Original Paper

An Inquiry into People's Use of Substances, Views on Substances, and How Substances Have Affected Them

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Abstract

Substance use across the nation is at an all-time high. Loss of life from overdose has been steadily increasing in recent years, which is largely due to the use of synthetic opioids such as fentanyl. This study collected information from 1,125 adults on their use of substances, which substances they have used, how drug use has changed their perceptions, and treatment. Information was also collected on their thoughts about drug use as a nation problem and the role of the pharmaceutical companies. The data revealed that a significant percentage of the respondents have had a problem with substances (21%). Use of opioids was the most closely associated with receiving professional treatment. Alcohol and cannabis were the most commonly used substances (excluding caffeine), with average age at first use being 15.64 years. Most respondents felt that the nation has a problem with substance use/abuse (82%). Notable findings were revealed across a number of demographics (e.g., gender, ethnicity, social class). The findings may be of use to academics, clinical researchers, and to those working in the mental health and substance use treatment professions.

Keywords

Substance Use, Drug Abuse, Perception, Substance Treatment, Drug Epidemic

1. Introduction

The United States has a long history of substance abuse and addiction. No other nation has nearly same rates of prescription drug use/abuse. No other nation has nearly as many overdose deaths. Gaur et al. (2020) reported that drug use and overdose has increased across many sectors of society, including the Eastern states, large metropolitan areas, those 15 to 34 years of age, Black Americans, and Hispanic Americans. There are many theories as to why there is such as major problem with alcohol and drug abuse across the nation. Some explanations point to increasing rates of mental illness (e.g., depression, anxiety), some point to economic and employment factors, some highlight problems in the family

structure, and others target the isolating effects of modern technology (e.g., social media, smartphones). Based on recent academic, clinical, and medical findings, as well as larger empirical cultural observation, it would appear that there is a complex interplay of factors contributing to the reason why Americans seem to be struggling so bad mentally, physically, and interpersonally. Even as treatment approaches continue to evolve and advance, we are still not seeing any decline in overdose deaths. This is particularly true when it comes to opioids (Frank, 2022). Americans arguably have among the most privileges and comforts of any population in the world. Americans arguably have more rights granted to them than any other population. Americans also have access to the best educational institutions and medical facilities in the world. Yet with all of this, a concerning percentage are still quite unhappy, isolated, and directionless.

This study has the aim of bringing forth data and findings that can shed some additional light on this ongoing national problem with substance use and addiction. The work has the intention of providing insight into why people use (or used) substances, how it affected them, and what they think about larger forces contributing to this ongoing problem (e.g., pharmaceutical companies). The paper will also bring forth information on when people first used substances, what substances they first used, and whether or not they have ever received treatment for their use of substances. The findings of the study should be of interest to those working in the fields of substance use treatment, mental health, law and corrections, and academia. The findings may also be of interest to those that have personally had problems with alcohol or drugs, as well as to those that have family members or friends that are experiencing problems with substances.

2. Literature Review

The majority of the population consumes some type of psychoactive drug on a daily basis. This statement may seem curious to some, until they realize that caffeine is a drug. Caffeine is the most widely used drug around the world. Mitchell et al. (2014) conducted a nationally representative study consisting of 37,602 participants and found that 8.5 out of 10 people consume one or more caffeine beverages on a daily basis. Their research also found that the largest consumers of caffeine were those between the ages of 50 to 64. Most caffeine is consumed through coffee, espresso, tea, soda, chocolate, guarana, energy drinks, and supplements (Harvard School of Public Health, 2020). Alcohol is recognized as the second most widely consumed psychoactive substance around the world. When all drugs are taken into consideration (i.e., caffeine, alcohol, nicotine, cannabis, opioids, etc.) one can clearly see how over 90% of Americans consume at least one or more psychoactive substances each day. This is something that demands further attention.

The majority of overdose deaths are related to misuse of opioids. Vuolo et al. (2021) argued that opioids serve as the primary driver for fatal overdoses, particularly in relation to fentanyl. The authors noted that other common substances associated with death include methamphetamine, cocaine, and benzodiazepines. Carpenter et al. (2020) explained that another major opioid crisis (beyond fentanyl

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overdoses) can be attributed to the nonmedical misuse of prescription opioids, such as oxycodone. This prescription drug has been shown to alter brain chemistry by increasing drug sensitivity and causing long-term changes to the brain's mesolimbic reward pathway. These changes drive the user to seek out more of the drug to try and get a sense of relief from the pain and discomfort that they are often struggling with. Clausen (2022) made connections to the liberal prescribing of opioids beginning in the 1990s, which led to a massive increase in abuse and overdose. The author noted that the opioid death rate in the United States is 10-fold that of European levels. This high death rate was also attributed to insufficient harm reduction efforts, poor coordination across health professions, and inadequate resources and interventions across the United States.

