

**COMMONLY USED TERMINOLOGY AND ITS CONTRIBUTION TO STIGMA  
SURROUNDING THOSE WITH SUBSTANCE RELATED CONDITIONS**

by

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Submitted to the Psychology Department  
School of Natural and Social Sciences  
in partial fulfillment of the requirements  
for the degree of Bachelor of Arts

Purchase College  
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May 2021

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## Abstract

This study sought to examine the role labels play in stigma surrounding individuals with substance related conditions. Specifically, the labels “drug addict”, “person with substance use disorder”, and “substance abuser.” Researchers Kelly and Westerhoff (2010) found that participants in their study were more likely to believe a person with a substance related condition was deserving of blame and punishment when labeled as a “substance abuser” rather than a “person with substance use disorder.” Based on this previous research, we hypothesized that participants would have an increase in stigmatizing attitudes toward a person framed as a “substance abuser” compared to “a person with substance use disorder.” We also aimed to examine the role essentialism may have in participants’ levels of stigmatizing beliefs. We hypothesized that participants with high levels of stigmatizing beliefs would also have high levels of essentialist beliefs. Participants read a brief passage about an individual’s journey with drug use. In this passage, the individual was labeled either as a “substance abuser”, “drug addict”, or “person with substance use disorder.” Following the passage, participants reported their attitudes toward the individual by answering questions measuring stigmatizing beliefs and attitudes. Participants were also assessed on their level of essentialist beliefs. The results did not support our hypothesis, as there was no significant difference between the conditions regarding stigmatizing attitudes toward the individual with a substance related condition. However, in an exploratory analysis that split participants by political ideology, a main effect between language and political ideology was found; participants with right of center political leanings scored higher on a general measure of stigmatizing beliefs toward an individual with substance use than participants with left of center beliefs. Specifically, right of center participants in the drug addict

condition scored significantly higher on the measure of stigmatizing beliefs than left of center participants.

*Key Words:* Substance Use Disorder, Stigma, Language, Essentialism, Drug Use

## Commonly used terminology and its contribution to stigma surrounding those with substance related conditions

Substance use disorder, also commonly known as drug addiction, is a mental health disorder that affects a person's ability to control the use of legal or illegal substances, including but not limited to alcohol, opiates, and marijuana. Individuals may develop a substance related disorder for several reasons, and factors that can contribute to this vary from person to person. Genetics, as well as environmental factors such as trauma or living situation can play a role in the development of a substance related condition. Substance related conditions can negatively affect a person's social life, work or school, and family relationships. The person affected can experience withdrawal symptoms with the cessation of use and may want to cut down or quit but have great trouble doing so (McLellen, 2017).

In 2017, 19.7 million Americans ages twelve and up struggled with a substance use disorder (National Survey on Drug Use and Health, 2018). Additionally, substance use disorder can often co-occur with other psychiatric disorders (Hartz et al, 2014). Despite affecting so many, as well as being classified as a mental health condition, people afflicted by substance use disorders have gained quite the negative reputation. Many stereotypes exist that contribute to the overall stigma of substance related conditions. The average person may not have the knowledge that professionals do on this topic. A layperson may see someone that uses illicit substances as "deviant" or "abnormal", and this could be due to a lack of understanding about substance use or other mental disorders. Researchers have found that many believe those with addiction tend to be violent, dangerous, and unpredictable (Yang et al, 2017). Subsequently, substance use is then often moralized. Deviance can be seen as intentional, thus placing blame on the person with the disorder, and seeing their disorder as an "immoral choice" (Haslam, 2005). Due to this stigma,

those affected can face issues with employment, incarceration, receiving medical treatment, etc. Many factors contribute to these stigmas, one being the language commonly used to discuss substance related disorders (Kelly & Westerhoff, 2010).

To fully understand how language can contribute to stigma, it is important to first understand how language can influence thought more generally, as well as the origins of the stigma towards substance use. The English language leaves room for words to have a multitude of meanings, and word meaning can be influenced by metaphors, tone, and nuance.

