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Impaired Driving Among Rural Female Drug-Involved Offenders

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Abstract

Objective: Very little is known about rural female impaired drivers despite disproportionate rates of impaired driving arrests and associated traffic fatalities in rural areas. The present study examined past year impaired driving histories and impaired driving correlates in a sample of rural female drug-involved offenders.

Methods: Drug-involved women (N = 400) from three rural jails completed a confidential interview focused on substance use and related risk behaviors. After removing cases with missing data (n = 23), participants self-reporting past year impaired driving (n = 254) were compared to those who did not (n = 123) on demographic characteristics, substance use, mental health, and criminal histories. Impaired drivers also reported the substances involved in their past year impaired driving episodes.

Results: A significantly higher percentage of impaired drivers reported past year use of eight of the 11 substances (including alcohol) examined when compared to other drug-involved offenders. While symptoms of major depressive and post-traumatic stress disorders were similar, significantly more impaired drivers (49.6%) reported symptoms of generalized anxiety disorder than did other drug-involved offenders (35.0%). No differences in criminal histories were found. Nearly all (94.9%) of impaired drivers reported driving under the influence of drugs in the past year; less than one-fourth reported driving under the influence of alcohol. Prescription opioids were the most prevalent substance type involved in impaired driving episodes (84.6%) followed by anti-anxiety medications (40.9%). Approximately one-third of impaired drivers reported driving under the influence of methamphetamine (33.9%), marijuana (31.5%), and alcohol (30.7%) in the past year.

Conclusions: Findings indicate that rural female impaired drivers may have more extensive substance use and mental health problems than other rural female drug-involved offenders. In addition, study results suggest a recent history of impaired driving may serve as a marker for a more extensive substance use history. Other implications include that early identification of impaired drivers in at-risk groups may be an important opportunity to prevent future traffic injuries and fatalities.

Keywords

impaired driving; rural; women; substance use

INTRODUCTION

Substance use continues to significantly endanger U.S. roadways, particularly demonstrated by the more than 10,000 traffic fatalities each year attributed to alcohol-impaired drivers (National Center for Statistics and Analysis, 2019). Recent estimates indicate 20.5 million Americans drove under the influence of alcohol, and 12.6 million drove while impaired by an illicit drug in the past year (Center for Behavioral Health Statistics and Quality, 2019). Yet, only approximately one million impaired driving arrests are made each year (Federal Bureau of Investigation 2019). Women account for a growing proportion of impaired driving arrests in the United States, more than doubling from 11% to 25% of arrests in the past three decades (Schwartz and Beltz 2018). Several factors have likely contributed to the increased representation of women among those arrested for impaired driving including the lowering of legal blood alcohol concentration limits, increasingly gender-neutral law enforcement practices, higher rates of women who drive, and women's changing substance use patterns (Robertson et al. 2011). Regardless of the cause, it is clear that female impaired drivers are a mounting traffic safety concern and understanding the characteristics and behaviors of this group has emerged as an important research area.

A growing body of research has demonstrated that female impaired drivers constitute a distinct subpopulation of impaired drivers. Compared to males, studies have shown that female impaired drivers are more likely to report psychiatric disorders, such as anxiety, bipolar, or depressive disorders (Maxwell and Freeman 2007; Reilly et al. 2019). This is consistent with the higher prevalence of anxiety and mood disorders among women that has been documented in the general population across cohorts from different countries (Seedat et al. 2009). Substance use differences have also been found. For example, female impaired drivers report higher rates of injection drug use (Maxwell and Freeman 2007), an equal or greater prevalence of substance use and dependence (particularly for certain substances, i.e. marijuana and opiates), and higher endorsement of diagnostic criteria for alcohol use disorder (McCutcheon et al. 2009) compared to males. Despite more prevalent substance use and mental health concerns, female impaired driving offenders are less likely to re-offend than males, but this difference tends to disappear among offenders with multiple impaired driving convictions (Rauch et al. 2010). Furthermore, recent research points to a different set of impaired driving recidivism predictors for males and females (Robertson et al. 2019), providing additional support to the view of women as a distinct group of impaired drivers.

