The Predictability of U.S. Drug Deaths through State Level Income Inequality and Neuroticism

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Abstract

Over the past few decades, drug deaths have consistently increased in the United States. Past research has focused on either situational or dispositional factors relating to drug use. The current research specifically examined income inequality and neuroticism in relation to drug deaths, and in relation to each other.

The possible models to explain the relationship between these variables include independent correlations and moderation. Pre-existing data from the U.S. Census Bureau was assessed and each variable was analyzed at the state-level. Income inequality and neuroticism were the predictor variables and drug deaths were the criterion variable. The neuroticism correlates for each state were acquired from a prior study.

Pearson correlations, linear regressions, and a two-tailed probability test were conducted through SPSS. The most interesting results were that the interaction between income inequality and neuroticism was only significant for African American drug deaths. Also, income inequality was negatively correlated with Asian/Pacific Islander and American Indian/Alaska Native drug deaths.

The significance of this research includes acknowledgement of a multifaceted approach to treating addiction. To help individuals afflicted by drug addiction, government subsidized programs can be implemented, more healthcare professionals can be trained to identify symptoms of a drug overdose, and preventative action such as higher education programs for the economically disadvantaged, and support for mental health wellness can be funded. Future research should analyze multiple variables in relation to each other in addition to drug deaths to more accurately predict drug use.

INTRODUCTION

In 2017, the Center for Disease Control (CDC) reported over 150,000 deaths from alcohol, drugs, and suicide– the highest number of deaths since the beginning of data collection in 1999 (Hassan, 2019). Drug related deaths in particular have increased in prevalence across the U.S. between 2003 and 2017. Analyses conducted by the CDC reveal that, in 2016, approximately 63,632 persons died from drug overdoses related to cocaine or psychostimulant use. The following year, these types of drug overdoses were responsible for the deaths of 70,237 people. Between 2016 and 2017, the death rates involving cocaine and psychostimulants increased across age groups, across states, across Census regions, across urbanization levels, and across demographic characteristics (Kariisa, 2019). The 2013 National Survey on Drug Use and Health (NSDUH) conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA) demonstrated that 24.6 million participants (9.4% of the population) had used an illicit drug in the past month. This includes the use of products such as marijuana, prescription drugs, cocaine, hallucinogens, inhalants, stimulants, and tranquilizers (Sutin, 2013). Such findings indicate the large number of Americans who become exposed to drugs, and the risks of addiction, misuse, and death. The high mortality resulting from drug abuse highlights the need for further research on factors that may predict drug use, and thus may be targeted for early intervention to minimize the problem. The purpose of the current research is to analyze both situational and person-level factors that predict deaths by drug use.

Situational Factors: Income Inequality

With respect to situational factors, this study will examine how income and financial resources may be factors in predicting drug-related deaths. Past research suggests that societal factors such as socioeconomic status (SES) may play a role in one's likelihood of drug use. There is a general consensus among studies regarding the relationship between economic well-being and health related outcomes, which is that low socioeconomic environments tend to foster poor health (Spooner &Hetherington, 2004). Individuals with a low socio-economic status may be predisposed to chronic stress, negative mental health, and poor immune responses (Lynch et al., 2004; Spooner &Hetherington, 2004). This environment coupled with the inability to access proper medical care and attention, along with the type of neighborhood must be considered when discussing socioeconomic status and drug use. There are several ways to assess socioeconomic status; one method would be to assess whether individuals with a lower SES are more likely to use and misuse drugs. Another method, which will be employed in the current study, is to analyze whether states with a particular kind of SES tend to have higher rates of drug use.

Income can be analyzed through various methods, including level of income. One's level of income might provide insight about their financial resources. Another relevant measure would be to examine income inequality, which might also be linked to psychological reactions and

perceptions. Because the current study focuses on state-level factors rather than individuals, income inequality might be especially useful due to the element of social comparison. Income inequality occurs when a small percentage of the population controls a vast portion of the wealth in an economy. Past studies have utilized the Gini coefficient to operationalize income inequality. The Gini coefficient works on a scale of 0 to 1, where 0 signifies complete equality, where everyone has the same income, and 1 signifies complete inequality, where all the wealth is concentrated with one person (De Silver, 2015). A 2001 study conducted by researchers Lynch, Smith, Hillemeier, Shaw, Raghunathan, and Kaplan discussed that high levels of income inequality in the U.S., among other countries, is associated with greater health disparities. Thus, one focus of this study will be on income inequality, rather than the level of income, in relation to drug use.

