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Nonmedical Prescription Opioid Use Among Victimized Women On Probation And Parole

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Abstract

Background—Nonmedical prescription opioid use (NPOU) is a major public health concern and few studies have described this phenomenon among victimized women involved in the criminal justice system.

Objective—This study will describe the relationship between victimization, psychological distress, health status and NPOU among the vulnerable population of victimized women on probation and parole.

Methods—A sample of 406 women on probation and parole responded to items assessing victimization history, self-reported health status, physical pain, psychological distress, and post-traumatic stress disorder. Multiple logistic regression analysis was utilized to differentiate NPOUs versus nonusers.

Results—Overall, 169 (41.6%) women reported lifetime NPOU, and 20% reported use in the past year. Compared to women who did not report NPOU, NPOUs were more likely to be White, have poorer general health, and more severe psychological distress across nine symptom domains. In multiple logistic regression models, each year of age reduced the odds of NPOU by 4%; White women were twice as likely as women of other races to report NPOU; each unit increase in the measure for physical pain was associated with a 30% increase in the odds of NPOU; and participants who met diagnostic criteria for PTSD were 60% more likely to report NPOU compared to individuals who did not.

Conclusion—Victimized women on probation and parole report high rates of NPOU and comorbid mental and physical health problems. The criminal justice system should routinely

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screen for NPOU, as well as untreated or poorly managed physical pain and psychological distress, which may increase risk of NPOU.

Keywords

opioids; prescription drugs; criminal justice; health status

Prescription opioid-related overdose deaths in the U.S. have increased in 11 consecutive years, with 16,651 prescription opioid-related deaths occurring in 2010 (1). Increases in prescription opioid-related overdose deaths have disproportionately affected women; between 1999 and 2010, prescription opioid-related overdose deaths among women increased by 415%, compared to 265% for men (2). Over 1.5 million people tried a prescription pain reliever for the first time in 2013, making the number of new initiates for prescription pain relievers second only to marijuana (3). And while the number of individuals who received treatment for most commonly abused drugs has been stable in recent years, the number of people receiving treatment for prescription opioid problems increased from 360,000 in 2002 to 746,000 in 2013 (4).

Drug use is a significant factor in women's involvement in the criminal justice system (5, 6). In fact, a higher percentage of women than men were incarcerated for drug crimes in 2011 (7). Women on probation and parole would appear to be at high risk for nonmedical prescription opioid use (NPOU) for a number of reasons. Most notably, women involved in the criminal justice system report higher rates of drug use and drug problems than women in the general population (8). Additionally, up to 80% of incarcerated women have experienced at least one lifetime victimization experience (9-14), compared to approximately 52% of women in the general population (15). In the general population, victimization experiences are associated with an increased risk of NPOU (16, 17).

Women involved in the criminal justice system also report high rates of psychological distress. One study of jailed women found that over 80% met diagnostic criteria for at least one psychiatric disorder (6). Additionally, a recent national study of women incarcerated in jail found that over half had a lifetime PTSD diagnosis (18), an unsurprising finding given the high rates of victimization in this population. These psychological symptoms may put women on probation and parole at risk for NPOU, as symptoms associated with panic disorder, depression, and social phobia have been associated with an increased risk of NPOU in the general population (19).

An additional factor that may put women on probation and parole at high risk for NPOU is their health status. Studies of nonmedical prescription drug users find that many endorse self-treatment as a motive (20), and women have been shown to have poor health outcomes post-incarceration. One study found that women recently released from jail or prison had a risk of death 5.5 times higher than individuals with no criminal justice involvement over a two-year followup period (21). A national study found that adults on probation and parole reported a higher number of past year emergency department visits and significantly more days in the hospital than adults in the general population (22). Also, one study of individuals exiting prison found that two-thirds of women had a chronic health condition at the time of release, and most were without health insurance 8 to 10 months later (23).

