



Published in final edited form as:

J Drug Issues. 2007 ; 37(3): 717–736.

Prevalence and Patterns of Prescription Drug Misuse among Young Ketamine Injectors

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Abstract

In recent years, epidemiological monitoring data has indicated sharp increases in prescription drug misuse. Despite these increases, little is known about the context or patterns associated with prescription drug misuse, particularly among youth or young injection drug users (IDUs). A three-city study of 213 young IDUs found prescription drug misuse to be pervasive, specifically the use of opioids and benzodiazepines. Particular practices not commonly associated with prescription drugs were reported, such as sniffing, smoking, and injection. Associated health risks included initiation into injection drug use, polydrug use, drug overdose, and drug dependency. A greater awareness of the potential health risks associated with prescription drug misuse should be incorporated into services that target IDUs, including street outreach, syringe exchanges, and drug treatment.

Introduction

Prescription drug misuse is an emerging public health concern in the United States due to rapidly increasing numbers of abusers (Substance Abuse and Mental Health Services Administration [SAMHSA], 2006) and deleterious outcomes associated with misuse (Huang,

Dawson, Stinson, Hasin, & Ruan, 2006; SAMHSA, 2004a; SAMHSA, 2004b). High levels of prescription drug misuse are particularly prevalent among young people (Colliver, Kroutil, Dai, & Gfroerer, 2006; Johnston, O'Malley, Bachman, & Schulenberg, 2007). For instance, prescription drug misuse among young people in 2005 exceeded the combined use of street drugs, including heroin, cocaine, crack, and hallucinogens (SAMHSA, 2006). Prescription drug misuse comprises drug taking behaviors ranging from noncompliance to recreational use to abuse (Huang et al., 2006), and common modes of administration include oral, intranasal, and injection (National Institute on Drug Abuse [NIDA], 2005). Low rates of injection are generally reported among young people who misuse prescription drugs (McCabe, Cranford, Teter, & Boyd, 2007; White, Becker-Blease, & Grace-Bishop, 2006), though these U.S. studies do not include high-risk youth. The nonmedical injection of prescription drugs among young people is, nonetheless, rising globally (United Nations Office on Drugs and Crime [UNODC], 2004), and injection drug use remains a primary risk factor for HIV and Hepatitis C (HCV) (Santibanez et al., 2006). Studies focusing on young IDUs who misuse prescription drug misuse are nonexistent.

Polydrug use is common among both non-medical users of prescription drugs (Huang et al., 2006; SAMSHA, 2004a) and IDUs (Lankenau & Clatts, 2005; Lankenau et al., 2007). Polydrug using practices include simultaneous administration, i.e., two or more drugs at the same time, and sequential drug use, i.e., consecutively consuming multiple drugs during an event (Leri, Bruneau, & Steward, 2003). For instance, prescription drugs may be used during polydrug using events by injecting OxyContin (ONDCP, 2002) simultaneously with another drug, or injecting methamphetamine (Falck, Siegal, Wang, Carlson, & Draus, 2005) and sequentially administering tranquilizers or OxyContin in noninjectable forms. Nonfatal overdoses among IDUs have been linked to combining heroin and prescription drugs, such as noninjectable opioids and tranquilizers (Kerr et al., 2007), though the sequencing among these polydrug combinations are unclear. Apart from OxyContin, little is known about various modes of administering prescription drugs, their relationship to other injectable drugs, or the use of prescription drugs in polydrug combinations among IDUs.

Despite the polydrug nature of prescription drug misuse, research on prescription drugs commonly focuses primarily on either opioids (Cicero, Inciardi, & Munoz, 2005; Dasgupta, Kramer, & Zalman, 2006; McCabe et al., 2007) or stimulants (Kroutil, Brunt, Herman-Stahl, & Heller, 2006; Herman-Stahl, Krebs, Kroutil, & Heller, 2007; Sussman, Pentz, Spruijt-Metz, & Miller, 2006). Central Nervous System (CNS) depressants, which include tranquilizers and sedatives, are a third category of prescription drugs that are often treated as correlates (Falck et al., 2005; Havens, Walker, & Leukefeld, 2007; Kerr et al., 2007; Sung, Richter, Vaughan, & Johnson, 2005), rather than receiving primary study focus. Studies that examine multiple types of prescription drugs misuse among young drug users are limited (Sung et al., 2005).

