Patterns of Cocaine Consumption: A Sub-Analysis of the Drugnet Survey

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PATTERNS OF COCAINE CONSUMPTION:
A SUB-ANALYSIS OF THE DRUGNET SURVEY

A Thesis
Presented to the Faculty of the Department of Public Health
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By
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PATTERNS OF COCAINE CONSUMPTION:
A SUB-ANALYSIS OF THE DRUGNET SURVEY

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PATTERNS OF COCAINE CONSUMPTION:
A SUB-ANALYSIS OF THE DRUGNET SURVEY

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The myths and misconceptions that surround cocaine use lead to the over-estimation of the prevalence of cocaine addiction in society. Health education curricula and drug policy do not differentiate between cocaine use and abuse. This study describes the cocaine consumption patterns in a nonclinical, non-incarcerated sample of cocaine users. The resulting patterns are compared to those found by Cohen (1989) and Cohen and Sas (1993, 1994, 1995). DRUGNET is an online survey of recreational drug use by non-deviant adults via the WWW. Self-selected subjects completed a survey over the Internet between February and October 1997 (N= 701). This sample was predominantly white (92%), male (85.3%), young (mean = 34.13 years, SD = 9.40, Range = 18 to 71), employed full-time (72.6%), and earned a median income of $50,000-69,999 (21.2%). The most prevalent pattern observed was a period of moderate consumption followed by declining use (52.7%). The second most common pattern observed was a period of increased consumption followed by steady decline to a lower stable level (25.5%). The most prevalent pattern of consumption found in this study and those reported by Cohen and Sas is that the most prevalent patterns all showed an eventual decline in consumption over time. Further, DRUGNET respondents exhibited similar patterns of use as those described by Cohen and Sas. The study’s demonstration that cocaine use does not
inevitably lead to increased use and probability of addiction raises serious questions about current policy and the content of most drug intervention models (i.e., DARE, court ordered treatment, etc.).
Chapter 1

Introduction

In the spring of 1986 politicians and the mass media launched a “war on drugs,” the latest in a long line of such wars. This time, cocaine was cast as the core villain in a chorus of claims about an “epidemic” or “plague.” As President Reagan put in a nationally televised address, “cocaine is killing a whole generation of our children” and “tearing our country apart” (Waldorf, 1991, p. 1).

The above passage from “Cocaine Changes,” a book that chronicles the changing perspectives on cocaine, typifies the knee-jerk reaction of the government and media regarding cocaine and other illicit drugs. The practice continues to this day. America's current drug policy is identified by jingoistic terms like “war on drugs” and “zero tolerance.” This policy rests on the highly polarized belief that certain drugs have such a high potential for addiction that use of such drugs invariably leads to abuse. This high “abuse potential” is attributed to the seductive appeal and destructive nature of the drug. Advocates of current policies claim that although some fortunate experimental illicit drug users may escape harm, any continued use inexorably leads to the destruction of the user’s family life and leads to their involvement in crime to support their habit. Thus, this ‘prohibition’ based drug policy rests on the basic premise that any use of such drugs must be forbidden by law (Nicholson, White & Duncan, 1999).

This flawed logic and moral policing has affected the life of citizens in many ways. Drug addicts, recreational drug users, and innocent bystanders found “guilty by
association” have paid a price that is not commensurate to their “crime.” Drucker (1999) reports,

…over the last decade, new and more lethal consequences of illicit drug use have emerged—including infectious disease epidemics (AIDS, TB, hepatitis B, and hepatitis C) linked to unsafe injecting and to the marginal life of the criminalized addict. Meanwhile, of course, huge numbers of people continue to be arrested and imprisoned for drug offenses, the most specific expression of a policy based on prohibition and a punitive approach to drug users” (p. 2).

The same author reports that in 1980 the 51,950 people incarcerated for drug law violations in state and federal prisons and local jails constituted eight percent of all inmates. By 1995, 388,000 had been incarcerated for drug law violations. This population had grown by 650 percent compared to 1980, and constituted 25 percent of all inmates in an incarcerated population now four times as large as the population in 1980. He also discusses the drug control budget of 1998 to highlight the skewed expenditure allocation (p. 4). From a total of $16 billion budget, more than $10.7 billion was spent on interdiction, drug law enforcement, and supply reduction in the United States and abroad. The lion's share, roughly 67%, of the $16 billion per year federal drug budget and more than $20 billion in state and local enforcement budgets was thus spent on drug enforcement activities. In contrast, $7.6 billion was spent on treatment, research, and prevention activities (p. 1 & p. 3). Drucker (1999) credits the system of harsher mandatory sentences for possession of smaller quantities of drugs, especially harsh penalties relating to crack cocaine, for increased incarceration for drug law violations in
the 1980s (p. 4). “And while some individuals are in prison for major trafficking offenses or violent crimes, more than 90 percent of drug offenders are arrested for possession or for low-level drug deals to support their personal use” (Drucker, 1999, p. 4). Rydell and Everingham (1994) estimate that 256,000 million light users of cocaine as opposed to 254,000 million heavy users were in prison in 1992 (p. 77). Most non-experimental drug-use is recreational and occurs in social settings with friends or acquaintances that desire to share an experience that is acceptable and pleasurable to them. Such recreational use is voluntary, follows a controlled pattern, and does not generally increase to more frequent or intense use. This kind of behavior is not a function of the user's dependence on the drug (National Commission on Marihuana and Drug Abuse, 1972, p. 18). Scientific research that recognizes the existence of drug users has not led to any change in drug policy. Thus, a fundamentally flawed policy that measures a drug abuser and a recreational drug user by the same yardstick continues to thrive. This has led to a vicious cycle with public misconceptions fueling harsher drug laws and stringent drug policy. Government drug education campaigns for instance in the form of public service announcements (PSA) feed public misconceptions and cause further marginalization of the drug addict in society. According to the report of the National Commission on Marihuana and Drug Abuse,

The assumption that all psychoactive drug use is a high-risk behavior presumes a progression from irregular use of low doses to continuous use of high doses, thereby ignoring pharmacological variations among drugs and the importance of frequency of use, method of administration, dose, and non-drug factors as determinants of risk. In fact, injury to health is
associated primarily with chronic heavy use and at times with acute
effects of high doses (1972, p.12).

Advocates of Prohibition, in addition to demonizing illicit drugs, also tend to
ignore the health risks and potential harm associated with the use of legal drugs. While
the government engages in selective witch hunts and wars on illicit drugs, it glosses over
the effects of cigarettes and alcohol on society. The capacity of psychoactive drugs to
induce behavioral disorders is not closely linked to their capacity to induce organic and
somatic pathology or toxicity. Alcohol abuse produces the most clearly established and
reproducible brain pathology of all drugs that are most commonly associated with drug-
induced behavior or dependence. Heroin and morphine-like drugs, Cocaine,
amphetamines and other stimulants, and marijuana do not seem to have this effect.
However, very heavy use of the drug phenacetin, which produces no significant
behavioral change, can cause severe renal damage. Moreover, heavy tobacco smoking is
associated with greatly increased risk of lung cancer. If potential injury to individual
health is the standard for social policy, then the most likely drugs that qualify for
prohibition are barbiturates, alcohol, and tobacco. However, barbiturates continue to be
used in medical practice, and alcohol and tobacco are sold with government approval
(National Commission on Marijuana and Drug Abuse, 1972, p. 12). In spite of a growing
body of research that has time and again distinguished drug use from abuse, government
reports continue to employ the two terms interchangeably. Government agencies such as
the Substance Abuse and Mental Health Services Administration (SAMHSA) collect data
on nation-wide drug use and report it as “drug abuse.” Such reports, in addition to
artificially inflating the numbers of drug abusers has reinforced public disapproval and public hysteria.

**Purpose of the Study**

According to the developers (Nicholson, White & Duncan, 1998, 1999) the purpose of DRUGNET is to conduct an online survey of adult, recreational drug users. The demographic profile of internet users shows that this population is well educated and tends to have steady employment. Since the researchers wanted to study persons who had not let drug use impede their pursuit of success, this population was ideal for this purpose. Through the World Wide Web, individuals can anonymously complete a 15 to 45 minute survey that includes: (a) demographic and lifestyle indices (See Appendix A); (b) drug use, including cocaine use (See Appendix B), (c) attitudes about drugs, and past legal history; and d) the General Well-being Schedule.

The purpose of the present study is to describe the patterns in cocaine consumption among American adult, recreational drug users. Specifically, are the patterns in the DRUGNET study similar to those reported by Cohen (1989) and Cohen and Sas (1993, 1994, 1995)? Since the measurements of quantity and the details studied in Cohen’s & Sas’ studies and DRUGNET are different, the results will not be directly comparable. Upon establishment of a pattern of cocaine use in the DRUGNET survey data, the results will be compared with corresponding variables in Cohen’s (1989) and Cohen’s and Sas’ (1993, 1994, 1995) studies. Any similarities or differences in findings will be examined, analyzed and reported.
Need for the Study

According to Nicholson et al. (1998, 1999) the DRUGNET survey was needed because current studies either focus on students, persons in treatment for drug abuse problems or those incarcerated for drug law violations. Scientific studies of non-abusing, recreational or occasional users are rare and represent a gap in our current knowledge base.