The multifaceted problems that women on probation and parole encounter – including but not limited to those described here - would appear to put them at high risk of NPOU. However, in spite of the dramatic rise in NPOU and the importance of drug use among women involved in the criminal justice system, few studies have focused on NPOU among women on probation and parole. One study compared rates of NPOU in the past three months among rural probationers in Kentucky and urban probationers in Delaware and found that rates of use in the past three months were 36.6% and 9.5% respectively (24). Significant correlates of NPOU in this study were rural residence, White race, injection drug use, and cocaine, marijuana and sedative use, though other potentially relevant factors, such as victimization history and psychological distress, were not assessed.

In summary, the interaction of drug use, health status, victimization, and related psychological distress among women on probation and parole may put them at high risk for NPOU. For women involved in community supervision, NPOU, like other illicit drug use, constitutes a probation and parole violation, and may be associated with other types of criminal behavior. More importantly, NPOU increases risk for a host of other drug-related problems including drug dependence and accidental overdose. The primary aims of the research reported herein were twofold: first, to describe the prevalence of NPOU among a population of women on probation and parole, and secondly to establish correlates NPOU by comparing users to nonusers. We hypothesize that victimization, poor self-rated health, and psychological distress will increase the odds of NPOU.

Methods

Sample

The sample consisted of women on probation and/or parole in Jefferson County, Kentucky. The population of Jefferson County, which includes the city of Louisville, is approximately 750,000. At the time recruitment was initiated, approximately 1800 women were on probation and parole in Jefferson County; the final study sample represented slightly more than one-fifth of all women on probation and parole in the county at that time (25). To be eligible for the study, women met the following criteria: a) on probation and parole in Jefferson County; b) at least 18 years of age; c) report that when they had sex they either had sex with men only or both women and men¹ (women who had been recently incarcerated were asked about the year prior to incarceration); and d) report lifetime experience of physical and/or sexual victimization as a child or an adult.

Women were recruited using a variety of methods, including: in-person visits to all of the county's probation and parole offices; direct mailings; fliers posted in public locations (e.g., bus stops, convenience stores, apartment complexes), community based organizations, government agencies, and health care facilities; and advertisements in the *Courier Journal* newspaper, the website *craigslist*, and public access television. Screening was conducted by telephone (90%) and in person (10%). The majority of 636 women screened (81%) met

¹Though certain processes related to intimate partner victimization may be similar among same-and different-gender couples, the marginalization and stigma experienced by same-gender couples creates unique challenges (26). For this reason, the current study opted to focus exclusively on women who had sex with men only or both women and men

criteria for participation. Of those who did not meet eligibility criteria, the most common reasons were not being on probation or parole (51.3%), no history of victimization (26.1%), and reporting only female sexual partners (21.9%). All interviews were conducted in person by trained female staff using audio computer-assisted interviewing (ACASI; 27). Data collected via ACASI has been shown to be comparable to face-to-face interviews (28) and favorable to face-to-face interviews when stigmatized behaviors are assessed (29). Participants were debriefed and compensated \$35 for their participation. The University of Louisville's Institutional Review Board approved the study, and a National Institute of Health Certificate of Confidentiality was obtained.

Measures

Demographic factors—Age, self-reported racial status (i.e., African-American, White, Latino, multi-racial, Native American, Asian/Pacific Islander, Other), and educational attainment (i.e., less than a high school diploma/GED; high school diploma/GED; trade/technical training; some college/college graduate; some graduate school/graduate school degree) were recorded for each participant.

Nonmedical prescription opioid use—Items assessing NPOU were adapted from the Diagnostic Interview Schedule for DSM-IV (30). Prior to completing items assessing drug and alcohol use, respondents read the following statement: “We are now going to ask you about your use of alcohol and illicit drugs. In this section we are NOT asking you about your use of medications that may have been prescribed to you by a health care provider and that you use according to your health care providers instructions.” Respondents were first asked about heroin use, and then asked, “Have you ever used other opiates (e.g., Percocet, OxyContin, Tylenol 2)?”. Additionally, respondents were asked, “Is there any other drug that you have used on a regular basis (for example, three times a week or more) in the past 2 years that we haven't already talked about?” (If women responded “yes” to this item, they were subsequently asked to name the drug and their responses were recorded verbatim). Women who answered affirmatively to the question about “other opiates” or who listed a prescription opioid in the open-ended question were classified as lifetime nonmedical prescription opioid users (NPOUs). Participants who reported lifetime NPOU were also asked their age at first use, years of regular use (three or more times per week), and whether they had used in the past two years and the past 12 months (*yes* = 1; *no* = 0).