Very few studies have examined the role of income inequality in relation to drug use. One study completed in 2007 on use of alcohol, marijuana, and cigarettes in NYC neighborhoods concluded that neighborhoods with both the highest income and highest income inequality were most likely to engage in alcohol and marijuana use but not cigarette use (Galea et al., 2007). Galea's 2003 study indicated that there was a higher likelihood of death due to accidental drug overdose in neighborhoods with greater income maldistribution. Overdose deaths were more likely in neighborhoods with high drug use and greater income maldistribution (Galea, 2003). Another study completed in New York City neighborhoods found that the mortality rate due to cocaine and opioid overdose was 1.27 per 100,000 in the wealthy Upper East Side of Manhattan. In contrast, the mortality rate was much greater, 38.76 per 100,000, in central Harlem, one of the poorest neighborhoods in NYC (Marzuk, 1997). Additionally, there is reason to expect that income inequality might similarly be related to drug use and misuse. Income inequality served as the moderator in the relationship between relative income level and life satisfaction such that, in one particular study, participants were more impacted by their neighbor's income when income inequality was high (Cheung et al., 2016).

One reason why income inequality might predict drug use and misuse is the implications it has for social comparison effects. Festinger's (1954) Social Comparison Theory described the phenomenon as a result of self-evaluation. Comparing income is one form of social comparison, either upward or downward. Upward comparison is evaluating someone with a superior status, and downward comparison occurs when evaluating someone who is worse off than oneself (Gibbons and Gerard, 1989). The most frequently associated emotion with upward comparison is envy, and the most frequently associated emotion with downward comparison is scorn (Fiske, 2010). However, individual reactions to social comparison vary as theorized by Exline and Lobel in their 1999 study when they coined the term "STTUC" (*Sensitivity about being the Target of a Threatening Upward Comparison*; Exline & Lobel, 1999). While not all people express distress when put in a situation of superior status, some may

experience ambivalence when their status poses a threat to others (Exline &Lobel, 1999). Because the state is the unit of analysis in the current study, states with high income inequality have the potential for upward and downward social comparison. Depending on how much someone is impacted by social comparison and high income inequality, the extent of drug use may vary. Finally, the extent to which someone is impacted by social comparison may also vary based upon individual differences in personality.

Dispositional Factors: Neuroticism

Along with situational factors, dispositional factors may be related to drug use and misuse. The relationship between personality and drug use continues to be studied, especially with respect to the role of the Big 5 personality traits: Openness in Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. A study completed by Sutin, Evans, and Zonderman (2013) explored the correlation between personality traits and illicit drug use, and also included the moderating role of poverty. One of their findings was that individuals with high neuroticism and low agreeableness were at a greater risk of drug use, regardless of income. Another study which examined the personality profile of drug users found that within their participants, cigarette smokers as well as cocaine/heroin users tended to score low in conscientiousness and high in neuroticism; marijuana users scored high in openness to experience, average on neuroticism, and low in conscientiousness and agreeableness (Terracciano et al., 2008). Due to the recurring finding that high levels of neuroticism are positively correlated with drug use, the current study will analyze neuroticism in relation to drug use.

In addition to potentially being correlated with drug use, neuroticism may also be related to reactions to income inequality. Previous research suggests that the combination of personality and income may put people at risk for drug use. For instance, in Sutin's (2013) study, in addition to main effects of personality on drug use, poverty moderated the relationship between low conscientiousness and drug use. People low in conscientiousness with a higher SES were at a greater risk for illicit substance use. However, among those who were below 125% of the federal poverty line, there was no relationship between conscientiousness and drug use (Sutin, 2013). These findings raise the possibility that income and personality may interact. With respect to neuroticism and income inequality, neuroticism affects how people cope with stress and is characterized by negative affectivity and emotional distress (Costa &Mccrae, 1987; Costa &Mccrae, 1985; Eysenck, 1970). Depending on one's levels of neuroticism, reactions to economic stress will differ. Similarly, neuroticism levels may impact how someone is affected by social comparison. The need to make a social comparison is strongest during situations when people are in distress or experiencing negative emotions (Coates &Peterson, 1982). In Vanderzee, Buunk, and Sanderman's study (1996), there was a positive relationship between the need for comparison

