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Motivations for Non-Medical Prescription Drug Use: A Mixed Methods Analysis

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Abstract

Despite a dramatic increase in the non-medical use of prescription drugs among illicit drug users, their motives for abusing prescription drugs are still largely unknown. The objective of this study was to 1) determine the motivations for engaging in the non-medical use of prescription opioids and sedatives among street-based illicit drug users, methadone maintenance patients, and residential drug treatment clients, 2) examine associations between prescription drug abuse motivations and gender, age, race/ethnicity, and user group, and 3) examine associations between specific motivations and prescription drug abuse patterns. Quantitative surveys ($n = 684$) and in-depth interviews ($n = 45$) were conducted with a diverse sample of prescription drug abusers in South Florida between March 2008 and November 2009. The three most common motivations reported were “to get high”, “to sleep”, and “for anxiety/stress”. There were age, race/ethnicity, and gender differences by motives. Prescription drug abuse patterns were also found to be associated with specific motivations. While additional research is needed, these findings serve to inform appropriate prevention and treatment initiatives for prescription drug abusers.

1. Introduction

If we assume that most drug use is intentional goal-oriented behavior, then a logical and perhaps fruitful approach to a more complete understanding of prescription drug abuse would be to explore the specific motivations that compel people to use (Pomazal & Brown, 1977). While B.F. Skinner and other behaviorists would argue that it is the behavior itself (not the motivation) that should be addressed when attempting to affect behavior change, motivational theorists contend that the key to understanding a behavior is to first examine the causes, reasons, or intentions that move individuals to perform certain actions (DiClemente, 1999; Ferster et al., 1997). In Abraham Maslow’s classic, *A Theory of Human Motivation*, he not only emphasizes the capacity that motivations have to shape behavior, he claimed that motives can be placed in a hierarchical order of importance (Maslow, 1943). These ideas have unique implications for understanding prescription drug abuse and highlight the strong connection between motivation and human behavior.

In our quest to better understand the non-medical use of prescription drugs, we must first identify the intention(s) behind the behavior. Furthermore, it would seem highly likely that

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there would be a wide variety of drug use motives, given the different classes of commonly abused medications (e.g. sedatives, opioids). Knowledge of the most prevalent and impactful motivations for abusing prescription drugs would consequently increase the ability of treatment programs to reduce drug use by directly addressing the underlying cause of the behavior. In fact, previous research has illustrated the significance of motivations as predictors of drug use behaviors and as crucial components to drug treatment efficacy and retention (Longshore and Teruya, 2006; DeLeon et al., 2000). The effectiveness of motivational interviewing as a strategy to reduce alcohol and illicit drug use is further evidence of how important motivations are in understanding drug use behaviors (Beckham, 2007; Peterson et al., 2006). However, to date, little is known about the motivating forces behind people's choice to abuse prescription drugs.

The abuse of prescription opioids and sedatives has been escalating since the mid-1990s. Currently, painkillers rank as the second most commonly abused drug after marijuana, and benzodiazepines are now the drug most identified in drug abuse emergency room visits (Substance Abuse and Mental Health Services Administration 2007, 2006). Research also confirms that users of illicit drugs are at risk for abusing these types of prescription drugs, yet our knowledge regarding prescription drug abuse motivations in this population is limited (Wastila et al., 2004). The majority of studies that examine motivations and prescription drug abuse have been largely based on high school and college samples generating a relatively narrow body of literature. (McCabe et al., 2009; Teter et al., 2005; Boyd et al., 2006). The present study addresses this gap by utilizing a mixed-method approach to examine the motivations for abusing prescription drugs, specifically opioids and sedatives, among three different types of drug users: street-based illicit drug users, methadone maintenance patients, and residential treatment clients.

The existing literature supports the notion that motivations play a salient role in shaping prescription drug abuse behaviors. Studies report a number of different reasons why individuals abuse prescription drugs: pain relief, to get high, to go to sleep, and to relax (McCabe et al., 2009). Moreover, most individuals reported multiple motives for their abuse of prescription drugs, and the number of motives was positively related to substance abuse problems. Different motives are associated with different aspects of substance abuse behaviors. For example, those who abuse prescription opioids for pain relief only are less likely to report other substance abuse, to utilize a non-oral route of administration, and to co-ingest prescription drugs and alcohol than those who reported multiple motives or a motive other than pain relief (McCabe, et al., 2009). Another study found that the illicit use of prescription stimulants was related to alcohol and other drug use, as well as the number of motives reported for prescription stimulant abuse (Teter et al., 2005). Increasing our knowledge of the different motivations behind prescription drug abuse is critical in order to best adapt prevention and treatment programs to the unique needs of the individual.

Some studies have looked at prescription drug abuse motives and their relationship to relevant socio-demographic variables. Findings on gender and racial differences in motivation for prescription drug abuse have been mixed (McCabe, et al., 2009; Teter et al., 2005). One study of college undergraduates did report both gender and racial differences in prescription drug abuse motives. McCabe et al. (2009) found that college women were more likely to use prescription drugs in a non-medical way for self-treatment where as men were more likely to use them for recreational or mixed motives. They also found that White and Hispanic students were more likely to use prescription drugs for recreational purposes, where as African-American students reported more use of pain medication for self-treatment reasons.