Other substance use—Women were asked whether they had used alcohol to intoxication or ever used any of the following drugs: marijuana, cocaine, crack, heroin, inhalants (e.g., “glue, gasoline, paint thinner”), hallucinogens (e.g., “PCP, LSD, mushrooms”), sedatives/tranquilizers/barbiturates (e.g., “benzos, Xanax, seconal, valium”), methamphetamine (e.g., “crank”), amphetamine (e.g., “Benzedrine, Dexedrine, Ritalin, prelude”), and club drugs (e.g., “GHB/Xyrem, Rohypnol, Ketamine/Special K, MDM/ecstasy”).

Correctional status—Women were asked whether they were on probation, parole, or both. For participants on probation, length of time on probation was calculated, and women on parole provided the length of time they were incarcerated prior to parole. Respondents

were also asked which of the following charges led to their current probation or parole assignment: parole/probation violation, shoplifting/vandalism, drug charges, forgery, weapons offenses, burglary/larceny, robbery, assault, arson, homicide/manslaughter, prostitution, contempt of court, or other.

Health and bodily pain—Items assessing general health status and bodily pain came from the Medical Outcomes Study: 36-Item Short Form Survey Instrument (31). Respondents were asked, “In general, would you say your health is...” (0 = *excellent*; 4 = *poor*) and six questions assessing whether and how long their health had been limited in various capacities (e.g., “Walking uphill or climbing a few flights of stairs;” “Working at job, doing work around the house or going to school”). Respondents were also asked, “How much bodily pain have you had during the past 4 weeks?” (0 = *none*; 5 = *very severe*), and the number of times they had visited a healthcare provider in the past year.

Victimization—Victimization items were adapted from the National Crime Victimization Survey, the Revised Conflict Tactics Scale, and Tolman's Psychological Maltreatment of Women Inventory (32-36). Three categories of adult victimization were assessed: psychological intimate partner victimization (IPV); physical IPV; and physical victimization from someone other than an intimate partner. Eight items assessed lifetime experiences of psychological IPV (e.g., stalking; withholding assets), five items assessed physical IPV (physically hurt you on purpose; caused you to have an accident; beat you up; attacked you with a weapon; used a knife, gun or some other thing to get something from you), and the same five items were adapted to assess physical violence experienced from someone other than an intimate partner. All three categories of victimization were dichotomized (*yes* = 1; *no* = 0) to indicate whether respondents had ever experienced this particular form of victimization.

Current psychological symptoms—The Brief Symptom Inventory (BSI) (37) was used to assess nine primary symptom dimensions (i.e., somatization; obsessive compulsive; interpersonal sensitivity; depression; anxiety; hostility; phobic anxiety; paranoid ideation; psychoticism). Items range from zero to four, reflecting how bothered or distressed a participant was by the particular symptom (0 = *not at all*; 4 = *extremely*). The BSI also provides a global index of overall psychological distress (global severity index; GSI). Alpha reliabilities for the subscales ranged from .80 (paranoid ideation) to .91 (depression).

Trauma symptoms—Trauma was assessed with the Posttraumatic Stress Diagnostic Scale (38, 39). Participants were asked about lifetime experiences with 11 common traumatic events (*yes* = 1; *no* = 0) as well as an open-ended question about other traumatic events, current symptom severity, symptom duration, and level of trauma-related impairment.

Analysis

Analysis consisted of a two-step process. In step one, bivariate comparisons of NPOUs and nonusers were conducted using chi-square tests for categorical variables and *t* tests for continuous variables. Based on these results and prior studies of NPOU, step two of the

analysis process utilized multiple logistic regression analyses to differentiate NPOUs versus nonusers. Covariates for the multiple logistic regression analysis were selected based on the results of the bivariate analyses, along with previous studies of nonmedical prescription drug use and drug use literature in general. Variables were assessed for multicollinearity via tolerance and variance inflation factors (VIF). Despite significant differences on all BSI subscales in bivariate contrasts, none were included in the multiple logistic regression model due to their high correlation with PTSD diagnosis.

