26.2 percent of arrestees were married or cohabitating.

An arrestee's employment status may play a role in his response to the question "Do you feel you could use treatment for drug or alcohol use?" In this sample, slightly over half, 50.7 percent, of arrestees were working full-time, the other 49.3 percent were only working part-time or not working at all (25.5 percent part-time and 23.8 percent unemployed respectively). Income is closely related to employment. In this sample, the

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[5] A "yes" response includes yes to drugs only and drugs and alcohol.

largest number of arrestees, 1210 out of 4255, fell into the category of making $500-$949 a month. About 29 percent claimed a legal income of more than $500 or more a month but less than $949 a month. The second largest category were those who claimed to have made $950-$1549 a month (21.0 percent). Twenty percent claimed to have made $0-$149, 19 percent claimed $150-$499, and 11.5 percent claimed $1550 or more a month. Twenty-nine percent of this sample falls below what the census determines to be the poverty line: $531.50 a month (U.S. Department of the Census, 1991).

The last demographic characteristic to be examined was race/ethnicity [6]. The influence of race/ethnicity and a self-reported need for drug treatment is unclear. Virtually the same number of Blacks (47.5 percent) as Whites (46.7 percent) were arrested and interviewed for this DUF sample. Hispanics constituted only 5.9 percent of the sample.

Not only were demographic factors considered as having the potential to effect the outcome of the need for treatment frequencies, but situational factors were also incorporated in the analysis. In this study almost twice as many individuals were charged with a misdemeanor than were charged with a felony (65.8 percent v. 34.2 percent respectively). The variable "top charge", which is closely related to "seriousness of offense" was also selected for analysis. Only a small number of arrestees included in the present sample, 7.5 percent, were charged with either drug sale or drug possession. The majority of arrests, 92.5 percent, were for "non-drug" (see Table 2) crimes. As noted,

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[6] The variable Race/Ethnicity refers to Blacks, Whites, and Hispanics.

where possible, a limited number of male arrestees charged with drug sale or drug possession are sampled. "DUF statistics frequently are minimum estimates of drug use in the male arrestees population" (National Institute of Justice, 1992: 2).

Marijuana, cocaine, and crack were the three drugs chosen for examination in this study because they are the most used drugs at the Omaha site[7]. Therefore, more quality information exists for them than the other 17 drugs inquired about. Specific dynamics of their use will be discussed here. Arrestee's responses to"age of onset", "used within the last 72 hours", and "used within the last 30 days" are offered.

When asked if they had "ever tried marijuana?", 78.8 percent of all arrestees responded "yes", they had tried marijuana at some point and time in their lives. Only 904 of the 4255 arrestees in this sample had not tried marijuana (21.1 percent). This result is not surprising considering the social acceptability of the drug. Although it is not as accepted as alcohol or tobacco and it is illegal, marijuana has a reputation as being as "soft" drug. More individuals are willing to try a substance that will inhibit them to a lesser degree than a drug like cocaine or acid.

The numbers do almost a complete reverse compared to the responses for marijuana when arrestees were asked if they had ever tried cocaine. About 66 percent claimed never to have tried cocaine where as 34.5 percent claimed to have tried cocaine at

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[7] Although alcohol and tobacco are the two most popular drugs two problems exist when attempting to analyze them. First, they are legal substances, therefore they are more accessible and more socially acceptable. Secondly, urine samples are not tested for either of the two.

least once. Even fewer arrestees claimed to have tried crack[8] (20.5 percent). The decrease in percentages from marijuana use to crack use can in part be explained by the social tolerance for each drug. Society is somewhat tolerant of marijuana use and there have been several movements to legalize marijuana. In the not so distant past, cocaine was used in numerous products however, it is now viewed as a highly addictive, expensive, violence invoking drug. Crack is the least acceptable of the three. Crack use has been blamed as one of the factors behind the devastation of inner-city living.

If an arrestee responded "yes" to ever having tried a certain drug, he was then asked at what age had he first tried that drug. The mean age for first marijuana use was 15.3 years of age with a standard deviation of 4.5 years. A majority of the sample, 86.6 percent, fell between the ages of 10 to 20. Arrestees who responded "yes" to having tried cocaine, averaged 20.7 years of age (with a standard deviation of 5.7 years) when they had first tried the drug. Of the 866 arrestees who admitted to having tried crack, an average said they started at the age of 25.6 (S=7.4 years). Interestingly enough, the age first tried got progressively older, by approximately 5 years, for each drug. What may be happening here has been labeled the "gateway" theory. An individual will try a "soft" (i.e. alcohol, tobacco, or marijuana) drug first he/she will then try a "harder" (i.e. acid, amphetamines, or cocaine)drug next and an "even harder" (i.e. crack, heroin, crystal meth) drug last.

Arrestees were also questioned about the recency of their drug use. The question

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[8] A distinction is made, by the interviewer, to the arrestees to clarify powder cocaine use from crack use.

" In the last three days did you use:.....?" is asked if an arrestee self-reports having tried a substance. About 27 percent of those arrestees who had ever tried marijuana, self-reported using the drug within the last 72 hours. Only 124 arrestees or 2.9 percent of those who had tried cocaine admitted to using in the last 3 days. Of those arrestees who had responded "yes" to having tried crack, 4.8 percent had used crack-cocaine within the last 72 hours.

Additionally, an arrestee is asked how many days they used the drug (s) in the last month. Responses can range from 00 days (none) to 30 (every) days used. The average number of days marijuana was used by the arrestees in this sample was 5.8[9] days (S= 9.4 days). Cocaine was used on the average only 1 out of 30 days within the last month (a mean of 1.2 and a standard deviation of 4.3 days). About 82 percent of the arrestees who had ever tried cocaine, had not used cocaine within the last 30 days. Crack was used a mean of 3.4 days, with a standard deviation 7.4 days, in the last month.