Research suggests that prescription drug abuse is common among illicit drug users, yet little is known about the motives for abuse among these types of drug users. Studies show that prescription drug abusers are more likely to use marijuana, ecstasy, cocaine, and heroin (McCabe et al., 2005; Simoni-Wastila et al., 2004). Information from treatment admission data also shows an increase in the number of drug treatment clients having both prescription drug and illicit drug use histories. Florida, for example, is third in the number of non-heroin opiate treatment admissions (after New York and Pennsylvania) (SAMHSA, 2006). Moreover, two studies on methadone maintenance patients also report a high prevalence of prescription opioid, benzodiazepine, and barbiturate abuse (Brands et al., 2004; Iguchi et al., 1993). One recent study about street drug users found prescription opioid abuse positively related to recent use of heroin and cocaine (Davis and Johnson, 2008). These studies further illustrate how important the illicit drug using population is in understanding the prescription drug abuse phenomenon.

To attain insights into the role that motivations play in the non-medical use of prescription drugs, the present study utilized a mixed-method approach to examine the motives for prescription drug abuse among three different types of drug using populations at risk of prescription drug abuse: methadone maintenance patients, residential drug treatment clients, and active street drug users. The research questions are as follows: 1) what are the different motives for prescription drug abuse reported by three different drug using populations; 2) do prescription drug abuse motives vary by gender, age, race/ethnicity, and/or user group; and 3) what prescription drug abuse patterns are associated with specific motivations.

2. Methods

2.1. South Florida Health Survey

This paper utilized data from the South Florida Health Survey, a National Institute on Drug Abuse (NIDA) funded, 4-year study that examined prescription drug abuse and diversion among different types of drug users in South Florida. Structured quantitative interviews and qualitative in-depth interviews were employed as a means of data collection. All participants completed a quantitative assessment, however qualitative in-depth interviews were conducted only with participants who had extensive abuse profiles and appeared to be the most heavily involved in prescription drug diversion.

The quantitative component consists of a one-time computer-assisted personal interviewing (CAPI) assessment of the following sub-samples of prescription drug abusers: 300 residential drug treatment clients (publicly funded), 300 residential drug treatment clients (privately funded), 300 gay/bisexual men, 300 methadone maintenance patients, 300 active street drug users, and 300 elderly. These different drug using populations were recruited for the present study because previous research indicated that prescription drug abuse is a current phenomenon in each population (Rosenblum et al. 2007; Sigmon 2006; Brands et al., 2004; Kurtz and Inciardi 2003). Within and across each of these samples, the participants were assessed on the following aspects: 1) life histories of drug abuse onset and progression, 2) mechanisms of prescription drug diversion, and 3) demographic, sociocultural, and psychosocial characteristics. Data collection is still ongoing. For this manuscript, only data from the active street drug users (n=295), methadone maintenance patients (n=163), and the residential drug treatment clients (publicly funded) (n=226) are presented. The sample selected for statistical analysis included Blacks/African-Americans (n=254), Whites (non-Hispanic) (n=145), Hispanics/Latinos (n=161), and Other (n=124). The majority of the sample was of a fairly low socioeconomic status. Only 42% of the sample reported being employed within the last 30 days, 49% of the sample held a high school diploma or equivalent, and 31% reported having an income of less than \$500 in the past month. There

were 351 men and 332 women and the ages in the sample ranged from 18-65 with a mean age of 38.

Participants for the in-depth qualitative interviews were selected from individuals who completed the quantitative CAPI assessment, and reported substantial prescription drug abuse and multiple diversion methods. The qualitative component of the study will be comprised of 30 in-depth, semi-structured interviews for each of the different sub-samples of prescription drug abusers for a total of 180 qualitative interviews. The interview guide included the following questions: how did you start abusing prescription drugs; what were the main reasons; tell me about the different ways you obtain prescription drugs; and tell me how your prescription drug abuse affects your health. The goal of these interviews is to capture richer, more detailed information about specific methods of diversion than is possible with the quantitative interview. This paper will report on the qualitative interviews completed at present with active street drug users (n=15), methadone patients (n=15), and residential treatment clients (n=15). The sub-sample of participants selected for the qualitative analysis included Blacks/African-Americans (n=12), Whites (non-Hispanic) (n=27), and Hispanics/Latinos (n=6). There were 26 men and 19 women and the ages in the sample ranged from 18-60 with a mean age of 39.

The purpose of this mixed-method study is to utilize both quantitative and qualitative data to explore the different motives for prescription drug abuse, how motives may vary by socio-demographic characteristics, and if prescription drug abuse patterns are associated with specific motivations. All study protocols and instruments were reviewed and approved by the University of Delaware's Institutional Review Board.

2.2. Eligibility criteria

To be eligible for the study, individuals needed to be 18 years of age or older, and report abusing prescription drugs at least 5 times within the last 90 days. For the purposes of this study, prescription drug abuse is defined as follows: 1) taking prescription drugs without a legitimate prescription, or 2) taking them in ways not prescribed by a physician (i.e., overusing, improper ingestion method). In addition, participants had to meet one of the following criteria to determine which drug using group they represented: 1) methadone-maintenance participants needed to be currently enrolled in a methadone-maintenance treatment program (non-residential), 2) active street drug users must have used powder cocaine, crack, or heroin 12 or more times in the past 30 days prior to interview date, and 3) residential drug treatment clients had to be currently enrolled in a publicly funded inpatient drug treatment facility for less than 45 days prior to interview date.