Results

The 406 women in the study were on average 37.2 years of age ($SD = 10.2$) and were predominantly Black (41.6%) and White (50.6%), with 3.2% characterizing themselves as multiracial and the remaining 4.6% consisting of other races. At the time of the interview, most women described their current relationship status as single (44.6%), 38.7% reported being separated, divorced or widowed, and 16.7% reported being married or cohabitating. Employment status among participants consisted of three general categories: 29% were employed either part-or full-time, 34% were unemployed and looking for employment, and the remaining 37% were unemployed and not looking for work because of disability, participation in school, or they worked in the home. Approximately a third of participants (34%) were homeless.

Overall, 169 (41.6%) of women reported lifetime NPOU. Roughly a quarter (24.1%) of participants reported NPOU in the past two years, and a fifth (19.7%) within the past 12 months. The mean age of first NPOU was 21.7 years ($SD = 7.6$), and the mean number of years of regular NPOU use was 8.0 years ($SD = 8.0$).

The results of bivariate contrasts of NPOUs and nonusers are presented in Table 1. NPOUs were significantly younger than nonusers and also more likely to be White than nonusers. NPOUs were significantly more likely than nonusers to have used all 10 categories of drugs.

There were no significant differences between probation versus parole status for NPOUs and nonusers. For probationers, there were no differences between the NPOUs and nonusers on length of time on probation, and for parolees, there were no differences in length of time incarcerated. Women on probation were asked about the charges leading to their current probation assignment and NPOUs were more likely to report parole/probation violations ($\chi^2(1) = 9.4, p < .01$) and drug charges ($\chi^2(1) = 6.1, p < .05$) and less likely to report assault ($\chi^2(1) = 7.7, p < .01$). There were no differences between groups with regard to shoplifting/vandalism, forgery, weapons offenses, burglary/larceny, and robbery, and cell sizes were too small to compare groups on arson, homicide, prostitution, and contempt of court. For women on parole, there were no differences between NPOUs and nonusers with regard to the types of charges leading to their current parole assignment, but cell sizes were too small to compare groups on weapons offenses, burglary, robbery, assault, arson, homicide, prostitution, and contempt of court. For a more detailed comparison of substance use patterns among women in this study, please refer to Golder et al. (40).

With regard to physical health, NPOUs were significantly more likely to report poor health as compared to nonusers. Additionally, NPOUs were significantly more likely to report having experienced recent bodily pain. Though differences in the number of healthcare visits in the past 12 months did not reach statistical significance, NPOUs averaged 1.5 more visits than nonusers. In addition to the variables discussed in Table 1, no differences were observed between groups with regard to the six specific physical activities (e.g., walking uphill; bending, lifting or stooping).

NPOUs and nonusers did not differ with regard to lifetime experiences of psychological IPV. However, NPOUs were significantly more likely to report physical IPV as well as physical violence from a non-intimate partner. Relative to nonusers, NPOUs reported higher rates of psychiatric distress as measured by the BSI Global Severity Index and also reported higher distress on all nine subdomains of the BSI. Additionally, NPOUs were significantly more likely to meet diagnostic criteria for PTSD. Beyond that, NPOUs were also more impaired by PTSD symptoms and reported greater PTSD symptom severity relative to nonusers. In summary, NPOUs were significantly more likely to experience psychiatric distress, meet diagnostic criteria for PTSD, and be more severely affected by PTSD experiences.