Flusberg, Matlock, and Thibodeau (2018) described how metaphors, specifically “war” metaphors, influence thought and emotion. According to these researchers, metaphors can simplify issues in a way that helps the reader or listener better understand complex topics. Additionally, metaphors can evoke certain feelings and emotions. When referring to a condition as a “disease,” it can influence emotions of care and compassion. However, war metaphors can contribute to feelings of fear, or the need to panic, though they can also motivate people to take action or pay attention. Perhaps one of the most famous war metaphors in the United States is “The War on Drugs”. The War on Drugs was started by the Nixon administration in an effort to end drug use. Using the war metaphor allowed for the public to view the drugs (and the people that use them) as an “enemy” to be defeated. Researchers have found that scholars are calling to end the war on drugs, as it exaggerates the dangers of drug use, as well as devalues the human and medical aspect of the condition (Flusberg et al., 2018). The War on Drugs is a prime example of how language can influence public perception as well as the origins of stigma toward substance use.

Similarly, violent language used to describe drug use goes beyond general “war on drug” metaphors. “Drug abuser” is a term that is often used to refer to those with Substance Use

Disorder. At first glance, it may not seem like a harmful term as it is so commonly used. However, once given a closer look, using the term “drug abuser” can have a more meaningful effect than what meets the eye. The word “abuser” carries the weight of moral failure and is used to label those that cause physical or intense emotional harm to their partner, children, or animals. Applying this label to individuals with Substance Use Disorder can contribute to stigmatizing rhetoric, as it implies moral failure to an illness that is not inherently moral or immoral (Wakeman, 2013).

Findings by other researchers support these claims. A study conducted by Kelly and Westerhoff (2010), at a medical conference found that medical professionals were more likely to believe that a person was deserving of blame and punishment when referred to as a “substance abuser” rather than as a “person with a substance use disorder”. Those in the “substance abuser” condition more often agreed with statements such as “His problem is caused by a reckless lifestyle” and “He should be given some kind of jail sentence as a wakeup call”. Even among highly educated and trained professionals, the power of a single label can influence the way they view addiction and those who struggle with it. The way a doctor views their patient could possibly affect patient care, and this study highlights the importance of analyzing commonly used terminology.

To determine what terms are effective and appropriate, it is necessary to examine the way language and grammar play a role in how individuals view certain ideas and concepts. For example, the sentences “she is a tea drinker” and “she drinks tea often” mean almost the same thing, but they are not totally similar, and differ slightly in meaning. “She is a tea-drinker” utilizes the noun “tea-drinker”, while “she drinks tea often” utilizes the verb “drinks.” One study surveyed participants about these phrases, and it showed that participants found the noun phrased

sentences to be stronger and have more of an impactful meaning on how the individual is perceived than the sentences with verb phrasing (Walton & Banaji, 2004). In this study, participants were shown either noun phrases or verb phrases, (ex: “X is a baseball fan” and “X watches baseball a lot”) and were then asked to report their perceived strength, stability, and resilience of “X”. These researchers found that participants believed the preferences of “X” were stronger when noun phrased rather than verb phrased. Noun phrases left a more resilient impression on participants than verb phrases. Similarly, two prominent ways to describe a person and their attributes are noun labeling and possessive phrasing. Noun labels categorize a person into a group. An example of this would be, “Kate is a Schizophrenic”. On the other hand, possessive phrases highlight a trait or characteristic a person has, i.e., “Kate has Schizophrenia”. Noun labels can reduce a person’s identity to a single trait, which could lead to reinforcing stigmas (Howell & Woolgar, 2013).

Essentialism may also play a role in how individuals view those in certain social categories. In the aforementioned study designed by Howell and Woolgar regarding noun labels and possessive phrases, participants were surveyed on their level of essentialist beliefs. Essentialism in this regard is the belief that members of a social category have a certain set of stable and enduring characteristics that are essential to their identity. Someone that has high levels of essentialist beliefs may ascribe predetermined judgements to those in these social categories before getting to know them personally. In their 2013 study, Howell and Woolgar found that those who were surveyed to have strong essentialist beliefs preferred noun labels over possessive phrases. Noun labels categorize a person into a group and insinuate belonging to said group is essential to their identity. This does line up with essentialist beliefs, suggesting that those with strong essentialist views may subscribe to generalist beliefs, such as stereotypes.

Participants in a separate study were surveyed on their stigmatizing attitudes toward those with mental disorders (Howell et al, 2014). Those that had highly stigmatizing attitudes were found to also have strong essentialist beliefs, and typically preferred to use noun labels. On the other hand, those that were surveyed to have higher levels of empathy preferred possessive phrasing. This is not to say that those with highly stigmatizing attitudes lacked empathy entirely; however, it was found that the belief in stigmas overpowered empathetic traits. These findings highlight the relationship between labels for mental health conditions and stigmatized beliefs and suggest that language may play a role in fostering or reducing stigmatization.