Approximately 75% of all drug-related deaths in the United States involve opioids (often illicitly manufactured fentanyl). It is estimated that around 2 million Americans have an opioid use disorder, while nearly 11.5 million adults are misusing opioids (den Brink et al., 2022). The authors noted that a staggering 92 million Americans are using prescription opioids at any given point in time, which contributed to the nearly 50,000 people that died from opioids in 2019. The use of opioids such as heroin and fentanyl can cause severe respiratory depression, which can often lead to death. When people combine substances, this increases the risk significantly. For example, research has revealed poor treatment outcomes and higher death rates when people use both cocaine and opioids in combination (McCall et al., 2017).

Overdose deaths have increased across all races and ethnicities (Lippold & Ali, 2020). The authors noted that around half a million people in the United States have died over the last two decades, and that this was primarily driven by opioids. They highlighted that these overdoses involve a larger than 13% increase per year (from 1999 to 2017) for both White and Black Americans, as well as significant increases for Hispanic Americans. Increases for Native Americans went up over 60% during the same timeframe, resulting in an increase up to 4 times that of White Americans. Lippold and Ali further reported that overdose deaths were reported to be the highest on tribal lands Furr-Holden et al. (2020) noted that overdose death rate increases for Hispanic and Black Americans is outpacing that of White Americans. The authors attribute this increase primarily to synthetic opioids (fentanyl), methadone, and heroin. Use of these drugs also serves as a contributing factor (not as the primary cause) to many other types of deaths, such as falls, drowning, suicide, and car accidents (Vuolo et al. (2021).

Alcohol is the most commonly abuse drug in the United States. There is also a high comorbidity between alcohol and smoking (e.g., nicotine) and other drugs of abuse (Frye et al., 2019). Cannabis is the most widely used drug (excluding caffeine) after alcohol and tobacco. Cannabis is the most widely used illicit drug in the world. It is estimated that around 1 in 10 users develop a cannabis use disorder and will become dependent on it (Hayley et al, 2017). The authors went on to point out that use of cannabis increases the risk of also using other drugs, such as ecstasy, cocaine, methamphetamine, and benzodiazepines. They noted an increased risk of comorbid use and addiction, as well as a decrease in psychiatric functioning. The average age for first use for those dealing with cannabis use disorder was

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Methamphetamine is another leading cause of drug overdose, as well as severe mental and physical health conditions. Data from a national survey revealed that between the years of 2015 and 2019, use of methamphetamine doubled (Han et al., 2021). During this period, death due to overdose increased 180%. Methamphetamine and co-use of cocaine increased over 105%. Co-use of psychostimulants and cocaine led to an overdose death increase of 379%, while overdose deaths from psychostimulants and opioids increased 266%, which was directly connected to the significant increase in overall overdose mortality during that period (Han et al., 2021). The researchers also noted that during this period there was 10-fold increase in methamphetamine use disorder among the Black American population.

Substance use and abuse impacts all sectors of society. People from all ages, races, occupations, and social class backgrounds have addictions to substances. For example, Merlo et al. (2013) found that 10% to 15% of healthcare professionals misuse substances at some point. This is concerning due to impairment and patient safety. The authors also found that healthcare professionals have higher rates of abusing prescription drugs than the general population, which may be connected to easier access to those types of drugs. The authors stated that 73% of the healthcare professionals in their study used tobacco, 90.4% used alcohol, and 64.4% used other drugs before entering their professional schooling. This was attributed largely to curiosity, peer influence, and availability (Merlo et al, 2013). Warfield et al. (2021) found that military veterans with a prior nonfatal opioid overdose die at an overdose rate 26 times higher than that of the general population. This rate more than doubled between 2007 and 2017, going from 6.1% to 14.9% per 100,000. They also found that veterans have higher rates of polysubstance use and have an alcohol-related death rate 72 times higher than the general population (Warfield et al., 2021).

Treatment is a critical factor in curbing these ongoing rates of overdose and death across the nation. Chi et al. (2014) stated that young people, ages 18 to 25 years, are at the highest risk for having problems with alcohol and other drugs. They noted that the earlier the onset of drug use, the more likely people are to develop a substance use problem and to become dependent on substances. The researchers noted that the average age for initial treatment was 34, and that the earlier people enter treatment the lower their rates of readmission and relapse (Chi et al., 2014). In a study examining the use and outcomes of 315 substance use patients, Harerimana et al. (2022) found that age of first use for those in treatment was 18.64. They went on to find that the earlier people began using substances the worse their overall treatment outcomes were and more intense their addictions. The researchers stated the earlier that people begin using substances the worse their mental health and overall functioning tends to be. They are also more likely to be involved in abusive relationships, to have physical health problems, and to have legal problems (Harerimana et al., 2022).