The following variables were entered into the multiple logistic regression model: age (years), race (White vs. other races), general health (0 = *excellent*; 4 = *poor*), bodily pain (0 = *none*; 5 = *very severe*), whether the individual meets criteria for PTSD diagnosis (0 = no, 1 = yes), lifetime alcohol use to intoxication (0 = no, 1 = yes), lifetime heroin use (0 = no, 1 = yes), and lifetime sedative use (0 = no, 1 = yes). Table 2 presents model coefficients, statistical tests, odds ratios (ORs) and 95% confidence intervals for the ORs. The tolerance for all independent variables was above .75 the VIFs were below 1.4 indicating no evidence of multicollinearity. Five variables were statistically significant at the $p < .05$ level. Each additional year of age resulted in a 6% reduction in the odds of NPOU. Compared to women of other races, Whites were 50% more likely to report NPOU. Bodily pain was also significantly associated with NPOU; each unit increase in the six-point measure of pain was associated with a 40% increase in the odds of NPOU. Women who reported lifetime alcohol use were 4.6 times more likely to report NPOU. Similarly, lifetime heroin use increased the odds of NPOU by four. Lifetime sedative use increased the odds of NPOU more than any other variable in the model – women who reported lifetime sedative use were nine times more likely to report NPOU compared to non-sedative users.

Discussion

The lifetime prevalence of NPOU among this sample of victimized women on probation and parole was 41.6%. This rate is nearly three times higher than the 14.2% lifetime prevalence reported by the general population in the National Survey of Drug Use and Health (41). This disparity is particularly notable given that past year NPOU by adults in Kentucky is slightly lower than the national average (42). Thus, while NPOU prevalence rates in the general population in Kentucky and the U.S. are similar, the subpopulation of victimized women on probation and parole are at high risk of NPOU. A previous study found that probationers in rural Kentucky were nine times as likely to report recent NPOU than a cohort of urban

probationers in Delaware (24). Additional studies are needed to determine if the high rate of NPOU among victimized women on probation and parole identified in this study is a regional concern, or whether women in the criminal justice system generally are at substantially higher risk of NPOU.

NPOUs were 4 years younger than nonusers on average, and in the multiple logistic regression model, each additional year of age reduced the odds of NPOU by 6%. These findings raise the possibility of cohort effects. A recent analysis of National Survey on Drug Use and Health data spanning 25 years found that even when accounting for younger age and the current popularity of NPOU, younger cohorts still had increased odds of NPOU (43). The criminal justice system may need to institute specific age-appropriate interventions to respond to possible cohort differences in NPOU.

Despite being younger, NPOUs were more likely to visit a health care provider. If viewed in isolation, the greater number of visits to a healthcare provider among NPOUs may be interpreted as an indication of *doctor shopping*, the term used to describe visiting multiple medical providers to obtain prescriptions for opioids. However, given that NPOUs were also more likely to report poorer health and more severe bodily pain, it may be that NPOU among women in this study is driven in part by untreated or undertreated pain. A recent study assessing the association between pain and substance use disorders found that individuals who experienced 16 or more days of pain in the last 30 days were three times more likely than those with no pain to meet criteria for opioid abuse or dependence (44). The source or type of pain experienced was not identified in the current study, however two possibilities come to mind. First, it is possible that the bodily pain experienced by women in this study is the result of past victimization. NPOUs were significantly more likely than nonusers to have experienced physical IPV as well as physical violence from someone other than an intimate partner. It is estimated that up to a third of women who experience physical IPV in a given year sustain an injury serious enough to seek medical attention (45). Additionally, IPV, even after it has ended, is associated with headaches, back pain, gynecological problems, abdominal problems (46) and chronic disease (47). Secondly, it is also possible that the bodily pain noted by women in the study is perhaps related to withdrawal symptoms, as individuals withdrawing from opioids experience muscle aches, joint pain, cramping, and other physical symptoms. Future studies should seek to identify the source and type of bodily pain experienced by women who engage in the NPOU.

Both these possibilities are consistent with previous research showing that individuals report varying motives for nonmedical prescription drug use, including recreational use, self-treatment, or each at different times (20). Similarly, another study on motives for use comparing individuals dependent on prescription opioids or cocaine found that prescription opioid users were significantly more likely to report physical discomfort (e.g., headache, pain, nausea, sleep problems) as their motivation for use (48). Though we cannot speak to the motives of NPOUs in the present study, health status appears to play a role in NPOU, and future studies with women on probation and parole should include more health-related measures to investigate this issue.