One strategy to reduce stigma around substance use disorders is utilizing patient-centered language, or PCL. The purpose of PCL is to put the person first and their condition or disorder second, as well as to avoid labeling patients as victims. This would look like possessive phrasing, where you would refer to a patient as, for example, a “person who has visual impairment” rather than “the blind” or “suffering from blindness.” It also advises against euphemistic terms like “special needs.” The American Medical Association has put guidelines in place to avoid the use of non-PCL terms, as they generally contribute to harmful stigmas that affect patient care. A group of researchers set out to examine whether previously published medical writings adhere to these guidelines regarding those with Alcohol Use Disorder, or AUD (Hartwell et al., 2020). They reviewed 292 different articles, and in total only 59 utilized patient-centered language. Additionally, 40% of the 292 articles included terms that implied helplessness or emotional language such as “problem drinker.” This highlights the gap between academic writing and those affected by substance use, as well as further expresses the need for possessive phrasing as opposed to noun labels. Continuing to use non-PCL terms can contribute to stigmas that affect those afflicted with substance related conditions.



The aim of the present research is to expand previous findings regarding linguistic influence on stigma surrounding those with substance related conditions. Societal and cultural norms are ever changing and attitudes towards certain topics can shift over time. Is the stigma toward substance related conditions as prevalent as it was in 2010? Will the opinion of the general public reflect that of the medical community? Is mental health and treatment becoming less of a taboo? Do those with higher levels of essentialist beliefs have higher levels of stigmatizing attitudes? These questions are fundamental to the current research and will greatly influence our study. In the present study, participants read a passage about an individual's journey with drug use and dependence. This individual will be referenced as either a "person with a substance use disorder", "substance abuser", or "drug addict". Participants were then assessed on their level of stigmatizing beliefs toward the individual as well as their general level of essentialist beliefs. We hypothesized that participants in the "substance abuser" condition would have harsher judgements toward those with substance related conditions than those in the "drug addict" condition, and those in the "person with substance use disorder" condition would have the least stigmatizing beliefs overall. We also hypothesized that participants who have higher level of stigmatizing attitudes would also have higher levels of essentialist beliefs.

## **Methods**

### **Participants**

302 participants (42.7% female, 56.6% male, 0.3% non-binary, 0.3% preferred not to say) were recruited via Amazon's Mechanical Turk platform, and were given \$1.00 compensation for completing the study. There were originally 303 participants, but data from one participant was not included due to an unusually fast response time which did not meet the time requirements for participating in this study. Participants ranged from 19-73 years of age (*M*

= 39.4,  $SD = 11.5$ ). 76.8% of participants self-identified as White, 6.9% Black/African American, 6.6% Asian, 4.9% Latin American/Hispanic, 0.3% Native Hawaiian/Pacific Islander, 0.3% American Indian/Alaska Native, and 3.7% self-identified as other or more than one race. Participants were also asked to self-report their political ideology. 32.8 % of participants identified as liberal, 27.5 were somewhat liberal, 13.6% were neither liberal or conservative, 15.9% were somewhat conservative, and 10.2% were conservative. As for political affiliation, 160 participants self-reported to be Democrats, 73 reported to be Independents, and 69 reported to be Republicans. 8.3% of participants reported to have personal experience with drug addiction and 40.4% of participants reported to have a close friend or relative that has experienced drug addiction.

### **Materials and Procedures**

This experiment was created using Qualtrics online survey software. Participants were instructed to read a short paragraph about a man named John and his journey with drug use and dependence. In a between-subjects design, participants were randomly assigned to one of three conditions. In the first condition, John was labeled as a “substance abuser”, in the second a “person with substance use disorder”, and in the third “drug addict”. The overall language in each paragraph remained the same, the only words that changed were the way John was labeled (substance abuser, person with substance use disorder, or drug addict). Paragraphs included in Appendix A.