If an arrestee proclaims a need for treatment, additional questions are asked regarding specification for type of treatment sought. Of those answering "yes", 480 arrestees, to a need for treatment, 226 (5.3 percent) respondents indicated a need for marijuana treatment and 234 (5.5 percent) respondents indicated no need for marijuana

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[9] See the DUF interview in the Appendix for further explanation of how questions are administered to an arrestee.

treatment[10] . Essentially, half of those arrestees who self-reported a need for treatment, felt that it was marijuana treatment which they needed. About 4 percent of arrestees indicated a need for cocaine treatment however, 7.2 percent did not. Only 3.2 percent of arrestees responded that they needed crack treatment. In contrast, 7.6 percent did not indicate a need for crack treatment.

Frequencies were also run for the urinalysis results [11]. Of the present sample (N=4255), just over 65 percent of arrestees (n=2769) tested negative for marijuana and 34.9 percent of arrestees (n=1486)tested positive. A relatively small number of arrestees tested positive for the presence of cocaine. About 17 percent had a positive urinalysis and 82.6 percent had a negative specimen. This sub-group of the sample actually comprises two types of drug users; those testing positive for cocaine and those testing positive for crack. As previously noted, these are the results for both cocaine and crack-cocaine since the EMIT testing procedure cannot distinguish between the two substances.

Implications for treatment are harder to judge since this variable includes both cocaine and crack. There are unique and separate behavior patterns for the drug cocaine and the drug crack. Although, those arrestees who test positive for cocaine have been

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[10] 20 cases were missing from the "need marijuana treatment", "need cocaine treatment", and "need crack treatment" variables hence, the difference between 480 cases and 460 cases. The missing cases were removed from the frequencies so as to not effect the percentages.

[11] Omaha ranks as the lowest of all 24 DUF sites for positive urinalysis results. Simply due to the fact that a low percentage of urine specimens are positive, the three drugs with the most positive urinalyses were chosen for better reporting purposes.

found to be nearly four times as likely to self-report a need for treatment as those who tested negative (Decker, 1992), is difficult to discern which individuals are cocaine users and which individuals are crack users.

Bi-Variate (Chi-Square) Findings

In this section, the results of the bi-variate analysis used to test the study hypothesis will be discussed. The chi-square statistic was used to test for significant differences between those who report the need for treatment and those who indicate no such need. Two sets of independent variables (respondent characteristics and situational characteristics) were tested. The dependent variable for the analysis , need for treatment. The results of the chi-square analyses are presented in Table 3.

Hypothesis I states that the older an arrestee is, the more likely he will be to self-report a need for treatment. As Table 3 shows, there is a significant relationship between age and a self-reported need for drug treatment. Chi-Squared for this comparison is significant at the .000 level and therefore, the null hypothesis is rejected. Arrestees, aged 31 to 35, make-up the largest category (17.1 percent) and arrestees aged 17 to 20 make-up the smallest category (9.0 percent) reporting a need for drug and/or drug and alcohol treatment.

Hypothesis II, which states that those arrestees with higher education will be more likely to self-report a need for drug treatment, was supported. Almost 14 percent of those arrestees with a minimum of a high school degree or GED self-reported a need for

treatment but, of those with less than a high school degree, 11.4 percent reported no need for treatment. This test was significant at the .014 level; chi-squared value of 8.54.

The variable marital status was found to be significant at a .048 level of significance. Of those arrestees self-reporting a need for treatment, 15.3 percent were married or cohabitating and 12.3 percent were single. Therefore, Hypothesis III which states that arrestees who are married will be more likely to self-report a need for drug treatment, is supported.

Hypothesis IV states that, those arrestees who are employed full-time will be more likely to self-report a need for treatment as opposed to those respondents who are employed either part-time or unemployed is supported (X^2=19.67; p=.001). Although there is a significant relationship between a self-reported need for treatment and employment status, it appears that arrestees who are employed part-time (15.1 percent) or unemployed (15.1 percent) are more likely to positively respond than are arrestees who are employed full-time (10.3 percent).

An examination of Table 3 indicates that Hypothesis V is supported when self-reported need for treatment is compared with the respondent's income. Therefore, the null hypothesis is rejected. Arrestees who self-reported a monthly income of $0-$149 (15.8 percent) were most likely to report a need for treatment whereas, arrestees with a self-reported income of $1550 or more (8.2 percent) a month were least likely to self-report a need for treatment.

There is a significant relationship when comparing a self-reported need for

treatment and race. The relationship is significant at a .002 level with a chi-squared value of 17.13. White and Black respondents were about twice as likely (14.4 percent and 12.3 percent, respectively) to self-report a need for drug and/or drug and alcohol treatment than were Hispanics (5.6 percent). No definitive hypothesis was previously offered simply based on the premises that no difference would be found between a self-reported need for treatment and the variable race.

Six situational characteristics were included in the analysis. As was the case with the demographic characteristics, not all hypothesized relationships were statistically significant. Table 3 includes the results of these bi-variate analyses.

When comparing self-reported need for treatment with age first tried cocaine (X^2= 13.27; p=.103) and age first tried crack (X^2= 3.96; p=.861) no statistically significant differences were found. However, there is a significant relationship (X^2=77.58; p=.000) between age first tried marijuana and a self-reported need for treatment. Thus, there is only partial support for Hypothesis IX, which states that the younger an arrestee was when he first tried a substance the more likely he will be to self-report a need for treatment.

There is a positive relationship between a perceived need for treatment and seriousness of offense (X^2=64.80; p=.000). Hypothesis VII suggests that, arrestees who were charged with a felony would be the more likely to self-report a need for treatment as opposed to their counterparts, arrestees charged with a misdemeanor. Based on the significance of the chi-squared test, the null hypothesis is thereby rejected.

A significant difference was also found when examining self-reported need for treatment and top charge (X^2=90.23; p=.000). Those arrestees charged with a drug crime[12] were twice as likely, 24.0 percent v. 12.1 percent, as those charged with an non-drug crime to positively report a need for treatment. Thus, Hypothesis VIII, which stated that those arrestees who are charged with a drug crime will be more likely to self-report a need for treatment than arrestees who are charged with a non-drug crime, is supported.