Research involving 383 Alaska Native patients admitted to a tribally owned and managed inpatient detoxification unit found that 75% completed their treatment (Running Bear et al., 2017). Successful treatment outcomes were found to be related to longer length of stay, being older at first use (e.g.,

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alcohol), and transitioning into substance treatment facilities after residential/hospital detox was completed. Fifty-eight percent of those that completed inpatient treatment confirmed entry into an outpatient treatment program (compared to only 10% nationwide). This is vital seeing this particular population has an alcohol death rate that is 10 times the national average (73/100,000) and where it is estimated that 48% of men and 24% of women have problems with alcohol. This is compounded by significantly increased risk of suicide and domestic violence (Running Bear et al., 2017).

Older adults are also at risk of developing a substance use problem. Choi et al. (2020) looked at data consisting of 130,287 patients aged 50 and older and found that 93% were polysubstance users (e.g., alcohol and prescription medication misuse). They found that around 7% were admitted solely for use of pot (cannabis). The common reasons given for using substances included problems with sleep, anxiety, depression, and pain management. The researchers found that this older population had a successful treatment completion rate of 45% (Choi et al., 2020). These rates seem to be similar to rates found in other studies looking at various types of treatment approaches and types of facilities (Generes, 2023; Merlo et al., 2013).

A study with 637 participants found that use of alcohol and drugs was associated with a range of factors, including anxiety, stress, depression, financial strain, loneliness, and social isolation (Berger, 2021). Participants in this study generally stated that mental health and substance use have both worsened in recent years. Marks (2020) attributes part of this increase to the role and influence of corporations and their ongoing efforts to influence certain professions, market to the public, and promote their products. The work focused its attention on the strategies and policies designed to expand the opioid market, all while notably downplaying the risks, abuse, and addiction potential of these prescribed drugs. The author highlighted the fact that over half a million lives have been lost in the last two decades due to the ongoing prescription opioid epidemic (Marks, 2020).

There are many reasons contributing to why we are facing such a major problem with alcohol and drug use and addiction across the United States. People will begin using substances for many different reasons (e.g., peer pressure/fitting in, abuse, depression, pain). The younger people are when they begin to use substances the more likely they are to develop a dependency and addiction, and they are also more likely to have a range of peripheral problems (e.g., mental health, physical health, financial, employment, legal). Treatment is critical for those that have a problem with alcohol or drugs. Treatment does not guarantee that a person will never use substances again; in fact, many do reintroduce at some point after completing treatment. Those that drop out of treatment are at an even higher risk of reintroducing at some point. This study has been designed to help shed some light on why people use (or used) substances, when they first began to use, what they use (or used), treatment, and what they think about larger cultural matters related to substances.

3. Methodology

The current study was created to assist in better understanding people's use of substances, their histories of using substances, treatment patterns, and views on how substances have changed them (e.g., perceptions). The study was also designed to collect information on people's views on substance use/abuse across the nation, as well as the role that pharmaceutical companies play in this cultural problem. The study employed a non-random cross-sectional approach to data collection. The final sample consisted of 1,125 participants. Each participant completed a survey instrument designed to collect data that would allow for statistical analysis.

Data were collected primarily through face-to-face survey interviewing and telephone interviews. A smaller number of surveys were completed via electronic methods for those participants residing in physically distant locations (outside of the greater Los Angeles area). All respondents were 18 years of age or older. Being a minor was a core exclusion criterion of the study. Consent for being in the study was provided by the willingness of the respondents to fill out the surveys. There was no compensation provided for completing the survey. Each respondent was able to complete the survey in under 5 minutes. The survey collected data at both the discrete and continuous levels. Any survey that contained excessive missing responses, or that were not were properly filled out (e.g., lack of clarity or consistency in responses, unintelligible), were immediately discarded. Each survey included in the final data analysis was deemed to have been filled out in a credible manner.