**Measure of Stigmatizing Beliefs and Attitudes.** Following the paragraph, participants answered nine questions regarding their beliefs and attitudes toward John. This measure included questions like, “Do you believe John deserves punishment (such as jail time) for his drug use?”, “Do you believe John is entitled to treatment for his drug use?”, “Do you think John is capable of

being a productive member of society?”, and so on. Participants answered these questions via a 1-5 multiple choice scale (1 = Definitely not, 5 = Definitely yes). This measure was created based off general knowledge of stereotypes toward individuals with substance related conditions and essentialist style thinking. More specifically, these questions aimed to assess if participant’s felt John was deserving of blame and punishment, actions they felt John could take, and his overall moral character. Questions such as “Do you believe John is a good person?” aimed to reflect essentialist style thinking. This would mean that participants who answered “Definitely not” on this question could potentially have higher levels of essentialist beliefs. These questions were inspired by previous research questions created by Kelly and Westerhoff (2010), and Howell and Woolgar (2013).

**Measure of General Essentialist Beliefs.** After completing the measure of stigmatizing beliefs and attitudes, participants completed Bastian and Haslam’s (2005) general measure of essentialist thinking. Participants were shown a set of statements and asked to report their level of agreement on a scale of 1-5 (1 = strongly disagree, 5 = strongly agree). Examples of these statements include, “The kind of person someone is can be largely attributed to their genetic inheritance”, “A person either has a certain attribute or they do not”, and “When getting to know a person it is possible to get a picture of the kind of person they are very quickly”. Full measures of stigmatizing attitudes as well as general essentialist beliefs can be found in Appendix B.

**Demographics.** Finally, participants answered demographic questions about their gender, age, race, personal experience with drug addiction, and political ideologies/affiliations.

Demographics questions can be found in Appendix C.

## Results

To determine the composite score of the Measure of Stigmatizing Beliefs and Attitudes, we averaged together each of the questions. For most questions, an answer of 5 would indicate high levels of stigmatizing beliefs. However, for some, such as “Do you believe John is a good person?” 5 would indicate low levels of stigmatizing beliefs. Thus, these questions were reverse coded. Cronbach’s alpha indicated good internal consistency ( $\alpha = 0.81$ ). A between-subjects analysis of variance test was conducted to compare the Measure of Stigmatizing Beliefs and Attitudes toward an individual with drug dependency between the three language conditions. Contrary to our hypothesis, there was no significant effect of language condition on stigmatizing beliefs, as participants in the substance abuser ( $M = 2.63, SD = 0.71$ ), drug addict ( $M = 2.58, SD = 0.63$ ), and substance use disorder ( $M = 2.5, SD = 0.62$ ) conditions all expressed similar, moderately stigmatizing attitudes,  $F(2, 299) = 1.07, p = 0.345, \eta^2 = .007$ . See Figure 1.

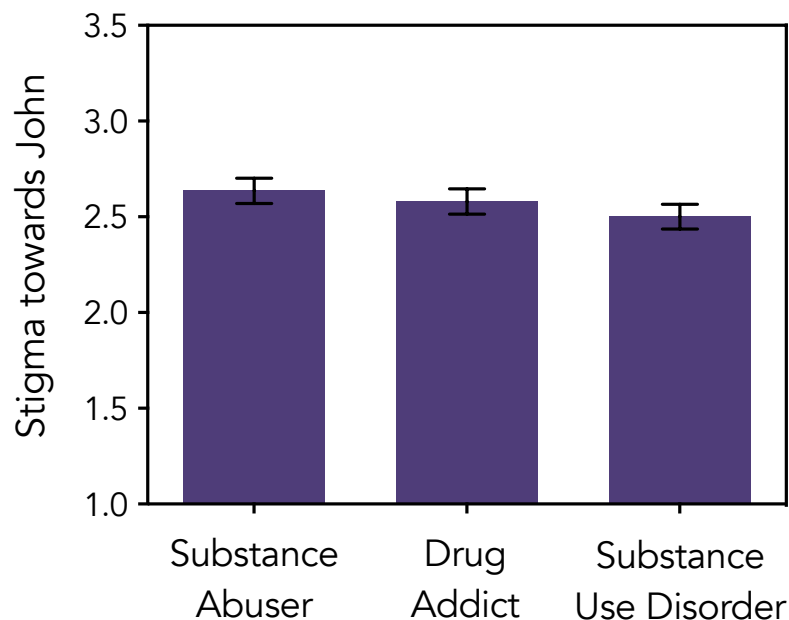


Figure 1- Stigma Scores Across Conditions

Next, we ran a series of correlational analyses to examine which other variables were associated with higher stigma scores. These analyses were conducted to test the hypothesis regarding essentialist scores and stigmatizing scores. Higher scores on the general measure of essentialism correlated with higher scores on the measure of stigmatizing attitudes,  $r(300) = 0.354, p < .001$ . This makes intuitive sense as several of the points on the measure of stigma were designed with essentialist beliefs in mind (e.g., “Do you believe that John is a good person?”). We also found a correlation between the continuous measure of political ideology and stigma. The more conservative a person rated themselves, the more likely they were to have a higher score on the measure of stigma,  $r(300) = 0.251, p < .001$ . This is consistent with the observation that conservative ideology places an emphasis on individualism and the moralization of “deviant” behaviors.