The format of the DRUGNET study will allow the patterns of cocaine consumption in a sample of recreational drug users to be studied. The results will provide valuable information that can be compared to the findings in Cohen (1989) and Cohen and Sas’ studies (1993, 1994, 1995) on cocaine use in Amsterdam.

The results of this study will be used to identify different ranges of cocaine consumption. The information thus generated will help to educate the public and will contribute to the growing body of research that deals with drug use. Many myths and fallacies shroud cocaine use. And illicit drug use in general carries a great social stigma. Hence, individuals hesitate to express their viewpoints regarding this sensitive issue. DRUGNET provided the subjects an outlet to anonymously express their honest opinions and experiences with drug use. Taking this survey on the Internet without face-to-face communication with another individual offered anonymity. The survey also offered an Anonymizer for extra protection, thus helping to decrease the Hawthorne effect usually found in observational studies.

This study is also needed as it analyzes data from a large sample of national drug users. This computerized survey has also potentially reduced the errors made by recording answers from a typical pen and paper survey.
Research Question

The primary research question will be: What patterns of cocaine consumption are reported among this sample of adult, recreational cocaine users?

A secondary question will be: Do the patterns of cocaine consumption in this sample differ in their distribution from that found in Amsterdam by Cohen and Sas?

Hypothesis

Cocaine use among adult recreational drug users will increase over time.

Delimitations

This study was delimited to American citizens aged 18 years and older with access to the Internet from February 1997 through October 1997. This study is delimited to individuals who responded to the DRUGNET survey from February, 1997 through October, 1997.

Limitations

This study had the following limitations:

1. Because the subjects are self-selected they cannot be assumed to be representative of the drug-using population;

2. Because of the subjects are self-selected they cannot be assumed to be representative of the population using the Internet.

3. Because the subjects are self-selected they cannot be assumed to be representative of the drug-using population that also uses the Internet.

4. As this study deals with patterns of cocaine consumption, the findings or the resulting pattern cannot be generalized to consumption patterns of other drugs.
Assumptions

The following assumptions were made in this study:

1. It is assumed that individuals answered the survey honestly and to the best of their ability.

2. It is assumed that individuals were able to understand the directions for taking the survey and complete all sections pertaining to them.

Definitions

1. **Drug Use** - "Taking a drug in such a manner that sought-for-effects are attained with minimal hazard" (Irwin, 1973).

2. **Drug Abuse** - "Taking a drug to such an extent that it greatly increases the danger or impairs the ability of the individual to adequately function or cope with their circumstances" (Irwin, 1973).

3. **Drug** - "Any substance that, by virtue of its chemical nature, alters the structure or functioning of any of the tissues of a living organism" (Duncan & Gold, 1982).

4. **Psychoactive Drugs** - "Drugs that alter consciousness and thought processes. They alter an individual’s thoughts, feelings, and/or behavior" (Nicholson, 1992).

5. **Cocaine** - Cocaine is a stimulant drug and a crystalline alkaloid extracted from the leaves of the coca leaves. (Duncan & Gold, 1982).

6. **Crack Cocaine** - A simple and stable preparation of cocaine base for smoking that is cocaine freed from its base-hydrochloride (Duncan, 1987; Ray & Ksir, 1999).
Chapter 2

According to the National Household Survey on Drug Abuse (SAMHSA, 2000) 1.5 million Americans aged 12 years and older were current cocaine users in 1999. This figure compares to an estimated 66.8 million Americans aged 12 years and older, who reported current use of tobacco products in 1999. According to Monitoring the Future Study the lifetime prevalence of cocaine use among 12th graders was 8.6% in the year 2000 (Johnston, O’Malley, & Bachman, 2001a). In contrast, the lifetime prevalence of cigarette use among 12th graders was 62.3% in the year 2000 (Johnston, O’Malley, & Bachman, 2001b). In a comparison of the addictive properties of popular drugs, Dr. Jack Henningfield of the National Institute of Drug Abuse ranked Nicotine higher than Cocaine with respect to all addictive properties except Reinforcement and Intoxication (Hilts, 1994) (See Appendix C). However, current drug policy is not commensurate with the properties of Cocaine and Nicotine. Nicotine enjoys the status of a legal drug, and cocaine is classified as a Schedule II drug. Schedule II drugs are defined as those drugs that have a high potential for abuse, with currently accepted medical use, and whose abuse may lead to severe psychological or physical dependence (Ray & Ksir, 1999).

Drug education guidelines often reflect the drug policy and attitudes of the government. In addition, government information campaigns often give information about only one side of an issue, supporting government policy. Infofax is an Internet information site managed by the National Institute of Drug Abuse, of the National Institutes of Health. These are the opening lines of the Infofax site entitled “Crack and Cocaine,” “Cocaine is a powerfully addictive drug of abuse. Once having tried cocaine,
an individual cannot predict or control the extent to which he or she will continue to use the drug." This message seems to absolve the user of any responsibility and attributes magical properties to cocaine. It clearly implies that once an individual has tried cocaine, they are well on their way to addiction and have no control over this process. In contrast, Davies (1997) argues that as some people can be 'addicted' to things that involve no external pharmacology; similarly other people seem to be able to use substances that are pharmacologically potent on an occasional or extended basis with no long term health consequences. “Consequently, an external pharmacological agent is neither a necessary nor a sufficient condition to bring about that state we describe as ‘addiction’ among humans” (p. 169).

The media has played an important role in creating and propagating the myths of “instant addiction” and “seductive appeal” of drugs. Duncan (1992) in response to reports that attribute addiction to the drug and its inherent properties states,

Above all, we must stop exaggerating the power of drugs. For too long the media, and many drug educators, have conveyed absurdly exaggerated notions of the seductiveness of the currently illegal drugs. Reefer Madness showed young people addicted to marijuana after smoking just one reefer that they thought was an ordinary cigarette. Numerous movies and TV shows have shown innocent victims hooked on heroin after injection of a single dose” (1992, p. 312).

The author’s argument is that if people believe that drugs are overwhelmingly seductive as they are painted, how can people hope to withstand that seduction?
Yet, government literature and information campaigns continue to portray illicit drug use inexorably leading to drug abuse, involvement in criminal activity, violence, and eventual ruin. The Cocaine Fact Sheet (Life Education Network, 2002) that is published online by a nonprofit organization dedicated to the prevention of drug abuse, violence and AIDS, supported by the Illinois Department of Human Services, the State Board of Education and the State of Illinois is one example. This document lists lying, stealing, superior attitude, less ambition, argumentativeness/short temper, job problems, denial of responsibility, depression, confusion, increased number of accidents, hallucinations, anxiety, paranoia, poor concentration, loss of interest in sex, flattened and dulled emotions as the personality effects of cocaine. The Cocaine Fact Sheets claim, “Every use of the drug makes the addiction stronger. This addiction can begin almost immediately following the first use.” The National Clearinghouse of Alcohol and Drug Information (2002) states “You need more and more cocaine each time you want a ‘high’.” Such reports continue to promote the popular perception that cocaine use progresses from initial experimentation invariably to uncontrolled drug abuse, involving increasingly high amounts of the drug.

Another drug, heroin, has been demonized in a similar fashion and portrayed as instantly addictive. But researchers documented the existence of non-addicted users of heroin as early as 1957. Lindesmith (1957) described “joy poppers” and contrasted them with true heroin addicts. “A ‘joy popper’ is simply an individual who uses the drug intermittently and who has never been hooked”(p. 103). Scher (1961) described heroin users with a “regulated or controlled habit and reported, “Surprisingly enough, in some cases at least, narcotic use may be confined to weekends or parties…” Zinberg and
Lewis (1964) reported occasional or controlled use of heroin. Chein, Gerard, Lee, and Rosenfeld (1964) confirmed the existence of “long term non-addicted users of heroin” and conceded that,

...even a person with a history of drug use and physiological dependence on the drug might conceivably not be an addict. Such a person may be lacking what we now regard as an indispensable characteristic of a true addict - craving, that is, a powerful desire for the drug independent of the degree to which the drug has insinuated itself into the physiological workings of this body (p. 5).