2.3. Recruitment

A variety of purposive sampling strategies were used to locate study participants. Print media advertisements, handing out cards, and the posting of flyers were largely used to recruit active street drug users. However, we also used chain-referral for recruiting active street drug users in which each participant who completed a CAPI interview was also invited to refer anyone that they thought would be eligible for the study. Active street drug users were then provided a \$10 monetary incentive for each referral that completed an interview, but each participant was restricted to 5 referrals in an effort to minimize sample bias. Referrals from methadone clinics and drug treatment centers served as the primary method of recruiting for methadone maintenance and drug treatment clients. In partnership with local methadone clinics, research staff identified and recruited methadone patients by posting flyers and handing out study cards to individuals in the methadone clinics. Counselors at the clinics also handed out study cards to clients, and each clinic provided space for interviews to be conducted. Methadone clinics were located in various locations

throughout South Florida including Miami, Fort Lauderdale, and Fort Myers. For residential drug treatment clients, the treatment program staff would identify clients who reported any prescription drug use history, and would contact the research team if the client was interested in participating. Flyers and study cards that stated if anyone was interested in participating to see their counselor were also posted in the residential treatment centers. However, most participants were referred by the treatment staff. Several local treatment programs located in Miami-Dade County, Broward County, and Lee County partnered with the South Florida branch of the Center for Drug and Alcohol Studies (CDAS) of the University of Delaware in order to identify residential drug treatment clients.

2.4. Screening

All participants were screened for eligibility before they were scheduled for the CAPI interview. Screening procedures varied depending on whether they were active street drug users, methadone patients, or residential treatment clients. Both active street drug users and methadone patients would call the study phone number and would be screened over the phone. Eligibility was determined by their responses to a series of questions pertaining to their drug use, demographics, and treatment status. If they were found eligible, active street drug users would then be scheduled for an interview at one of our South Florida field offices. Eligible methadone patients would be scheduled for an interview at the methadone clinic that they regularly attend. For residential treatment clients, the treatment staff would conduct a brief screener of all new admissions on a weekly basis to identify clients with a history of prescription drug abuse, and call the CDAS research staff to schedule an interview for the client at the treatment facility.

2.5. Quantitative interviews

The interviews occurred in a private office space between the participant and the interviewer. Before administering the CAPI interview, each participant was re-screened to ensure eligibility. Once eligibility was confirmed, they were provided an informed consent form to read and sign. The interviewer also summarized the key points of the consent form for the participant. Participants were assured that their participation is strictly confidential, and that they can stop the interview at any time. After the consent form was signed, the CAPI interview was administered. The interview assessed background, mental and physical health, drug use history, prescription drug diversion methods, and legal history. Interviews lasted approximately 1½ to 2 hours; and after completing the interview, the participant was given a \$30 monetary incentive for their participation.

2.6. Qualitative in-depth interviews

From this larger South Florida Health Survey sample, participants were selected for in-depth qualitative interviews. Participants who reported multiple diversion methods and extensive histories of prescription drug abuse were selected for diversity across the following parameters: gender, ethnicity, type of primary prescription drug abused, and method of diversion. Participants were recommended for a qualitative interview by the interviewer conducting the CAPI interview. Forty five individual, in-depth interviews were conducted between September 2008 and November 2009 by the first author with active street drug users (n = 15), publicly funded residential drug treatment clients (n = 15), and methadone maintenance patients (n=15). Interviews usually lasted between 1 to 1½ hours. The in-depth interviews were designed to gather qualitative data regarding prescription drug abuse initiation, motivations for prescription drug abuse, drug abuse patterns, and mechanisms of diversion. The interviewer asked open ended questions to provide participants an opportunity to tell their story in their own words. Upon completion of the in-depth interview, participants were paid a \$30 monetary incentive for their participation. Each interview was recorded using a digital voice recorder.

2.7. Quantitative measures

Participants were assessed on several socio-demographic characteristics including age, gender, race/ethnicity (African-American, Hispanic/Latino, White, Other). Whether the participant was an active street drug user, residential treatment client, or a methadone patient was also assessed. In the quantitative assessment, participants were asked the item, 'what is the main reason for using this prescription drug?' Participants were allowed to check all that apply, and options included the following: for pain, anxiety or stress, to get high, to substitute for other drugs, to moderate the effects of other drugs, to sleep, for social pressure, or for other reasons.

2.8. Statistical Data Analysis

Descriptive statistics such as frequencies and cross-tabulations were conducted to describe the various motives reported by the sample. Logistic regressions were also conducted to determine any differences in motives by socio-demographic characteristics.

2.9. Qualitative Data Analysis

The digitally recorded interview was transcribed verbatim and subsequently imported into NVivo 8, a qualitative data analysis computer software program developed by QSR International. The use of this software package's search engine and query functions enhanced the researchers' ability to identify trends, examine drug use patterns, and search for salient themes in the data. Although the in-depth interview guide targeted specific aspects of prescription drug abuse and diversion, coding categories used in the analysis were not predetermined. Given the exploratory nature of this study, data analysis was shaped by a grounded theory approach (Glaser, & Strauss, 1967; Charmaz, 2000; Charmaz, 2003). A number of consistent themes emerged from the analysis of the transcripts. This approach was chosen for its proven ability to explain social phenomenon from the perspective of the participant. Analysis was approached with a beginning awareness of the literature which served as a tentative point of origin for initial coding.