Rural Female Impaired Drivers

Although an increasing number of studies have highlighted the unique characteristics of female impaired drivers, few studies have examined rural female impaired drivers despite national data indicating higher impaired driving arrest rates (Federal Bureau of Investigation 2018) and alcohol-impaired driving fatalities (National Center for Statistics and Analysis 2017) in rural areas. The limited research on rural and urban impaired drivers has identified important differences between these groups, including more severe substance use problems among rural individuals (Malek-Ahmadi and Degiorgio 2015; Webster, Pimentel, et al. 2009), but impaired research focused specifically on rural women is lacking. To date, only two published studies have focused on rural female impaired drivers, both with limitations.

One study examined a statewide sample of convicted female impaired drivers and found that rurality was associated with multiple impaired driving offenses, being younger than 21 years old, meeting diagnostic criteria for substance use disorder, receiving a referral to treatment (rather than education intervention), and treatment noncompliance (Webster, Pimentel, et al. 2009). However, this study contained limited demographic information about the sample and no data related to specific drugs, whether drugs were involved in the impaired driving arrests, or information about the individual's mental health. As a result, a more nuanced understanding of the problems and behaviors of rural female impaired drivers was not possible.

A more recent study compared rural male and female impaired drivers and found similar past year substance use and impaired driving histories for both groups with a few notable exceptions (Webster et al. 2019). Male impaired drivers were significantly more likely to report past year alcohol use (82% vs. 71%), whereas females were significantly more likely to report past year use of illicit use of amphetamine (21% vs. 2%) and sedatives (65% vs. 45%). The only difference in impaired driving history was that males first drove at a younger age (19 vs. 21 years old). Differences in mental health symptoms were more pronounced. A significantly higher percentage of females reported experiencing depression (68% vs. 40%) and anxiety (82% vs. 53%). Unlike the earlier study, the Webster et al. 2019 study collected more complete demographic, substance use, impaired driving, and mental health data, but the sample of females was small (n=34), potentially limiting the generalizability of findings.

Another limitation of these rural female impaired driving studies—and of impaired driving research in general—is the focus on convicted impaired drivers. Convicted impaired drivers are only one segment of all individuals who drive while impaired by drugs or alcohol. In fact, the vast majority of individuals who drive impaired each year are not arrested despite posing a significant threat to traffic safety (Lipari et al. 2016). More research examining impaired driving in other groups, especially those at-risk for an impaired driving arrest given their substance use and criminal behavior, is needed. A better understanding of who drives impaired, regardless of whether such behavior results in an arrest, has important implications for identifying and intervening with individuals in treatment and criminal justice settings.

Present Study

The present study addresses these existing research limitations by examining impaired driving in a sample of rural female drug-involved offenders. Specifically, this study aims to: 1) describe past year impaired driving, as well as impaired driving arrests and convictions; 2) examine substances involved in past year impaired driving episodes; and 3) identify impaired driving correlates (substance use, mental health, and criminal history) among rural female drug-involved offenders. These aims are motivated by the scant literature on rural female impaired drivers and the need to begin developing a knowledge base on the impaired driving behavior and associated factors of this understudied group. Formative data are crucial for developing effective prevention and intervention strategies, including early identification of those who may benefit most from these programs.

METHOD

Participants

As part of a larger study examining a brief intervention for high-risk women, 900 women were randomly selected from three jails in rural Appalachian Kentucky to participate in a screening session to determine study eligibility. Of these women, 688 (76.4%) completed the screening. Those who did not participate either refused (n=101) or were released from jail between recruitment and their scheduled screening session (n=111). Women were eligible to enroll in the study if they: 1) scored 4 or higher (indicating at least moderate risk) for any drug on the NIDA-modified Alcohol, Smoking and Substance Involvement Screening Test (NM-ASSIST), 2) engaged in at least one sex risk behavior in the three months prior to jail, 3) had a planned release date at least two weeks but no more than three months following the screening session (to accommodate the intervention), and 4) expressed a willingness to participate. Sixty-four percent of women (n=440) met all eligibility criteria. The most frequent reason for ineligibility was having a planned release date that was incompatible with the timing of the intervention (n=203). Fewer women were ineligible based on the risky sex (n=15) or NM-ASSIST score (n=9) criteria. Forty women who met study eligibility criteria were released from jail before they completed a baseline interview (described below), yielding a final sample of 400 high-risk women with an average jail stay of 70 days.