Hypothesis X, states that those arrestees who have used drugs within the past three days will be more likely than those who had not used in the past three days to self-report a need for drug treatment. The null hypothesis is rejected for this comparison. The chi-squared test was significant for all three drugs, marijuana, cocaine, and crack. Twenty-six percent of the respondents self-reported a need for treatment as compared to 8.2 percent who did not indicate a need for treatment for marijuana use (X^2=201.36; p=.000). For both cocaine and crack use within the past 72 hours, respondents were more than five times as likely to self-report a need for treatment (60.2 percent v. 11.4 percent for cocaine use and 62.5 percent v. 10.3 percent for crack use). Both of the tests for cocaine (X^2=241.87; p=.000) and crack (X^2=525.69; p=.000) were significant.

A positive relationship between a self-reported need for treatment and drug use within the past 30 days was also found. The chi-square analysis indicated that there was a significant difference at the p=.000 level of confidence. This relationship held true for all

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[12] See Table 1 for a list of drug crimes and non-drug crimes.

three substances tested: marijuana, cocaine, and crack. The findings reported in Table 3 support Hypothesis XI, which states that arrestees who have used a drug within the past 30 days will be more likely to report a need for treatment than those who had not used a drug in over a month. Those arrestees who used marijuana 16 or more days out of the past month (33.1 percent) were the most likely to indicate a need for treatment. In contrast, those arrestees who used marijuana 0 to 3 days out of the past month, 10.8 percent, were the least likely to report a need for treatment.

About 28 percent of the arrestees who used cocaine 0 to 3 days in the last month, reported a need for treatment. All other drug use categories had much higher rates of a self-reported need for treatment with cocaine being the highest, 75.0 percent (see table 3). In regards to a self-reported need for treatment and crack use in the past 30 days, arrestees who used 0 to 3 days out of the past 30 (30.5 percent) were the smallest category whereas arrestees who used 16 or more days out of the past 30 (81.8 percent) were the largest category.

Lastly, a significant relationship was found when a self-reported need for treatment and urinalysis results were compared. Therefore, Hypothesis XII which states that, arrestees with a positive urinalysis will be more likely to self-report a need for treatment is supported. Both substances, marijuana and cocaine, had X^2 values of 22.07 and 195.76 respectively (p=.000). Arrestees whose urinalysis tested positive for marijuana were more likely to report a need for treatment than those arrestees whose urinalysis tested negative; 16.4 percent v. 11.2 percent. The same results were found with the drug

cocaine but to a greater degree. About 28 percent self-reported a need for treatment had a positive urinalysis whereas 9.8 percent self-reported a need for treatment but did not have a positive urinalysis.

SUMMARY

The purpose of this thesis was to explore an arrestee's perceived need for treatment. The objective of the current analysis was to determine whether certain variables effect an arrestee's response to the question, "Do you feel you could use treatment for drug and/or drug and alcohol use?" Two statistical methods, frequencies and the chi-squared test, were executed to determine the relationship or lack thereof between the dependent variable 'need treatment' and the 12 independent variables. Frequencies and a Chi-Square test were run on different demographic characteristics, situational characteristics, urinalysis results, and a self-reported need for treatment (refer to Tables 2 and 3).

In general, the average arrestee in this sample was in his late twenties, had a high school degree or its' equivalent, was single, employed at a minimum of part-time, and made around $500 a month. The number of Blacks to Whites was relatively equal, with Hispanics comprising less than 6 percent of the sample. Most arrestees were detained on a misdemeanor. Only 7 percent were charged with a drug crime (drug sale or drug possession). A majority (78.8 percent) of the respondents had tried marijuana at some point and time in their lives. These individuals were in their mid-teens the first time they

had tried marijuana. Over one-fourth had used marijuana within the last 3 days and were using it at varying amounts throughout the last 30 days. However, only 5 percent felt they could use treatment for marijuana use.

Just over a one-third of the respondents had tried cocaine. Those who had tried cocaine were usually in their early 203's when they used for the first time. A low 2.9 percent self-reported using in the last three days and 13 percent were using cocaine 1 to 5 days out of the last month. Twenty percent of the arrestees surveyed had tried crack-cocaine and did so at an average age of 25.6 years. Less than 5 percent had used it within the last 72 hours. Of those currently using crack, 3.4 days was the mean number of days used with a standard deviation of 7.4.

Interestingly, only 26.5 percent of the arrestees admitted to using marijuana within the last 3 days, but 34.9 percent of the sample had a positive urinalysis for marijuana. There is also inconsistencies between self-reported cocaine and crack use and urinalysis results. Just over 3 percent of the respondents admitted to using cocaine and 4.8 percent admitted to using crack within the last 72 hours. However, 17.4 percent of the sample tested positive for cocaine hence, a difference of 9.7 percent. For every drug analyzed, marijuana, cocaine, and crack, fewer arrestees claimed a need for treatment than were using (5.3 percent, 3.6 percent, and 3.2 percent v. 26.5 percent, 2.9 percent, and 4.8 percent respectively). These results are similar to those found in other studies.

DISCUSSION

The results of testing 12 hypotheses, that specified which characteristics are associated with an arrestee's expressed need for treatment, produced results similar to those found in other studies. However, some findings from this analysis are different and warrant further discussion. When a chi-squared test was run on a perceived need for treatment and seriousness of offense, a major difference in reporting existed between those charged with a misdemeanor versus those charged with a felony. Almost twice as many felons, 18.2 percent, self-reported a need for treatment as did misdemeanants, 10.2 percent.

Hypothesis VII of the present study states that arrestees charged with a felony will be more likely to self-report a need for treatment, which was true in this case. Previous research also suggests this to be true (Decker, 1992; Marshall and Webb, 1993). Those arrestees charged with a serious offense were more likely than those charged with a lesser offense to express a need for treatment. Consideration must be given to the fact that all arrestees are not selected for the DUF interview. Due to low numbers of arrestees, Omaha does not follow the national DUF protocol for selecting arrestees which is non-drug felonies, then non-drug misdemeanors, then drug felonies, and then drug misdemeanors. If more felony arrests were included in the DUF data there would likely be even more larger differences in the percentage of reporting a need for treatment.