A three step coding process was utilized. During the first phase of coding, every word of the transcript was scanned and initial themes were located. After initial coding was complete, phase two consisted of a more focused type of coding where the most frequently occurring codes were used to sort, synthesize, and conceptualize the data. In the final stage, the researchers decided upon the major concepts, searched for links between categories, and assigned excerpts that illustrated the final themes. These emergent themes are further discussed in the following sections.

3. Findings

3.1. Quantitative findings

Participants reported a mean number of 2.9 motives for using prescription drugs. As shown in Table 1, the three most frequently mentioned motives were to get high, to sleep, and for anxiety or stress. There were also other motives commonly reported. Over half of the sample also reported using prescription drugs to moderate other drugs, for pain relief, and to substitute for other drugs. The least common motives for using prescription drugs were social pressure and "any other reason". Responses for "any other reason" were content analyzed and three themes emerged from these data. Participants reported emotional reasons (e.g., depression), to avoid withdrawal, and for sexual enhancement.

The socio-demographic characteristics of participants that reported each motive were also examined. As shown in Table 2, there were age, gender, and race/ethnicity differences by motives. Older participants were more likely to report pain relief as a motive where as

younger participants were more likely to abuse prescription drugs to get high or for other reasons. Men were more likely to report abusing prescription drugs in order to substitute for other drugs or because of social pressure. Compared to African-Americans, Whites were more likely to abuse prescription drugs for pain relief, for anxiety/stress, and other reasons. Hispanics/Latinos were more likely to report anxiety or stress, and to get high as motives for abuse than African-Americans. On the other hand, African-American participants were more likely to report moderating other drugs as a motive than whites.

3.2. Qualitative findings

Themes that emerged from the in-depth interviews were in support of the quantitative findings. Getting high, coping with anxiety/stress, and avoiding withdrawals were also found in the qualitative interviews; however, moderating the effects of other drugs also emerged as a common motive for abusing prescription drugs. Quotes from study participants are included to help illustrate each theme.

3.2.1. Getting High—The majority of participants reported that the desire to “have fun” or “get high” was a primary motivation for abusing prescription drugs. In fact, 28 out of 45 participants mentioned getting high among their reasons for abusing. While some participants gave very personal, detailed stories to explain their prescription drug abuse, often times it was as simple as wanting to get “messed up”:

Xanax – it’s just like being drunk, in my opinion. I love slurring my words. I love falling all over the place. I just like having fun. I like not remembering what happened the night before. It’s a great feeling. My friends don’t do them now. If I’m on them, they won’t be around me. So there really isn’t a reason for me to take them, but I just love to take them...Even though it’s not fun for anybody else around me, it’s fun for me because I’m messed up (White female, 32, residential treatment client).

I’ve always just had the personality where I just want to have fun. I always think there’s a way to have a little more fun than everyone else, and it’s kind of what got me into drugs in the first place. I was never really one of those people like, “Oh, I hate myself, so I’m going to smoke weed to forget about it,” or, “I have this problem, so I’m going to get drunk.” I just like to have fun. I just like to party (White male, 19, residential treatment client).

Participants who cited getting high as a motivation tended to also ingest prescription drugs by using non-oral methods including smoking, snorting, and/or shooting the pills. Generally speaking, these alternative methods of ingestion were favored over swallowing because they reportedly altered the high in a desirable way (e.g. increased intensity, lengthened duration, felt high sooner). This participant talked about constantly switching the way he ingested his Roxicodone pills in an attempt to “chase the high”:

The actual euphoric rush that you get from that is intense. It’s incredible. I can’t describe it. There is no other high that’s like it. It’s the best there is, and that’s why I do it and why it’s so incredibly addicting. Then subsequently after my arrest, I started hanging around some people that were doing it in different ways, and I said, “Wow! That’s great!” and the transition went from chewing it, and then I snorted it. The first time I snorted it, it was incredible, and it was something I continued to do for quite some time after that. And then somebody had introduced me into the injection method and how immediate it was and it was just a completely way better feeling than you’re ever going to get from snorting it or chewing it. I was addicted from the first time I shot, and it just went from there. After my tolerance went up, I was just always chasing the high (White male, 42, methadone patient).

Even though getting high was the primary motive for most participants, it typically transitioned into a motive of using prescription drugs to avoid drug withdrawal symptoms. In other words, this motivation tended to evolve over time as participants' drug use increased and life circumstances worsened. The trajectory of recreational use to apparent addiction was common among participants. This may be related to the higher rates of non-oral ingestion methods (e.g. snorting or smoking) among these participants which previous research has linked to the increased risk of drug addiction (Compton, & Volkow, 2006). The next excerpt is an example of this motivation trajectory. This participant talked about how high the drugs got her, but after continued use she referred to her reason for using as merely trying to "maintain":

So we started doing them (Roxicodone 30 mg), and we, like, got so high. It was, like, the best high, and so we kept going back and getting more and more. I just wanted them 'cause I liked the high from them, but then it became about maintaining. Then it became about trying to get that high back. But I love them. I won't lie. I love those pills. I do. I like them so much that this is why I'm now an addict. I had a relationship with those pills. I mean, they would stay in my bra and my pockets. I wouldn't share. I love them. I just like the high. (White female, 32, residential treatment client).