But Lindesmith, Scher and Chein et al. believed that most of these non-addicted users would eventually become addicts. The increase in community-based treatment programs in the 1970s led to greater awareness about the presence of non-addicted heroin users. Powell (1973) described “occasional users” after studying a dozen subjects who had used heroin for three years or more. He concluded that many individuals seem to be able to maintain intermittent use without becoming addicted. Zinberg and his colleagues (1976, 1977) identified 90 opiate users through newspaper advertisements, subject referrals, community agency and professional contacts. These subjects had between 3 and 23 years experience in using heroin without addiction. Follow-up interviews were conducted with 60 subjects of his original sample 6 months to a year later. Twenty-five subjects were interviewed two years later. Their studies demonstrated the existence of a stable sub-population of non-addicted heroin users. They described 61 “controlled,” 30 “compulsive,” and 7 “marginal” heroin users in this sample. Shewan et al. (1998) studied 74 opiate users, who reported heroin as their main drug of use. A small proportion of this
sample, 7%, reported that their use had increased over time. Thirty-nine percent of this sample reported varied patterns of drug use, while 22% reported that their drug use remained constant since initial use and 16% reported intermittent use. Blackwell (1983) on studying 51 opiate users described “drifting”- the stage when the opiate users do not find it necessary to regulate their habit, “controlling”- where users developed rules to govern their use and, “overcoming”- the process by which respondents who had developed dependence overcame it.

Siegal (1980, 1985) studied 99 frequent cocaine users in Los Angeles in 1974. He followed them up every six months. After four years of follow-up, all subjects remained socio-recreational users with occasional binges. Of the 50 subjects still in the study from 1978-1982, half were socio-recreational users; the other half reported increased frequency of use. Of the half reporting intensified use, four were classified as intensified daily users, and five as compulsive users. Thus, approximately 18% of respondents persisting in the study from 1978-1982 could be regarded as addicted.

In 1974-75, Biernacki and Waldorf conducted the first ethnographic study of modern cocaine use (Biernacki & Waldorf, 1981; Waldorf, 1991). They interviewed 27 relatively frequent cocaine users in the San Francisco area. After eleven years, 21 of the original respondents were located and followed-up. The majority of users in this sample had used cocaine in a controlled way for more than a decade. One-third of the sample reported instances when they had indulged in daily use or abusive binges but, were able to regain control without much difficulty. Subjects who had formerly reported daily use patterns and abusive patterns reported ceremonial use patterns at the time of the conclusion of the study. Ceremonial use is described as use during “specific, usually
special occasions” (Reinarman, Murphy & Waldorf, 1994, p. 28). “Ceremonial users almost never bought a regular supply of cocaine to keep on hand. Ceremonial users reported almost no negative effects and the most positive effects, and felt little need to cut back or quit” (Reinarman, Murphy & Waldorf, 1994, p. 28). The investigators concluded that after 11 years, only one of the 21 respondents, described, as a ‘heavy user’ in 1974, was a compulsive cocaine user. Regarding the rest of the respondents, the investigators concluded that they managed to retain, or regain control (Biernacki & Waldorf, 1981; Waldorf, 1991).

In the Cocaine Cessation Study (1986-88), Waldorf et al. studied only heavy cocaine users (1991). Their sample consisted of 228 subjects, with 122 of the sample being current users and 106 people who had quit. Though some of the sample reported escalation of use, about as many “maintained stable, albeit heavy, use patterns over many years without increasing doses”(p. 27).

Erickson and colleagues interviewed 111 cocaine users in Canada (Erickson, Adlaf, Murray, & Smart, 1987; Erickson & Weber, 1994). Forty-seven of the subjects were obtained from the researcher’s networks, and 64 were recruited through an advertising campaign. Approximately 58% of the sample reported using cocaine less than ten times during the past year, with only 9% reporting use on 100 or more occasions. Fifty-five percent reported no use in the past month, 25.2% had used cocaine once or twice in the past month, 13.5% had used it 3 to 9 times, and only 6.3% reported heavier use of 10 or more times. They reported that between 5% and 10% of their sample developed compulsive or heavy use patterns over time.
Cohen (1989) and Cohen and Sas (1993, 1994, 1995) studied many aspects of cocaine use in Amsterdam. Their first sample of 160 users was initially recruited by snowball sampling in 1987, and then re-interviewed in 1991. The second study studied 108 'new cocaine users', again recruited by snowball sampling in 1991. The researchers presented the respondents in the 1987 study sample and the 1991 study sample with graphical representations of six different use patterns (See Figure I) over time adopted from Morningstar and Chitwood (1983). The graphical patterns were also verbally described, and the respondents were asked which of the graphical patterns best described the development of their cocaine career. Thirty-nine percent of respondents in the 1987 sample and 35% of the 1991 sample chose the “up-top-down pattern” as the pattern that best described their cocaine use pattern (See Table I). A second pattern that signified varying use over time was favored by 33% of the respondents in the 1987 sample and 22% of the 1991 sample. Responses from both samples were similar except for a pattern that signified “slowly more.” At the time the two samples were interviewed, more respondents in the 1991 sample were in the process of developing their cocaine use patterns. Hence, more respondents in this sample were in the process of using “slowly more” cocaine than they started out with in 1991. Overall, they concluded that a majority of the respondents eventually decreased their levels of use or came to abstain largely, or completely (See Figure II).

In a study of 133 cocaine users, the Scottish Cocaine Research Group resolved to imitate the method used by Cohen and Sas in Amsterdam (Hammersley and Ditton, 1994). Ninety-one respondents were contacted using a “snow-ball” method and 41 were recruited by means of a Glaswegian evening newspaper. The sample was predominantly
Figure I. Theoretical Patterns of development in cocaine use.

Table 1. Cocaine consumption patterns in the 1987 and 1991 sample.

<table>
<thead>
<tr>
<th>Development Pattern</th>
<th>1987</th>
<th></th>
<th>1991</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>1. First much-slowly less</td>
<td>8</td>
<td>5</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>2. Slowly more</td>
<td>5</td>
<td>3</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>3. Stable</td>
<td>21</td>
<td>13</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>4. Up-top-down</td>
<td>63</td>
<td>39</td>
<td>38</td>
<td>35</td>
</tr>
<tr>
<td>5. Intermittent</td>
<td>10</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>6. Varying</td>
<td>53</td>
<td>33</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100</td>
<td>108</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure II. Level of Cocaine use over time (Number of respondents between brackets, n = 238).

divided into light users, heavy users, and polydrug users. Most light users reported stable use or varied use. Heavy users tended to report escalation followed by reduction or immediate heavy use followed by reduction. Polydrug users reported escalation followed by reduction, or a varying pattern of use. None of the 113 reported intermittent use and only 4% of the sample reported increased use over of time.

A literature review conducted as a part of the Canadian Country Profile for the World Health Organization initiative on Cocaine, an international report on country profiles (Flaherty, 1994), concluded that “(a) Most cocaine users consume very little cocaine on one or a few occasions, and then stop using; (b) cocaine use results in addiction for a very small minority of cocaine users; and (c) cocaine does not cause addiction: the processes by which addiction occurs to cocaine or any other drug are complex, and may be different for individuals and sub-populations in various situations and environments” (p. 25). In summarizing the Country reports, the WHO panel described patterns of coca product use as ‘experimental use,’ ‘occasional use,’ ‘situation-specific use,’ ‘intensive use,’ and ‘compulsive or dysfunctional use.” The report also emphasized that ‘occasional use’ is the most typical pattern of cocaine consumption and that generally few problems are associated with this pattern of use. In addition, compulsive or dysfunctional use was an uncommon pattern of coca product use. These findings were echoed by other researchers. “It is simply not realistic to say that all use of any particular drug, however socially disapproved it may be, is necessarily abuse. In fact, the users of most drugs outnumber the abusers of the same drug by at least a ratio of nine to one” (Duncan, 1992, p. 318).
Past efforts at primary drug abuse prevention have suffered as a result of the failure to distinguish between drug abuse and drug use (Duncan, 1992, p. 317). The Drug Abuse Council's final report confirmed the state of affairs by admitting that society uses the term “drug abuse” to differentiate between licit and illicit drug consumption, rather than referring to a set of typical drug-using behaviors (Drug Abuse Council, 1980, p. 149).

In spite of research findings to the contrary, why does the public believe that a drug user and a drug abuser are one and the same thing? Why does the public believe that the concept of a “Junkie” is one who is stoned all day, dysfunctional, violent and with criminal tendencies? Research has shown that this misclassification can be attributed to a form of “ecological fallacy,” from an incomplete clinical picture (Morris, 1955). In this instance,

There is a large body of clinical research focusing on the attributes of drug abusers. In the course of clinical treatment for drug problems or drug-related health problems, a sub-group of abusers becomes accessible to researchers for study in treatment facilities. A second sub-population becomes accessible to researchers as a result of their arrest for drug or drug-related offenses. These sub-populations are so well described that many Americans incorrectly believe they adequately represent all drug abusers and users” (Nicholson, White, & Duncan, 1998, p. 109).