Measures

Demographics: Demographic information collected during a research interview included age, race/ethnicity, marital status, years of education, employment status in the 6 months prior to incarceration, and whether they had a valid driver's license.

Impaired Driving: Participants self-reported their impaired driving histories in the year prior to incarceration. Specifically, participants responded to the following questions: *How many times in the past year have you driven under the influence of alcohol only?*; *How many times in the past year have you driven under the influence of drugs only?*; and *How many times in the past year have you driven under the influence of both alcohol and drugs?* Throughout the interview, participants were reminded that timeframes referred to periods before incarceration (i.e. in the year prior to incarceration). For those who indicated they had driven impaired in the past year, information was collected on the specific substances involved in their impaired driving episodes using the same substance categories used to measure past year substance use (described below). Driving under the influence of prescription medication was recorded only for illicit use of these substances. In addition, participants were asked whether they had been a passenger of an impaired driver in the year prior to incarceration and whether they were currently incarcerated for an impaired driving offense.

Substance use: Participants self-reported their past year alcohol and illicit substance use in the year prior to incarceration. Specifically, participants reported whether they had used alcohol, marijuana, powder cocaine, crack, inhalants, heroin, anti-anxiety medications, amphetamines, methamphetamine, sedatives, and prescription opioids. If use was indicated, participants were asked how many days they used the substance in the past year. All

marijuana use was recorded as illicit use, which was consistent with state law. Only illicit use of prescription medications was recorded, which was defined as misusing a prescription drug to get high regardless of whether the participant had a valid prescription.

Mental Health: Mental health was measured with the Global Appraisal of Individual Needs (GAIN-I). The GAIN is a screening instrument used to assess symptoms consistent with mental health disorders. For the present study, participants were asked about symptoms of major depressive disorder, generalized anxiety disorder, and post-traumatic stress disorder. Participants who met symptom criteria consistent with each mental health disorder were coded as “yes”.

Criminal History: Criminal histories were also collected from participants. They self-reported the number of times they had been arrested in their lifetime and in the past year, if they were arrested as a juvenile, if they had ever served time in prison and if they had ever been arrested for several different types of offenses: a property offense, a violent offense, a substance-related offense, a court-related offense, a traffic offense other than impaired driving, or any other offense.

Procedure

Participants were randomly selected and screened for a brief intervention study targeted for high-risk rural women between December 2012 and August 2015. A detailed description of the random selection and screening procedures have been described previously (Staton et al. 2018). All screening, informed consent, and data collection procedures were approved by the university institutional review board and protected under a federal certificate of confidentiality. Participants completed a face-to-face baseline interview with a trained female project interviewer in a private room in the jail using computer-assisted personal interview (CAPI) software. The interview lasted approximately 90 minutes, and participants were compensated \$25 for completing the interview.

Analytic Plan

Preliminary analyses revealed that 20 participants were missing information for key variables, so they were removed from the final sample. Three additional participants reported being currently incarcerated for impaired driving but said they had not driven under the influence of alcohol or drugs in the past year. Because we could not discern the reason for this reporting discrepancy, these individuals were also removed from the final sample. This resulted in a final sample size of 377.

Using the final sample, a series of t-tests and chi-square analyses were used to compare the demographic characteristics of participants reporting past year impaired driving ($n = 254$) to those who did not ($n = 123$). Next, substance use, mental health, and criminal histories of the two groups were compared using analysis of covariance and logistic regression analysis, controlling for demographic differences. Finally, the percentage of impaired drivers who reported driving under the influence of specific substances was computed. Differences were considered statistically significant at $p < 0.05$. All analyses were conducted using SPSS 24.

