

## Socioeconomic Disparities and Self-reported Substance Abuse-related Problems

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### Original Article

#### Abstract

**Background:** It is not well understood whether the self-reported experience of substance abuse-related problems differs by socioeconomic status.

**Methods:** We conducted a secondary analysis using the 2013 National Survey on Drug Use and Health (NSDUH) on participants who reported ever using illicit drugs or used illicit drugs in the past year.

**Findings:** Among those reporting ever using illicit drugs (n = 4701), 71% were Non-Hispanic White, 37% had a family income  $\geq$  \$75000, and 3% reported having substance abuse-related problems in the past year. After adjustment for age, race, marital status, and education, individuals in the lowest income group were more likely to report having problems related to their substance abuse compared to individuals in the highest income group [odds ratio (OR) = 1.36, 95% confidence interval (CI): 1.08-1.72] among those who reported ever using illicit drugs. There was no evidence of interaction with race or gender.

**Conclusion:** Our findings suggest that poverty may be associated with self-identification of substance abuse-related problems among those who report ever using illicit drugs. Appropriate intervention should be targeted toward the low-income group to address identified substance abuse-related problems.

**Keywords:** Socioeconomic status; Health status disparities; Substance-related disorders

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## Introduction

Substance use disorders (SUDs) are harmful to individuals and society. Individuals with SUDs, resultingly, experience a myriad of adverse effects. These individuals are at increased risk for numerous medical conditions.<sup>1,2</sup> Some of these include higher risks of hypertension, congestive heart failure (CHF), lower back pain, arthritis, hepatitis C, pneumonia, chronic obstructive pulmonary disease (COPD) in addition to injuries.<sup>3</sup> SUDs are also associated with economic and social problems such as unemployment, lost productivity, and lower financial stability.<sup>4-9</sup> Persons with SUDs also experience higher rates of workplace problems and relationship conflict.<sup>4,6</sup> There is clear evidence that in order to support substance use, many resort to crimes that result in contact with the criminal justice system.<sup>10,11</sup> Moreover, the annual economic cost of substance abuse was estimated at over \$220 billion.<sup>12</sup>

Although the problems resulting from SUDs appear to be higher among those from socially disadvantaged backgrounds, it is not well understood as to whether the self-reported experience of substance abuse-related problems differs by socioeconomic status. In this study, we sought to examine the relationship between socioeconomic status specifically family income and self-report of substance abuse-related problems, and we also examined whether race and gender modified the relationship between family income and self-report of substance abuse-related problems.

## Methods

A secondary analysis was conducted on 62000 participants using the 2013-2014 National Survey on Drug Use and Health (NSDUH). NSDUH is a repeated cross-sectional national survey conducted by the Center for Behavioral Statistics and Quality, and Substance Abuse and Mental Health Services Administration (SAMHSA).<sup>13</sup> The target population is a nationally representative noninstitutionalized sample of the United States (US), aged 12 years and older. Approximately 67500 persons are surveyed annually via face to face interviews. The purpose of the survey is to obtain data on national prevalence and patterns of substance abuse and mental disorders. An independent multistage probability sampling

design is used to sample household residents from 50 states in addition to the District of Columbia. Data are collected via in-person interviews in participants' homes. For the 2013-2014 NSDUH survey, weighted response rates for household screening and interviews were 83.9% and 71.7%, respectively.

The study included all adult respondents who reported any drug use in their lifetime. Respondents with missing data on age, gender, employment, education, income, marital status, and insurance status (n = 343) were excluded. The analytic sample was 62000.

**Main independent variable:** The primary independent variable was family income. Family income was coded as 1 < \$20000, \$20000-\$49999, \$50000-\$74999, and ≥ \$75000.