and neuroticism, as well as more negative affective consequences associated with such comparisons. People with higher levels of neuroticism were also more likely to make upward comparisons. These associations are important to analyze in relation to drug use and its possible connection to income inequality. Moreover, individuals high in neuroticism, low in agreeableness, and low in conscientiousness are more prone to negative emotionality, impulsivity, and emotional distress, all factors of problematic behaviors. Most studies concluded that individuals who are predisposed to emotional stress and antagonism, traits that are characteristic of neuroticism, are at a higher risk for drug use no matter their SES (Sutin, 2013).

While the intersection of income inequality and neuroticism has not been examined, a 2011 study conducted by De Vries, Gosling, and Potter considered the association between income inequality and the trait of Agreeableness. By looking at the state level income of all 50 states, the researchers found that less equal states tended to be less agreeable (De Vries et al, 2013). This raises the possibility that at the state level income inequality might predict personality. For the purpose of the current research, income inequality across the 50 states will also be analyzed in relation to state-level neuroticism.

Overview of the Current Study

This study aims to analyze the extent to which the variables of income inequality across the 50 states, and the personality trait of neuroticism are related to the outcome of drug deaths. Prior research has demonstrated that a relationship exists between income inequality and drug deaths (Galea, 2003; Galea et al., 2007; Marzuk et al., 1997), as well as between neuroticism and drug use (Sutin et al., 2013; Terracciano et.al, 2008). While both variables may be predictors of drug use, there may even be a relationship between income inequality and neuroticism as a result of social comparison, and the differing impact of STTUC on each individual. Some possible hypotheses include:

I. Income inequality is related to neuroticism and drug deaths separately and independently.

II. The relationship between income inequality and drug deaths is moderated by the Big 5 personality trait of neuroticism. Individuals who live in states with high income inequality and who have high levels of neuroticism are at a greater risk for drug death than individuals with low neuroticism.

III. The relationship between income inequality and drug deaths is mediated by the third intervening variable of neuroticism, suggesting that the reason income inequality and drug use is related is because of personality.

METHODS

Data Source

Pre-existing data was analyzed for the purpose of this study. Information about the number of drug deaths per state in the U.S. was retrieved from America's Health Rankings United Health Foundation (2018 Annual Report: Drug Deaths). This organization gathers data from a variety of sources to form a comprehensive report on a state-by-state basis. Numbers of drug deaths per year were collected from the CDC Wonder online databases. For the purposes of this research, the number of 2018 drug deaths per 100,000 and the number of drug deaths by race per state were analyzed. See Table 4 for demographics.

Income Inequality

Income inequality was measured by collecting the 2018 Gini coefficients for each state. These data were retrieved from America's Health Rankings United Health Foundation (2018 Annual Report: Income Inequality). Their source for the Gini indices was the U.S. Census Bureau's results from the American Community Survey (Data Access and Dissemination Systems, 2010).

Neuroticism

In order to analyze the levels of neuroticism for each state, we used data from Rentfrow et.al.'s (2013) study. Between the years 1999 and 2010, the researchers collected personality data from five different samples across the U.S. states, excluding Alaska and Hawaii. Sample 1 data were collected between 1999 and 2005, and retrieved from Rentfrow's 2008 study (Rentfrow, Gosling, & Potter, 2008). Participants answered an online survey including questions about the Big 5 traits, demographics, and state of residence. Sample 2 data was collected between 2005 and 2009 as part of the Gosling Potter Personality Project. Sample 2 had an identical method to Sample 1 in surveying. Sample 3 was collected between 2002 and 2009 as part of the Rentfrow-Potter Music Preference Project. One part of the project required participants to answer a personality survey and provide demographic and state information. Sample 4 data were collected between 2008 and 2010 as part of the "MyPersonality" Facebook Application. Finally, Sample 5 data were collected between December 2007 and November 2008 for the Cooperative Campaign Analysis Project (CCAP). Sample 5 was an important comparison group because it was the only time in which participants were not self-selected. Instead, in order to attain a nationally representative sample, the researchers' participant recruitment method was to use random digit dialing.