RESULTS

Demographics

As shown in Table 1, participants were largely White (98.9%) with an average age of 32.7 years ($SD = 8.1$) and had less than a high school education ($M = 11.1$ years, $SD = 2.3$ years). Thirty-seven percent were married and only a third had a valid driver's license (35.5%), while only 22.4% reported being employed at least part-time in the six months prior to incarceration. More than two-thirds (67.4%) reported driving under the influence of alcohol and/or drugs in the past year. Participants who reported past year impaired driving were significantly younger (31.8 vs. 34.5 years old; $t(203.8) = 2.85$, $p = .005$) and more likely to have a valid driver's license (40.9% vs. 24.6%; $\chi^2(1, N = 377) = 9.91$, $p = .002$). Thus, age and having a valid driver's license were used as covariates in subsequent analyses.

Impaired Driving

Participants reported separately if they had driven under the influence of alcohol, driven under the influence of drugs, and driven under a combination of alcohol and drugs in the past year. The vast majority of participants who reported past year impaired driving reported that they had driven under the influence of drugs (94.9%), while less than a quarter reported driving under the influence of alcohol only (24.4%) or a combination of alcohol and drugs (20.5%). **Impaired drivers reported an average of 166.8 ($SD = 157.0$) past year episodes of driving under the influence of alcohol, drugs, or both.** In addition, more than three-quarters (77.2%) reported having been the passenger of an impaired driver in the past year. As shown in Figure 1, prescription opioids were the most commonly involved substance type in past year impaired driving episodes (84.6%), followed by anti-anxiety medications (40.9%), while approximately one-third reported having driven under the influence of methamphetamine (33.9%), marijuana (31.5%), and alcohol (30.7%) in the past year. Finally, 8.7% ($n=22$) of impaired drivers (and none of the comparison group) reported they were currently incarcerated for an impaired driving offense.

Substance Use

When asked about using each specific substance, a larger percentage of past year impaired drivers reported use compared to the other drug-involved offenders after controlling for both age and driver's license status (see Table 2). Specifically, women who reported driving under the influence in the past year were more likely to report past year use of alcohol (adjusted odds ratio [AOR] = 2.17; 95% Confidence Interval [CI] = 1.38, 3.43, $p = .001$), marijuana (AOR = 1.87; 95% CI = 1.14, 3.07, $p = .013$), powder cocaine (AOR = 1.90; 95% CI = 1.14, 3.17, $p = .013$), crack cocaine (AOR = 2.15; 95% CI = 1.23, 3.77, $p = .007$), heroin (AOR = 2.39; 95% CI = 1.38, 4.15, $p = .002$), anti-anxiety medications (AOR = 2.11; 95% CI = 1.32, 3.38, $p = .002$), amphetamines (AOR = 2.23; 95% CI = 1.15, 4.32, $p = .017$), and prescription opioids (AOR = 3.46; 95% CI = 1.38, 8.69, $p = .008$). Fewer group differences were found for the number of days each substance was used. Impaired drivers reported significantly more days using marijuana ($M = 130.0$ vs. 88.6), anti-anxiety medication ($M = 139.0$ vs 106.4), and prescription opioids ($M = 197.7$ vs. 147.2). The substance with the most days of use for each participant in the impaired driver group was used as a measure of substance use severity. This measure significantly correlated with past year impaired driving

episodes—more days of substance use was associated with more impaired driving episodes ($r = 0.29$, $p < .001$).

Mental Health

The majority of participants (81.2%) endorsed criteria for at least one mental health problem in the past year (see Table 3). While depression and PTSD did not vary based on impaired driving, past year impaired drivers were more likely to endorse symptoms for generalized anxiety disorder (AOR = 1.94; 95% CI = 1.23, 3.08, $p = .005$) when controlling for age and driver's license status. Within the impaired driver group, t-tests were performed to examine whether the presence of mental health problems was associated with the number of impaired driving episodes. In addition, the mental health problem were summed (0-3) to create a composite measure of mental health severity. None of the individual mental health problems or the composite mental health severity measure was significantly associated with the number of past year impaired driving episodes. The correlation between the mental health and substance use severity measures was also non-significant.