Clinical studies thus do not present a correct and comprehensive view of all drug consumers. In “Loss of Control over Cocaine: Rule or Exception?” authors Cohen and Sas (1992) cite a phenomenon described by Patricia and Jacob Cohen (1984) to explain
why people perceive that all cocaine users have lost control over their cocaine consumption. “It has become a familiar convenience to accept persons with some established diagnosis who attend some clinical service as representing a larger population of persons with the disorder investigated” (Cohen and Cohen, 1984, p. 1181). Cohen and Sas explain that when researchers who are studying “loss of control” due to cocaine look for countable elements in the treatment centers, 100% of the countable elements may show one or more diagnostic criteria of loss of control. The investigators then become victims of the Clinical Illusion described by Cohen and Cohen. But such practices do not reveal the true proportion of all cocaine users, especially the ones who never seek treatment. Population based studies like Monitoring the Future Study (Johnston, O’Malley & Bachman, 2001a, 2001b) and National Household Survey on Drug Abuse (SAMSHA, 2000) show that there is a large sub-population consisting of millions of drug using Americans that most clinical research fails to consider.

Davies (1997, p. xi) asserts that, “If we continue to base our policies in stereotypes and inaccurate perceptions of the helpless junkie, the evil pusher, and the substance with the capacity to enslave, we are already half-way to justifying the most extreme measures in order to eliminate drug use from our midst.” It is the time for the public to look at drug use from a different perspective. Drug policy needs to consider the vast majority of drug users and take measures towards “harm-reduction.” “We need to teach people how to use and not to abuse drugs. In the past, drug education has told a great deal about abuse and our mass media have portrayed abuse, but have provided very little in the way of models for healthy use. We need to teach about responsibility in drug use and about
the roles and rituals, which can help the user to maintain a controlled and harm-free level of drug use" (Duncan, 1992, p. 320).

Davies states:

In a world where experimentation with, and the use of illicit drugs becomes more common, a framework is required that normalizes this activity as far as possible, whilst providing users with the services they require in the interests of minimizing harm, and controlling the spread of HIV and other infections. The alternative is a society in which an increasing number of people become sidelined in the ‘helpless addict’ role, unable to make decisions about their drugs or their manner of use, and unable to take part in the society on anything resembling normal terms; whilst the drive to eliminate the substances from our midst exacts an ever increasing toll in terms of societal disruption and the invasion of civil liberties (1997, p. 165).

We must stop demonizing drugs and stop portraying drug users as criminals. “Perhaps our most striking impression was the gap between the image of cocaine users as amoral hedonists blindly pursuing indulgence and excess and the reality of our heavy users. They are by and large “normal” folks, quite like all the other ordinary citizens one encounters in everyday life, save for their consumption of a disapproved drug. They work hard. They care for their families. They vote and play softball” (Waldorf, 1991, p. 10). Many people believe it is time that society acknowledged this majority in the development of more effective rational drug policies.
DRUGNET is a cross-sectional study of adult recreational drug users via the World Wide Web of the Internet (Nicholson, White, & Duncan, 1999). The study is intended to provide a unique, broad description of non-deviant, adult, recreational drug users. Responses were received from 1,473 self-identified drug users from February 1997 through October 1997, of which 906 were the usable sample. The survey collected data about seven drug categories. The typical respondent was a white male aged 17 to 71 years, who was well educated, employed full-time, and who described his physical health status as “good.” Respondent’s drug-taking behavior appeared to be well controlled, at mild to moderate levels in both frequency of use and degree of intoxication. This study was successful in accessing a “hidden” population of recreational illicit drug users and gathering data about their drug use and mental and social well being. The DRUGNET data set dealing with cocaine afforded ready access to the cocaine consumption patterns of 701 individuals. Analyses of this data set will generate patterns of cocaine use among the sample.
Chapter 3

METHODS

The purpose of this study is to describe the patterns of cocaine use in a non-random sample of recreational drug users from the DRUGNET study. The resultant patterns observed in this study will be compared to the findings of Cohen (1989) and Cohen and Sas (1993, 1994, 1995). Nicholson, White, and Duncan (1998, 1999) designed and developed the DRUGNET survey to study the hidden population of non-abusive recreational drug users.

Research Questions

The primary research question will be, what patterns of cocaine consumption are reported among the DRUGNET sample of adult, recreational cocaine users?

A secondary question will be, do the patterns of cocaine consumption in the DRUGNET sample differ in their distribution from that found in Amsterdam by Cohen (1989) and Cohen and Sas (1993, 1994, 1995)?

Hypothesis

Cocaine use among adult recreational drug users will increase over time.

Population

The population of interest was the nonclinical, adult recreational cocaine-using sub-population that uses the Internet.
Sample Selection

The sample was a self-selected sample solicited via the World Wide Web of the Internet. The time frame of the sample selection was from March 1997 to October 1997. All respondents answering the section pertaining to cocaine use on the DRUGNET survey will be described and compared to the samples gathered by Cohen (1989) Cohen and Sas (1993, 1994, 1995).

Procedures

This study is a sub-analysis of the DRUGNET survey. DRUGNET is a cross-sectional survey of adult, recreational drug users through the World Wide Web (Nicholson, White, & Duncan, 1998, 1999). This design facilitates the collection of data from an international population. Participation is voluntary and informed consent of the subjects is implied when they took the survey. The DRUGNET survey has received human subjects review and approval by the Western Kentucky University Human Subjects Review Board (April 3rd, 1996).

Design

The study is a cross-sectional analysis of previously collected survey data. Nine hundred and six adult, recreational drug users responded to the DRUGNET survey between the months of March 1997 to October 1997. Of these, 701 respondents reported cocaine use in their lifetime, and will be the sample for this study. The goal of this investigation is to develop a set of patterns in cocaine consumption, if any, for this sample and to compare the resultant patterns to those described by Cohen (1989) and Cohen and Sas (1993, 1994, 1995).
Instrumentation

The DRUGNET survey consisted of questions concerning seven categories of drugs. These categories were alcohol, marijuana, depressants, cocaine, other stimulants, hallucinogens and opiates. The DRUGNET instrument also had three additional sections that included 1) a demographic profile section that elicited information about variables such as age, ethnicity, educational level, marital status, happiness with marital status, employment, lifestyle activities etc., 2) the General Well-Being Schedule and 3) past experiences with the legal system, drug policy issues and opinions concerning these variables. The cocaine section of the survey included questions addressing the quantity of cocaine used during the year of heaviest use and during the past year, on the basis of which an estimate of the individual’s pattern of use will be made.

To estimate the pattern of cocaine consumption Cohen (1989) and Cohen and Sas (1993, 1994, 1995) analyzed the responses on the following question.

To get some idea about your cocaine use over the full period in which you used cocaine (also the period before 1987), I will show you a card with some statements and graphs. Could you tell me which one resembles your pattern of use best in terms of regularly and frequency?

(Show card 3: patterns of use over time)

Pattern 1. I immediately started using large amounts after I first tried cocaine but gradually decreased since then.

Pattern 2. My cocaine use has gradually increased over the years.

Pattern 3. I started using cocaine at the same level that I still use, and the amount and frequency have not changed.
Pattern 4. My use increased gradually until it reached a peak, then it decreased.

Pattern 5. I have started and stopped using cocaine many times.

Pattern 6. My use pattern has varied considerably over the years.

The comparable items on the DRUGNET survey instrument that will be used to arrive at patterns of cocaine consumption are the following:

8. How many times, on average, do you use cocaine? (Remember, if you have not used cocaine in the past year, what was your frequency of use?)

   Daily
   At least once a week
   At least once a month
   At least once a year
   Never

13. During the year that I most heavily used cocaine, I used it about:

   About the same as the first year of use
   Somewhat more than the first year of use
   A lot more than the first year of use

14. This past year I used cocaine:

   Much less than my heaviest year of use
   Somewhat less than my heaviest year of use
   About the same as my heaviest year of use.
Data Analysis

Data will be analyzed using the Statistical Package for the Social Sciences. The subset of respondents reporting cocaine use will be selected from an existing SPSS data file of results from the DRUGNET survey for 1997. This sample of adult, recreational cocaine users will be described in terms of demographic and lifestyle variables such as involvement with church and community activities, hobbies, etc.

Chapter 4

RESULTS

Description of the Study Sample

A total of 701 U.S. citizens completed the Cocaine section of the DRUGNET survey questionnaire. The racial composition of the sample was 92.0% (n = 640) White, 1.6% (n = 11) Hispanic, 1.3% (n = 9) African-American, 0.9% (n = 6) Native American, 0.6% (n = 4) Asian, 0.4% (n = 3) Pacific Islander and 3.3% (n = 23) other ethnicity (n = 5 missing data).