The theme of using prescription drugs to avoid withdrawal symptoms is discussed in more detail below.

3.2.2. Coping with Anxiety/Stress—Another dominant theme that emerged during analysis was that of participants abusing prescription medications for the purposes of alleviating perceived mental/emotional maladies, specifically anxiety and stress due to adverse life events. Among the life events most commonly reported by participants as contributory to their prescription drug abuse were childhood abuse episodes, loss of employment, child custody issues, relationship difficulties, housing instability, and overall discontentment with life. Here are a couple of examples where participants experienced a traumatic event of a sexual nature and used prescription drugs to help deal with the resulting emotions:

I was raped five years ago, and I went through a very bad depression and everything. And I wanted to get messed up. I went to a friend's house. They're like, "Oh, these new pills are out," and they were just a little blue pill. So cute. You know? It was tiny and blue. It was just to numb myself and what I was going through from being raped (White female, 24, methadone patient).

I got molested by Catholic priests, which just infuriated me, so I was constantly, me and a bunch of other little kids were being molested mentally and physically. Catholics they like to once you enter into their control, they break all that down, and build you up mentally and physically the way they want you, so I was going through a lot of that. So, the pills were, like, a way to hide out. Mentally hide from the pain, escape reality (Black male, 42, active street drug user).

Here is a fairly typical example of a participant who reported using prescription drugs (Klonopin) to help deal with his everyday "family" stressors:

The reason is there's a lot of stress at home. I had to move out of my own bachelor pad, back into Mom's. We don't get along. I would rather leave the house than be there when she's there. Just, she'll – She's OCD, and the house has to be perfectly clean, orderly neat, like, to the point of it's ridiculous, which she learned from my grandmother, who's the same way. Oh and my grandma, she broke her neck, and

I'm taking care of her every Monday, Wednesday, and Friday. So, I think it's the stress from my family. It's just to cope (White male, 35, methadone patient).

Ironically, while prescription drugs seemed to help participants “deal” with some of their life challenges, a great many of these problems were actually caused by drug use. Here is an example of a participant who lost a loved one to a Roxicodone overdose, but copes with the death by abusing the very same drug:

For escape and relief for myself. I don't know why I get very depressed a lot of times. Escape is always a part of it for me. You know? I have a lot of problems out there. I have a lot of issues out there. I'm always looking over my shoulder. I have people calling my mother's house saying they're going to cut my throat. I have, you know, a fiancée that's pregnant who her health problems far exceed mine. So that's nerve-wracking. Just through this drug use – the amount of people I've lost. I've had a girlfriend die in my arms – things like that. I want to escape those feelings (White male, 27, residential treatment client).

In this excerpt, this participant further articulated the dual function that prescription drugs sometimes served in their lives acting as both the cause and coping mechanism for life's problems:

So I threw him (husband) out, but I kept the pills, and he was calling and calling, and I thought, “Man, how am I going to ease my mind?” And I started eating pills, and in nine months I lost everything: my house, my car, my two trucks, my kid, my dog, my bank account. I ended up stabbing somebody. My life went to shit. I lost control. They took my two year-old and put her in my Mom and Dad's custody. When they took her, I just ate like 30 or 40 Somas and woke up two days later (Black female, 33, active street drug user).

The motivation of coping with anxiety/stress was a dominant theme with 25 of 45 participants giving this as a reason for using. As this motivation is seemingly connected to external circumstances, it bears mentioning that the overwhelming majority of participants was of fairly low socioeconomic status and reported having endured some rather traumatic life events.

3.2.3. Moderate other Drugs Effects—Almost all of our study participants were poly-drug users, abusing a wide array of prescription drug types (e.g. opioids, sedatives), street drugs (e.g. crack, heroin), and alcohol. When asked about their reasons for abusing prescription medication, 20 of 45 participants mentioned that they used to either enhance or moderate the effects of other drugs in a desirable manner. A few participants had a difficult time explaining exactly how one drug moderated the other, saying something like “I don't know, it just feels better when I take them with pills”. However, the motivation of participants who abused prescription drugs to moderate other drug effects tended to follow a specific pattern. Generally speaking, there were two main motivations related to drug moderation: 1) to “come down” from other drugs and 2) to accentuate or supplement the high of other drugs. The most prevalent of these was the use of sedatives, primarily Xanax, to come down from the effects of other drugs, usually powder or crack cocaine. Here are a couple excerpts that illustrate this phenomenon:

Sometimes when you do cocaine, or you get really wired up on the Oxy's, we need something to come down, and we would take that Xanax to come down or get some sleep because sometimes in the process of doing these drugs you forget to sleep for a couple of days, and then finally you've got to say, “Okay, it's time to sleep.” So, I'm going to have to take a couple of Xanax. And a lot of times you take a Xanax to just even the keel because maybe the coke was too strong or you ate a few too

many of the Oxys, and you get really wound up. Maybe just to even the keel off, give me half a bar, and see how I feel, and if that doesn't work, I'll finish the bar off (White male, 42, methadone patient)

I always used them to come down off crack. I could never just smoke crack. When I detoxed, and I was smoking crack, I'd feel so shitty. I tried to get back on pills again, 'cause I'd take the pills, get that high, and then I'd smoke my crack. And I'd still get high from the crack, but not have that shitty feeling that goes with it (White female, 32, residential treatment client).