Statistical Analyses

The unit of analysis was the state. The predictor variables were state level neuroticism and state level income inequality. The criterion variable was drug deaths. In order to understand the relationships between the variables, two tailed Pearson correlations (hereafter r) were conducted. To test whether there was an interaction between neuroticism and income inequality that predicted drug deaths, linear regressions were conducted (Privitera, 2018). Each analysis was conducted eight times: (1) using data from the entire data set, (2) using data for just male drug deaths, (3) using data for just female drug deaths, (4) using data for White drug deaths, (5) using data for Asian/Pacific Islander drug deaths, (6) using data for American Indian/Alaska Native drug deaths, and (7) using data for Hispanic drug deaths, and (8) using data for African American drug deaths. A two-tailed probability test was used, and statistical significance was held at a p value <.05. All tests were conducted through SPSS.

RESULTS

Correlations

I. Neuroticism and Drug Deaths

First, we examined the relationship between neuroticism and drug deaths. Neuroticism was positively correlated with 2018 drug deaths overall, male drug deaths, and female drug deaths. Also, neuroticism was positively correlated with drug deaths within White and Hispanic populations. The relationship between neuroticism and drug deaths was not significant among Asian/Pacific Islander, American Indian/Alaska Native, and African American populations. See Table 1 for exact correlation values.

Table 1
Neuroticism and Drug Death

Group	Pearson Correlation (r)	Sig (p)
2018 Drug Deaths	**.60**	**.00***
Male	**.62**	**.00***
Female	**.44**	**.00***
White	**.64**	**.00***
Asian/Pacific Islander	-.35	.17
American Indian/Alaska Native	-.80	.74
Hispanic	**.35**	**.04***
African American	.27	.09

Note: *p<. 05.

II. Income Inequality and Drug Deaths

Next, we examined the relationship between income inequality and drug deaths. The relationship between income inequality and 2018 drug deaths was not significant. Income inequality was positively correlated with male drug deaths. There was no significant correlation between income inequality and female drug deaths. Likewise, there was no significant correlation between income inequality and drug deaths within White populations. However, income inequality was negatively correlated with Asian/ Pacific Islander drug deaths and with American Indian/Alaska Native drug deaths. The relationship between income inequality and drug deaths was not statistically significant for Hispanic and African American populations. See Table 2 for exact correlation values.

Table 2
Income Inequality and Drug Deaths

Group	Pearson Correlation (r)	Sig (p)
2018 Drug Deaths	.19	.18
Male	**.28**	**.04***
Female	-.01	.96
White	.13	.36
Asian/Pacific Islander	**-.55**	**.02***
American Indian/Alaska Native	**-.51**	**.02***
Hispanic	.01	.94
African American	.01	.94

Note: *p<. 05.

III. Neuroticism and Income Inequality

We next turned to the relationship between neuroticism and income inequality. There was no significant correlation between neuroticism and income inequality for any of the populations (r=. 22, p= .13).

Regressions

In regards to the hypotheses, there was no support for the mediation model since there was no correlation between income inequality and neuroticism. However, the moderation model is still a possibility. To test whether there was an interaction between income inequality and neuroticism, we conducted the same regression analysis for all groups: the whole sample, populations by gender, and

populations by race. First we zero-centered the income inequality and neuroticism variables by subtracting the mean of neuroticism from each state's neuroticism score, and the mean of income inequality from each state's Gini index. The purpose of this was to obtain positive values for states above the mean and negative values for states below the mean. Next, we calculated the interaction term by multiplying the two zero centered values together, and entered it into the second step of the regression. The interaction term would be positive if both variables were above the mean or if both values for below the mean. Conversely, the interaction term would be negative if one variable was below the mean and the other variable was above the mean.

I. Neuroticism and Drug Deaths

After controlling for income inequality, there were significant relationships between neuroticism and: (1) 2018 drug deaths; (2) male drug deaths; (3) female drug deaths; (4) White drug deaths; and (5) Hispanic drug deaths. There were no significant relationships between neuroticism and: (1) Asian/Pacific Islander; (2) American Indian/Alaska Native, (3) African American drug deaths. These relationships are similar to those expressed in the correlation section above. See Table 3 for exact regression values.