The mean age of these individuals was 34.13 years (SD = 9.40, Range = 18 to 71). The sample was 85.3% (n = 596) male and 14.7% (n = 103) female (n = 2 missing data). Of these individuals, 72.6% (n = 503) were employed full-time, 10.7% (n = 74) worked part-time, 13.3% (n = 92) were self-employed and 3.5% (n = 24) were unemployed (n = 8 missing data). Of the respondents, 41.1% (n = 287) were married, 33.6% (n = 235) had never been married, 13.3% (n = 93) were living together and 11.4% (n = 80) were divorced/separated (n = 2 missing data). Regarding the employment status of their spouse, 85.3% (n = 371) respondents had a spouse that was employed, 14.7% (n = 64) had a spouse that was not employed (n = 266 missing data). The highest level of education of the respondents was as follows: high school diploma -17.8% (n = 124), General Educational Development certificate - 2.7% (n = 19), associate degree - 15.9% (n = 111), vocational degree - 5.6% (n = 39), bachelors degree - 39.2% (n = 273), masters degree - 11.6% (n = 81), law degree - 1.7% (n = 12), doctoral degree - 3.4% (n = 24) and post-doctoral study - 2.0% (n = 14). Of the respondents, 17.9% (n = 124) were currently
attending college and 82.1% (n = 567) were not (n = 10 missing data). Of those currently in college, 7.8% (n = 11) were freshmen, 11.3% (n = 16) were sophomores, 22.0% (n = 31) were juniors, 17.0% (n = 24) were seniors, 29.1% (n = 41) were graduate students, and 12.8% (n = 18) other (n = 560 missing data). The mean of the last GPA the respondents reported was 3.38 (SD = 0.53, Range = 1 to 4) (n = 74 missing data).

The median household income category for the respondents was $50,000-69,999. The distribution of household incomes was as follows: less than $10,999 - 4.3% (n = 30), $11,000-$29,999 - 12.3% (n = 85), $30,000-$49,999 - 24.7% (n = 171), $50,000-$69,999 - 21.2% (n = 147), $70,000-$89,999 - 14.3% (n = 99), $90,000-109,999 - 7.9% (n = 55) and an income of 110,000 or more - 15.2% (n = 105) (n = 9 missing data). This income was considered adequate to satisfy their lifestyle needs by 81.5% (n = 567) of the respondents, while 18.5% (n = 129) did not feel their income was adequate.

The median parental income category was $70,000 to $89,999. The parental income distribution was less than $10,999 - 4.5% (n = 9), $11,000 to $29,999 - 7.5% (n = 15), $30,000 to $49,999 - 15.9% (n = 32), $50,000 to $69,999 - 14.9% (n = 32), $70,000 to 89,999 - 17.4% (n = 35), $90,000 to $109,999 - 11.4% (n = 23), and 110,000 or more - 28.4% (n = 57) (n = 9 missing data).

Description of Lifestyle and Behavioral Indices of Sample

On a Likert scale of 0 (no importance) to 10 (central focus of life), 5 was the median value of the importance of spirituality in the participants daily life (n = 1 missing data). On a Likert scale of 0 (no importance) to 10 (central focus of life), 4 was the median value of the importance of religious beliefs in subjects daily life (n = 4 missing data). Of this sample, 10.2% (n = 71) of respondents attended religious services.
regularly, and 89.8% (n = 625) did not (n = 5 missing data). Regarding involvement in community activities, 41.1% (n = 287) of the sample participated in activities such as Parent Teacher Associations (PTA’s), Chamber of Commerce, United Way, etc., while 58.9% (n = 411) did not (n = 3 missing data). Of this sample, 79.1% (n = 552) voted regularly while 20.9% (n = 146) did not (n = 3 missing data). Of the respondents, 91.3% (n = 543) were happy with their marital status while 8.7% (n = 52) were not (n = 106 missing data). Regarding recreational activities, 95.3% (n = 668) regularly engaged in recreational activities such as hobbies, crafts, reading, etc., while 3.8% (33) did not. On a Likert scale of 1 (very poor) to 6 (excellent), 5 was the median value the sample placed on the status of their physical health (n = 2 missing data).

Of the respondents, 41.5% (n = 108) reported that their children knew of their illicit drug use, while 58.5% (n = 152) said they did not (n = 441 missing data).

Descriptive Data on Cocaine Consumption

Of this sample, 32.8% (n = 230) had used cocaine during the past year, while 67.1% (n = 470) had not (n = 1 missing data). Of this sample, 56.7% (n = 354) considered themselves to have permanently quit the use of cocaine, while 43.3% (n = 270) did not (n = 77 missing data). The mean age at which respondents first tried cocaine was 21.0 years (SD = 5.1, Range = 9 to 49). The mean time period in years since respondents last used cocaine was 8.4 years (SD = 5.6, Range = 0 to 27). Respondents reported their average frequency of use as follows: daily 4.0% (n = 27), at least once a week 16.0% (n = 108), once a month 21.4% (n = 145) once a year 27.5% (n = 186) and less than once a year 31.1% (n = 210) (n = 25 missing data). Respondents reported that they used cocaine and other drugs at the same time, once a week 10.4% (n = 68), once a
month 13.3% (n = 87), once a year 21.4% (n = 140), more than once a year 32.0% (n = 209) and never used cocaine and other drugs at the same time 22.8% (n = 419)(n = 48 missing data). Of these respondents, 4.5% (n = 30) reported being not at all intoxicated on using cocaine, 26.6% (n = 179) reported being mildly intoxicated, 39.1% (n = 263) reported being moderately intoxicated, 21.7% (n = 146) reported being very intoxicated, and 8.2% (n = 55) reported being extremely intoxicated (n = 28 missing data).

Health/psychological problems from their cocaine use were reported by 17.0% (n = 114) of the respondents, while 83.0% (n = 556) did not (n = 31 missing data). Of those reporting problems, 59.8% (n = 52) reported that they had to cut down cocaine use, while 40.0% (n = 35) respondents reported that they did not have to do so (n = 27 missing data). On a Likert scale of 0 (negative) to 10 (positive), 5 was the median of the reported overall effect of cocaine on the respondent's life.

Descriptive Data on Patterns of Cocaine Consumption

Six-hundred-ninety-two respondents (n = 9 missing data) completed the cocaine use sub-section, and of those, 23% (n = 159) consumed a lot more cocaine during the year of heaviest use compared to their initial year of use, 8.4% (n = 58) consumed somewhat more cocaine during the year of heaviest use compared to their initial year of use and, 68.6% (n = 475) consumed about the same amount of cocaine during the year of heaviest use as they did during the first year (See Figure III).

Of the 159 respondents who reported having consumed a lot more cocaine during the period of heaviest use compared to their initial year of use, 17% (n = 27) used about the same amount of cocaine during the past/current year as they had during the year of heaviest use, 10.7% (n = 17) used somewhat less cocaine during the past/current year
Figure III. Cocaine consumption during the year of heaviest use compared to initial year of use, current use compared to year of heaviest use and level of use in counts and percentages, (n = 692).

<table>
<thead>
<tr>
<th>Heaviest use compared to Initial use</th>
<th>Current use compared to Heaviest use</th>
<th>Level of current Use</th>
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<tbody>
<tr>
<td>A lot more than first year</td>
<td>About the same as heaviest year, 17%, (n=27)</td>
<td>Daily Use 14.5%, (n=5)</td>
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<td>23.9% (n=159)</td>
<td>Somewhat less than heaviest year, 10.7%, (n=17)</td>
<td>At least once a week 30.0%, (n=2)</td>
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<td>Much less than heaviest year, 72.3% (n=115)</td>
<td>Once a month 33.3%, (n=4)</td>
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<td>Once a month 16.5% (n=19)</td>
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<td>About the same as the first year</td>
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<td>Daily Use 14.3% (n=2)</td>
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<td>68.6% (n=475)</td>
<td>Somewhat less than heaviest year, 14.1% (n=67)</td>
<td>At least once a week 21.4% (n=2)</td>
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<td>Much less than heaviest year, 62.7% (n=298)</td>
<td>Once a month 37.4% (n=43)</td>
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than they had during the year of heaviest use and, 72.3% (n = 115) used much less cocaine during the past/current year than the year of heaviest use.

Of the 58 respondents who reported having used somewhat more cocaine during the year of heaviest use compared to their initial year of use, 24.1% (n = 14) had used about the same amount of cocaine during the past/current year as they had during the year of heaviest use, 19.0% (n = 11) used somewhat less cocaine during the past/current year as they had during the year of heaviest use and, 56.9% (n = 33) used much less cocaine during the past/current year than the year of heaviest use.

Of the 475 respondents who reported having consumed about the same amount of cocaine as the first year, 23.2% (n = 110) had used about the same amount of cocaine during the past/current year as they had during the year of heaviest use, 14.1% (n = 67) used somewhat less cocaine during the past/current year as they had during the year of heaviest use and, 62.7% (n = 298) used much less cocaine during the past/current year than the year of heaviest use.

Of the 27 respondents who used about the same amount of cocaine during the past/current year as they had during the year of heaviest use, 18.5% (n = 5) used cocaine daily currently/during the last year of use, 25.9% (n = 7) used cocaine at least once a week currently/during the last year of use, 33.3% (n = 9) used cocaine once a month currently/during the last year of use, 14.8% (n = 4) used cocaine once a year currently/during the last year of use and, 7.4% (n = 2) used cocaine less than once a year.