The outcome variable in this study was self-report of having substance abuse-related problems. Participants were classified as having substance abuse-related problems if they answered yes to at least one of the following for any of the illicit drugs (marijuana or hashish, cocaine/crack, heroin, hallucinogens such as lysergic acid diethylamide (LSD), "acid", phencyclidine (PCP), "ecstasy", psilocybin (mushrooms), mescaline, or peyote, inhalants, such as amyl nitrite, "poppers," nitrous oxide, gasoline or lighter fluids, glue, spray paints or correction fluids, prescription pain relievers) assessed on the survey instrument.

"During the past 12 months did you have problems with your emotion, nerves, or mental health that were probably caused or made worse by your use of illicit drug?"

"During the past 12 months, did you have any physical health problems that were probably caused or made worse by your use of illicit drug?"

"During the past 12 months, did you have any problems with family or friends that were probably caused by your use of illicit drug?"

"During the past 12 months, did using illicit drug cause you to give up or spend less time doing these types of important activities (working, going to school, taking care of children, doing fun things such as hobbies and sports, and spending time with friends and family)?"

Finally, the last question addressed serious problems at home, work, or school, and included neglecting their children, missing work or school, doing a poor job at work or school, losing a job or

dropping out of school: "During the past 12 months, did using illicit drug cause you to have serious problems like this either at home, work, or school?"

Correlates included race, gender, age, education, marital status, employment status, and insurance status. Race was categorized as Non-Hispanic White, Non-Hispanic Black, Other, and Hispanic. Age was categorized as 18-21, 22-25, 26-34, 35-49, and 50 and above. Years of education completed was categorized as incomplete high school, high school, some college, and college graduate and above. Marital status was categorized as currently married, widow/divorced/separated, and single or never married. Employment status was categorized as employed full time, employed part-time, unemployed or other.

Descriptive and summary statistics to describe sample demographic characteristics were calculated using Stata software (version 11, Stata Corporation, College Station, TX, USA) for those reporting ever using illicit drugs and those who reported using illicit drugs in the past year. Survey weighted bivariate analysis using chi-square test was used to examine difference by self-report of substance abuse problems for those reporting ever using illicit drugs and those who reported using illicit drugs in the past year. Separate multivariate logistic regression analyses were conducted for persons reporting ever using illicit drugs and those who reported using illicit drugs in the past year. Multivariate models included age, race, gender, education, marital status, employment status, and insurance status. Multivariate models including interaction terms were constructed to assess interaction effects with race and gender.

## Results

Table 1 shows the descriptive statistics for the sociodemographic factors by lifetime drug use and drug use in the past year. Among those who reported ever using illicit drugs or those using drugs in the past year, most were white, 71% and 66%, respectively, and slightly more than half were men, 53.4% and 57.9%, respectively. The proportion of persons reporting ever using illicit drugs seemed to increase with age. Persons aged 50 and above accounted for 37.8% while those aged 18-21 accounted for 7.4% of those reporting ever using illicit drugs. This pattern was not seen among those reporting drug use in the past year.

The proportion was fairly consistent just above 20% for those aged 26-34, 35-49, and 50 and above, while the proportion among those aged 18-21 and 22-25 was 17.0% and 15.1%, respectively. Among those reporting ever using illicit drugs, most had completed high school, some college, or were college graduates, 27.9%, 29.8%, and 31.7%, respectively. A similar pattern was observed among those who reported illicit drug use in the past year. Among those who reported ever using illicit drugs, almost half were currently married and among those who reported illicit drug use in the past year, only 30% were currently married and 54.6% were single or never married. The pattern with employment was similar among those who reported ever using illicit drugs and those who reported using illicit drugs in the past year. Over 50% were employed full time, while 5% and 8%, respectively, were unemployed. A quarter of those who reported illicit drug use in the past year reported a total family income less than \$20000.

In the bivariate analysis, among persons who reported ever using illicit drugs in their lifetime, there were statistically significant differences in race, age, education, marital status, employment, insurance status, and total family income by having substance abuse-related problems in the past year as shown in table 2. There were also statistically significant differences in race, age, education, marital status, employment, insurance status, and total family income by having substance abuse-related problems in the past year among persons who reported using illicit drugs in the past year as shown in table 3.