The average age of the participants was 29.42, with a median of 25. The majority of the 1,125 study respondents were between the ages of 18 to 29 (68.0%). Those in their 30's made up 15.1% of the sample (n = 169), followed by those in their 40's (n = 85, 7.5%), 50's (n = 69, 6.0%), 60's (n = 26, 2.4%), 70's (n = 2, 0.2%), and 80's (n = 2, 0.2%). Six respondents did not provide their age (n = 6, 0.5%). A slight majority of the sample were women (n = 564, 50.1%), followed by men (n = 534, 47.5%), and those that identified as "other" (n = 9, 0.8%). Eighteen respondents did not provide an answer to this particular question (1.6%).

Hispanic participants made up the majority of the final sample (n = 661, 58.8%). Hispanic Americans make up around half of the entire population in Los Angeles County, so this is a relatively representative sample in this regard. The remainder of the sample consisted of White respondents (n = 273, 24.3%), Black respondents (n = 79, 7.0%), Asian respondents (n = 59, 5.2%), Middle Eastern respondents (n = 9, 0.8%), and Native American respondents (n = 5, 0.4%). Twenty-six (2.3%) of the respondents identified as multiracial. Thirteen (1.2%) of the respondents did not provide information on their ethnicity/race. Concerning social class, the mode was working-class (n = 545, 48.4%), followed by middle-class (n = 380, 33.8%), lower-class (n = 125, 11.1%), and upper-class (n = 28, 2.5%). Forty-seven respondents (4.2%) did not provide information on their social class backgrounds.

The survey consisted of closed-ended questions in order to standardize the responses and allow for quantitative statistical analysis. The IBM SPSS 29 statistical software platform was utilized for all data calculations and testing. Descriptive data was assessed to help make sense of the sample, group

differences, and more complex statistical analyses (e.g., measures of central tendency, variability). A range of inferential tests were run to help detect and make sense of group differences and larger patterns in the data (e.g., Chi-Square, Pearson's *r*, ANOVA, *t*-Test, logistic regression). Post-hoc tests were run to help clarify any detected group differences (e.g., Tukey, LSD, Bonferroni). Effect size measures were included to help make sense of any detected significant findings (e.g., Cohen's *d*, Hedges' *g*). The standard 0.05 level of significance was set for all tests of inference. Any test result that produced a probability value higher than 0.05 was deemed to be statistically insignificant. The produced findings were then interpreted and analyzed both quantitatively and qualitatively to help provide a more complete understanding of the findings, the general topic, and the various issues of interest to this study.

4. Study Results

Out of the 1,122 respondents (missing = 3) that answered the question asking whether or not "substances have been a problem in my life," 232 respondents (21%) stated that substances have been a problem. The majority of stated that substances have not been a problem (n = 728, 64.8%). The remainder were neutral in this statement (n = 159, 14.2%). When asked if substances have altered the respondents perceptions (their thinking), 327 respondents (29.2%) agreed or strongly agreed. The majority disagreed or strongly disagreed (n = 624, 55.8%). The remainder were neutral on this item (n = 168, 15%). The participants were asked if they think that substance use/abuse is a major nation problem. On this scaled item, the vast majority agreed or strongly agreed that is was (n = 920, 82%). Eighty-four respondents (7.5%) disagreed or strongly disagreed that substance use/abuse was major national problem. The remainder were neural on this matter (n = 118, 10.5%). When asked if the pharmaceutical companies have contributed to the drug epidemic, the majority of respondents agreed or strongly agreed that they have (n = 771, 69.2%). A small minority of participants disagreed or strongly disagreed (n = 114, 10.2%). The remainder were neutral on this issue (n = 228, 20.5%).