In this article, we detail patterns of misuse among the three primary prescription drug classes—opioids, stimulants, and CNS depressants—in a sample of young IDUs. First, we use quantitative data to describe the sample demographically, report substance using histories, detail lifetime rates of prescription drug misuse, and compare rates of misuse to other populations of young users. Second, we use qualitative data to detail methods of obtaining prescription drugs, illustrate reasons for using prescription drugs nonmedically, and report methods of preparing and administering prescription drugs for non-medical use.

Methods

The results presented in this report are based upon 213 in depth interviews with young IDUs recruited in New York (n=50), New Orleans (n=67), and Los Angeles (n=96) between 2004 and 2006 as part of a study examining health risks associated with injecting ketamine. Ketamine

is a dissociative anesthetic that has become increasingly popular among groups of young people participating in club/rave cultures (Jansen, 2001) and young IDUs (Lankenau & Clatts, 2002; Lankenau & Clatts, 2004; Lankenau et al., 2007).

Sampling

Researchers recruited IDUs in public, nonclinical locations in each city, such as parks and street settings, using a combination of chain referral sampling¹ (Biernacki & Waldorf, 1981; Penrod, Preston, Cain, & Starks, 2003), which utilizes the personal network of a recruited subject to enroll more subjects, and targeted sampling (Watters & Biernacki, 1989), which focuses sampling on designated neighborhoods and venues known to contain the desired population. Researchers developed rapport with participants by spending several days each week in various neighborhoods that attracted groups of young people in each city. In New York, young IDUs were recruited within Manhattan's East Village between April and August 2004. In New Orleans, subjects were recruited primarily within the French Quarter between March 2004 and May 2006. In Los Angeles, IDUs were recruited in Venice, Santa Monica, and Hollywood between January 2005 and June 2006.

Enrollment

Eligibility was restricted to persons 16 and 29 years old who had injected ketamine at least once within the past two years. A series of screening questions focusing on health behaviors and drug use were used to hide the actual enrollment criteria. Subjects received a \$20 cash payment in Los Angeles and New York and a \$20 drug store gift card in New Orleans as well as referral information for syringe exchanges, drop-in centers, HIV/HCV testing, and drug treatment. Study procedures were approved by the Institutional Review Boards (IRB) of participating institutions in Los Angeles, New Orleans, and New York.

Measures

While ketamine use was the primary study focus, many other aspects of drug use were probed during interviews, including injection initiation, substance use histories, and negative health outcomes associated with overall drug use. A series of structured questions captured demographic characteristics and other health behaviors and histories. Lifetime misuse of prescription drugs was assessed using structured questions that presented subjects with a list of 25 prescription drugs and asked if each drug had ever been used nonmedically. A series of qualitative questions probed subjects to describe their rationale for initiating prescription drugs nonmedically, practices used to administer drugs, associated risk behaviors, and recent patterns of misuse.

Analysis

All interviews were digitally recorded and transcribed. All identifying information was removed during the transcription process, and pseudonyms are used to refer to subjects quoted in the manuscript. Quantitative data were analyzed using SPSS while qualitative data were coded, sorted, and analyzed using ATLAS ti. After reviewing all interview data, 17 subjects were excluded from analysis due to unreliable reporting of age and/or history of ketamine use. Based upon demographic and behavioral similarities among subjects across the three study sites, results are reported in the aggregate (Lankenau et al., 2007). Additionally, comparing data across sites is not practical for this analysis since the sample were highly mobile (Lankenau et al., 2008), and therefore, history of prescription drug misuse was not necessarily linked to study sites where IDUs were enrolled.