In the regression models, among persons who reported ever using illicit drugs, persons with an income less than \$20000 were 36% more likely to report having substance abuse problems compared to those with an income  $\geq$  \$75000 [odds ratio (OR): 1.36, 95% confidence interval (CI): 1.08-1.72] after adjustment for age, race, gender, education, marital status, employment status, and insurance status. There was no evidence of statistical interaction with race or gender. However, those who reported their race as other had a 38% higher odds of reporting having substance abuse-related problems compared to Non-Hispanic Whites (OR: 1.38, 95% CI: 1.06-1.80).

**Table 1.** Descriptive statistics of the study sample, adults aged 18 or older who used illicit drug, National Survey on Drug Use and Health (NSDUH), 2013-2014

Variables	Ever used illicit drug	Past year used illicit drug
	n (%) <sup>*</sup>	n (%) <sup>*</sup>
Substance abuse-related problems in past year		
Yes	1905 (3.0)	1897 (9.5)
No	41796 (97.0)	16402 (90.5)
Race		
Whites	29007 (71.4)	11376 (66.9)
Blacks	5152 (11.2)	2524 (13.1)
Hispanics	5853 (12.2)	2662 (13.9)
Others	3689 (5.3)	1737 (6.1)
Gender		
Women	21921 (46.6)	8343 (42.1)
Men	21780 (53.4)	9956 (57.9)
Age (year)		
18-21	8100 (7.4)	5770 (17.0)
22-25	9640 (8.7)	5126 (15.1)
26-34	8547 (18.7)	3384 (24.7)
35-49	10667 (27.3)	2781 (22.1)
50 and above	6747 (37.8)	1238 (21.1)
Education		
Incomplete high school	5744 (10.6)	2935 (14.0)
High school	13056 (27.9)	5794 (29.0)
Some college	13673 (29.8)	6000 (31.4)
College graduate and above	11228 (31.7)	3570 (25.5)
Marital status		
Currently married	15451 (48.7)	3438 (29.7)
Widow/divorced/separated	5766 (19.0)	1725 (15.7)
Single or never married	22484 (32.3)	13136 (54.6)
Employment		
Employed full time	23774 (57.0)	8607 (51.9)
Employed part time	7885 (14.9)	4096 (18.7)
Unemployed	3444 (5.6)	2048 (8.6)
Other	8598 (22.6)	3548 (20.8)
Insurance in past 12 months		
Yes	31912 (77.2)	12463 (68.9)
No	11789 (22.8)	5836 (31.1)
Total family income		
Less than \$20000	10484 (17.2)	5807 (25.1)
\$20000-\$49999	13770 (29.1)	5940 (32.2)
\$50000-\$74999	6933 (16.9)	2532 (14.9)
\$75000 and more	12514 (36.7)	4020 (27.8)
Total sample	43701 (100)	18299 (100)

\*Weighted percentages

There was no difference between Non-Hispanic Blacks and Non-Hispanic Whites (OR: 1.02, 95% CI: 0.81-1.30). Women were 35% less likely to report having substance abuse problems compared to men (OR: 0.65, 95% CI: 0.54-0.77). There was a graded association between age and reporting substance abuse problems with younger age groups having higher odds of reporting

substance abuse problems, and this decreased with each increasing age category as shown in table 4. A similar pattern was observed for education. Those that were single or never married had a 2 fold increase odds of reporting having substance abuse related problems compared to those who were currently married (OR: 2.35, 95% CI: 1.84-3.01).