The self-reported need for treatment and top charge were also compared using chi-squared. As was found with seriousness of offense, twice as many arrestees charged with

a drug crime as those charged with a non-drug crime positively reported a need for treatment. Twenty-four percent of those charged with either a drug distribution or drug possession crime perceived themselves as needing drug and/or drug and alcohol treatment whereas, 12.1 percent of those charged with such offenses as burglary, assault, or theft, self-reported a need for treatment. Findings in this study and findings by Decker (1992), indicate that arrestees who are selling drugs as a means of employment are more likely to self-report a need for drug treatment.

Recency of drug use has been positively associated with a self-reported need for drug treatment. "Those more likely to admit their drug use should be expected to be more forthright about drug treatment" (Decker, 1992: 9) Indeed, results of the St. Louis DUF site, indicated that self-reported drug use was a better measure than urinalysis results for predicting a need for drug treatment. This held true for self-reported drug use in the past 3 days (recency) and the past month (intensity).

Results from the current analysis for self-reported need for treatment and use within the past 72 hours demonstrates that a positive relationship does exist between the two variables. Arrestees who admitted to using marijuana within the past 72 hours were over 3 times as likely to self-report a need for treatment as where those arrestees who did not report marijuana use within the past 72 hours (26.0 percent v. 8.2 percent respectively). The same dramatic results were found with cocaine and crack use within the past 3 days.

Arrestees who had used cocaine or crack within the last 72 hours reported a need

for treatment, five times more than did those who had not used either substance in the past 3 days. Sixty and two-tenths percent (cocaine use) and 62.5 percent (crack use) compared to 11.4 percent and 10.3 percent reported a need for treatment. Therefore, recency of drug use is a strong indicator as to how an arrestee will respond when asked about a need for treatment.

Intensity of use also seems to play a major role in an arrestees response to a self-reported need for drug treatment. Arrestees who used marijuana and crack 16 or more days out of the past 30, were the largest category to disclose a need for treatment. About 33 percent of those who had used marijuana 16 or more days out of the past 30 compared to 10.8 percent of those who had used marijuana 0 to 3 days indicated a need for treatment. Those using crack only 0 to 3 days out of the past 30, 30.5 percent, reported a need for treatment whereas those using crack 16 or more days out of the past 30, 81.8 percent, reported a need for treatment. Significant differences, but not as large as for marijuana and crack, were also found with cocaine use in the past 30 days. Of those arrestees who used cocaine 16 or more days out of the past 30 (66.7 percent) did so at a higher rate than those arrestees who were using 0 to 3 days however, those reporting 4 to 7 days of cocaine use (75.0 percent) followed by those reporting 8 to 11 days of cocaine use (72.7 percent) and lastly followed by those reporting 12 to 15 days of cocaine use (72.8 percent), positively indicated a need for treatment. To conclude, it appears as though not only is recency (use within the past 72 hours) but also intensity (number of days used in the past 30) of use, are strong indicators of an expressed need for treatment

Caution must be heeded when analyzing these results. As mentioned previously, the EMIT drug testing procedure can only detect the presence of a specified substance. That is to say, no further information beyond a "positive" or a "negative" can be stated. There is no way of telling whether or not the individual is a first time user, occasional user, or chronic user, there is just the simply evidence of "recent" use.

Recent in this context could mean within the past few hours, within the past 2 to 3 days, or numerous days over the past month. For example, marijuana can be detectable for up to 10 to 27 days in the urine of those individuals who use on a regular (daily) basis (Bureau of Justice Statistics, 1992b; Visher, 1991). This is a particularly important point with regards to assessing treatment needs. One positive urinalysis does not make an individual, and arrestee in this case, an addict or a problem user (Wish and Gropper, 1990).

Lastly, results of the self-reported need for treatment and urinalysis results will be discussed. If an arrestee had a positive urinalysis, either for marijuana or cocaine, he was significantly more likely to report a need for treatment for that substance. Those arrestees who tested positive for the presence of cocaine, 27.6 percent, compared to those who did not test positive for cocaine, 9.8 percent, reported a need for treatment. Although the difference is not as striking as for marijuana, positive urinalysis, positive self-report (16.4 percent) and negative urinalysis, positive self-report (11.2 percent), arrestees who tested positive for a substance are more likely to ask for treatment.

CONCLUSIONS AND RECOMMENDATIONS

As Inciardi (1981) pointed out, the drug-crime relationship is simply the old "chicken-egg" question: What came first drugs or crime? Simplistic in nature, this question has serious implications when looking at where to start or what type of prevention, intervention, or treatment is needed. Unfortunately, no one has been able to answer the age old dilemma.

Do we adhere to the war on drugs mentality where combating crime and drug-related crimes are the first and foremost issue? Or do we focus on other issues like inner-city living, health care, and treatment? There are those who believe that by following the first choice we have essentially created an "underclass". Currie (1993) states that drug abuse has become 'endemic' in underclass neighborhoods.

While the general population's rate of drug use has gone down, the arrestee population's rate of drug use is much higher than the general population's. The alarming statistic is that almost 50 percent to 80 percent of the adult, male, arrestee population tests (by urinalysis) positive for "any drug" (National Institute of Justice, 1992). Research presented has shown that persons with early involvement in drugs and crime commit a disproportionately high rate of criminal offenses throughout their addictive careers (Ball et al., 1981, 1982; Chaiken and Chaiken, 1982; Inciardi, 1981, 1986; Johnson, et al., 1985; Nurco et al., 1991; Visher, 1991; Wish and Gropper, 1990).

Breaking the drug-crime connection will require changes in behavioral predispositions as well as a change in drug use patterns (Chaiken and Chaiken, 1982).

Wexler et al. (1988) estimates that treatment could reduce heroin-cocaine abusers criminality by 20 percent to 50 percent. Likewise, Anglin and Hser (1990) and DeLeon (1990) found that mandatory, coerced treatment reduces both drug use and offending. "Research has shown that achieving long-lasting behavior change among drug users-reducing drug use and associated criminality-is unlikely without drug abuse treatment and other supportive services" (NIJ, 1996).