¹Chain referral sampling purposively attempts to access multiple respondent networks to increase the variability of the sample in contrast to snowball sampling, which may rely on a few respondent networks (see Penrod et al., 2003).

Results

Sample Characteristics

The sample is primarily male, White, heterosexual, and in their early 20s (see Table 1). Most graduated from high school, received a GED, and/or attended a trade school or college. A majority reported being homeless at the time of interview, nearly all had a history of homelessness, and many were identified as “travelers,” (Lankenau et al., 2008) who moved from city to city on a frequent basis in search of new adventures, work opportunities, or drugs. Many earned income through participating in the informal street economy, which included panhandling, selling drugs, theft, or sex work (Lankenau, Clatts, Welle, Goldsamt, & Gwadz, 2005). Most had been to drug treatment or a detoxification facility, and a majority had received some type of mental health care, such as psychological therapy. Nearly all had histories of criminal justice involvement, such as an arrest or incarceration in a local jail or state prison. Rates for HIV and HCV testing were high, yet none reported being HIV positive while over one fifth of those tested for HCV reported being positive. Overall, the sample constituted a group of high-risk youth with extensive histories of homelessness and criminal justice involvement.

Substance Use History

While ketamine was the main substance studied, the sample reported varied and extensive drug using histories (see Table 2). In addition to commonly used substances such as alcohol and marijuana, approximately one third or greater used methamphetamine, ketamine, crack, cocaine, or heroin within the past 30 days, while four fifths had lifetime exposure to one or more of these drugs. In comparison, ecstasy, mushrooms, and LSD were used less commonly in the past 30 days but had similarly high lifetime exposure rates. Regarding injection drug use, heroin was the most commonly injected drug at initiation followed by methamphetamine, ketamine, and cocaine. Also, several initiated with a prescription drug, such as an opioid or stimulant. Additionally, the sample reported injecting drugs that are not typically administered parenterally, such as mushrooms, PCP, ecstasy, crack, prescription drugs, or tryptamines and phenethylamines (Sanders, Lankenau, Jackson Bloom, & Hathazi, in press). Overall, Table 2 depicts a sample of IDUs with a wide range of drug use histories, both recent and lifetime, and a partiality for injection as a primary mode of administration.

Lifetime Nonmedical Prescription Drug Use

Prevalence of lifetime exposure to opioids was pervasive (see Table 3) with Vicodin, codeine, and OxyContin being the most commonly misused. In fact, eight different opioids had been used nonmedically by at least half of the sample. Approximately three fourths had ever used a tranquilizer such as Xanax, Valium, or Klonopin. Stimulants such as Ritalin or Adderall had been misused by one half and two fifths of the sample, respectively. Histories of misuse of barbiturates such as Phenobarb or sedatives such as Quaaludes were comparatively lower so that lifetime exposure equaled approximately one quarter for both drugs.

Across all drug classes, the most controlled substances (receiving the highest Drug Enforcement Administration (DEA) scheduling) are opioids, stimulants, and sedatives (primarily Schedule II drugs), while tranquilizers are the least controlled (all being Schedule IV). Quaaludes (the only Schedule I substance in Table 1) had a comparatively low lifetime exposure history. Overall, lifetime exposure did not vary by DEA scheduling with Schedule II substances such as Vicodin, OxyContin, and Percocet, and all were approximately as commonly misused as Schedule IV substances such as Xanax, Valium, and Klonopin.

Rates of prescription drug misuse among this sample of young IDUs substantially exceeded that of the general population (see Table 3). For example, compared to a National Survey on

Drug Use and Health (NSDUH) sample of 18 to 25 year olds (Coliver et al., 2006) conducted in 2004, lifetime prescription drug misuse was two to over 100 times higher (excluding Desoxyn).² In particular, histories of misuse of Diluadid, Klonopin, Phenobarb, and Adderall were substantially higher among the sample of young IDUs compared to the NSDUH sample.