**Table 2.** Bi-variate relationships between socio-demographic and economic characteristics with substance abused-related problems among adults aged 18 or older who ever used illicit drug, National Survey on Drug Use and Health (NSDUH), 2013-2014

Variables	Substance abuse-related problems in past year				Chi-square	P
	No		Yes			
	n (41796)	% (97.0)	n (1905)	% (3.0)		
Race					10.70	< 0.001
Whites	27889	97.4	1118	2.6		
Blacks	4878	95.9	274	4.1		
Hispanics	5553	96.3	300	3.7		
Others	3476	95.4	213	4.6		
Gender					28.27	0.011
Women	21185	97.7	736	2.3		
Men	20611	96.5	1169	3.5		
Age (year)					97.67	< 0.001
18-21	7401	91.6	699	8.4		
22-25	9089	93.8	551	6.2		
26-34	8201	95.7	346	4.3		
35-49	10446	97.9	221	2.1		
50 and above	6659	98.8	88	1.2		
Education					49.61	< 0.001
Incomplete high school	5319	94.5	425	5.5		
High school	12420	96.5	636	3.5		
Some college	13044	96.8	629	3.2		
College graduate and above	11013	98.6	215	1.4		
Marital status					175.06	< 0.001
Currently married	15240	98.8	211	1.2		
Widow/divorced/separated	5588	97.5	178	2.5		
Single or never married	20968	94.0	1516	6.0		
Employment					25.98	< 0.001
Employed full time	23035	97.7	739	2.3		
Employed part time	7471	96.2	414	3.8		
Unemployed	3146	92.7	298	7.3		
Other	8144	96.9	454	3.1		
Insurance in past 12 months					74.03	< 0.001
Yes	30718	97.6	711	2.4		
No	11078	95.0	1194	5.0		
Total family income					46.79	< 0.001
Less than \$20000	9755	94.3	729	5.7		
\$20000-\$49999	13180	96.7	590	3.3		
\$50000-\$74999	6693	97.6	240	2.4		
\$75000 and more	12168	98.3	346	1.7		

As shown in table 5, in the univariate models, among persons who reported using illicit drugs in the past year, persons with an income less than \$20000 were 82% more likely to report having substance abuse problems compared to those with an income  $\geq$  \$75000 (OR: 1.82, 95% CI: 1.49-2.22) and persons with an income of \$20000-\$49999 were 34% more likely to report having substance abuse problems compared to those with an income  $\geq$  \$75000 (OR: 1.34, 95% CI: 1.07-1.68). However, after adjustment for age, race, gender,

education, marital status, employment status, and insurance status, these associations were no longer statistically significant. There was no evidence of statistical interaction with race. However, in the multivariate model, those who reported their race as other had 41% higher odds of reporting having substance abuse-related problems compared to Non-Hispanic Whites (OR: 1.41, 95% CI: 1.07-1.86). There was no difference between Non-Hispanic Blacks and Non-Hispanic Whites (OR: 1.02, 95% CI: 0.80-1.30).

**Table 3.** Bi-variate relationships between socio-demographic and economic characteristics with substance abused-related problems among adults aged 18 or older who used illicit drug in past year, National Survey on Drug Use and Health (NSDUH), 2013-2014

Variables	Substance abuse-related problems in past year				Chi-square	P
	No		Yes			
	n (16402)	% (90.5)	n (1897)	% (9.5)		
Race					3.97	0.008
Whites	10264	91.3	1112	8.7		
Blacks	2250	88.8	274	11.2		
Hispanics	2364	89.8	298	10.2		
Others	1524	87.4	213	12.6		
Gender					9.14	0.003
Women	7611	91.8	731	8.2		
Men	8791	89.6	1165	10.4		
Age (year)					7.76	< 0.001
18-21	5072	88.3	698	11.7		
22-25	4578	88.7	548	11.3		
26-34	3039	89.8	345	10.2		
35-49	2516	91.9	220	8.1		
50 and above	1152	93.1	86	6.9		
Education					22.18	< 0.001
Incomplete high school	2513	87.0	422	13.0		
High school	5160	89.2	634	10.8		
Some college	5374	90.2	626	9.8		
College graduate and above	3355	94.4	215	5.6		
Marital status					21.46	< 0.001
Currently married	3228	93.8	210	6.2		
Widow/divorced/separated	1550	90.5	175	9.5		
Single or never married	11624	88.8	1512	11.2		
Employment					10.38	< 0.001
Employed full time	7871	91.9	736	8.1		
Employed part time	3684	90.5	412	9.5		
Unemployed	1750	85.1	298	14.9		
Other	3097	89.5	451	10.5		
Insurance in past 12 months					16.49	< 0.001
Yes	11275	91.5	1188	8.5		
No	5127	88.5	709	11.5		
Total family income					11.88	< 0.001
Less than \$20000	5080	87.6	727	12.4		
\$20000-\$49999	5352	90.5	588	9.5		
\$50000-\$74999	2295	91.5	237	8.5		
\$75000 and more	3675	92.7	345	7.3		