In addition to more serious physical health problems, NPOUs also reported more severe psychological distress on all nine BSI subscales, as well as the Global Severity Index. These findings, combined with NPOUs' higher rates of trauma-related impairment, trauma symptom severity, and PTSD diagnosis, suggest a particularly troubled and vulnerable group. A previous study has shown a positive association between trauma history and nonmedical prescription drug use (17). Additionally, compared to individuals who were cocaine dependent, individuals dependent on prescription opioids were more likely to have experienced childhood trauma, though the two groups did not differ with regard to the overall number of emotional, physical, or sexual traumas (49). Future studies are needed to further establish the role of trauma and victimization in NPOU.

This study highlights the importance of screening for psychological distress and trauma symptoms among women involved in the criminal justice system. A recent systematic review identified five evidence-supported screening tools for psychological distress among incarcerated individuals (50), four of which can be administered in 5 minutes or less. Screening, and when indicated, treatment, for psychological distress among women involved in the criminal justice system may improve the overall health of women, make for a more successful return to the community, and reduce recidivism. Additionally, the same screening and treatment protocols may have the secondary benefit of reducing NPOU, as untreated psychological distress and trauma symptoms may increase risk of later drug dependence and other drug-related outcomes like overdose.

Limitations and Conclusions

This study is limited in four important ways. First, as the study was cross-sectional, the time-order sequence of some relationships cannot be specified. For example, the present study cannot establish whether bodily pain preceded NPOU. Second, these data are self-report, and participants may have over- or under-reported NPOU and psychological distress, though this risk was minimized with the use of ACASI technology, which enhances reporting of potentially sensitive information (29). Third, the sample was not randomly selected and consisted only of *victimized* women on probation or parole. However, study participants represented roughly one-fifth of all women on probation and parole in Jefferson County at the time recruitment was initiated (25). Furthermore, given the prevalence of victimization among justice-involved women, the most relevant questions are not limited to differences between victimized and non-victimized women. Finally, for reasons previously described, the study excluded women who reported only having sex with other women. Possible differences in IPV experiences among same- and different-gender couples are an important area of future research.

In spite of these limitations, this study makes an important contribution to the literature. This is the first study to identify correlates of NPOU among victimized women involved in the criminal justice system. We found that being younger, White, experiencing bodily pain, and meeting criteria for PTSD were associated with increased likelihood of NPOU. In addition to increasing the risk of accidental drug overdose and substance use disorders, NPOU constitutes a probation and parole violation and compounds the already significant challenges associated with community reentry. Women in the criminal justice system who

screen positive for NPOU should be assessed for untreated or undertreated pain and psychological distress.

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Highlights

- We surveyed victimized women on probation and parole about drug use and health.
- Participants reported high rates of nonmedical prescription opioid use (NPOU).
- White race, PTSD, and physical pain increased the odds of NPOU.

Table 1

Demographic, Physical Health, and Psychological Measures for the Total Sample and By Lifetime Nonmedical Prescription Opioid Use Status.