II. Income Inequality and Drug Deaths

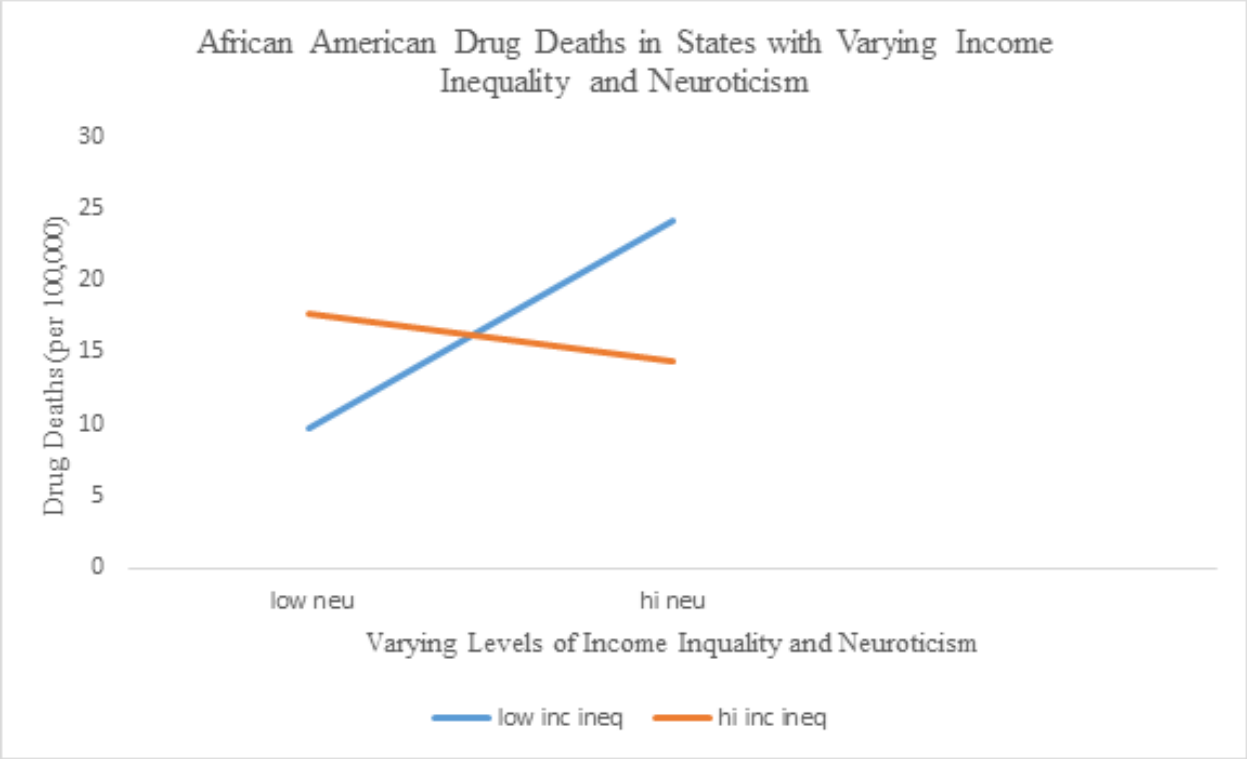
After controlling for neuroticism, there was a significant relationship between income inequality and Asian/Pacific Islander and American Indian/Alaska Native drug deaths. There was not a significant relationship between income inequality and 2018 drug deaths, male drug deaths, female drug deaths, Hispanic drug deaths, and African American drug deaths. These findings are consistent with the correlation results as well. See Table 3 for exact regression values.

III. Neuroticism and Income Inequality

There was no significant interaction between income inequality and neuroticism for any demographic in the sample except for African Americans. The regression analysis demonstrated that the relationship between either predictor variable and the criterion variable was different based upon the third variable. In order to understand the differences, we used the coefficients from the regression to calculate predicted values of African American drug deaths for four groups: 1) states with low income inequality and low neuroticism, states with low income inequality and high neuroticism, states with high income inequality and low neuroticism, and states with high income inequality and high neuroticism. The high and low values were determined at one standard deviation above and below the mean. The equation for predicted African American drug deaths was 16.46 + .28(neuroticism) + -21.109 (Gini) + -

21.33(neuroticism x Gini). Among states with low income inequality, the resulting graph predicts a higher number of drug deaths among states that have high neuroticism scores. Among states with high levels of income inequality, the line indicating the predicted relationship between drug deaths and neuroticism was slightly negative. See Figure 1.