Women were 22% less likely to report having substance abuse problems compared to men (OR: 0.78, 95% CI: 0.65-0.93). Persons who were aged 22-25 and 26-34 had a higher odds of reporting substance abuse problems compared to those who aged 50 or older (OR: 1.52, 95% CI: 1.04-2.22; and OR: 1.50, 95% CI: 1.02-2.20, respectively). There was a graded association between education and reporting substance abuse problems with those with less education

having a higher odds of reporting substance abuse problems and this decreased with each increasing year of education as shown in table 5. Those that were single or never married had a 1.41 fold increase odds of reporting having substance abuse-related problems compared to those who were currently married (OR: 1.41, 95% CI: 1.10-1.80) and this was also similar for those who were widow, divorced, or separated (OR: 1.44, 95% CI: 1.01-2.05).

**Table 4.** Odds ratios (ORs) and confidence intervals (CIs) for the logistic regression estimates for the relationship between socio-economic status and substance abuse-related problems among adults aged 18 or older who ever used illicit drug, National Survey on Drug Use and Health (NSDUH), 2013-2014

Covariates	Substance abuse-related problems in past year					
	Unadjusted model		Adjusted model		Model with interactions	
	OR	95% CI	AOR	95% CI	AOR	95% CI
<b>Race</b>						
Whites (RC)	1.00	-	1.00	-	1.00	-
Blacks	1.63***	1.31-2.04	1.02	0.81-1.30	0.65	0.33-1.32
Others	1.83***	1.41-2.37	1.38*	1.06-1.80	1.44	0.74-2.78
Hispanics	1.45***	1.18-1.79	0.90	0.74-1.11	1.03	0.61-1.72
<b>Gender</b>						
Women	0.65***	0.55-0.77	0.65***	0.54-0.77	0.65***	0.54-0.77
Men (RC)	1.00	-	1.00	-	1.00	-
<b>Age (year)</b>						
18-21	7.36***	5.29-10.25	3.38***	2.37-4.83	3.41***	2.39-4.85
22-25	5.34***	3.82-7.47	3.23***	2.25-4.63	3.24***	2.26-4.64
26-34	3.57***	2.52-5.05	2.82***	1.95-4.08	2.82***	1.95-4.08
35-49	1.68**	1.18-2.40	1.66**	1.15-2.40	1.67**	1.15-2.41
50 and above (RC)	1.00	-	1.00	-	1.00	-
<b>Education</b>						
Incomplete high school	4.00***	3.15-5.07	2.11***	1.62-2.74	2.10***	1.61-2.73
High school	2.53***	2.01-3.17	1.70***	1.33-2.17	1.69***	1.32-2.16
Some college	2.32***	1.82-2.94	1.59***	1.23-2.05	1.58***	1.23-2.05
College graduate and above (RC)	1.00	-	1.00	-	1.00	-
<b>Marital status</b>						
Currently married (RC)	1.00	-	1.00	-	1.00	-
Widow/divorced/separated	2.10***	1.50-2.93	1.93***	1.37-2.72	1.93***	1.37-2.72
Single or never married	5.23***	4.20-6.52	2.35***	1.84-3.01	2.35***	1.84-3.01
<b>Employment</b>						
Employed full time (RC)	1.00	-	1.00	-	1.00	-
Employed part time	1.66***	1.35-2.04	1.26*	1.01-1.58	1.26*	1.01-1.57
Unemployed	3.29***	2.65-4.09	1.64***	1.30-2.06	1.64***	1.30-2.06
Other	1.33**	1.10-1.62	1.41**	1.09-1.81	1.41**	1.10-1.82
<b>Insurance in past 12 months</b>						
Yes (RC)	1.00	-	1.00	-	1.00	-
No	2.11***	1.81-2.46	1.23*	1.04-1.45	1.22*	1.03-1.45
<b>Total family income</b>						
Less than \$20000	3.46***	2.85-4.20	1.36**	1.08-1.72	1.34*	1.03-1.75
\$20000-\$49999	1.95***	1.56-2.42	1.06	0.82-1.36	1.08	0.80-1.46
\$50000-\$74999	1.38*	1.07-1.79	1.01	0.77-1.29	0.94	0.68-1.30
\$75000 and more (RC)	1.00	-	1.00	-	1.00	-
<b>Interaction between race and income</b>						
Black and income < \$20000	-	-	-	-	1.60	0.74-3.47
Black and income \$20k-\$49k	-	-	-	-	1.48	0.65-3.36
Black and income \$50k-\$74k	-	-	-	-	2.28	0.89-5.89
Other and income < \$20000	-	-	-	-	0.79	0.37-1.68
Other and income \$20k-\$49k	-	-	-	-	1.15	0.51-2.61
Other and income \$50k-\$74k	-	-	-	-	0.89	0.32-2.45
Hispanics and income < \$20000	-	-	-	-	0.99	0.54-1.83
Hispanics and income \$20k-\$49k	-	-	-	-	0.71	0.37-1.35
Hispanics and income \$50k-\$74k	-	-	-	-	0.94	0.45-1.96