The benefits of reducing the crime rate are obvious but reduction of drug use rates could have life saving results; such as a reduction in the spread of AIDS and other infectious diseases. "Drug users at risk for HIV infection often have multiple and immediate unmet needs" (NIJ, 1996). Decker (1992: 12) suggests that, "there may be a window of opportunity for drug treatment providers to intervene." The window of time referred to here is the early stages of drug use. Additionally, Decker (1992: 15) states, " Interestingly, the number of years since first drug use was longer for those who indicated no treatment was needed."

Although implementing treatment involves some difficult issues, there is a large group of individuals out there who need substance abuse treatment. And, due to a significant portion of these persons being criminal substance abusers the criminal justice system needs to play an proactive role. Decker (1992) suggests that even though arrestees are a difficult population to convey information about unsafe behaviors (drug use and unprotected sex) and they may have already failed at treatment, have a lack of resources or legitimate ties to the community to seek treatment, that it is the very nature of their

behavior which should prompt the criminal justice system to intervene or at least coordinate with other agencies to offer some sort of treatment assistance.

One fairly recent piece of research may be able to assist the criminal justice system in identifying substance abusers who are in need of drug treatment. The DUF project not only follows a population never studied (to this magnitude) before, an arrestee population, but it also has a cross-check system, the use of urinalysis testing, in place. Unfortunately, it is for these two unique factors that the DUF program has fallen under criticism.

First, the population under study, an arrestee population, is not the general population. Therefore, results cannot be generalized to the general population. Secondly, previous research has shown that this population (arrestees) is more likely to be untruthful about criminal activities and drug use behaviors. Which raises the question, how legitimate are the DUF results? However, with respect to self-reporting, Decker (1992: 46) found that self-reporting was a more accurate measure of truth than were other tests; "Both *recency* of use [measured by number of days used in the past month] and *intensity* of use [measured by the number of days in the past month] were stronger indicators of the need for treatment than were the urinalysis results." This is a positive and reassuring finding for the DUF project.

Another common criticism of the DUF program is the reliance on urinalysis results for confirmation of self-reported data. As evident by Decker's findings, urinalysis results are not always the best predictors of self-reported behavior. Certainly, urinalysis testing does have its' benefits. The tests are relatively cheap, they are highly sensitive and specific

tests, and large volumes of specimens can be analyzed efficiently by paraprofessionals. However, by shear design of the testing procedure, error does exist. To help reduce error, it has been suggested that an additional testing procedure be available. For example, the use of hair analysis.

Irregardless of the criticisms, the DUF instrument is relatively good and the DUF data has a tremendous amount of information pertaining to characteristics of the drug user and the drug users need for treatment. Logically, it cannot and should not be the only estimate of drug use in the nation nor only place from which to draw a pool of individuals for treatment. Marshall and Webb (1993: 23) suggest,

> "Developing treatment needs models using only DUF data presents several problems.....specification errors; prior arrests and prior experience with the criminal justice system, or impact of the interview taking place in a criminal justice setting (booking facility or lock-up) on the expression of a need for treatment.....Never the less, analysis of DUF data holds promise for aiding in the development of screens that enhance the efficiency and effectiveness of treatment interventions designed to target substance abusers who have just been entered into the initial stages of the criminal justice process."

The bottom line is that there are a large number of individuals in the arrestee population who need and/or want drug treatment. What is now necessary is to identify those individuals and be able to provide them treatment.

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Table 1: Recoding of Original DUF Coding of Variables[13]

Variable	Recoding	N	%
Respondent Characterisitcs			
Age at Arrest	Mean Age of 29.1 with a Standard Deviation of 9.7 years		
Education			
Neither HS Grad nor GED	0=No	1359	31.9
HS Grad or GED	1=Yes	2879	67.7
	99=Missing	17	.4
Marital Status	0=Single	3137	73.7
	1=Married/Cohabitating	1115	26.2
	99=Missing	3	.1
Employment[14]	1=Full-Time	2066	48.6
	2=Part-Time	1041	24.5
	3=Unemployed	969	22.8
	99=Missing	179	4.2
Income[15]	1=$0-$149	853	20.0
	2=$150-$499	808	19.0
	3=$500-$949	1210	28.4
	4=$950-$1549	894	21.0
	5=$1550 and above	490	11.5
Race	0=Black	1935	45.5
	1=Hispanic	239	5.6
	2=White	1901	44.7

[13] N=4255

[14] Only legal occupations were selected.

[15] Based on monthly legal income.

Table 1 Cont.: Recoding of Original DUF Coding of Variables

Variables	Recoding	N	%
Race Cont.			
	99=Missing	180	4.2
Situational Characteristics			
Seriousness of Offense	1=Misdemeanor	2800	65.8
	2=Felony	1454	34.2
	99=Missing	1	0
Top Charge	1=Drug Crime[16]	317	7.5
	2=Non-Drug Crime[17]	3938	92.5
Ever Tried			
Marijuana	0=No	904	21.2
	1=Yes	3351	78.8
Cocaine	0=No	2787	65.5
	1=Yes	1468	34.5
Crack	0=No	3382	79.5
	1=Yes	873	20.5
Age of Onset			
Marijuana	Mean Age of 15.4 with a Standard Deviation of 4.5 years		
	99=Missing	5	.1
	0=Never Tried	904	21.2
Cocaine	Mean age of 20.7 with a Standard Deviation of 5.7 years		

[16] Drug Crime= Drug Sale and Drug Possession

[17] Non-Drug Crimes include: Arson, Assault, Burglary, Burglary Tools, Prostitution, Damage/Destroy Property, Extortion/Threat, Weapons, Family Offense, Fare Beating, Flight/Escape/Bench, Forgery, Fraud, Homicide, Kidnapping, Larceny/Theft, Liquor, Obscenity, Obstructing Officer, Probation/ParoleViolation, Public Peace/ Disturbance, Pickpocketing, Robbery, Sexual Assault/ Rape, Sexual Offenses, Stolen Property, Stolen Vehicle, Under the Influence, Other, DWI, and Driving.