Of the 17 respondents who used somewhat less cocaine during the past/current year as they had during the year of heaviest use, 5.9% (n = 1) used cocaine daily currently/during the last year of use, 5.9% (n = 1) used cocaine at least once a week
currently/during the last year of use, 35.3% (n = 6) used cocaine once a month
currently/during the last year of use, 52.9% (n = 9) used cocaine once a year
currently/during the last year of use and, 0% used cocaine less than once a year during
the past/last year of use.

Of the 115 respondents who used much less cocaine during the past/current year
than the year of heaviest use, 1.7% (n = 2) used cocaine daily currently/during the last
year of use, 2.6% (n = 3) used cocaine at least once a week currently/during the last year
of use, 16.5% (n = 19) used cocaine once a month currently/during the last year of use,
37.4% (n = 43) used cocaine once a year currently/during the last year of use and, 41.7%
(n = 48) used cocaine less than once a year during the past/last year of use.

Of the 14 respondents who had used about the same amount of cocaine during the
past/current year as they had during the year of heaviest use, 14.3% (n = 2) used cocaine
daily currently/during the last year of use, 21.4% (n = 3) used cocaine at least once a
week currently/during the last year of use, 57.1% (n = 8) used cocaine once a month,
7.1% (n = 1) used cocaine once a year and, 0% used cocaine less than once a year.

Of the 11 respondents who used somewhat less cocaine during the past/current
year as they had during the year of heaviest use and, 9.0% (n = 1) used cocaine daily
currently/during the last year of use, 9.0% (n = 1) used cocaine at least once a week
currently/during the last year of use, 9.0% (n = 1) used cocaine once a month
currently/during the last year of use, 72.7% (n = 8) used cocaine once a year
currently/during the last year of use and, 0% used cocaine less than once a year during
the past/last year of use.
Of the 33 respondents who used much less cocaine during the past/current year than the year of heaviest use, 0% used cocaine daily currently/during the last year of use, 15.2% (n = 5) used cocaine at least once a week currently/during the last year of use, 18.2% (n = 6) used cocaine once a month currently/during the last year of use, 33.3% (n = 11) used cocaine once a year currently/during the last year of use and, 33.3% (n = 11) used cocaine less than once a year currently/during the past/last year of use.

Of the 110 respondents who had used about the same amount of cocaine during the past/current year as they had during the year of heaviest use, 4.5% (n = 5) used cocaine daily currently/during the last year of use, 25.5% (n = 28) used cocaine at least once a week currently/during the last year of use, 21.8% (n = 24) used cocaine once a month currently/during the last year of use, 31.8% (n = 35) used cocaine once a year currently/during the last year of use and, 16.4% (n = 18) used cocaine less than once a year during the past/last year of use.

Of the 67 respondents who used somewhat less cocaine during the past/current year as they had during the year of heaviest use and, 0% used cocaine daily currently/during the last year of use, 7.5% (n = 5) used cocaine at least once a week currently/during the last year of use, 26.9% (n = 18) used cocaine once a month currently/during the last year of use, 40.3% (n = 27) used cocaine once a year currently/during the last year of use and, 25.4% (n = 17) used cocaine less than once a year during the past/last year of use.

Of the 298 respondents who used much less cocaine during the past/current year than the year of heaviest use, 2.4% (n = 7) used cocaine daily currently/during the last year of use, 16.1% (n = 48) used cocaine at least once a week currently/during the last year of use,
year of use, 19.1% (n = 57) used cocaine once a month currently/during the last year of use, 24.8% (n = 74) used cocaine once a year currently/during the last year of use and, 37.6% (n = 112) used cocaine less than once a year during the past/last year of use.

Comparison of the findings

Respondents in Cohen and Sas’ 1987 and 1991 sample were asked to select the pattern that best represented their cocaine career (Cohen, 1989; Cohen 1993, 1994, 1995). Pattern 4 called the “up-top-down” pattern was the most common pattern selected by the respondents in the 1987 sample. Pattern 4 represents cocaine use increasing over time from initiation to a peak and then declining steadily to a more or less steady level. This pattern was chosen by 39% (n = 63) of the sample. Pattern 6 representing a “varying” pattern over time was the second most frequent pattern, selected by 33% (n = 53) of the sample. Pattern 3 representing a stable pattern of use was the next most frequent pattern of use selected by 13% (n = 21) of the respondents. The other 3 patterns, Pattern 5 representing “Intermittent use” was chosen by 6% (n = 10), Pattern 1 representing “First much-slowly less” was chosen by 5% (n = 8), and Pattern 2 representing “slowly more” was chosen by 3% (n = 5) of the respondents. The 1991 study sample consisted of 64 subjects from the 1987 study, and 44 respondents who began using cocaine after 1987. Overall in the 1991 study sample, Patterns 4 and 6 were the most frequent with 38% (n = 35) and 24% (n = 22) of the respondents choosing the two respectively. Of the sample, 17% (n = 16) chose pattern 3, 12% (11) chose pattern 4, 10% (n = 9) chose pattern 1 and 7% (n = 6) chose pattern 5.

From the DRUGNET sample, we can arrive at 9 different patterns of cocaine consumption (Figure IV). Pattern A represents increased use since initiation with
Figure IV. Theoretical patterns of Cocaine consumption according to DRUGNET data analysis.

Pattern 1

Pattern 2

Pattern 3

Pattern 4

Pattern 5

Pattern 6

Pattern 7

Pattern 8

Pattern 9
sustained high current use. Pattern B represents increased use since initiation followed by a moderate drop in current consumption. Pattern C represents increased use since initiation followed by a sharp drop in current consumption. Pattern D represents a moderate increase in consumption since initiation followed by sustained moderate levels of current use. Pattern E represents a moderate increase in consumption since initiation followed by a slight decrease in current use. Pattern F represents a moderate increase in consumption since initiation followed by a sharp decrease in current consumption. Pattern G represents a stable pattern of consumption from initiation to current use. Pattern H represents a stable pattern from initiation to period of heaviest use to a slight decrease in current consumption. Pattern I represents a stable pattern of steady use from initiation followed by a sudden decrease in consumption.

Pattern A represents the consumption pattern of 3.9\% (n = 22) of the sample (See Table 2). Pattern B represents the consumption pattern of 2.4\% (n = 17) of the sample. Pattern C represents the consumption pattern of 16.6\% (n = 115) of the sample. Pattern D represents the consumption pattern of 2.0\% (n = 14) of the sample. Pattern E represents the consumption pattern of 1.6\% (n = 11) of the sample. Pattern F represents the consumption pattern of 4.8\% (n = 33) of the sample. Pattern G represents the consumption pattern of 15.9\% (n = 110) of the sample. Pattern H represents the consumption pattern of 9.7\% (n = 67) of the sample. Pattern I represents the consumption pattern of 43.1\% (n = 298) of the sample.

DRUGNET Patterns A and D are similar to Cohen’s (1989) and Cohen and Sas’ (1993, 1994, 1995) Pattern 2 of “slowly more” (See Table 3). DRUGNET Pattern A
Table 2. Cocaine Consumption patterns in DRUGNET sample (n= 692).

<table>
<thead>
<tr>
<th>DRUGNET Patterns</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern A</td>
<td>27</td>
<td>3.9%</td>
</tr>
<tr>
<td>Pattern B</td>
<td>17</td>
<td>2.5%</td>
</tr>
<tr>
<td>Pattern C</td>
<td>115</td>
<td>16.6%</td>
</tr>
<tr>
<td>Pattern D</td>
<td>14</td>
<td>2.0%</td>
</tr>
<tr>
<td>Pattern E</td>
<td>11</td>
<td>1.6%</td>
</tr>
<tr>
<td>Pattern F</td>
<td>33</td>
<td>4.8%</td>
</tr>
<tr>
<td>Pattern G</td>
<td>110</td>
<td>15.9%</td>
</tr>
<tr>
<td>Pattern H</td>
<td>67</td>
<td>9.7%</td>
</tr>
<tr>
<td>Pattern I</td>
<td>298</td>
<td>43.0%</td>
</tr>
<tr>
<td>Total</td>
<td>692</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Table 3. Table showing similar patterns in the DRUGNET sample and Cohen and Sas' 1987 and 1991 samples, in percentages and counts.