RC: Reference category; OR: Odds ratio; AOR: Adjusted odds ratio; CI: Confidence interval  
 \*P < 0.050, \*\*P < 0.010, \*\*\*P < 0.001

**Table 5.** Odds ratios (ORs) and confidence intervals (CIs) for the logistic regression estimates for the relationship between socio-economic status and substance abuse-related problems among adults aged 18 or older who used illicit drug in the past year, National Survey on Drug Use and Health (NSDUH), 2013-2014

Covariates	Substance abuse-related problems in past year					
	Unadjusted model		Adjusted model		Model with interactions	
	OR	95% CI	AOR	95% CI	AOR	95% CI
Race						
Whites (RC)	1.00	-	1.00	-	1.00	-
Blacks	1.33*	1.06-1.67	1.02	0.80-1.30	0.69	0.34-1.41
Others	1.52**	1.15-2.00	1.41*	1.07-1.86	1.53	0.77-3.04
Hispanics	1.19	0.96-1.47	1.01	0.81-1.24	1.20	0.70-2.04
Gender						
Women	0.78**	0.65-0.92	0.78**	0.65-0.93	0.78**	0.66-0.93
Men (RC)	1.00	-	1.00	-	1.00	-
Age (year)						
18-21	1.79**	1.27-2.52	1.29	0.89-1.88	1.29	0.89-1.97
22-25	1.73**	1.22-2.45	1.52*	1.04-2.22	1.52*	1.04-2.22
26-34	1.54*	1.07-2.21	1.50*	1.02-2.20	1.49*	1.01-2.19
35-49	1.19	0.82-1.71	1.19	0.81-1.75	1.19	0.81-1.74
50 and above (RC)	1.00	-	1.00	-	1.00	-
Education						
Incomplete high school	2.49***	1.94-3.19	1.97***	1.50-2.58	1.96***	1.50-2.58
High school	2.02***	1.60-2.56	1.74***	1.35-2.24	1.73***	1.34-2.24
Some college	1.80***	1.41-2.31	1.58**	1.21-2.05	1.57***	1.20-2.04
College graduate and above (RC)	1.00	-	1.00	-	1.00	-
Marital status						
Currently married (RC)	1.00	-	1.00	-	1.00	-
Widow/divorced/separated	1.58**	1.12-2.23	1.44*	1.01-2.05	1.44*	1.01-2.05
Single or never married	1.89***	1.51-2.37	1.41**	1.10-1.80	1.41**	1.10-1.80
Employment						
Employed full time (RC)	1.00	-	1.00	-	1.00	-
Employed part time	1.20	0.97-1.48	1.09	0.86-1.37	1.09	0.86-1.37
Unemployed	1.99***	1.60-2.49	1.48**	1.17-1.87	1.48**	1.18-1.87
Other	1.33**	1.08-1.63	1.27	0.99-1.65	1.28	0.99-1.65
Insurance in past 12 months						
Yes (RC)	1.00	-	1.00	-	1.00	-
No	1.40***	1.19-1.64	1.13	0.95-1.34	1.13	0.95-1.34
Total family income						
Less than \$20000	1.82***	1.49-2.22	1.18	0.94-1.48	1.17	0.89-1.52
\$20000-\$49999	1.34*	1.07-1.68	0.98	0.76-1.26	1.01	0.74-1.38
\$50000-\$74999	1.19	0.91-1.55	0.98	0.75-1.29	0.95	0.68-1.34
\$75000 and more (RC)	1.00	-	1.00	-	1.00	-
Interaction between race and income						
Black and income < \$20000	-	-	-	-	1.46	0.66-3.23
Black and income \$20k-\$49k	-	-	-	-	1.47	0.63-3.41
Black and income \$50k-\$74k	-	-	-	-	2.07	0.78-5.49
Other and income < \$20000	-	-	-	-	0.84	0.38-1.83
Other and income \$20k-\$49k	-	-	-	-	1.04	0.45-2.44
Other and income \$50k-\$74k	-	-	-	-	0.74	0.26-2.10
Hispanics and income < \$20000	-	-	-	-	0.97	0.51-1.83