The other pattern of moderation motivation that existed was to use a prescription drug, usually an opioid, to accentuate or enhance the effects of other drugs. This motivation was referred to by participants as a desire to "get higher", "take it to another level", or "get more fucked up". This participant explains how perfect a complement OxyContin was to other drugs such as marijuana and alcohol:

I guess to have fun. I was always just drinking and smoking weed anyway, so that kind of seemed normal. That's what you do all day. You have some beer and smoke a little weed here and there, but then that didn't really fuck me up. After I tried Oxys – Oxys were like, "That's how I have fun. That's how I get really messed up." You know? With weed and alcohol you just kind of leveled out, and then once I'd do my Oxys, then I'm up having fun. Then the party starts. It's to kind of top everything off (Hispanic male, 19, residential treatment client).

Participants who were motivated by drug moderation tended to be heavily involved in drug abuse and rarely took prescription drugs alone. In fact, many claimed that their drug of choice was of the non-prescription variety.

3.2.4. Avoid Withdrawal Symptoms—It is common for individuals who are physically addicted or dependent to experience withdrawal symptoms after discontinuing the use of prescription drugs such as opioids and benzodiazepines. There are many variables associated with withdrawal symptoms. Factors such as drug type, length of time drug was abused, and quantity of abuse, can play a role in the type, duration, and intensity of symptoms that are experienced (Gardos et al., 1978). Withdrawal from prescription drugs can have both physical (e.g. bone/muscle pain, diarrhea, vomiting, and involuntary shaking) and emotional (e.g. depression, anxiety, and mood swings) manifestations. Not only did many of our participants report experiencing very similar types of symptoms when they were unable to ingest prescription drugs, they also cited their desire to avoid these symptoms as a major motivator for their continued abuse. Even though participants complained of experiencing emotional withdrawal symptoms such as increased depression or irritability, it was clear that the chief motivator was the ability to avoid the physical manifestations of withdrawal. Not surprisingly, participants with this motivation tended to have long histories of substance abuse and were also heavy users. These participants talked about some of the physical withdrawal symptoms they experienced when unable to obtain any prescription drugs:

Well, you take them for – not to get the withdrawals, but also when you took them, you felt better. Yeah, like I mean, if you didn't have it, you'd be sick. You'd be nauseous, throwing up, diarrhea, all that. And if somebody came in and said, "Hey, here's two pills," and you'd take them, 20 minutes later, you would be like, "Let's go. Let's go out." You know what I mean? Let's go to the beach, let's go play volleyball, let's do this, that. You'd be all up and ready to go. So, you needed that to, you know, I guess to take on everyday tasks. You know, go to work and do everything..If you didn't have the pill right there, you wouldn't want to do shit. You wouldn't even want to get out of your bed (White female, 42, methadone patient).

If I didn't have it in my system, I was throwing up, I was extremely sick...if I didn't have the Roxy's or the Oxy's or the methadone, I was dope-sick. But if I didn't have the Xanax, I felt sick also. I thought I was going to have a heart attack. Your heart races, you're shaking; I'm still shaking from it. You um – but on top of it, when you're on it – see that's the whole thing. With the Roxy's and the Oxy's and the methadone, as long as I had it in my system I was okay (White male, 27, residential treatment client).

This poly-drug using participant reported heroin as his drug of choice, but used Percocets to avoid the symptoms of his heroin withdrawal:

I'm going to put it to you like this, a girl that I was doing actually turned me on to it. You know? She's like, "Hey, if you're sick, what will help is the Percocet." So once I popped the Percocet, like 15 minutes later or 20 minutes later, I'm up and moving around. And when I'm going through withdrawals, I'm just, like, I don't want to move, I just want to lay down, watch some TV, smoke some marijuana, the withdrawals make me feel really shitty. You know? But the Percocet, it kind of takes away all that. So that's why I use it...I only use it because I will go through withdrawals from the heroin, so I use the Percocet to ease the pain when I can't get heroin (Black male, 32, active street drug user).

It was also common for these participants to self-identify as "addicts" or being "addicted" throughout the course of the in-depth interview. They rarely referred to any significant euphoric or pleasurable effects associated with their drug use, rather they claimed to use simply to "feel normal" or "function" as this excerpt illustrates:

I was addicted to them by then. You don't get high after a while. You just need it so you're not sick. You have to have that balance. There are some days where you're so dope sick, you can't even get out of bed. I mean it's horrible. I remember I was on my way to work and I was so sick, but I couldn't call into work sick again. I mean I had prescription pads all over my car and I wrote one out for 60 Percocet and I stopped at the Publix pharmacy...I think I thought I was getting high, but after a while it's just not – it's just to take away the symptoms and feel normal...I mean there were days that I was so sick that I couldn't even go and get them (White male, 46, residential treatment client).

4. Discussion

The research reported here used qualitative and quantitative methods of data collection and analysis in a mixed methods approach to examine the issue of prescription drug abuse motivations in three different types of drug users: methadone maintenance patients, drug treatment clients, and active street drug users. These findings add to the overall picture of prescription drug abuse by contributing to our knowledge of why illicit drug users engage in the non-medical use of prescription drugs. Even though drug use motivations have been extensively studied, there has been little research, mixed methods or otherwise, that specifically investigated prescription drug abuse motives among these sub-groups.