Obtaining Prescription Drugs for Nonmedical Use

Obtaining a prescription drug was the first step towards nonmedical use among this sample. Three general routes towards obtaining prescription drugs were reported: self, friends, or relatives who were legitimately prescribed a drug; public or street settings; and unexpectedly finding prescription drugs on the street or elsewhere.

Some young people reported being legitimately prescribed a drug for a physical ailment, such as a back injury, or for a diagnosed condition, such as ADHD, and later used the drug nonmedically. As Anthony explained:

Ritalin—that's what got me all started cause I was on it as a prescription and then I started abusing it. Someone tried to buy one off me at school. I was like "You can fuck with these?" And they're like "Yeah." So, I'd just save them up for the week and then I'd take 'em all on the weekend.

More commonly, young people discussed obtaining prescription drugs that were legitimately prescribed for either a friend or relative. This method of acquiring prescription drugs followed two general patterns: taking prescription drugs from relatives without their permission or being offered, buying, or trading prescription drugs from acquaintances or relatives. For instance, Shelly discussed taking Xanax from her grandmother:

I discovered that my grandmother had a prescription for [Xanax] and so from then on, I'd go to my grandmother's house like, once every three weeks, and steal hers.

Raphael mentioned how he used OxyContin when his mother was prescribed the drug, and how she would often bring home "a whole lot":

[My mother] used to get a whole lot of [OxyContin] and she would just bring them home and I'd see it all laid out. You take 20 milligrams and it's like dope [heroin]. It's really like dope.

Alternatively, young people discussed buying, were offered, or traded prescription drugs from friends who were legitimately prescribed such drugs. For instance, Tommy discussed buying Adderall from a friend who "bought a script":

A buddy of mine and I we went on a road trip. We drove over to his boy's house who had bought a script off somebody, like 60 to 100 of some [Adderall], for like 90 bucks. It was less than a dollar a pill.

Other young people reported acquiring prescription drugs on the streets, which occurred in a couple ways. One involved visiting areas that were well known for buying street drugs, such as marijuana, crack cocaine, and heroin. Some described going to Washington Square Park in New York, downtown in Los Angeles, or the French Quarter in New Orleans. Each location has a reputation for purchasing illegal drugs. Methadone clinics were another reported location for procuring prescription drugs. Rather than just any prescription drug, however, Xanax was reportedly found around such clinics as Jose elaborated:

²The age range of ketamine sample (16 to 29 years old) and NSDUH sample (18 to 25 years old) are not exactly comparable. The average age of the ketamine sample is likely to be somewhat older. These age differences, however, are unlikely to explain the large differences observed between the two samples regarding lifetime rates of prescription drug misuse.

Right now, you can get [Xanax] from people on the streets. Lots of times, I guess, people sell it like by methadone clinics. The vast majority of people who use Xanax are people at the clinics. It just seems like that. Usually, people hang out after they go to their clinics, usually around that area they'll be a cluster.

A third way mentioned by young people, perhaps somewhat surprisingly, was finding or happening upon prescription drugs. For instance, Alex described finding prescription drugs in a dumpster behind a pharmacy:

Well, my girlfriend over there, she works at her uncle's pharmacy. And they throw out a bunch of expired stuff. It's not really expired; it's just not legal to sell... So she jacked [stole] a bottle of liquid codeine.