Hispanics and income \$20k-\$49k	-	-	-	-	0.66	0.34-1.28
Hispanics and income \$50k-\$74k	-	-	-	-	0.86	0.40-1.85

RC: Reference category; OR: Odds ratio; AOR: Adjusted odds ratio; CI: Confidence interval

\*P &lt; 0.050, \*\*P &lt; 0.010, \*\*\*P &lt; 0.001

## Discussion

Our results indicate that among those who reported ever using illicit drugs in their lifetime, those who were in the lowest annual family income category (< \$20000) were 34% more likely to report having substance abuse-related problems in the past year. This association was not modified by race or gender. In contrast, although a similar finding was observed in the univariate analysis among those who reported illicit drug use in the past year, this association did not remain statistically significant after adjustment for confounders.

The group reporting ever use of illicit drugs may be a diverse group consisting of current users, recreational users, and past users. As such, the substance abuse-related problems may be chronic problems resulting from past illicit drug use among persons who are no longer using illicit drugs. Persons who may not be currently using illicit drugs may be more likely to have completed treatment and as such, may have a clearer perspective on the long-lasting effects of their past illicit drug use.

We found no evidence of a difference by gender in the relationship between family income and self-reported substance abuse-related problems despite other studies reporting a difference in the addiction experience of women and men, socially and economically.<sup>14-16</sup> Women, reportedly, are more challenged economically, and typically have higher rates of unemployment than men with similar substance abuse problems.<sup>14</sup> As a group, women who have SUDs tend to be less educated and have fewer marketable skills, less work experience, and less financial resources.<sup>14</sup>

We found no evidence of a difference by race in the relationship between family income and self-reported substance abuse-related problems. However, there is evidence that African Americans are less likely to initiate or complete substance abuse treatment compared to other race/ethnic groups. In addition, there are structural inequalities such as racism and poverty which result in social inequalities that produce emotional stress. These social inequalities may result in challenges in employment, financial

stress, and relationship conflict.<sup>17-19</sup> It is possible that ethnic minorities, specifically African Americans, experiencing these problems may not attribute them to their substance use but simply to their life experience of being a member of a race/ethnic minority group.