<table>
<thead>
<tr>
<th>DRUGNET Patterns</th>
<th>Cohen &amp; Sas’ Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1987</td>
</tr>
<tr>
<td>Patterns A + D</td>
<td>Pattern 2</td>
</tr>
<tr>
<td>5.9%, n = 41</td>
<td>3%, n = 5</td>
</tr>
<tr>
<td>Patterns B + C + E+ F</td>
<td>Pattern 4</td>
</tr>
<tr>
<td>25.5%, n = 176</td>
<td>39%, n = 63</td>
</tr>
<tr>
<td>Pattern G</td>
<td>Patterns 3 + 5</td>
</tr>
<tr>
<td>15.9%, n = 110</td>
<td>19%, n = 31</td>
</tr>
<tr>
<td>Pattern H + I</td>
<td>Pattern 1</td>
</tr>
<tr>
<td>52.7%, n = 365</td>
<td>5%, n = 8</td>
</tr>
<tr>
<td>No match</td>
<td>Pattern 6</td>
</tr>
<tr>
<td></td>
<td>33%, n = 53</td>
</tr>
</tbody>
</table>
represents increased use since initiation with sustained high current use. DRUGNET Pattern D represents a moderate increase in consumption since initiation followed by sustained moderate levels of current use. DRUGNET Patterns B, C, E and F are similar to Cohen’s and Cohen and Sas’ Pattern 4. Patterns B, C, E and F together represent varying levels of increase in cocaine consumption over time from initiation to a peak, followed by a decline in consumption, similar to the “up-top-down” pattern described by Cohen and Sas.

DRUGNET Pattern G is similar to Cohen’s and Cohen’s and Sas’ Pattern 3 “stable” and Pattern 5 “intermittent use.” DRUGNET Pattern G represents a stable pattern of consumption from initiation to current use.

DRUGNET Patterns H and I are similar to Cohen’s and Cohen’s and Sas’ Pattern 1 of “first much-slowly less.” Patterns H and I represent a stable level of use from initiation to period of heaviest use followed by varying levels of decrease in current consumption.

Cohen (1989) and Cohen and Sas (1993, 1994, 1995) found the “up-top-down” pattern to be the most common pattern in their samples. The most common pattern in the DRUGNET cocaine use sample was the pattern of steady use from initiation followed by a sharp decrease in consumption. Together, DRUGNET Patterns H and I accounted for 52.7% of the sample. These two patterns were similar to Cohen’s and Cohen’s and Sas’ Pattern 1 of “First much-slowly less.” The DRUGNET study also found the patterns B, C, E & F similar to Cohen’s and Cohen and Sas’ Pattern 4. These patterns represent varying levels of increase in cocaine consumption over time from initiation to a peak and then declining steadily to a more or less steady level.
Chapter 5
SUMMARY AND CONCLUSIONS

DRUGNET is a family of cross-sectional surveys of adult, recreational drug users conducted via the World Wide Web. Subjects complete a demographic section, a drug use section, and a section that deals with experiences with legal aspects and policy issues. The focus of this study was the section that deals with cocaine consumption, a sub-section of the drug usage section.

Summary of Results

The sample consisted of 701 U.S. citizens aged 18 or older who reported a history of cocaine use on the DRUGNET survey taken between February 1997 and October 1997. About one-third of the sample had used cocaine during the past year. More than 55% of the sample considered themselves to have permanently quit use of cocaine. The average frequency of cocaine consumption of about one-third of the respondents was a frequency of less than once a year, with only 4% of the sample reporting daily use. An overwhelming majority of the sample reported no health or psychological problems from their cocaine use. Of the respondents who had reported having health or psychological problems due to their cocaine use, about 60% had to cut down their cocaine use. Overall, the respondents reported a mix of both positive and negative effects of cocaine on their lives.

Twenty percent of the respondents consumed a lot more cocaine during the year of heaviest use compared to the initial year of use, less than 1 out of 10 consumed slightly more cocaine during the year of heaviest use compared to the initial year of use, and about 7 out of 10 consumed the same amount of cocaine during the year of heaviest use.
as they did during the first year. Of the respondents who reported a history of increased cocaine consumption, a small minority reported sustained increased consumption patterns, with the majority reporting decreased consumption during the last/current year of use. Overall, a very small minority, 3.3% reported daily use, 14.6% reported weekly use, 21.4% reported monthly use, 29.2% reported use once a year, 30.1% reported use of less than once a year. An overwhelming majority, 78.2% showed a decrease in cocaine consumption after showing varying patterns of increase in the past. Some respondents, 21.8%, showed a steady pattern of consumption after a history of varying patterns of use.

Conclusion

The findings of this study fail to support the hypothesis that cocaine use among adult recreational drug users will increase over time. DRUGNET Pattern I, which represents a stable pattern of consumption from initiation to current use, is the consumption pattern of 43.1% (n = 298) of the sample. DRUGNET Patterns B, C, E, and F represent an increase in cocaine consumption over time from initiation to a peak and then declining steadily to a more or less steady level. Pattern C is the second most frequent consumption pattern representing the pattern of 16.6% of the sample. Together Pattern B, C, E and F reflect the cocaine consumption pattern of 25.5% of the sample. DRUGNET Patterns H and I together reflected the consumption patterns of 52.7% of the sample. These two patterns represented a stable level of use from initiation to peak, followed by varying levels of decrease in current consumption. DRUGNET Patterns A and D reflected increasing cocaine consumption over time. Patterns A and D combined reflected the cocaine use patterns of only 5.9% of the sample. Thus, approximately 6% of the total sample showed a sustained increase in cocaine consumption over time. A
majority of the sample showed stable or decreased cocaine consumption over time.

These findings are similar to those found by Cohen (1989) and Cohen and Sas (1993, 1994, 1995). The predominant pattern found in their studies was Pattern 4, signifying the up-top-down career. The predominant pattern in the DRUGNET cocaine analysis has been Pattern I, representing a stable pattern of steady use over time followed by a sudden decrease. Taken together, DRUGNET Patterns H and I reflect the consumption patterns of 52.7% of the sample. These two patterns represented a stable level of use from initiation to peak, followed by varying levels of decrease in current consumption. DRUGNET Patterns B, C, E and F taken together constitute the next most common career. These patterns represent varying levels of increase in cocaine consumption over time from initiation to a peak and then declining steadily to a more or less steady level.

**Discussion**

Overall, DRUGNET participants who completed the cocaine use section appear to be normal, well-educated people. They are employed with high income levels. This image is contrary from the public image of the cocaine-using population. This study is further proof that individuals can use cocaine recreationally and lead very productive, successful lives.

This study has again documented the existence of “recreational”/ “occasional”/ “week-end” cocaine users in the general population. As the majority of the sample showed either stable cocaine consumption over time or an increase in consumption followed by a decrease, it disproves the popular theory of “instant addiction” to cocaine.
It shows that controlled use of cocaine is not only possible but is also in fact, more common than cocaine addiction.

**Limitations**

The major limitation of this study is that due to the non-random nature of the sampling procedure, generalization beyond the sample must be limited. Generalization is further limited by the fact that the subjects were self-selected, and therefore they cannot be assumed to representative of the drug-using population, the population using the Internet or the drug-using population that also uses the Internet. Another limitation is that this study deals with patterns of cocaine consumption, and therefore the findings cannot be generalized to consumption patterns of other drugs.

Another limitation was the fact that the DRUGNET survey instrument did not question respondents about the base rate of initial use. Thus this research could not analyze the exact levels of use over time.

Comparisons between the findings of the DRUGNET study and those Cohen (1989) and Cohen and Sas (1993, 1994, 1995) are further limited by the differences in the ways the patterns were measured in the two studies. Cohen (1989) and Cohen and Sas (1993, 1994, 1995) had a detailed questionnaire that measured the frequency of use during four periods - namely, (a) the first year of cocaine use, (b) period of heaviest cocaine use, (c) the last year of cocaine use, and (d) the last three months preceding the study. The respondents were also shown a card that depicted verbal and graphic representations of 6 patterns of cocaine consumption, and respondents were asked to choose one that best described their pattern of use in terms of regularity and frequency.
In the DRUGNET study, patterns of use were analyzed using the level of use during three periods: initial year of use, year of heaviest use and last/ current year of use.

**Recommendations**

Further research that explores patterns of cocaine consumption in non-biased samples is necessary. These studies should be specifically designed to study different populations outside of institutions in the field of drug control and treatment, using different sampling methods. We may then be able to arrive at a realistic approximation of the percent of cocaine consumers who become addicted to this drug.

DRUGNET or a study similar to DRUGNET that studies cocaine and crack exclusively needs to be performed. Such a study should contain a detailed questionnaire that deals with level of cocaine use during different phases of use. The study should be designed to chart the progression of cocaine consumption over time and the different social controls and ceremonies that surround its use. The questionnaire should address the initial level of base use. Respondents should be shown an online card that depicts the 6 patterns of cocaine consumption in words and graphically as well. Respondents should be asked to choose one that best describes their pattern of use in terms of regularity and frequency. The study should have a separate questionnaire for cocaine use and a separate questionnaire for crack use. Again, this study should be an online survey with the use of an Anonymizer.

Drug education curriculum and drug policy should acknowledge the findings of this research. Models of healthy drug use should be developed, documented and taught to the general public. A realistic representation of the effect of illicit drugs on society,
coupled with dissemination of models of healthy use and harm reduction measures, will help alleviate drug abuse and its negative side effects.
Appendix A

DRUGNET (1997)

Demographic Information

We would like to get some demographic information from you. Please answer the following questions about your background. Remember, all of this information is general and will not be used to identify you.