Figure 1



DISCUSSION

Prior studies have analyzed both socioeconomic status and stress in relation to drug use risk (Spooner &Hetherington, 2004; Galea, 2003; Galea et al., 2007; Sutin et al., 2013). The current study differs from past research because it specifically examines neuroticism, as defined by the Big-Five Personality Theory; and income inequality, a measure of socioeconomic status. Additionally, the state as the unit of analysis for this type of study has not been analyzed often. For this study, the examination of income inequality is best appreciated at the state level since situational factors affecting the population of one country were analyzed. By looking at personal and situational factors in one study, we were able to understand the main effects of each on drug deaths, as well as the possible interaction of the two factors. This study may be useful in understanding how environmental factors shape behavior in the form of negative coping mechanisms. If we can understand the possible triggers of drug use, preventative

action can save lives by reducing the likelihood of death by drug use. Furthermore, identifying which demographics of individuals are heavily affected by drug deaths is a helpful marker when allocating resources to better help such populations.

Neuroticism by state was positively correlated with 2018 drug deaths overall, as well as with male drug deaths, female drug deaths, White drug deaths, and Hispanic drug deaths. This finding is consistent with prior literature including one particular study that assessed stress amongst different racial groups, which suggested that Asians had lower levels of stress compared to the White population (Bulatao, 1970).

Income inequality was positively correlated with male drug deaths. Typically, men tend to be affected ore by overdose deaths than women. However, a potential explanation for this finding may be related to economic stress from being a primary breadwinner or the pressure of conforming to traditional gender roles (Munsch et. al, 2016).

The interaction between income inequality and neuroticism was only significant for African American drug deaths. Drug death rates, especially by opioids, are increasing among blacks such that between 2000 and 2015, they increased by 87 percent, whereas white opioid death rates increased by 51 percent ("Opioid Overdose Epidemic", n.d.). African Americans are one of the specific demographics that are disproportionately affected by drug deaths, especially in states such as Wisconsin, West Virginia, Washington D.C., Missouri, and Minnesota (Dasgupta et. al, 2018). Another interesting statistic which may relate to this finding is that African Americans were consistently the lowest household income earning racial group between 1967 and 2017 in the U.S. (Fontenot et. al, 2018).

Some unusual findings yielded from the analyses included that income inequality was negatively correlated with Asian/Pacific Islander and American Indian/Alaska Native drug deaths, which is a pattern that is the opposite of the hypotheses. The concept of social comparison may play a role in this relationship. Between 1967 and 2017, Asians were consistently the highest household income earning racial group in the U.S. (Fontenot et. al, 2018). If we apply the STTUC criteria to people who are less affected or not at all affected by income inequality, then individuals who don't feel that their higher position is a threat to the outperformed or those who don't express concern for the outperformed will be less vulnerable to negative emotionality (Exline & Lobel, 1999). The explanation for the negative correlation between income inequality and American Indian/Alaska Native drug deaths is not as clear.

Strengths and Limitations

The current research had many strengths and limitations. One strength includes the objectivity of the data such as income inequality and drug deaths. While the third variable of neuroticism was a measure of personality and could be considered subjective, the pre-existing neuroticism data were combined across

multiple samples and years. Thus, in addition to being objective, the data were reliable. One limitation was that the personality data were not gathered at the same time as the Gini coefficients and drug death data. However, Elleman, Condon, Russin, and Revelle's study (2018) suggests the stability of three of the Big 5 traits, Neuroticism, Openness, and Conscientiousness, across the U.S., specifically between the years 1999 and 2015. Thus, this study analyzes personality data collected between 1999 and 2010, assuming Neuroticism levels remain stable, with 2018 drug death and Gini index data. Another limitation is the inability to assess all the possible confounding variables. While the sample was divided into gender and race, the drug type was unable to be assessed. The varying severity of different drug types affects the mortality risk. Moreover, there were gaps in the data including neuroticism correlates for Alaska and Hawaii as well as several missing drug death data for different racial groups. The lack of such data can affect results, and should be examined for future research. Additionally, the current study did not test for social comparison or STTUC rather it was based on the assumption that income inequality rather than income level would present more opportunity for social comparison. This theoretical model, which supports the rationale for why income inequality and neuroticism may be related, could also be presented as a limitation. Therefore, another avenue for future research includes assessing the role of social comparison in affecting behavior such as drug use.