Variable	Total Sample (N = 406 ^a)	Lifetime NPOUs (n = 169)	Nonusers (n = 236)	Results ^b
Demographic				
Age M (SD)	37.2 (10.2)	34.8 (9.6)	39.0 (10.3)	$t(403) = 4.1, p < .001$
Race <i>n</i> (%)				
African American	169 (41.7%)	34 (20.1%)	135 (57.2%)	$\chi^2(6) = 57.0, p < .001$
White	205 (50.6%)	117 (69.2%)	87 (36.9%)	
Latino	3 (0.7%)	1 (0.6%)	2 (0.8%)	
Multi-racial	13 (3.2%)	7 (4.1%)	6 (2.5%)	
Native American	6 (1.5%)	4 (2.4%)	2 (0.8%)	
Asian/Pacific Islander	1 (0.2%)	1 (0.6%)	0 (0%)	
Other	8 (2.0%)	4 (2.4%)	4 (1.7%)	
Substance Use				
Lifetime Drug Use <i>n</i> (%)				
Alcohol use to intoxication	288 (71.3%)	149 (88.2%)	139 (59.1%)	$\chi^2(1) = 40.4, p < .001$
Marijuana	349 (86.4%)	159 (94.1%)	190 (80.9%)	$\chi^2(1) = 14.6, p < .001$
Cocaine	285 (70.5%)	139 (82.7%)	146 (61.9%)	$\chi^2(1) = 20.6, p < .001$
Crack	211 (52.1%)	102 (60.4%)	109 (46.2%)	$\chi^2(1) = 7.9, p < .01$
Heroin	72 (17.8%)	57 (33.7%)	15 (6.4%)	$\chi^2(1) = 50.5, p < .001$
Inhalants	26 (6.4%)	20 (11.9%)	6 (2.5%)	$\chi^2(1) = 14.3, p < .001$
Hallucinogens	113 (28.0%)	77 (45.8%)	36 (15.3%)	$\chi^2(1) = 45.5, p < .001$
Sedatives, tranquilizers, barbiturates	164 (40.7%)	124 (74.3%)	40 (16.9%)	$\chi^2(1) = 133.1, p < .001$
Methamphetamine	118 (29.1%)	84 (49.7%)	34 (14.4%)	$\chi^2(1) = 59.4, p < .001$
Amphetamines	33 (8.2%)	29 (17.2%)	4 (1.7%)	$\chi^2(1) = 31.3, p < .001$
Club drugs	92 (22.9%)	59 (34.9%)	33 (14.2%)	$\chi^2(1) = 23.7, p < .001$
Correctional Status				
Probation vs. Parole <i>n</i> (%)				
Currently on probation	307	134 (79.3%)	172 (72.9%)	$\chi^2(1) = 1.8, p = .18$
Currently on parole	92	33 (19.5%)	59 (25.0%)	
Time on Probation / Incarcerated M (SD)				
Years on probation	4.5 (2.3)	4.5 (2.2)	4.5 (2.5)	$t(291) = -.03, p = .97$
Years incarcerated prior to parole	3.4 (5.1)	3.4 (6.8)	3.3 (4.0)	$t(90) = -.09, p = .93$
Physical Health				
Self-Evaluation of Physical Health <i>n</i> (%)				
Excellent	27 (6.7%)	10 (5.9%)	17 (7.2%)	$U = 17,768, p < .05$
Very good	76 (18.7%)	24 (14.2%)	52 (22.0%)	
Good	166 (40.9%)	72 (42.6%)	93 (39.4%)	
Fair	109 (26.8%)	48 (28.4%)	61 (25.8%)	
Poor	28 (6.9%)	15 (8.9%)	13 (5.5%)	