Respondents were asked how old they were when they first tried any substance. Caffeine was generally not considered for this question, as most ingest caffeine at a very young age due to how prevalent it is (e.g., soda, chocolate). The average age at first use was 15.64 (SD = 3.57), with a median and mode both landing at 16. Thirty-five years of age was the oldest age at first use of the 1,061 respondents that answered this question. This particular question had a higher-than-average missing rate (n = 64, 5.7%) due to most of these specific respondents claiming that they have never used any substances. Figure 1 provides a visual to demonstrate the clustering of first use of substances during the teenage years. The clear majority of respondents first used substances between the seven-year period ranging from 13 to 19 years of age (n = 791, 74.5%). A relatively small percentage of respondents first used substances before (n = 149, 14.1%) or after (n = 121, 11.3%) these teenage years.
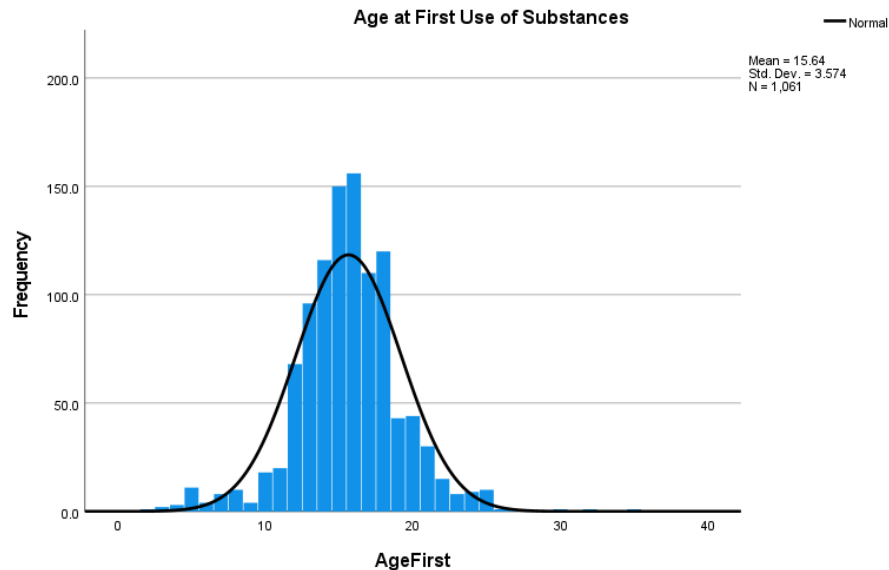
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Figure 1. Histogram Demonstrating the Clustering of First Use of Substances

Cannabis (marijuana) was the most commonly reported substance of first use (n = 459, 43.2%). This was followed by alcohol (n = 376, 35.4%). These two substances alone account for 78.6% of all first-time use. Caffeine was the third in ranking for first time use (n = 83, 7.8%). This was generally the response provided by those that stated that they have never used any other type of substance. The next highest substance of first use was tobacco/nicotine (n = 63, 5.9%). All of the other identified substances (e.g., cocaine, LSD, ecstasy, mushrooms, heroin, etc.) accounted for a mere 7.7% of first-time use. Alcohol was the most commonly used substance overall, with 1,041 participants stating that they have consumed it (92.6%). Caffeine came in second with 973 participants stating that they have consumed it (86.5%). Marijuana came in third (n = 827, 73.5%) and tobacco/nicotine came in fourth (n = 610, 54.2%). Almost half of the respondents stated that they have taken over-the-counter medications (n = 544, 48.4%). Every other drug listed was only taken by a relatively small percentage of respondents, with the exception of cocaine (n = 279, 24.8%), ecstasy (n = 232, 20.6%), mushrooms (n = 201, 17.9%), LSD (n = 158, 14.%), and amphetamines (n = 132, 11.7%). The remainder of listed drugs taken generally fell between 1.5% to around 10%.

There was an association with participants stating that they have had a problem with substances during their lifetimes and also stating that substances have altered their perceptions/thinking ($r = .598$, $p < .001$). There were also significant associations between those that stated that they have had a problem with substances and there being a national problem with substances ($r = .145$, $p < .001$), and the belief that the pharmaceutical companies have played a role in the drug epidemic ($r = .150$, $p < .001$). There was a significant negative association between those that identified as having (or having had) a substance use problem and age at first use ($r = -.236$, $p < .001$). This would suggest that the younger respondents were when they first used, the more likely they were/are to have a problem with substances.

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There was a significant association between respondents stating that there is a national problem with substances and that the pharmaceutical companies have played a role in this problem (r = .510, p < .001).

In regard to receiving professional treatment, those that have ever tried heroin had the highest overall rates of 54.2%. This was followed by amphetamines at a 30.3% rate. Examples of treatment rates for some additional drugs were LSD (26.1%), oxycodone (25.9%), hydrocodone (25.7%), cocaine (23.7%), and tobacco/nicotine (14.7%). The findings also showed a clear connection between age at first use and being more likely to have had received professional treatment for substances. That is, the younger that respondents were when they first used these listed substances, the more likely they were to state that they have received treatment services.

Concerning gender differences, inferential testing revealed that those that identified as "other" were more likely than both women and men to state that they have had a problem with substances, $X^2(2)$ = 15.611, p < .001. Almost 67% of those that identified as "other" stated that they had a problem with substances, whereas 34.6% of men and 24.3% of women stated this. As far as ever receiving professional treatment, those that identified as "other" were also found to be more likely to have stated that they have, $X^2(2)$ = 34.460, p < .001. Those that identified as "other" had a treatment rate of 66.7%. For men, the treatment was 11.95%, and for women it was 8.23%. A chi-square test also revealed group differences across racial/ethnic categories, $X^2(6)$ = 24.372, p < .001. White respondents were the most likely to have received professional treatment services (17.8%). This was followed by Middle Eastern respondents (12.5%), Asian respondents (11.9%), Hispanic respondents (8.0%), Black respondents (5.1%), and those that identified as "multi" (4.0%). None of the surveyed Native American respondents stated that have received professional treatment services for substances.