Because the correlation analysis showed a relationship between political ideology and stigmatizing attitudes, we conducted an exploratory analysis to examine whether the language manipulation had a different effect on people with differing political views. First, we created a new categorical variable by doing a median split of our continuous measure of political ideology, resulting in “left of center” and “right of center” political groups. Then, we conducted a 3 (language condition) by 2 (political ideology median split: left of center and right of center) factorial ANOVA, with our measure of stigmatizing attitudes as the dependent variable. There was no main effect of condition,  $F(2,296) = .629, p = .534, \eta^2 = .004$ . There was a main effect of political ideology  $F(1,296) = 16.7, p < .001, \eta^2 = .052$ , showing that right of center participants had higher stigma scores than left of center participants. Critically, there was a significant interaction between political ideology and language condition  $F(2,296) = 3.17, p = .043, \eta^2 = .020$ . Post hoc comparisons using the Tukey test indicate that there was no significant difference

between left of center participants ( $M = 2.61, SD = 0.69$ ) and right of center participants ( $M = 2.67, SD = 0.73$ ) in the substance abuser condition  $p = .998$ . However, the other two conditions seemed to affect participants with differing political ideologies differently. Most notably, left of center participants ( $M = 2.37, SD = 0.57$ ) scored significantly lower on the stigma measure than right of center participants ( $M = 2.89, SD = 0.62$ ),  $p = .002$  in the drug addict condition. As for the substance use disorder condition, there was a marginal difference between left of center participants ( $M = 2.37, SD = 0.52$ ) and right of center participants ( $M = 2.72, SD = 0.74$ )  $p = .080$ . See Figure 2.

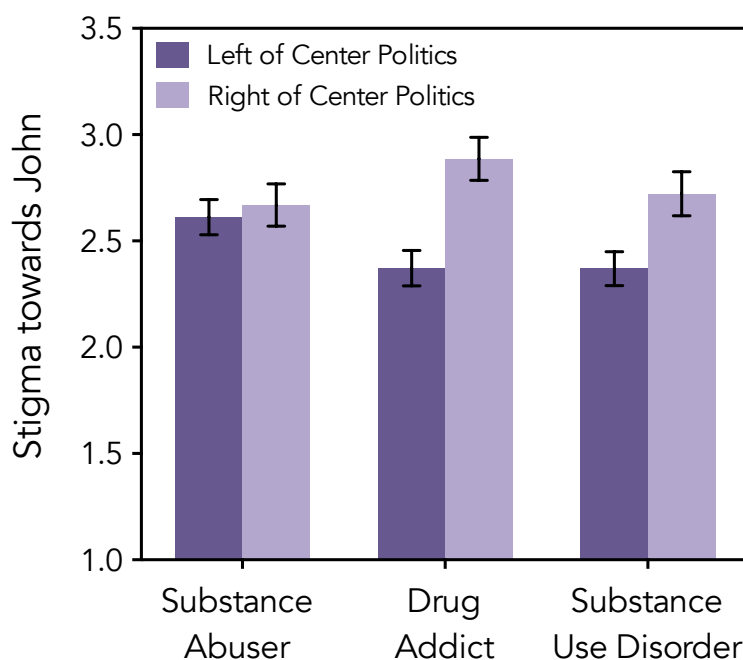


Figure 2- Stigma Scores of Left and Right of Center Participants Across Conditions