There are some limitations to this study. Although the NSDUH is a national population-based survey, the data is cross-sectional and so this prevents the assessment of temporal relationships between the variables. The sequence of income levels and the time frame of illicit drug use cannot be determined. We are also unable to make causal conclusions based on the cross-sectional nature of the data. NSDUH also relies on self-report and given the stigma associated with illicit drug use, the validity of the data may be affected by information bias.

## Conclusion

This study showed that, in a US national sample, among persons who reported ever using illicit drugs, those that had a family income less than \$20000 were 34% times more likely to report having substance abuse-related problems compared to persons in the highest income category. However, a similar association was not observed among persons who reported having used illicit drugs within the past year. The difference in the results for those who reported ever using illicit drugs and those using illicit drugs in the past year with respect to their self-reporting of substance abuse-related problems warrants further study. Future studies should tease out the subgroups within the group who reported ever using illicit drugs in their lifetime. Perhaps analyses within race/ethnic subgroups may disentangle the substance abuse-related problems and the problems that result because of the structural and institutional racism within which ethnic minorities function.

## Conflict of Interests

The Authors have no conflict of interest.

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## تفاوت‌های اجتماعی – اقتصادی و مشکلات خودسنجی مربوط به سوء مصرف مواد

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### مقاله پژوهشی

#### چکیده

**مقدمه:** به درستی مشخص نشده است که آیا تجربه خودسنجی مشکلات مربوط به سوء مصرف مواد بسته به وضعیت اجتماعی – اقتصادی متغیر است یا خیر؟

**روش‌ها:** با استفاده از بررسی ملی مصرف مواد و سلامت در سال ۲۰۱۳، تحلیل ثانویه‌ای بر روی شرکت‌کنندگانی که تاکنون مواد مخدر استفاده کرده و آن‌هایی که در طی سال گذشته مواد مصرف نموده بودند، انجام شد.

**یافته‌ها:** در میان آن‌هایی که تاکنون مواد مخدر مصرف کرده بودند (۴۳۷۰۱ نفر)، ۷۱ درصد از نژاد سفید غیر اسپانیایی بودند، ۳۷ درصد درآمد خانوادگی‌شان بیشتر یا مساوی ۷۵ هزار دلار بود و ۳ درصد گزارش کردند که طی سال گذشته مشکلات مربوط به سوء مصرف مواد داشتند. پس از مطابقت با سن، نژاد، وضعیت تأهل و تحصیلات، احتمال داشتن مشکلات مربوط به سوء مصرف مواد در بین افرادی که تاکنون تجربه استفاده از مواد را داشتند و در پایین‌ترین گروه درآمدی بودند، در مقایسه با کسانی که بالاترین درآمد را داشتند، بیشتر بود [Confidence interval (CI) = ۱/۰۸-۱/۷۲]، Odds ratio (OR) = ۱/۳۶ (OR) = ۹۵ درصد]. شواهدی مبنی بر تأثیر متقابل نژاد یا جنسیت وجود نداشت.

**نتیجه‌گیری:** در بین افرادی که تاکنون از مواد استفاده کرده بودند، ممکن است فقر با خودسنجی مشکلات مربوط به سوء مصرف مواد ارتباط داشته باشد. اقدامات مناسب باید متوجه گروه کم‌درآمد شود تا مشکلات شناسایی شده مربوط به سوء مصرف مواد مورد بررسی قرار گیرد.

**واژگان کلیدی:** وضعیت اجتماعی – اقتصادی، تفاوت‌های وضعیت سلامت، اختلالات مربوط به مواد مخدر

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