Rationales for Using Prescription Drugs Nonmedically

Young people expressed various reasons for using prescription drugs nonmedically. In some cases, prescription drugs were used to lessen fatigue or as a sleep remedy. For instance, one young person used Ritalin to stay awake and study for exams and, alternatively, used Xanax to help sleep. Some discussed how certain prescription drugs were used as a form of self-medication. For instance, one young man had a painful cyst on his head and frequently used a benzodiazepine, such as Xanax, or opioids, such as Demerol, to alleviate the pain. Another used Vicodin to ease a toothache. Several reported using prescription drugs, such as Klonopin, Dilaudid, or Xanax, to stave off symptoms associated with heroin withdrawal. Additionally, Gary described using Klonopin to help him “kick dope”:

I was about 16 years old and I was trying to kick dope. It's a downer, man. So you eat like three twos [two milligram tablets], and drink like a six pack of beer, and you're fucking gone. You're wasted. It just knocks you out. Because when you're kicking dope you can't sleep.

Several reported being diagnosed with ADHD and prescribed a stimulant by a doctor. For some, being prescribed a stimulant as a child marked a trajectory into methamphetamine use as a young adult. Transitioning between prescribed stimulants, such as Adderall, and illegal stimulants, such as methamphetamine, may be form of self-medication for ADHD, as Benny suggested:

I was diagnosed with ADHD when I was eight years old and was prescribed Adderall. The doctor actually noticed I was abusing it and was like, “No mas.” Now, crystal [methamphetamine] is my favorite drug. The only reason I do crystal is because it works—I'm totally ADHD.

Most discussed using prescription drugs in the context of other polydrug use—either simultaneous or sequential—with the intention of increasing their intoxication. For instance, simultaneously injecting Xanax and heroin—referred to as a “Xani-booster”—was mentioned by several young people to increase the “high” associated with heroin as described by Jack:

When I had a really bad [heroin] habit, I liked throwing Xanax into a dope shot, which allowed you to nod harder. Once you develop a pretty serious heroin habit, you don't really nod off anymore, and that was my favorite part of heroin—just nodding off and having beautiful dreams. So I would throw Xanax into it.... You nod a lot easier and a lot harder.

More generally, the overall pattern was to sequentially ingest any available prescription drug alongside other drugs currently used. For instance, some described how they “partied” with alcohol, marijuana, and a number of other illicit substances in conjunction with stimulants, opioids, and/or CNS depressants. Indeed, many discussed being somewhere and “someone just handed” one of a number of prescription drugs as described by Terrance:

I mean if [Adderall] comes around I'll use it, but it'll mostly just be at a place where someone's like, "Hey, I got some Adderall."

Preparation and Administration of Prescription Drugs for Nonmedical Use

Most prescription drugs are developed by manufacturers to be taken orally either in pill, capsule, or liquid form. While oral administrations were most commonly reported by the sample, young people described other modes of administrations, primarily sniffing, smoking, and injecting.

Preparing a prescription drug to sniff or smoke, which began by crushing a pill into a powder, was reported as a relatively straightforward process. Prescription drugs administered intranasally included Adderall, Ritalin, Valium, Xanax, codeine, OxyContin, Percocet, and Vicodin. Others reported adding a crushed pill, such as Xanax, to marijuana to smoke in a joint or pipe. Preparing a prescription drug for injection, however, was a more complicated process. In fact, several discussed how the composition of some prescription drugs made them difficult (if not impossible) to inject. For instance, not all prescription opioids can be prepared for injection, as Charlie reported:

Percocet is mixed with acetaminophen and Percodan is combined with aspirin. They have a lot of chalk in the pills so you can't realistically break it down and shoot it up. OxyContin is actually oxycodone, which is the same drug as Percocet and Percodan. But it's a time release and the reason that people [inject] it is because there is nothing else in it but that drug. It's a lot easier to break down with a realistic amount of water and then filter it and inject it. It's still a pain in the ass to do, but it's possible.

Despite the challenge of preparing certain drugs for injection, a variety of drug types—opioids, tranquilizers, and stimulants—were reportedly injected, including Ritalin, Klonopin, Valium, Xanax, Dilaudid, morphine, and Oxycontin. As reported earlier, several young people initiated injection drug use with a prescription opioid, such as OxyContin, as Stan described:

OxyContin was popular where I grew up in New England. All of my friends snorted it but I knew that it was water soluble. I had never injected before but I knew it was just going straight into your blood and that I would get more bang for the buck. So I injected it alone.