Criminal History

Although participants had an overall average of 2.6 arrests in their lifetime ($SD=1.6$), only 15.9% had ever served time in prison. Criminal histories did not vary based on past year impaired driving when controlling for age and driver's license status. To further explore criminal history of impaired drivers, the association between the number of past year arrests and impaired driving episodes, substance use severity, and the composite mental health measures was assessed. However, none of these correlations reached statistical significance.

DISCUSSION

The present study examined past year impaired driving histories in a sample of rural female drug-involved offenders to describe past year impaired driving, the substances (including alcohol) involved in impaired driving episodes, and associated factors (i.e. substance use, mental health, and criminality). Findings were largely consistent with the small rural impaired driving literature, but also provided new information on this understudied population while also addressing limitations of previous research.

Past year female impaired drivers were similar to other drug-involved offenders in the present sample on most demographic characteristics; however, impaired drivers were significantly younger and more likely to have a valid driver's license. These younger ages associated with impaired driving are consistent with national data showing that more than half (58%) of females arrested for impaired driving and two-thirds of alcohol-impaired drivers involved in fatal crashes are younger than 35 years old (Bureau of Justice Statistics 2019; National Center for Statistics and Analysis 2019). Only about one-third of participants reported they had a valid driver's license, which is substantially lower than the 87% of the driving-age population who have a driver's license (Federal Highway Administration 2014). Unfortunately, no information was collected to determine whether participants were never issued drivers licenses or if they had an invalid license due to suspension, revocation, or expiration.

The high percentage of participants who reported past year use for many of the substances was expected given the eligibility criteria for the larger study, which included a NM-ASSIST score indicating moderate to high risk. Although the sample consisted entirely of risky substance users, a larger percentage of past year impaired drivers reported using each substance type than other drug-involved offenders with most of these differences reaching levels of statistical significance. The most prevalent substances used by women with a past year impaired driving history included alcohol, marijuana, anti-anxiety medications, and prescription opioids. A recent study comparing rural male and female impaired drivers also found these same substance types as the most prevalent among female impaired drivers (Webster et al. 2019). While no other studies have directly compared rural female impaired drivers to other drug-involved offenders, an earlier study compared rural probationers with and without impaired driving arrest histories and found a similar pattern of elevated substance use levels among impaired drivers (Webster, Oser et al. 2009). This association between an impaired driving history and more extensive substance use found across multiple criminal justice populations suggests that involvement in the criminal justice system may be an opportune time to not only provide substance use treatment but also education about the dangers associated with impaired driving. Similarly, incorporating past year impaired driving in screening information may help identify those with particularly risky substance use in criminal justice populations.

The range of substances used by women in the present study have implications for targeted prevention messages for high-risk women. Previous research has highlighted the continued importance of broadening impaired driving prevention messages to include both alcohol- and drug-impaired driving given the growing prevalence of driving under the influence of **substances** other than alcohol (Pilkinton et al. 2013). Study findings indicate that prevention messages around the impairing effects of prescription drugs may be particularly germane for women in the current sample. Other researchers have noted that impaired driving prevention messages typically have a stronger focus on males and may not be as appealing to women. As a result, prevention strategies that incorporate women-specific biological information (e.g., women's lower first-pass metabolism of alcohol) and address safety concerns associated with using transportation alternatives may prove to be more effective for women (Robertson and Barrett 2018).

Results for mental health symptom findings were also consistent with previous research. Studies of both rural and urban impaired drivers have shown high rates of mental health problems among female impaired drivers using either measures of mental health symptoms (Webster et al. 2019) similar to the current study or with more comprehensive diagnostic interviews (McCutcheon et al. 2009). Unlike the substance use findings, most mental health symptoms were similar between groups with only symptoms of generalized anxiety disorder significantly higher among impaired drivers. Interestingly, impaired drivers also were more likely to misuse anti-anxiety medications, which may indicate that they are self-medicating to address their anxiety symptoms. Although there is a large literature showing the co-occurrence of substance use and other mental health disorders (Grant et al., 2016), the present study failed to find a significant association between the mental health and substance use severity measures. One possibility for the lack of correlation is that only three mental

health problems were used to construct the composite measure, limiting its variability. In addition, the measure consisted of symptoms rather than actual diagnoses. **Similarly**, a different measure of substance use frequency or severity may have better captured substance use differences among this sample of drug-involved offenders. More comprehensive mental health and substance use measures, which better represent a fuller range of problem severity, is an opportunity for future studies focused on rural female impaired drivers.