Further data analysis revealed similar differences between social class categories and problems with substances and treatment. A test looking at class differences and ever having a problem with substances produced significant group differences, $X^2(3)$ = 13.664, p < .003. Those that identified as being from the upper-class had the highest rates for problems with substances (39.3%). This was followed by lower-class (32.5%), working-class (22.4%), and middle-class (19.2%). When looking at social class and treatment, a chi-square test revealed an additional significant group difference, $X^2(3)$ = 9.295, p < .026. Upper-class respondents had the highest overall treatment rates (25.0%). This was followed by lower-class respondents (13.9%), middle-class respondents (10.6%), and working-class respondents (8.9%).

When asked whether they were alone or with others when they first used substances, the vast majority of respondents stated that they first used with other (89.2%). Figure 2 displays a stacked bar graph showing the skewed nature of most people being with other people when they first use substances. The graph also shows the gender breakdown of this skewness in the leaning toward using first substances with other people. A chi-square test revealed a significant group difference regarding fist using drugs alone and receiving professional treatment, $X^2(1)$ = 11.533, p < .001.

Those that stated that they first used alone were twice as likely (20.5%) to state that they have received treatment for substances than those that first used substance with others (9.9%).
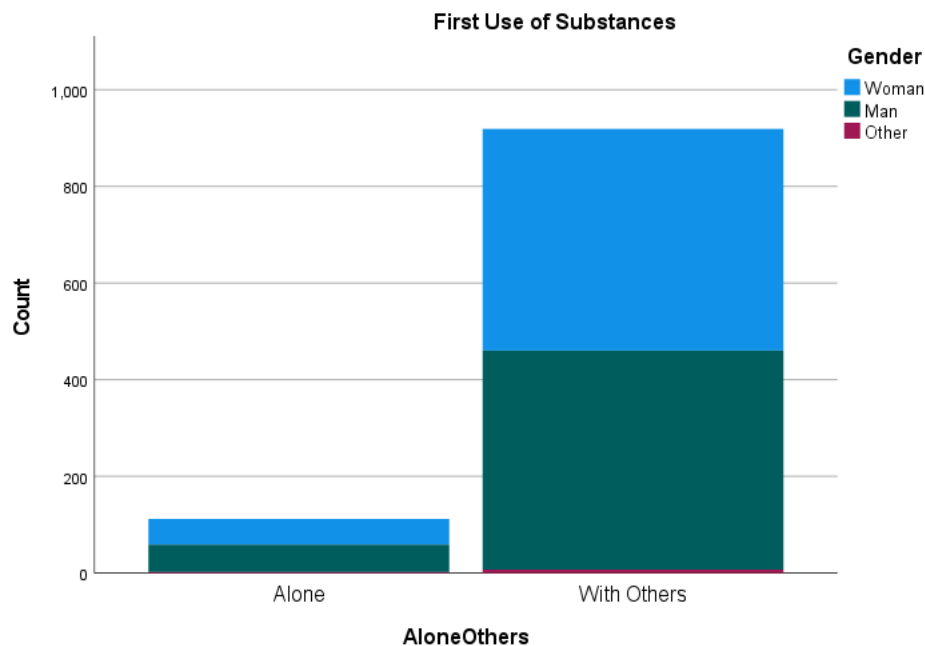

Figure 2. Bar Graph Displaying the Lopsided Nature of First Use of Substances

Although the age difference at first use of substances was not large (men = 15.48, women = 15.86), a group comparison did reveal a significance difference, $t(1034) = 1.725$, p = .042 (one-sided). On average, men were more likely to first use at a younger age than women. There was also a difference found between men (m = 2.23) and women (m = 1.99) in regard to whether or not they ever had a problem with substances, $t(1093) = 12.502$, p < .001, $d = -.243$). Men were more likely than women to state that they have had problems with substances. Men were also more likely (m = 2.59) than women (m = 2.33) to state that use of substances has changed their perceptions, $t(1090) = -3.125$, p = .002, $d = -.190$. There was also a significance difference detected between men (m = 4.14) and women (m = 4.31) in regard to their beliefs that the nation is currently facing a problem with substance use/abuse, $t(1093) = 2.638$, p = .008, $d = .159$. Women were more likely to state that there is a national problem with substances. A final gender difference was detected between men (m = 3.95) and women (m = 4.01) concerning the role of the pharmaceutical companies, $t(1085) = 2.634$, p = .009, $d = .057$. Although the effect of gender was deemed to be small, it appears that women are somewhat more likely to feel that the drug companies have played some role in the nation's drug epidemic.