Several reported injecting various polydrug “cocktails” that simultaneously combined street and prescription drugs, such as ketamine and methadone, heroin and Klonopin, or heroin and Xanax as described earlier. Prescription drugs are particularly potent when combined with other substances in polydrug combinations, which present a significant risk for a drug overdose, as George described:

I've mixed ketamine and OxyContin before, and actually OD'd. I mixed an 80 [mg of Oxy] with about a quarter gram of K. So, I OD'd and I had to go to the hospital in the ambulance. They thought I was dead but I ended up being okay.

Discussion

Lifetime prevalence data indicated that all three classes of prescription drugs—opioids, CNS depressants, and stimulants—were widely used among the three-city sample. IDUs reported much higher rates of lifetime nonmedical prescription drug use compared to NSDUH data. While high lifetime prevalence of commonly known prescription drugs might be expected, such as OxyContin, Xanax, or Ritalin, the sample's extensive use within each class and use of atypical drugs is noteworthy, such as Quaaludes, which are more commonly known as a recreational drug used during the 1960s and 1970s (Weil & Rosen, 1983). This study is the first to report such high lifetime prevalence of prescription drug misuse among a sample of

young IDUs. Reports on prescription drugs based exclusively on National Survey on Drug Use and Health (NSDUH) data (Kroutil et al., 2006) may underreport overall rates of misuse among young people since NSDUH does not include marginalized populations, such as homeless youth who may be IDUs.

The qualitative data revealed particular practices and risks not commonly associated with prescription drugs, such as atypical modes of administration (sniffing, smoking, and injection). While some practices have been previously described elsewhere, such as injecting OxyContin, we report new polydrug combinations, such as injecting OxyContin and ketamine, which were associated with drug overdoses. Additionally, prescription drugs were frequently connected to street drugs in particular ways. For instance, some reported transitioning from a prescribed drug to a street drug in the same drug class, such as Adderall to methamphetamine, which could be a form of self-medication for conditions such as ADHD. Others used prescription drugs, such as Klonopin, to ward off the effects of heroin withdrawal. Finally, some described injecting polydrug cocktails that combined both street and prescription drugs, such as heroin and Xanax. The simultaneous and/or sequential use of prescription drugs in various polydrug combinations is another noteworthy finding. Both the sample's extensive histories of using multiple prescription drug types and reports of using of prescription drugs during polydrug using events suggest that future research studies should report misuse of multiple classes of prescription drugs, i.e., opioids, CNS depressants, and stimulants, rather than by one specific class, e.g., opioids.

Our qualitative findings on methods of acquiring prescription drugs, such as peers, illicit "scripts," and street settings, is the first reporting focused on young IDUs or high-risk youth and contribute to the literature on sources of prescription drugs for nonmedical use (Inciardi, Surratt, Kurtz, & Burke, 2006; McCabe & Boyd, 2005). Interestingly, none described obtaining or buying prescriptions on the Internet, which has been increasingly reported among young people in the general population (Califano, 2004). Additionally, DEA scheduling on prescription drugs did not impact rates of misuse across different classes of drugs among the sample, which suggests that further federal restrictions alone may not curb prescription future misuse among young people.

Sources of prescription drugs for nonmedical use are significant since the diversion of prescription drugs is a multi-billion dollar industry (Eban, 2005). Prescription drugs differ from street drugs, such as heroin or methamphetamine, since they are manufactured by pharmaceutical companies often within the US. Prescription drug wholesalers—not pharmaceutical companies themselves—reportedly have significant control over where prescriptions are distributed after their manufacture (Eban, 2005). Wholesalers, who are not required to possess experience, knowledge, or qualifications regarding pharmaceutical drugs, are sometimes involved in the illicit street drug trade (Eban, 2005). This overlap between the sellers of both prescription and street drugs may help explain the availability of prescription drugs within the street economy or illicit economic exchanges occurring in informal public spaces (Lankenau et al., 2005; Sanders, 2005). Indeed, when young people in the study were asked directly where they obtained their prescription drugs, many simply said "You find them on the street."