## Discussion

The aim of the current study was to assess the way different labels may affect how an individual with a substance related condition is perceived. The label “abuser” is typically used to describe people who cause intense physical or emotional harm to others. Applying this label to

those with substance related conditions can imply moral failure and can potentially contribute to the stigmas surrounding them (Wakeman, 2013). Previous research has examined the way this label can affect individuals with substance related conditions. One research study, conducted at a medical conference found that participants (who were all doctors) were more likely to believe an individual with a drug addiction was deserving of blame or punishment when labeled as a “substance abuser” rather than a “person with substance use disorder” (Kelly & Westerhoff, 2010). In the present study, participants read a paragraph about an individual’s (John’s) journey with drug use and dependency. The paragraph framed the individual as either a “substance abuser”, “person with substance use disorder”, or “drug addict”, and participants then responded to measures that would report their stigmatizing beliefs toward the individual, as well as their general essentialist beliefs. We hypothesized that framing the individual as a “substance abuser” would result in higher levels of stigmatizing beliefs in participants than when framed as a “person with substance use disorder” or “drug addict”. Contrary to our hypothesis, there was no significant effect of difference in language condition on stigmatizing beliefs and attitudes. These findings differ from those of Kelly and Westerhoff (2010). Potentially, this could mean that the “substance abuser” label affects laypeople differently than medical professionals. Terms like “substance abuser” and “substance use disorder” may sound like jargon to those not in the medical field and could explain why there was little difference between conditions. Additionally, the present study was performed more than a decade after Kelly and Westerhoff’s, and the passage of time could influence the way labels are perceived.

However, there was a significant main effect of political ideology on stigmatizing attitudes and beliefs. Participants who identified as right of center on a political scale had overall more stigmatizing beliefs about John than participants who identified as left of center. These

findings line up with right of center conservative values. Conservatives typically value tradition, individualism, and personal responsibility. Based on these values, this could mean that right of center participants could have higher levels of stigmatizing beliefs because they may believe that developing a substance dependence is at the fault of the individual, and that is their own personal moral failure (see Haslam, 2005). Additionally, participants that scored higher on the measure of stigmatizing attitudes also scored higher on the measure of essentialist beliefs. These findings replicate those found by Howell et al, (2014). Right of center conservative beliefs may say that if a person has a substance related condition, that is who they are and they fundamentally will not change.

More specifically, there was a significant interaction between the median split of political ideology and the label condition. Right of center participants scored significantly higher on the measure of stigmatizing beliefs and attitudes than left of center participants in the drug addict condition, but they scored almost the same in the substance abuser condition. Moreover, right of center participants in the drug addict condition had the highest level of stigmatizing beliefs and attitudes overall. As for left of center participants, those in the “substance abuser” condition had higher levels of stigmatizing beliefs than left of center participants in the “drug addict” and “substance use disorder” conditions. This goes hand in hand with our initial hypothesis and could mean that left of center participants held more stigmatizing attitudes toward someone labeled as an abuser. Although, it is important to remember that left of center participants had lower levels of stigmatizing beliefs overall. As for the meaning of these differences, we hypothesize that left of center participants may hold more moral weight in the term “abuser” than right of center participants, who may hold more moral weight in the term “addict”.



Our study has several limitations that leave room for replication to further advance the findings. First, only one measure of stigmatizing attitudes was included. To best capture participants' beliefs, it could be beneficial for future researchers to include another measure or scale that can further assess stigmatizing beliefs. Additionally, this study was not particularly designed with political beliefs in mind, though it yielded significant results between participants' political views and their level of stigmatizing beliefs. Future researchers could build off these findings and further assess the implications. A key limitation of this study was the sample size. In this study, there were far more Democrats than Republicans and different findings could have been possible if additional participants from more politically diverse backgrounds were included.

The implications of this study are significant because substance use disorders affect so many people, as well as those related to them. It is a highly complex topic and further understanding of it can benefit those affected. Language and labeling, and how they can possibly affect or contribute to the stigma of substance use disorders are important to note as fully understanding this topic can help raise awareness and education. The findings of this study show that it could be beneficial to approach these issues with different types of wording depending on the community affected, as different people with different backgrounds may respond to or understand certain lexicon better than others.

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## Appendix A

### Stimuli

**“Substance Abuser” Stimulus:** John is a substance abuser. He lived a pretty typical life growing up, playing baseball, getting decent grades in school, playing video games, and spending time with his family. During John’s senior year of high school, he started going out to parties with his friends. He started drinking alcohol and got drunk for the first time. He loved the way that alcohol allowed him to feel carefree and social. When he went off to college he continued to drink and party and was introduced to other drugs like cocaine. At first, he only used drugs at parties, but started to rely on them in his daily life. John quickly turned into a substance abuser. He would do these drugs when he was by himself and would even steal money from his friends and family in order to keep up with his habit. John makes attempts at getting sober and tries to repair relationships damaged by his substance abuse but is ultimately struggling to stay off of drugs completely.