Table 1 Cont.: Recoding of Original DUF Coding of Variables

Variables	Recoding	N	%
Age of Onset Cont.			
	99=Missing	11	.3
	0=Never Tried	2787	65.5
Crack	Mean Age of 25.6 with a Standard Deviation of 7.4 years		
	99=Missing	7	.2
	0=Never Tried	3382	79.5
Self-Reported Drug Use in the Last 72 Hours			
Marijuana	1=Yes	1129	26.5
	99=Missing	31	.7
	0=No Use	3095	72.8
Cocaine	1=Yes	124	2.9
	99=Missing	23	.5
	0=No Use	4108	96.5
Crack	1=Yes	205	4.8
	99=Missing	8	.2
	0=No Use	4042	95.0
Self-Reported Drug Use in the Last 30 Days			
Marijuana	Mean # of Days=5.8 with a Standard Deviation of 9.4 days		
	99=Missing	53	1.2
	0=No Use	904	21.3
Cocaine	Mean # of Days=1.2 with a Standard Deviation of 4.3 days		
	99=Missing	27	.6
	0=No Use	2787	65.5
Crack	Mean # of Days=3.4 with a Standard Deviation of 7.4 days		
	99=Missing	12	.3
	0=NoUse	3382	79.5

Table 1 Cont.: Recoding of Original DUF Coding of Variables

Variables	Recoding	N	%
Urinaylsis			
Marijuana[18]	0=Negative	2769	65.1
	1=Positive	1486	34.9
Cocaine[19]	0=Negative	3513	82.6
	1=Positive	742	17.4
Need Treatment	0=No	3188	74.9
	1=Yes, Drug Only	177	4.2
	2=Yes, Drug and Alcohol	303	7.1
	99=Missing	587	13.8
Need Marijuana Treatment	0=No	234	5.5
	1=Yes	226	5.3
	99=Missing	20	.5
Need Cocaine Treatment	0=No	308	7.2
	1=Yes	152	3.6
	99=Missing	20	.5
Need Crack Treatment	0=No	322	7.6
	1=Yes	138	3.2
	99=Missing	20	.5

[18] Due to the low percentage of positive urinalysis results of most drugs, Marijuana and Cocaine will be the only two drugs analyzed.

[19] The EMIT test can distinguish between Cocaine and Crack since they are from the same derivative.

Table 2: Frequencies of Variables After the Elimination of Cases with Missing Data[20]

Variables	Recoding	N	%
Respondent Characteristics			
Age at Arrest	Mean Age of 29.1 with a Standard Deviation of 9.7 years		
Education			
	0=Neither HS Grad or GED	1359	32.1
	1=HS Grad or GED	2879	67.9
Marital Status	0=Single	3137	73.8
	1=Married/ Cohabitating	1115	26.2
Employment	1=Full-Time	2066	50.7
	2=Part-Time	1041	25.5
	3=Unemployed	969	23.8
Income	1=$0-$149	853	20.0
	2=$150-$499	808	19.0
	3=$500-$949	1210	28.4
	4=$950-$1549	894	21.0
	5=$1550 and above	490	11.5
Race	0=Black	1935	47.5
	1=Hispanic	239	5.9
	2=White	1901	46.7
Situational Characteristics			
Seriousness of Offense	1=Misdemeanor	2800	65.8

[20] N= 4255

Table 2 Cont.: Frequencies of Variables After the Elimination of Cases with Missing Data

Variables	Recoding	N	%
Seriousness of Offense Cont.			
	2=Felony	1454	34.2
Top Charge	1=Drug Crime	317	7.5
	2=Non-Drug Crime	3938	92.5
Age of Onset			
Marijuana	Mean Age of 15.4 with a Standard Deviation of 4.5 years		
Cocaine	Mean Age of 20.7 with a Standard Deviation of 5.7 years		
Crack	Mean Age of 25.6 with a Standard Deviation of 7.4 years		
Used Within the Last 72 hours			
Marijuana	1=Yes	1129	26.5
Cocaine	1=Yes	124	2.9
Crack	1=Yes	205	4.8
Number of Days Used Within the Last 30			
Marijuana	Mean # of days=5.8 with a Standard Deviation of 9.4 days		
Cocaine	Mean # of days=1.2 with a Standard Deviation of 4.3 days		
Crack	Mean # of days=3.4 with a Standard Deviation of 7.4 days		
Urinayalsis			
Marijuana	0=Negative	2769	65.1
	1=Positive	1486	34.9
Cocaine	0=Negative	3513	82.6
	1=Positive	742	17.4
Need Treatment	0=No	3188	86.9
	1=Drug Only	177	4.8
	2=Drug and Alcohol	303	8.3

Table 3: Bi-Variate Anaylsis of Respondent and Situational Characteristics Associated with a Self-Reported Need for Treatment

	No Self-Reported	Self-Reported	CHISQ	P-Value
Respondent Characteristics				
Age at Arrest			42.55	.000
17-20	91.0	9.0		
21-25	89.1	10.9		
26-30	85.2	14.8		
31-35	82.9	17.1		
36+	84.3	15.7		
Education			8.54	.014
No H. S Degree	88.5	11.5		
Minimum of a H. S. Degree/GED	86.1	13.9		
Marital Status			6.08	.048
Single	87.7	12.3		
Married/Cohabit	84.7	15.3		
Employment			19.67	.001
Full-Time	89.7	10.3		
Part-Time	84.9	15.1		
Unemployed	84.9	15.1		
Income			19.36	.013
$0-$149	84.2	15.8		
$150-$499	85.4	14.6		
$500-$949	86.9	13.1		
$950-$1549	88.1	11.9		
$1550+	91.8	8.2		
Race			17.13	.002
Black	87.7	12.3		
Hispanic	94.4	5.6		

Table 3 Cont.: Bi-Variate Anaylsis of Respondent and Situational Characteristics Associated with a Self-Reported Need for Treatment