A potential limitation to this report is that subjects were not recruited into the study explicitly to examine drug histories or behaviors associated with nonmedical prescription drug use. Consequently, important questions were not asked or quantified, such as frequencies of prescription drug combinations consumed during polydrug events or proportions who overdosed while using prescription drugs. Rather, a sample of prescription drug misusers were indirectly recruited based upon enrollment criteria for a study of ketamine injectors. Furthermore, this sample may not be representative of the larger population of young IDUs

since it is primarily comprised of male and white respondents, and nearly one quarter identified as either gay, lesbian, bisexual, or other.³ Despite these limitations, we have accessed a population with extensive histories of nonmedical prescription drug use, which is particularly useful for describing both variability and emerging practices in an understudied phenomenon.

Conclusions

Study findings indicate that nonmedical prescription drug use was not an ancillary practice among this sample of IDUs, but rather an integral part of drug using behaviors. Prescription drugs were simultaneously and sequentially used in polydrug combinations with other prescription drugs, street drugs, and/or used on their own. These patterns of misuse represent important risks beyond other problems experienced by young IDUs who were also frequently homeless and involved in the street economy.

Based upon the high prevalence of misuse within this sample, additional research focused on initiation, use, supply, and contexts associated with prescription drugs misuse is warranted among IDUs and other populations of high-risk youth (Lankenau et al., 2005; Sanders, 2005). Also, more research is needed to explore the extent that nonmedical prescription drug use occurs within the context of polydrug use, particular street drugs, and the implications of these drug using practices on health risks, including drug overdoses.

A greater awareness of the potential health risks associated with these substances should be incorporated into services that target IDUs, including street outreach, syringe exchanges, and drug treatment. Enhancing assessment and treatment for prescription drugs is also needed. Since these substances are not typically associated with injection drug use, providers of all types should be alerted to the possibility of injecting prescription drugs and other negative health outcomes more commonly associated with injection drug use, such as HCV and HIV.

Acknowledgements

Funding for this study was provided by a grant from the National Institute on Drug Abuse (DA015631).

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³Other studies of young IDUs have also recruited samples that were primary male (Hagan et al., 2007; Novelli, Sherman, Havens, Strathdee, & Sapun, 2005; Roy, Haley, Leclerc, Cedras, & Boivan, 2002), White (Hagan et al. 2007; Havens, Sherman, Sapun, & Strathdee, 2006; Novelli et al., 2005), and/or contained respondents identifying as gay, lesbian, bisexual, or other (Havens et al., 2006).

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Table 1

Demographic Characteristics (N=213)

	Total Sample (N=213)
Median Age	22
Male	68.1%
Race and Ethnicity	
White/Caucasian	74.2%
Black/African American	0.5%
Hispanic/Latino	6.6%
Asian or Pacific Islander	0.5%
Native American	0.9%
Multiracial Background	17.4%
Sexual Identity	
Heterosexual	77.0%
Gay/Lesbian	1.4%
Bisexual	18.8%
Other/Undecided	4.2%
High School Graduate or GED	61.9%
Homeless	79.8%
Homeless traveler	61.5%
Ever homeless	99.1%
Ever sold ketamine	30.5%
Employed Full or Part Time	30.0%
History of Drug Treatment	53.1%
History of Mental Health Care	72.3%
Ever arrested	92.0%
Ever in Jail	85.4%
Ever in Prison	14.6%
Tested for HIV	91.5%
HIV positive *	-
Tested for HCV	83.6%
HCV positive *	19.7%

* Self reported.