The criminal histories of women who reported past year impaired driving did not differ from other drug-involved offenders in the present study. Criminal histories primarily consisted of substance- or property-related crimes with an average of two to three arrests. Among impaired drivers, there was no association between past year arrests and past year impaired driving episodes. Prior studies have shown a link between impaired driving and other criminal behavior (Nelson et al. 2019); however, given that the sample consisted of women in jail, this lack of significant differences in criminal history might be expected. The previously discussed rural probationer study also found similar criminal histories between rural probationers with a single impaired driving arrest and those without an impaired driving arrest (Webster, Oser, et al. 2009).

Finally, study findings highlight the breadth of substance types involved in rural female drug-involved offenders' impaired driving. Not surprisingly, past year impaired driving closely mirrored impaired drivers' past year substance use. Prescription opioids were the most frequently reported substance type associated with past year driving. While other studies of drug-impaired driving have typically found marijuana to be the most prevalent substance (Compton 2017), studies focused on rural impaired drivers have found prescription opioid-impaired driving to be just as prevalent (Webster et al. 2018). However, the present data indicate a prevalence of prescription-opioid impaired driving more than double that of marijuana-impaired driving. This finding may be related to the current opioid epidemic that has disproportionately affected rural America, particularly in the central Appalachian region of Kentucky where this sample was recruited. The relatively low prevalence of alcohol-impaired driving and driving under the influence of a combination of alcohol and drugs is consistent with the low alcohol use reported by participants. It is unclear, however, the extent to which impaired drivers drove under the influence of multiple drugs, which can produce synergistic effects. This an avenue for future research.

Limitations

Study findings should be interpreted with limitations in mind. First, the sample was comprised of drug-involved women from one rural area with little racial/ethnic diversity. As a result, the women in this study may not be representative of all rural female impaired drivers. Future studies, therefore, should examine female impaired drivers from a broader range of rural communities, including those near and more distant from larger urban centers. Second, data were not collected on the amount of substance(s) taken and other contextual information about impaired driving episodes. As the prevalence of drugged driving increases, knowledge about the exact substance taking behavior of impaired drivers could prove useful in developing prevention approaches, particularly in rural communities where prevention resources may be limited. Third, more detailed driving histories (e.g., crashes,

vehicle access, and official license records) were not obtained. Collecting such information should be incorporated into future studies to examine how impaired driving relates to other driving behavior and traffic safety among rural women. Finally, the study used self-reported data, which could be subject to recall bias.

Conclusions

Taken together, the results of the present study contribute to the impaired driving literature in several important ways. First, the study adds to burgeoning literature on female impaired drivers by focusing on rural women. Only two published studies have specifically examined this population in the past decade (Webster, Pimentel, et al. 2009; Webster et al. 2019), and the current results complement the findings of these earlier studies indicating a range of substance use and mental health problems among rural female impaired drivers. The higher levels of substance use among past year impaired drivers indicates that impaired driving, regardless of arrest, may be an important marker of risky, more extensive substance use. Future studies should examine whether impaired driving can serve as a marker for other high-risk behaviors in rural populations. Furthermore, this study provides new information on the specific substances involved in impaired driving episodes of rural women. The illicit use of prescription medications, both opioids and anti-anxiety medications, were the most involved in past year impaired driving episodes, suggesting a different impaired driving profile for rural women that may warrant different prevention and intervention approaches. Finally, the present study highlights the importance of collecting data on impaired driving behavior in at-risk populations rather than relying solely on examining individuals who are arrested for impaired driving. In this sample of drug-involved offenders, two-thirds self-reported impaired driving in the year preceding their incarceration, yet only a small percentage were in jail on an impaired driving offense. Early identification of impaired drivers in at-risk groups, before they are arrested, could provide an important opportunity to intervene and prevent future traffic injuries and fatalities.