Further Research

Future directions involve extending the current study through one of its limitations. The current study involved the state as the unit of analysis; however, a future study could analyze the individual. Additionally, the current research focused solely on the United States, and research on other countries could greatly benefit the existing literature and knowledge on the matter. Unfortunately, other countries like the United Kingdom, Canada, and Australia demonstrate similar trends to the U.S. towards a potential drug epidemic. Around the world, countries offer different health care programs that may reflect some of the social differences between the wealthy and poor and their ability to attain proper resources. The inability to assess all confounding variables such as age, education level, type of neighborhood, drug type, etc. in the current study can be developed into future research questions as well. This study suggests that researchers and policymakers alike must now re-assess drug addiction with a multi-faceted approach. The interaction of situational and personal factors in our environment requires major changes in people's quality of life and investigating the combination of circumstances that make some groups more vulnerable than others to such adverse outcomes. The prevalence of the drug epidemic across America requires further attention and necessary measures like research to prevent drug use before it is too late.

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Appendix

Table 3

Regression Analyses

	B	Std. Error	t	p
2018 Drug Deaths				
neuroticism	.41	.09	4.83	.00
Income inequality	16.12	.05	.38	.71
Neu x inc ineq	-1.60	-.05	-.39	.70
Male Drug Deaths				
neuroticism	.61	.12	5.10	.00
Income inequality	71.66	59.78	1.20	.24
Neu x inc ineq	-4.35	5.71	-.76	.45
Female Drug Deaths				
neuroticism	.22	.06	3.55	.00
Income inequality	-32.05	30.50	-1.05	.30
Neu x inc ineq	1.00	2.93	.34	.73
White Drug Deaths				
neuroticism	.49	.09	5.54	.00
Income inequality	-9.80	44.43	-.22	.83
Neu x inc ineq	3.87	4.23	.91	.37
Asian/Pacific Islander Drug Deaths				
neuroticism	-.00	.02	-.06	.95
Income inequality	-29.29	12.25	-2.40	.03
Neu x inc ineq	.79	.82	.97	.35
American Indian/Alaska Native Drug Deaths				
neuroticism	.40	.36	1.10	.29
Income inequality	-358.24	133.81	-2.68	.02
Neu x inc ineq	-1.67	9.69	-.17	.87
Hispanic Drug Deaths				
neuroticism	.26	.12	2.24	.03
Income inequality	-35.42	55.10	-.64	.53
Neu x inc ineq	6.14	4.66	1.32	.20