1. Are you a citizen or legal resident of the United States?

   Yes
   No

2. What country(s) are you a citizen of?
   If you are a U.S. citizen, leave this question blank

3. Are you currently living the majority of this calendar year in the United States?

   Yes
   No

4. What is your ethnic identification?

   Asian
   Blank
   Hispanic/Latino
   Pacific Islander
   White
   Other

5. What is your gender?

   Male
   Female

6. What is your current age?
7. Are you employed:
   Full-time Employee
   Part-time Employee
   Self-Employed
   Unemployed

8. Please type in your job title: (leave blank if unemployed)

9. Please tell us, in what industry are you employed?
   If we left your industry out, please tell us what it is:

10. Please rate how important spirituality is in your daily life:
    
    0 1 2 3 4 5 6 7 8 9 10
    No importance Central focus of your life

11. Please rate how important your religious beliefs and values are in your daily life:
    
    0 1 2 3 4 5 6 7 8 9 10
    No importance Central focus of your life

12. Do you regularly attend religious services?
    
    Yes
    No

13. Do you participate in community activities? (E.g., PTA, Chamber of Commerce, United Way, etc…)
    
    Yes
    No

14. Do you vote regularly?
    
    Yes
    No
15. How would you rate your own physical health?

Excellent
Good
Average
Fair
Poor
Very Poor

16. Do you regularly engage in recreational activities? (E.g., hobbies, athletics, crafts, reading, etc...)?

Yes
No

17. What is your marital status?

Never married
Married
Divorced/Separated
Widow/Widower
Living with someone

17a. Does your spouse or significant other work? (Please skip if this question does not apply.)

Yes
No

17b. Are you happy with your marital status?

Yes
No

18. Do you regularly have parental care responsibilities?

Yes
No
18a. If yes, please check all that apply:

- Biological Parent
- Step-Parent
- Adoptive Parent
- Grand Parent
- Foster Parent
- Other Parent

18b. Do your children know about your use of illicit drugs?

- Yes
- No

19. Please tell us the highest education level you have achieved:

- Less than High School
- High School
- Graduate Equivalency Diploma (GED)
- Associate Degree (2 year degree)
- Vocational Degree
- Bachelors Degree (BA, BS, etc.)
- Masters Degree (MA, MS, etc.)
- Law Degree
- Doctoral Degree (Ph.D., Ed.D., M.D., etc.)
- Post-Doctoral Study

20. Are you currently attending college? (Note: Leave blank if not in college.)

- Yes
- No

20a. What is your year at school?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate Student
- Other
20b. What do your parents earn in a year (If both parents work, please add together parents' income to obtain the amount. If you are not sure, please take your best guess.) *Skip if you are not in school, or if in school, are self-supported.*

<table>
<thead>
<tr>
<th>Income Range</th>
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</thead>
<tbody>
<tr>
<td>Less than $10,999</td>
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<tr>
<td>$11,000 to $29,999</td>
</tr>
<tr>
<td>$30,000 to $49,999</td>
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<tr>
<td>$50,000 to $69,999</td>
</tr>
<tr>
<td>$70,000 to $89,999</td>
</tr>
<tr>
<td>$90,000 to $109,999</td>
</tr>
<tr>
<td>$110,000 or more</td>
</tr>
</tbody>
</table>

21. What is (or if graduated, was) your last overall GPA?
*(Note: Please use a 4 point scale where a 4.0 would be an “A”, 3.0 would be “B”, etc.)*
Appendix B

Use of Cocaine
(Either Snorted or Smoked: “Coke”, Crack”)

I have never used cocaine. Skip to (DEPRESSANTS)

NOTE: These questions were written with the assumption that you are currently using this drug. If you have quit using this drug, please answer the questions as if they were asking about your behavior when you were “using.”

1. At what age did you first become intoxicated by cocaine?

2. At what age did you first become intoxicated by cocaine?

3. Have you used cocaine the past year?

   Yes
   No

If you haven’t used cocaine in the past year, how many years has it been since you used cocaine?
(Note: 1.5 would mean one and one-half years.)

4. Do you consider yourself to have permanently quit using cocaine?

   Yes
   No

5. When you do use cocaine, how much do you usually have, on an average? If you have quit, how much did you use on an average?

   Number of grams
   -OR-
   Percentage of a Gram %

   Please answer only one!

5. How many times, on an average, do you use cocaine? (Remember, if you have not used cocaine in the past year, what was your frequency of use?)

   At least once a week
At least once a month
At least once a year
Less than once a year

7. When you do use cocaine, what is the level of intoxication that you usually reach?

Not at all intoxicated
Mildly intoxicated
Moderately intoxicated
Very intoxicated
Extremely intoxicated

8. How many times, on average, do you use cocaine and other drugs at the same time?

At least once a week
At least once a month
At least once a year
Less than once a year
Never

9. Has your use of cocaine ever caused or contributed to a failure in your education, work or family life - such as failing a course, being fired, family problems, or a divorce?

Yes
No

10. Have you ever used cocaine under circumstances which might be dangerous, such as while driving a car or operating a machinery?

Yes
No

If you have used cocaine under dangerous circumstances, how often does this occur?
(Skip if you answered no to question #10)

Less than once a year
Once a year
A few times a year
Once a month
A few times a month
Once a week
11. Have you ever had legal problems because of your use of cocaine?

Yes
No

12. Have you had arguments with your family or friends about your use of cocaine?

Yes
No

13. During the year that I most heavily used cocaine, I used it about:

About the same as the first year of use
Somewhat more than the first year of use
A lot more than the first year of use

14. This past year I used cocaine:

Much less than my heaviest year of use
Somewhat less than my heaviest year of use
About the same as my heaviest year of use

15. Have you ever experienced withdrawal (e.g., shakes, nausea, trouble sleeping) illness when you stopped taking cocaine?

Yes
No

If so, how often does this happen? *(Skip if you haven’t suffered withdrawal.)*

On a daily basis
On a weekly basis
On a monthly basis
On a yearly basis
16. Have you wanted to stop using cocaine but had trouble doing so?

Yes
No

17. Does getting cocaine occupy a large part of your life?

Yes
No

18. Have you ever experienced health or psychological problems as a result of your use of cocaine?

Yes
No

If you had health or psychological problems, have you cut down on your use of cocaine?  
(Skip if you answered no to #17)

Yes
No

If you haven’t had health or psychological problems, have you cut down on your use of cocaine?  (Skip if you answered yes to #17)

Yes
No

19. Overall, the effects of cocaine on my life have been:

0  1  2  3  4  5  6  7  8  9  10
Negative  Positive

20. What positive effects has cocaine had on your life:
APPENDIX C

Ranking by an Expert of Six Popular Drugs on Five Aspects of Addiction.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dependence</th>
<th>Withdrawal</th>
<th>Tolerance</th>
<th>Reinforcement</th>
<th>Intoxication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heroin</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Nicotine</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Cocaine</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Caffeine</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Marijuana</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Alcohol</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>


Withdrawal: Presence and severity of characteristic withdrawal symptoms.

Reinforcement: A measure of the substance’s ability, in human and animal tests, to get users to take it again and again, and in preference to other substances.

Tolerance: How much of the drug is needed to satisfy increasing cravings for it, and the level of stable need that is eventually reached.

Dependence: How difficult it is for the user to quit, the relapse rate, the percentage of people who eventually become dependent, the rating users give their own need for the
substance and the degree to which the substances will be used in the face of evidence that it causes harm.

Intoxication: Though not usually counted as a measure of addiction in itself, the level of intoxication is associated with addiction and increases the personal and social damage a substance may do.
At 08:53 30-10-2002 -0800, you wrote:

Dear Drs. Cohen and Sas,

Hello! I am Nivedita Seerpi, a Masters student at Western Kentucky University, USA. I am writing a thesis on patterns of cocaine consumption. This is a sub-analysis of the DRUGNET survey that Dr. Thomas Nicholson and Dr. David Duncan put together. As part of my thesis, I will be comparing my findings with yours. I would like your permission to use the following tables and figures from your published works.

Dear Nivedita Seerpi,

Of course you can reprint the tables and figures listed below, provided you mention the source. We would appreciate it if you can send us a copy of your thesis. I can send you printed copies of Ten Years of Cocaine and Cocaine Use in Amsterdam II if you wish.

Kind regards,

Arjan Sas

1. Table 4.5g. Development patterns in the 1987 and 1991 samples. (Cocaine Use in Amsterdam II).

2. Table 1b. Level of cocaine use at three periods in the 1987 and 1991 sample. (Cocaine Use in Amsterdam in Non-deviant Subcultures).

3. Figure 1. Level of cocaine use over time. (Cocaine use in Amsterdam in Non-deviant Subcultures).
These illustrations would go a long way towards making my thesis complete. I look forward to hearing from you. Thank you.

Sincerely,

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