Concerning social class, those from the upper-class (m = 2.68) were more likely than those from the working-class (m = 2.16) to state that they have had a problem with substances, $t(571) = -2.024$, p = .043, $g = -392$. Those from the upper-class (m = 2.68) were also more likely than those from the middle-class (m = 2.07) to state that they have had a problem with substances, $t(403) = -2.297$, p = .022,

$g = -.449$. Multiple group tests also revealed social-class differences regarding having had a problem with substances, $F(3, 1071) = 3.069$, p = .027. Significant group differences were detected (LSD = .023) between lower-class (m = 2.39) and middle-class (m = 2.07). Another class difference was detected (LSD = .023) between working-class (m = 2.16) and upper-class (m = 2.68). A further post-hoc test (LSD = .05) revealed a significant difference on the same variable concerning working-class and upper-class respondents.

Social-class group differences were also detected across several group comparisons concerning the use of substances and the altering of perception, $F(3, 1068) = 3.623$, p = .013. Those from the lower-class (m = 2.77) were more likely than those from the middle-class (m = 2.34) to say that the use of substances has altered the way that they think (HSD = .016, Bonferroni = .018). There was also a group difference on this same variable between lower-class (m = 2.77) and working-class (m = 2.43) respondents (LSD = .015). The only group that those from lower-class did not significantly differ from on this variable was upper-class. No social-class group differences were detected in the post-hoc tests concerning the altering of perceptions and working-class, middle-class, or upper-class respondents.

Logistic regression analyses were run across several variables to look for group differences concerning problems with substance use, treatment, and first time using alone or with others. The findings revealed that those that identified as "other" had significantly higher odds than women when it came to having (or having had) a substance use problem (OR = 8.196, p = .003). On the same variable, men also had significantly higher odds (OR = 1.422, p = .016). Those that identified as "other" had significantly higher odds than men of having had a substance use problem during their lives (OR = 5.778, p = .014). When it came to social class and having a substance use problem, logistic regression techniques also revealed several significant findings. Lower-class respondents had higher odds than both working-class respondents (OR = 1.669, p = .019) and middle-class respondents (OR = 2.030, p = 002). Upper-class respondents had higher odds of having a substance use problem during their lives than both working-class respondents (OR = 2.241, p = .044) and middle-class respondents (OR = 2.725, p = .014).

Participants were asked if they had ever received professional treatment for a substance use problem. Logistic regression techniques revealed a number of significant findings across the variables addressing gender, ethnicity/race, and social class. Table 1 presents some of the findings to assist in making sense of the patterns in the data and notable group differences. For each pairing below, the group on the left has higher odds of having received treatment.

Table 1. Regression Output on Treatment Findings across Demographic Variables

Treatment	B	S.E.	Wald	df	Sig.	Exp(B)
Gender						
Other-Women	3.105	.724	18.407	1	< .001	22.304
Other-Men	2.690	.720	13.967	1	< .001	14.730
Men-Women	-.415	.204	4.126	1	.042	1.515
Ethnicity/Race						
White-Hispanic	-.918	.215	18.211	1	< .001	2.500
Social Class						
Upper-Working	1.229	.462	7.076	1	.008	3.417
Upper-Middle	1.033	.467	4.881	1	.027	2.808

Concerning ever having received treatment, White respondents had the highest overall rates (17.78%) and differed markedly from other ethnic/racial groups. When it came to first use of substances, all ethnic/racial groups (with the exception of Native American) were more likely than Hispanics to first use substance alone. Middle-Eastern respondents had the highest rates of all groups (28.6%), followed by Black (17.3%) and Asian (17.0%) respondents. With this, one example of a notable finding revealed that Black respondents had significantly higher odds than Hispanic respondents to have first used substances alone (OR = 2.169, p = .021).

5. Discussion

The current study was designed to collect data that would be useful in providing further insight and knowledge into substance use/abuse, history of use, perception, and treatment. The findings from the study did reveal a range of patterns that showed clear differences and behavioral trends across certain social groups. It was interesting to find that slightly over 1 out 5 respondents self-identified as having a problem with substances during their lifetimes. If these findings are at all representative of the larger population, this would suggest that there are tens of millions of Americans dealing with substance abuse and addiction at any given moment, which would be in line with prior research findings (Carpenter et al., 2020; Frye et al., 2019; Gaur et al., 2020). Nearly one out of three respondents stated that substances have altered the way that they think. Slightly over eight out of ten participants stated that substance abuse is a national problem. Approximately seven out of ten place some level of blame for this problem on the pharmaceutical companies. This majority sentiment would seem to be in alignment with the findings of Marks (2020), where it was argued that the drug companies strategically influence the market and promote their products, downplay the risks, and collude with professionals in the healthcare field to increase profits.