Note: *p<.0.5

Table 4
Demographics

State	N	Gini	DD	M	F	W	AA	A/PI	AI/AN	H
Alabama	48.7	0.477	15.4	18.3	12.6	19.4	6.2			
Alaska		0.424	16.5	19.1	13.5	16			25.6	
Arizona	38.1	0.467	19.5	24.1	14.9	20.8	17.1	4	14.1	11.5
Arkansas	56.2	0.473	13.2	14.6	11.8	15.2	5.1			
California	39.1	0.487	11.9	15.3	8.6	13.7	16.1	2.6	10.6	6.3
Colorado	34.3	0.455	16.2	19.2	13.1	17	14.3	3.3	13.3	15.4
Connecticut	53.4	0.494	22.1	31.4	13	25.3	12.6			17
Delaware	62.4	0.481	24	32.3	16	30	12.5			
District of Columbia	41.6	0.528	27.2	41.7	14.2	8.1	42.3			
Florida	40.8	0.486	17.7	22.8	12.6	20.9	7.2	2.8	8.7	7.5
Georgia	38	0.483	12.7	15.3	10.2	17	6.4	2.4		3.1
Hawaii		0.446	12.3	17	7.5	18.7		9.2		11.6
Idaho	44.2	0.448	14.2	14.4	13.9	14.6		2.3		
Illinois	51.2	0.481	15.3	20.7	10	15.6	21.1			7.7
Indiana	59.3	0.45	20.2	25.2	15.3	21.6	14.4			5.9
Iowa	49.1	0.438	9.8	11.4	8.1	9.8	15.8		16.1	6.1
Kansas	49	0.454	11.6	12.8	10.3	11.9	11.6			4.2
Kentucky	62.5	0.478	28.6	35.4	21.7	30.5	14.9			7.1
Louisiana	60.4	0.494	18.9	24	14	22.8	12.5			6.7
Maine	71	0.453	21.6	29.2	14.1	21.8				
Maryland	49.4	0.453	23.9	35.4	13.9	27.6	23	3.2		5
Massachusetts	63.8	0.485	25.2	37	13.8	28.9	14.9	2		20.8
Michigan	48.6	0.467	20.8	25.8	15.7	21.6	21.6		37.3	17.1
Minnesota	43.4	0.452	10.8	13.4	8.1	10.2	22.4		49.2	4.9
Mississippi	52	0.479	11.9	14.4	9.5	17.1	4			
Missouri	48.3	0.462	19.5	23.9	15.1	19.5	24.6			7.6
Montana	43	0.454	12.6	12.7	12.5	12.2			20.1	
Nebraska	41.6	0.439	6.8	7.3	6.2	6.8	8.7			
Nevada	44	0.461	21	24.2	17.8	23.6	19.9	4.1	21.1	7.3

State	N	Gini	DD	M	F	W	AA	AI/AN	A/PI	H
New Hampshire	61.8	0.439	31.9	44.5	19	33.3				17.2
New Jersey	56.4	0.479	17.6	25.1	10.2	21.1	15	2.2		9.5
New Mexico	51.6	0.478	25.6	31.8	19.4	27.8	24.2		13.9	28.3
New York	62.7	0.516	14.3	20.5	8.5	17.5	10.1	1.9	5.6	11.2
North Carolina	44.8	0.476	16.2	20	12.6	19.4	8.5		14.8	3.2
North Dakota	49.6	0.455	8.3	9.3	6.9	7.6			24.2	
Ohio	58.5	0.464	30.4	40.3	20.6	32.7	23.5	3		14.5
Oklahoma	52.1	0.466	20.4	22.7	18.1	21.2	14.1		24.7	6
Oregon	39.5	0.459	12.6	15.1	10	13.3	12.2		9	5.3
Pennsylvania	61.4	0.478	28.1	37.3	18.8	30.1	26.5	4.5		20.6
Rhode Island	61	0.472	27.5	39.3	16.2	30.1	16.8			19.4
South Carolina	45.7	0.48	16.1	19	13.2	20.8	5.7			3.3
South Dakota	36.1	0.449	8	8.2	7.8	7.3			18.6	
Tennessee	49	0.482	22	25.7	18.3	24.8	11.9			7
Texas	44.3	0.478	10	12.1	7.9	10.7	10.1	1.6	3	5.4
Utah	30.4	0.423	22.9	25.3	20.5	23.8		5.2	26.1	13
Vermont	55.8	0.453	16.9	22.7	11.4	17.1				
Virginia	44.7	0.467	13.4	17.2	9.5	15.6	10.2	2.3		3.5
Washington	36.9	0.456	14.6	17.5	11.6	15.3	20.2	3.4	31.9	7.8
West Virginia	79.2	0.469	41.4	52.9	29.8	41.6	48.5			
Wisconsin	48.6	0.447	16.4	20	12.8	16.2	29.7		24.5	10.5
Wyoming	46.1	0.433	17.6	17.8	17.4	17.9				14.8

Source: Neuroticism correlates retrieved from Rentfrow's 2011 study
Drug death and Gini indices retrieved from America's Health Rankings website

Note. Gender and race columns correspond to drug deaths
Numbers for deaths due to drug injury of any intent (unintentional, suicide, homicide or undetermined) per 100,000 population

Key:
N= Neuroticism
Gini= Gini Index
DD= Drug Deaths
M= Males
F= Females
W= White
AA= African American
AI/AN= American Indian/ Alaska Native
A/PI= Asian/Pacific Islander
H= Hispanic