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Figure 1.
Substances involved in impaired driving episodes among past year impaired drivers (n=254)

Table 1.

Demographics and Substance Use by Past Year Impaired Driving

	Impaired Drivers (n=254)	Other Drug-involved Offenders (n=123)	Total (N=377)
Demographics			
Age (years) **	31.8	34.5	32.7
White	98.8%	99.2%	98.9%
Married/Living as Married	35.8%	38.1%	36.6%
Education (years completed)	11.2	10.8	11.1
Employed at least part time 6 months prior to incarceration	24.4%	18.3%	22.4%
Valid driver's license **	40.9%	24.6%	35.5%

**
p .01

Table 2.**Substance Use by Past Year Impaired Driving**

Substance	Impaired Drivers (n=254)		Other Drug-involved Offenders (n=123)		Total (N=377)	
	Used (%)	Days Used	Used (%)	Days Used	Used (%)	Days Used
Alcohol	61.8 ***	33.8 (2.5)	44.7	29.5 (0)	56.2	32.4 (2)
Marijuana	78.3 *	130.0 * (30)	64.2	88.6 (5)	73.7	116.5 (12)
Powder cocaine	37.4 *	17.6 (0)	22.0	11.6 (0)	32.4	15.6 (0)
Crack	30.7 **	14.5 (0)	16.3	8.2 (0)	26.0	12.5 (0)
Inhalants	7.1	2.4 (0)	3.3	0.3 (0)	5.8	1.7 (0)
Heroin	34.6 **	21.4 (0)	17.1	14.7 (0)	28.9	19.2 (0)
Anti-anxiety medication	74.3 **	139.0 ** (50)	58.5	106.4 (10)	69.1	128.4 (30)
Methamphetamine	58.7	94.1 (5.5)	47.2	70.0 (0)	54.9	86.2 (3)
Amphetamines *	21.7 *	12.9 (0)	10.6	12.0 (0)	18.0	12.6 (0)
Sedatives	13.0	26.1 (0)	8.9	25.7 (0)	11.7	26.0 (0)
Prescription opioids	96.9 **	197.7 (60)	88.6	147.2 (180)	94.2	181.2 (180)

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p .001. Significant differences shown in the impaired driver columns are in relation to the corresponding value for other drug-involved offenders. All substance use (with the exception of alcohol) is illicit use either because the drug is illegal, or in the case of prescription medication, the drug was misused in order to get high. **For Days Used, participants reported a range from 0 to 365 days in the past year for all drugs except inhalants (0-120 days among impaired drivers and 0-30 days among other drug-involved offenders). Median values for Days Used appear in parentheses.**

Table 3.**Mental Health and Criminal History by Past Year Impaired Driving**

	Impaired Drivers (n=254)	Other Drug-involved Offenders (n=123)	Total (N=377)
Mental Health – GAIN (past year)			
Major Depressive Disorder	70.5%	63.4%	68.2%
Generalized Anxiety Disorder **	49.6%	35.0%	44.8%
Post-traumatic Stress Disorder	67.7%	67.5%	67.6%
Criminality			
# of lifetime arrests	2.7	2.5	2.6
Ever arrested as a juvenile	14.2%	9.8%	12.7%
Ever arrested for a property offense	46.1%	48.0%	46.7%
Ever arrested for a violent offense	14.6%	6.5%	11.9%
Ever arrested for a substance-related offense	75.6%	71.5%	74.3%
Ever arrested for a court-related offense	27.6%	27.6%	27.6%
Ever arrested for any other non-traffic offense	16.5%	17.1%	16.7%
Ever arrested or charged with major traffic offense other than impaired driving	5.9%	4.1%	5.3%
Ever served time in prison	17.3%	13.0%	15.9%

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