The majority of respondents first used drugs between the ages of 13 and 19 (around 75%). This makes

sense seeing the teenage years are well known for being the years where peer influence, risk-taking, and impulsiveness peak. The average age for the respondents in this study was 15. In fact, only 0.3% of the respondents tried their first drug at 30 years of age or older. It was interesting to see that cannabis was the most common first-use drug reported. A little over four out of ten respondents stated that this was their first drug, while around 35% stated that it was alcohol. Both of these are well-known for being first-use substances, so this finding is not surprising. Although not covered in this study, the data did reveal a pattern whereby those that used cannabis and alcohol at a younger age did tend go on to use additional substances at some point. This is in alignment with the findings of Hayley et al. (2017) where it was found that use of these common substances increases the risk of comorbid use with other drugs (e.g., methamphetamine, cocaine, benzodiazepines) and addiction. The findings from this study showed a clear pattern between early use of substances and increased risk of having a substance use problem at some point.

The majority of respondents that admitted to having a problem with substances and having had received professional treatment services at any point in their lives, have used opioids. Heroin and other types of opioids (e.g., oxycodone, hydrocodone) were among the drugs most commonly noted as being used by those that have received treatment services for addiction. Cocaine, methamphetamine, and LSD were also among the other top substances noted by those that have received treatment. These drugs fit in with prior research looking at addiction, overdosing, and treatment (Han et al., 2021; McCall et al., 2017; Vuolo et al., 2021). With the majority of deaths currently coming from opioids, particularly fentanyl, it is imperative that more research and clinical trials give attention to this intensifying national epidemic. As more potent, and deadly, synthesized drugs are discovered and mass produced, it will become even more critical for professional practitioners to be informed and properly trained in the most current and effective treatment interventions. Lives are indisputably on the line.

It was also interesting to see that respondents from the upper-class appeared to have the most problems, on average, with substances. Around four of ten stated that they have had a problem with substances at some point in their lives, with 25% stating that they have received treatment services. This is something that could be further addressed and analyzed in a future study. It could be beneficial to assess which types of substances are being used/abused, why they using, and if they were (are) trying to cope with any co-occurring disorders (e.g., depression, anxiety). Those in the study that identified their gender as "other" had markedly higher rates than men and women for both substance abuse and treatment. A future study could also probe into this further to try and glean deeper insight into the motivations, issues, and behaviors of this specific population. Another finding that could use further investigation concerns first use of substances. Almost nine out of ten respondents claimed that they were with others the first time that they used, yet those that first used alone had notably higher rates of both problem use and treatment. A future study could collect data on this particular subcategory to try and better discern why they first used alone, what they used, and what types of issues they may be coping or struggling with in their lives.

The study was limited in various ways due to having relatively small sample sizes across certain demographics. For instance, the vast majority of respondents were relatively young. Collecting more data from respondents 65 years of age and older would help with framing the topic around issues concerning aging and gerontology. This would also help with being able to run more tests and to be able to make more confident claims about findings and group differences. The Native American sample was also small, which severely limited any tests that could be run on this particular subcategory. The Native American respondents in this study claimed that they never had problems with substances or received treatment. This would not be representative of the larger Native American population, as endless studies and practical work in clinical settings have consistently shown that this population has among the highest rates of substance use/abuse and deaths from overdose (e.g., Running Bear et al., 2017; Soto et al., 2022; Whelshula et al., 2021). Further research focusing entirely on Native Americans and use/abuse of substances and treatment is clearly warranted.

This study has produced findings that should be of interest and use to professionals across many fields and disciplines. As substance use and addiction is so prevalent in today's society, it is imperative that all treating professionals have a grounded understanding in this broader cultural problem. This would include practitioners such as clinical counselors, marriage and family therapists, social workers, and psychologists. Alcohol and drug counselors are clearly embroiled in this. Those working in the legal professions, law enforcement, and corrections, are also strongly advised to inform themselves on these issues and patterns to help them better perform their professional duties. Substance use/abuse and addiction is an issue that affects almost all families in one way or another. It is vital that we do everything that we can to best understand this ongoing crisis in order to provide the most informed and effective interventions and treatment approaches for those that are in need.

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