Some researchers have argued that many conventional approaches to drug education, intervention, and counseling have failed to significantly reduce drug use because motivations were not adequately addressed (Cosden et al., 2006). Past efforts may not have been directed at salient drug abuse motivations, but rather inadvertently targeted motives that were less important in determining drug use behaviors (i.e. social pressure) contributing to poor treatment outcomes. If future efforts do not take into account the principal motivations for prescription drug abuse, it would be unlikely to expect meaningful decreases in use. It should be added that the vast majority of our participants reported multiple motives

for engaging in non-medical prescription drug use, further revealing the multi-dimensional nature of prescription drug abuse etiology and continuance. This is valuable data for treatment programs, as it indicates that there are typically several impactful motivations that compel drug users to abuse prescription medications. Interventions should acknowledge the prescription drug abuse motivations presented here, and place added emphasis on the motives most typical to illicit drug users to affect significant and lasting behavior change. The findings of this study should serve to reorganize the way in which prescription drug abuse motives are viewed and function as a guide for the creation of new motivation specific treatment and prevention efforts.

The data presented in this study will inform clinicians who utilize motivational interviewing to reduce substance abuse. This client-centered approach to counseling seeks to engage the client's intrinsic motivations to illicit behavior change by exploring and resolving ambivalence within the client (Miller and Rolnick, 1991). Motivational interviewing has experienced increasing popularity within the field of addiction counseling, largely due to its clinical efficacy as a method of behavior change (Sandbaek et al., 2005). As the overall goal is to help the client understand and resolve their competing drug use motivations (the motivation to continue using vs. the motivation to cease drug use), the findings presented here provide insights into the motivational forces that compel some drug users to abuse prescription medications. This increased knowledge can better enable clinicians to facilitate a resolution between both sides of the ambivalence impasse by better understanding some of the motivational factors that may compromise treatment efforts and/or lead to relapse (Rollnick and Miller, 1995).

Previous research looking at the relationship between socio-demographic variables and prescription drug abuse motives has almost exclusively used samples of high school and college students (McCabe et al., 2007; Teter et al., 2006). To our knowledge, this is the first study of its kind to explore socio-demographic differences in motives among illicit drug users. Our study revealed men were more likely to report abusing prescription drugs in order to substitute for other drugs or because of social pressure. This finding may be related to the higher prevalence rates of addiction and poly-drug use among men (Epstein et al., 1999) and the greater impact that peer pressure can have on men than women (Berndt, 1979; Brown et al., 1986). Our findings also revealed some racial/ethnic differences in prescription drug abuse motivations. These differences may be due to prescription drug use being a more normalized behavior among Whites than racial/ethnic minorities (excluding Native Americans) (Huang et al., 2006). However, these hypotheses have yet to be tested.

Both the quantitative and qualitative findings suggest that many prescription drug abusers use pills to get high and/or cope with anxiety and stress in their lives, following a traditional escapist or coping model of drug use often found in the literature (Sturza and Campbell, 2005; Sherman et al., 2005; Khantzian et al., 1974). Future treatment initiatives should give special attention to the stressful life situations typically experienced by drug users (i.e. housing instability, unemployment), and also incorporate alternative strategies for reducing and coping with daily stress. To this end, drug treatment programs might consider adopting a case management style approach to help coordinate the financial, medical, and legal issues of their clients. By directly addressing these common sources of stress, prescription drug abusers may be less compelled to use, resulting in lower rates of abuse.

Additionally, the rich qualitative data presented here provides a rare contextualizing of these results. The qualitative component of this study gives a unique perspective into some of the more nuanced aspects of prescription drug abuse motivations absent from the research literature. While prescription drug abuse motivations do not vary significantly by user group, analysis of the qualitative data did reveal some drug use patterns associated with

specific motivations. Participants who reported getting high as a primary motivation for their abuse tended to engage in non-oral methods of ingestion such as shooting, smoking, and snorting their prescription pills. As previous research has linked these ingestion methods with adverse physical consequences and increased risk of addiction (McCabe and Teter, 2007; Jewers et al., 2005; Watson et al., 2004; Yewell et al., 2002; Compton and Volkow, 2006), we recommend that treatment programs tailor their interventions accordingly and incorporate this knowledge into their efforts to monitor and detect prescription drug abuse. Drug treatment professionals are urged not only to inquire about motives, but give special attention to individuals who report getting high as a chief motivation as they may be at increased risk for addiction and/or health complications.

Furthermore, these findings indicate that drug effects moderation is another major reason why illicit drug users abuse prescription drugs. The co-ingestion of prescription opioids and benzodiazepines with other drugs can be potentially dangerous (McCabe et al., 2006) and should be considered a public health concern. Drug education and prevention campaigns should be directed at increasing awareness to the potential dangers of mixing prescription drugs with other commonly abused substances, specifically alcohol, marijuana, cocaine, and heroin.

A few methodological issues warrant discussion. As with all self-report data, the possibility of recall bias should be considered. Given that face-to-face interviewing was utilized as a means of data collection, interviewer bias may have been a possibility. Since this was a non-probability sample, any generalizations should be made with caution as the validity of the parameter estimates are unknown. Although data gathered in this study will not necessarily be representative of all methadone patients, active street drug users, or residential treatment clients throughout the U.S., it is logical to assume that South Florida presents a drug abuse profile similar to, if somewhat more active than, other urban centers in the U.S. The findings of this research represent a significant first step in better understanding why some drug users abuse prescription medications, and as such should result in the creation of more informed best practices for effective prevention and treatment.