	None Self-Reported	Self-Reported	CHISQ	P-Value
Race Cont.				
White	85.6	14.4		
Situational Characteristics				
Seriousness of Offense			64.80	.000
Misdemeanor	89.8	10.2		
Felony	81.8	18.2		
Top Charge			90.23	.000
Drug Crime	76.0	24.0		
Non-Drug Crime	87.9	12.1		
Age of Onset				
Marijuana			77.58	.000
Up to 15	78.7	21.3		
16-20	90.5	9.5		
21-25	89.0	11.0		
26-30	79.3	20.7		
31+	90.0	10.0		
Cocaine			13.27	.103
Up to 15	67.1	32.9		
16-20	69.6	30.7		
21-25	76.5	23.5		
26-30	65.4	34.6		
31+	65.6	34.4		
Crack			3.96	.861
Up to 15	55.6	44.4		
16-20	64.3	36.7		
21-25	60.9	39.1		
26-30	58.0	42.0		
31+	56.8	43.2		

Table 3 Cont.: Bi-Variate Anaylsis of Respondent and Situational Characteristics Associated with a Self-Reported Need for Treatment

	None Self-Reported	Self-Reported	CHISQ	P-Value
Use Within the Past 72 Hours				
Marijuana			201.36	.000
No	91.8	8.2		
Yes	74.0	26.0		
Cocaine			241.87	.000
No	88.6	11.4		
Yes	39.8	60.2		
Crack			525.69	.000
No	89.7	10.3		
Yes	37.5	62.5		
Number of Days Used Within the Past 30				
Marijuana			148.54	.000
0-3	89.2	10.8		
4-7	80.7	19.3		
8-11	75.8	24.2		
12-15	74.8	25.2		
16-30	66.9	33.1		
Cocaine			115.85	.000
0-3	74.3	25.7		
4-7	25.0	75.0		
8-11	27.3	72.7		
12-15	27.8	72.2		
16-30	33.3	66.7		
Crack			128.13	.000
0-3	69.5	30.5		
4-7	36.2	63.8		
8-11	37.9	62.1		
12-15	39.3	60.7		
16-30	18.2	81.8		

Table 3 Cont.: Bi-Variate Analysis of Respondent and Situational Characterisitics Associated with a Self-Reported Need for Treatment

	None Self-Reported	Self-Reported	CHISQ	P-Value
Urinayalsis				
Marijuana			22.07	.000
No	88.8	11.2		
Yes	83.6	16.4		
Cocaine			195.76	.000
No	90.2	9.8		
Yes	72.3	27.6		

Adult DUF Interview

INTERVIEW DATE ___ ___/___ ___/___ ___ DUF SITE ID# ___ ___ PERSON ID# ___ ___ ___ ___ ___

INFORMATION FROM RECORDS *(Complete Before Approaching Arrestee)*

Year of Birth: ___ ___ SEX: Male–1 Female–2

Ethnicity: B (Not Hispanic) W (Not Hispanic) SS (Hispanic) Other (Am.Indian/Alaskan Nat./Asian/Pacific Islander) SPECIFY:_____

Precinct/location of arrest _____

Was the person charged with a warrant only? No–1 Yes–2

Most serious charge: (NO abbreviations or initials) _____

Arson	01	Family offense	13	Obstructing police/resist arrest	25
Assault	02	Fare beating	14	Probation/parole/ROR violation	26
Bribery	03	Flight/escape/bench warrant	15	Public peace/disturbance/mischief	
Burglary	04	Forgery	16	trespassing/reckless endangerment	27
Burglary tools	05	Fraud	17	Pickpocket/jostling	28
Commercial sex/prostitution	06	Gambling	18	Robbery	29
Damage, *destroy property*	07	Homicide	19	Sex assault/rape	30
Drug possession	08	Kidnapping	20	Sex offenses	31
Drug sale	09	Larceny/theft	21	Stolen property	32
Embezzlement	10	Liquor	22	Stolen vehicle	33
Extortion/threat	11	Manslaughter	23	Under the influence of cont. substance	34
Weapons	12	Obscenity (e.g.indecent exposure)	24	Other (specify above)	50

Most serious charge Penal Law Code ___ ___ ___ ___ ___ Most Serious Charge: Misdemeanor – 1 Felony – 2 Citation – 3

INFORMED CONSENT DISCUSSED WITH ARRESTEE WHO: *(Circle One)*

Agreed to interview – 1 Declined– 2 Not available (ill, asleep, taken to court)– 3 Other reason not interviewed–4 (Specify)_____

Interviewer's Initials: ___ ___ Interview conducted in: Spanish - 1 English- 2 Other–3

1. How many hours ago were you arrested? _____ hrs. *(If Greater Than 48 Hours Discontinue Interview)*

2. What is the highest grade you completed in school? (0 – 12; Never Attended School = 0) ___ ___

3. Did you graduate from high school or get a GED certificate? *(Circle One)*

   Neither ..... 1 Currently in high school ..... 3 ⟶ *(Go to Question 6)*
   High school graduate ..... 2 GED 4

4. How many months of technical, trade, or vocational training, other than high school, have you completed? ___ ___

5. Have you attended college? No–1 ⟶ *(Go to Question 6)* Yes–2 ⟶ How many years have you completed? _____

   IF COMPLETED ONE OR MORE YEARS OF COLLEGE, ASK: Did you receive: *(Read All Choices, Circle Highest Degree)*

   No Degree – 1 AA – 2 BA /BS – 3 Graduate degree – 4 Currently in college *full time* – 5

6. What is your current marital status? *(Read All Choices, Circle One)*:

   Single, never married ..... 1 Living with boyfriend/girlfriend 4
   Married ..... 2 Widowed 5
   Separated, divorced 3

7. In the past month, how did you mainly support yourself? *(Read All Choices, Circle One. Self-Employed Is Full- Or Part-Time Work)*