Variable	Total Sample (<i>N</i> = 406 ^a)	Lifetime NPOUs (<i>n</i> = 169)	Nonusers (<i>n</i> = 236)	Results ^b
Severity of Bodily Pain <i>n</i> (%)				
None	68 (16.7%)	17 (10.0%)	51 (21.6%)	$U = 16,047, p = .01$
Very mild	72 (17.7%)	28 (16.6%)	43 (18.2%)	
Mild	63 (15.5%)	24 (14.2%)	39 (16.5%)	
Moderate	102 (25.1%)	48 (28.4%)	54 (22.9%)	
Severe	63 (15.5%)	33 (19.5%)	30 (12.7%)	
Very severe	38 (9.4%)	19 (11.2%)	19 (8.1%)	
Number of healthcare visits, past 12 months <i>M</i> (<i>SD</i>)	5.3 (7.3)	6.1 (8.6)	4.6 (6.2)	$t(276.5) = 1.9, p = .06$
Victimization				
Ever experienced psychological IPV <i>n</i> (%)	387 (95.3%)	164 (97.0%)	222 (94.1%)	$\chi^2(1) = 1.9, p = .16$
Ever experienced physical IPV <i>n</i> (%)	364 (89.7%)	159 (94.1%)	205 (86.7%)	$\chi^2(1) = 5.6, p < .05$
Ever experienced physical violence, non-intimate partner <i>n</i> (%)	230 (56.7%)	107 (63.3%)	123 (52.1%)	$\chi^2(1) = 5.0, p < .05$
Psychological Health				
Brief Symptom Inventory <i>M</i> (<i>SD</i>)				
Global Severity Index	1.2 (.86)	1.4 (.88)	1.0 (.80)	$t(339) = 4.0, p < .001$
Somatization	1.0 (.89)	1.2 (.92)	.86 (.85)	$t(397) = 3.4, p < .01$
Obsessive Compulsive	1.4 (1.0)	1.7 (1.0)	1.2 (.98)	$t(400) = 4.5, p < .001$
Interpersonal Sensitivity	1.3 (1.1)	1.6 (1.2)	1.1 (1.0)	$t(334) = 3.9, p < .001$
Depression	1.3 (1.0)	1.5 (1.1)	1.1 (.98)	$t(336) = 3.6, p < .001$
Anxiety	1.2 (.99)	1.4 (1.0)	1.0 (.93)	$t(399) = 4.2, p < .001$
Hostility	.95 (.87)	1.1 (.94)	.84 (.81)	$t(324) = 2.9, p < .01$
Phobic Anxiety	.91 (1.0)	1.1 (1.1)	.79 (.93)	$t(324) = 2.9, p < .01$
Paranoid Ideation	1.3 (.96)	1.5 (.97)	1.2 (.93)	$t(399) = 3.2, p < .01$
Psychoticism	1.2 (.96)	1.4 (.99)	1.0 (.92)	$t(397) = 3.3, p < .01$
Post-Traumatic Stress				
Meets diagnostic criteria for PTSD <i>n</i> (%)	196 (48.6%)	99 (58.6%)	97 (41.1%)	$\chi^2(1) = 11.3, p = .001$
Trauma-related impairment <i>M</i> (<i>SD</i>)	3.2 (2.8)	3.8 (2.7)	2.8 (2.8)	$t(402) = -3.6, p < .001$
Trauma-related symptom severity <i>M</i> (<i>SD</i>)	18.1 (14.1)	20.1 (13.2)	16.8 (14.5)	$t(396) = -2.3, p < .05$

Notes: NPOU = nonmedical prescription opioid user; *M* = Mean; *SD* = Standard Deviation.

^aOne participant did not respond to the item assessing lifetime nonmedical prescription opioid use and was not included in the bivariate comparisons.

^bIn consideration of the large number of comparisons ($n = 36$) in Table 1, we calculated the Bonferroni correction ($\alpha = .05/36$), setting a significance value of .0014. Using this highly conservative criteria, the following variables were no longer statistically significant: lifetime crack use; health status; bodily pain; ever experienced physical IPV; ever experienced physical violence, non-intimate; somatization; hostility; phobic anxiety, paranoid ideation; psychoticism; and trauma-related symptom severity.

Table 2
Multiple Logistic Regression Analysis (with simultaneous entry of variables) Identifying Correlates of Nonmedical Prescription Opioid Use (N = 406)

Variable	b	S.E.	Wald	p	OR	[95% CI]
Age	-.06	.02	16.0	.00	.94	[.91, .97]
White vs. Other races*	.38	.17	5.0	.03	1.5	[1.0, 2.0]
General health	.10	.16	.45	.50	1.1	[.81, 1.5]
Bodily pain	.31	.10	9.1	.00	1.4	[1.1, 1.7]
Meets criteria for PTSD	.06	.28	.04	.84	1.1	[.61, 1.8]
Lifetime alcohol use to intoxication	1.5	.36	18.0	.00	4.6	[2.3, 9.2]
Lifetime heroin use	1.4	.39	12.2	.00	3.9	[1.8, 8.4]
Lifetime sedative use	2.1	.28	57.9	.00	8.6	[4.9, 14.9]

Note. The model was statistically significant ($\chi^2 (8) = 205.8, p < .001$), and the Nagelkerke's R^2 value was .54. S.E. = standard error; OR = odds ratio; CI = confidence intervals. Variables in bold are significant at the $p < .05$ level.