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Table 1

Motives for Prescription Drug Abuse Across Different Types of Drug Users (n = 684)

Motives	Total Sample		Street Users		Methadone		In-Treatment	
	n	%	n	%	n	%	n	%
Pain Relief	401	58.6	171	58.0	113	69.3	117	51.8
Anxiety/Stress	434	63.5	152	51.5	132	81.0	150	66.4
To get high	522	76.3	220	74.6	122	74.8	180	79.6
Substitute for other drugs	372	54.4	162	54.9	88	54.0	122	54.0
Moderate other drugs	405	59.2	192	65.1	67	41.1	146	64.6
To Sleep	483	70.6	210	71.2	113	69.3	160	70.8
Social Pressure	157	23.0	64	21.7	35	21.5	58	25.7
Other	230	33.6	86	29.2	71	43.6	73	32.3

Table 2

Socio-Demographic Characteristics by Motives for Prescription Drug Abuse (n = 684).

Variables	Pain Relief % or B	OR [95%CI]	Anxiety & Stress % or B	OR [95%CI]	To Get High % or B	OR [95%CI]	To Substitute % or B	OR [95%CI]
Age	.013	1.013 [.998, 1.027]	-.015	.99 [.97, 1.00]*	-.04	.96 [.95, .98]***	.01	1.00 [.99, 1.01]
Gender								
Male	56	1.31 [.96, 1.77]	65	.89 [.65, 1.22]	77	.95 [.66, 1.35]	58	.77 [.57, 1.05]
Female	62		62		76		51	
Race/Ethnicity								
African-American (ref)								
Hispanic	-.387	0.68 [.46, 1.01]	1.27	3.59 [2.31, 5.56]***	.38	1.46 [.91, 2.34]	.23	1.26 [.85, 1.88]
White	.481	1.12 [.98, 2.34]*	1.11	3.02 [2.07, 4.40]***	.31	1.36 [.90, 2.06]	.14	1.16 [.81, 1.65]
Other	.625	1.87 [.86, 4.07]	0.74	2.10 [1.00, 4.43]	.04	1.04 [.46, 2.35]	.30	1.35 [.65, 2.80]
Group								
Street Users (ref)								
Public Treatment	-.25	0.78 [.55, 1.10]	0.62	1.86 [1.30, 2.66]	.29	0.93 [.62, 1.39]	-.04	.96 [.68, 1.36]
Methadone	.49	1.64 [1.09, 2.46]	1.39	4.01 [2.55, 6.30]***	.01	1.01 [.65, 1.58]	-.04	.96 [.66, 1.41]
Painkiller Use								
No	15	11.86 [7.05, 19.95]***	70	0.69 [0.45, 1.06]	54	3.69 [2.42, 5.57]***	36	2.58 [1.71, 3.85]***
Yes	68		62		81		59	
Sedative Use								
No	61	0.90 [.60, 1.36]	43	2.76 [1.83, 4.19]***	70	1.51 [.97, 2.37]	40	1.99 [1.32, 3.00]***
Yes	58		68		78		57	
Age	.02	1.02 [1.00, 1.03]*	.01	1.01 [.99, 1.02]	.02	1.02 [.99, 1.02]	-.02	.98 [.97, .99]

Variables	Pain Relief % or B	OR [95%CI]	Anxiety & Stress % or B	OR [95%CI]	To Get High % or B	OR [95%CI]	To Substitute % or B	OR [95%CI]
Gender		.93 [.69, 1.27]		1.24 [.89, 1.73]		.62 [.43, .89]**		1.14 [.83, 1.58]
Male	60		68		27		32	
Female	58		73		19		35	
Race/Ethnicity								
African-American (ref)								
Hispanic	.03	1.03 [.68, 1.56]	.24	1.27 [.81, 2.00]	.20	1.22 [.77, 1.95]	.01	1.01 [.65, 1.58]
White	-.62	.54 [.38, .77]***	-.23	.80 [.54, 1.17]	.07	1.07 [.70, 1.65]	.72	2.06 [1.42, 3.01]***
Other	.46	1.57 [.70, 3.52]	.12	1.13 [.50, 2.54]	.43	1.54 [.69, 3.42]	.08	1.09 [.49, 2.39]
Group								
Street Users (ref)								
Public Treatment	-.02	.98 [.68, 1.40]	-.02	.98 [.67, 1.44]	.22	1.25 [.83, 1.88]	.15	1.16 [.80, 1.69]
Methodone	-.98	.37 [.25, .56]***	-.09	.92 [.60, 1.39]	-.01	0.99 [.62, 1.57]	.63	1.88 [1.26, 2.79]**
Painkiller Use		1.25 [.84, 1.84]		.93 [.61, 1.43]		1.47 [.89, 2.43]		1.30 [.85, 1.98]
No	55		72		18		29	
Yes	60		70		24		35	
Sedative Use		2.90 [1.90, 4.40]***		3.69 [2.43, 5.60]***		2.56 [1.34, 4.70]**		1.20 [.77, 1.85]
No	38		46		12		30	
Yes	64		76		25		34	

* p < .05

** p < .01

*** p < .001