** Of respondents reporting multiracial ancestry (n=37):

White/Caucasian 83.8%
 Black/African American 13.5%
 Hispanic/Latino 32.4%
 Asian or Pacific Islander 10.8%
 Native American 29.7%
 Creole: 2.7%
 Declined to State Details: 2.7%

Table 2**Substance Use Characteristics (N=213)**

	Used in Last 30 Days	Ever Used	First drug injected	Ever Injected
Alcohol	89.7%	99.1%	0.5%	0.5%
Marijuana	80.8%	99.1%	-	-
Heroin	44.6%	85.4%	44.6%	80.3%
Cocaine	41.3%	95.8%	14.1%	69.5%
Crack	38.0%	83.1%	-	36.2%
Ketamine	32.9%	100.0%	15.5%	100.0%
Methamphetamine	31.9%	90.7%	18.3%	63.8%
Inhalants	16.0%	85.6%	-	-
Speedball	13.6%	66.3%	1.4%	58.7%
LSD	10.8%	90.1%	-	16.0%
Mushrooms	9.9%	92.7%	-	4.7%
Ecstasy	8.9%	84.0%	-	17.4%
Trypt/Phen*	6.5%	59.6%	0.5%	4.2%
PCP	2.8%	55.9%	-	5.2%
GHB	1.9%	34.7%	-	0.9%
Prescription Drugs	N/A	95.8%	2.3%	N/A

* Tryptamines/Phenethylamines include a variety of hallucinogens, such as DMT, AMT, 2C-T-7, 5-MEO-DIPT, peyote and mescaline.

Missing data:

Mushrooms: 8 missing (n=193)

Speedball: 8 missing (n=193)

Speed: 8 missing (n=193)

Inhalants: 19 missing (n=182)

Table 3
Prescription Drug Misuse: Lifetime Exposure Among IDUs Recruited in New York, Los Angeles, and New Orleans Between 2004 and 2006 (N=213)

Drug Class	Brand Name	Generic Name	DEA Schedule	Total Sample (N=213)	NSDUH (2004)
Opioids (Pain Relievers)	Vicodin	Hydrocodone	II	84.0%	16.5%
	Methylmorphine*	Codeine	II,III,V	75.1%	6.4%
	Oxycotin	Oxycodone	II	69.0%	4.3%
	Percocet	Oxycodone	II	66.2%	8.7% [†]
	MS Contin*	Morphine	II	65.3%	2.5%
	Dolophine*	Methadone	II	54.9%	1.4%
	Demerol	Meperidine	II	52.6%	1.9%
	Dilaudid	Hydromorphone	II	51.2%	.3%
	Percodan*	Oxycodone	II	40.4%	8.7% [†]
	Alfentanil	Fentanyl	II	30.0%	NA
	Darvon	Propoxyphene	II,IV	28.6%	13.1%
	Xanax	Alprazolam	IV	79.8%	7.7% [‡]
	Benzodiazepines (Tranquilizers)	Valium	Diazepam	IV	78.9%
Klonopin		Clonazepam	IV	73.7%	3.3%
Ativan		Lorazepam	IV	31.5%	7.7% [‡]
Librium		Chlordiazepoxide	IV	16.7%	NA
Halcion		Triazolam	IV	2.3%	.2%
Ritalin		Methylphenidate	II	53.5%	5.4%
Adderall		Dextroamphetamine	II	40.4%	.3%
Desoxyn*		Methamphetamine	II	6.1%	5.2%
Phenobarb		Phenobarbital	IV	28.2%	.3%
Secondal		Secobarbital	II	10.3%	.4% [§]
Barbiturates (Sedatives)	Nembutal	Pentobarbital	II	6.1%	.4% [§]
	Amytal	Amobarbital	II	5.2%	.1%
	Quaalude	Methaqualone	I	23.5%	.8%

[†] asked about Percocet, Percodan, or Tylox in same question

[‡] asked about Xanax or Ativan in same question

[§] asked about Nembutal, Secondal, or butalbital in same question.

* More commonly known generic names were asked during interview.