   Welfare, SSI ..... 0 In jail or prison 6
   Working full time ..... ASK A ..... 1 Housewife 7
   Working part time ..... ASK A ..... 2 Prostitute 8
   Working odd jobs ..... ASK A ..... 3 Dealing/drug sales 10
   Unemployed ..... 4 Other – Illegal (SPECIFY) _____ 11
   Mainly in school ..... 5 Other – Legal (SPECIFY) _____ 12

   A. IF EMPLOYED, ASK: What kind of job?_____

8. A. In the past month, what was your total income from all legal sources, e.g., wages, food stamps, welfare?___ ___ ___ ___ ___.00

   B. In the past month, how much money did you receive from all illegal sources? ___ ___ ___ ___ ___.00

9. Are you now or have you ever received treatment or detox for drug or alcohol use? *(Circle All That Apply)*

   Never received treatment 1
   Has received treatment in the past ..... 2 ⟶ What kind? Drug – 1 Alcohol – 2 Drug and Alcohol – 3
   Currently (now) in treatment ..... 3 ⟶ What kind? Drug – 1 Alcohol – 2 Drug and Alcohol – 3

10. Do you feel that you could use treatment for drug or alcohol use?

    NO 1
    YES, drug only ..... 2 ⟶ For what drug(s): Crack – 2 Cocaine – 2 Heroin – 2
    YES, alcohol only ..... 3 PCP – 2 Marijuana – 2 Crystal – 2 Amphetamines – 2
    YES, drug and alcohol ..... 4 Other – 2 (specify)_____

READ ALOUD: The following questions are somewhat personal but very important to the research. Remember all your answers are confidential.

11. How many different persons have you had sex with in the past year? ___ ___ ___ ___

12. Have you ever tried?	IF YES CIRCLE #	When you first tried (NAME DRUG) how old were you?	In the last 3 days did you use:	# of days used in last month? (NONE = 00)	Have you ever needed or felt dependent on:	IF EVER FELT DEPENDENT ASK: When first dependent, how old were you?	Are you now dependent on:
Alcohol	1	___	1	___	1	___	1
Tobacco (cigarettes, etc.)	2	___	2	___	2	___	2
Marijuana/hash	3	___	3	___	3	___	3
Inhalants (glue, gas)	4	___	4	___	4	___	4
Mushrooms	5	___	5	___	5	___	5
Black tar heroin	6	___	6	___	6	___	6
Heroin	7	___	7	___	7	___	7
Crack (Rock)	8	___	8	___	8	___	8
Cocaine (Powder)	9	___	9	___	9	___	9
PCP (angel dust)	10	___	10	___	10	___	10
Street Methadone	11	___	11	___	11	___	11
Methadone in trmt.	12	___	12	___	12	___	12
Crystal meth.	13	___	13	___	13	___	13
Amphs., e.g., speed	14	___	14	___	14	___	14
Downers, e.g., barb	15	___	15	___	15	___	15
Valium	16	___	16	___	16	___	16
Quaaludes (ludes)	17	___	17	___	17	___	17
LSD	18	___	18	___	18	___	18
Darvon	19	___	19	___	19	___	19
Dilaudid	20	___	20	___	20	___	20
Designer drugs (e.g., ecstasy,eve, adam, euphoria)	21	___	21	___	21	___	21
ICE (smokeable methamphetamine)	22	___	22	___	22	___	22

Any other drugs: NO – 1 YES – 2 ⟶ SPECIFY _____

13. In the last three (3) days, have you used any drugs, other than those listed above, for medical or nonmedical reasons?

NO – 1 YES – 2 ⟶ SPECIFY _____

14. Are there any new drugs on the street that you have heard are being used? NO – 1 YES – 2
Tell me about them (*Get Street Names, Route of Use, How Sold, Effects, Cost*):

IF THE ARRESTEE REPORTED EVER HAVING TRIED ANY DRUG OTHER THAN ALCOHOL OR TOBACCO, ASK QUESTIONS 15 THRU 20. IF PERSON NEVER TRIED ANY DRUG OR TRIED ONLY ALCOHOL OR TOBACCO, GO TO QUESTION 21.

15. How much money do you spend in an average week for *your* drug use, excluding alcohol or tobacco?
(Note: An average week refers to an average week in the last month.) $ ___ ___ ___ .00

16. What is your PREFERRED method for using cocaine? (*Circle Only One Number*)

Snort cocaine (powder)	1	Smoke crack (rock cocaine)	6
Freebase cocaine	2	Never used cocaine or crack	7
Smoke cocaine (powder), not crack	3	Used only once or twice	8
Inject cocaine only	4	Other (SPECIFY) _____	10
Inject cocaine with heroin (speedball)	5		

17. Have you ever injected drugs?

NO – 1 ⟶ (Go to Question 21) YES – 2 ASK A

A. IF EVER INJECTED, ASK: How old were you when you first injected? _____ yrs.

B. About how many times have you injected drugs (lifetime)? _____ (9998 = Too many to count)

C. Which of the following drugs have you EVER injected? (*Read Each and Circle All That Apply*):

Heroin - 1 Cocaine - 2 Amphetamines/speed/crystal - 3 Other - 4 (SPECIFY) _____

D. Have you injected any drugs in the last six (6) months? NO - 1 YES - 2

E. Have you ever shared your works/needles?

NO – 1 ⟶ Why have you never shared? (*Circle One*)

Because of AIDS...1 ⟶ How did you learn about AIDS?
_____
_____
_____

Other reason(s)...2 ⟶ What is the reason(s)?
_____
_____
_____

(Go to Question 21)

YES – 2 ⟶ How often do you share? (*Read All - Circle One*)

Used to, don't anymore 2
Some of the time 3
Most/all of the time 4

18. When was the last time you shared? ___ ___
(CODE YEAR, e.g., '76, '77)

19. Has AIDS affected your needle sharing? (*Circle One*)

NO – 1 Why has it not affected your sharing?
_____

YES – 2 How has it affected your sharing?
_____
_____

– 3 Stopped injecting due to AIDS

20. Have you shared since you heard about AIDS?

NO - 1 YES - 2

21. Specimen was:

Refused/ did not try – 1 Tried, couldn't urinate – 2 Provided specimen – 3