**“Substance Use Disorder” Stimulus:** John has a substance use disorder. He lived a pretty typical life growing up, playing baseball, getting decent grades in school, playing video games, and spending time with his family. During John’s senior year of high school, he started going out to parties with his friends. He started drinking alcohol and got drunk for the first time. He loved the way that alcohol allowed him to feel carefree and social. When he went off to college he continued to drink and party and was introduced to other drugs like cocaine. At first, he only used drugs at parties, but started to rely on them in his daily life. John quickly developed a substance use disorder. He would do these drugs when he was by himself and would even steal money from his friends and family in order to keep up with his habit. John makes attempts at getting sober and tries to repair relationships damaged by his substance use disorder but is ultimately struggling to stay off of drugs completely.

**Drug Addict Stimulus:** John is a drug addict. He lived a pretty typical life growing up, playing baseball, getting decent grades in school, playing video games, and spending time with his family. During John’s senior year of high school, he started going out to parties with his friends. He started drinking alcohol and got drunk for the first time. He loved the way that alcohol allowed him to feel carefree and social. When he went off to college he continued to drink and party and was introduced to other drugs like cocaine. At first, he only used drugs at parties, but started to rely on them in his daily life. John quickly turned into a drug addict. He would do these drugs when he was by himself and would even steal money from his friends and family in order to keep up with his habit. John makes attempts at getting sober and tries to repair relationships damaged by his drug addiction but is ultimately struggling to stay off of drugs completely.

## Appendix B

### Measure of Stigmatizing Attitudes and Beliefs

- 1) Do you believe John deserves punishment (such as jail time) for his drug use?

Definitely not. Maybe not. Might or might not. Probably yes. Definitely yes

- 2) Do you believe John is entitled to treatment for his drug use?

(1= Definitely not, 5= Definitely yes)

- 3) Do you believe John is to blame for his drug use?

(1= Definitely not, 5= Definitely yes)

- 4) Do you believe John is a good person?

(1= Definitely not, 5= Definitely yes)

- 5) Do you think John will ever get sober (abstain from using drugs completely)?

(1= Definitely not, 5= Definitely yes)

- 6) Do you think John is capable of being a productive member of society?

(1= Definitely not, 5= Definitely yes)

- 7) Do you believe John's addiction is permanent?

(1= Definitely not, 5= Definitely yes)

- 8) Do you believe John is likely to become violent?

(1= Definitely not, 5= Definitely yes)

- 9) How upset would you be to discover that John was your neighbor?

(1= Not upset at all, 5= Extremely upset)

### General Measure of Essentialist Thinking (Bastian & Haslam, 2006)

#### Biological Basis

- 1) The kind of person someone is can be largely attributed to their genetic inheritance  
Strongly disagree. Somewhat disagree. Neither agree nor disagree. Somewhat agree.  
Strongly agree.

- 2) Very few traits that people exhibit can be traced back to their biology

(1= Strongly disagree, 5= Strongly agree)

- 3) I think that genetic predispositions have little influence on the kind of person someone is

(1= Strongly disagree, 5= Strongly agree)

- 4) Whether someone is one kind of person or another is determined by their biological make-up  
(1= Strongly disagree, 5= Strongly agree)
- 5) There are different types of people and with enough scientific knowledge these different 'types' can be traced back to genetic causes  
(1= Strongly disagree, 5= Strongly agree)
- 6) A person's attributes are something that can't be attributed to their biology  
(1= Strongly disagree, 5= Strongly agree)
- 7) With enough scientific knowledge, the basic qualities that a person has could be traced back to, and explained by, their biological make-up  
(1= Strongly disagree, 5= Strongly agree)
- 8) A person's traits are never determined by their genes  
(1= Strongly disagree, 5= Strongly agree)

#### Discreteness

- 9) The kind of person someone is, is clearly defined; they either are a certain kind of person or they are not  
(1= Strongly disagree, 5= Strongly agree)
- 10) People can behave in ways that seem ambiguous, but the central aspects of their character are clear-cut  
(1= Strongly disagree, 5= Strongly agree)
- 11) A person's basic qualities exist in varying degrees, and are never easily categorized  
(1= Strongly disagree, 5= Strongly agree)
- 12) Everyone is either a certain type of person or they are not

(1= Strongly disagree, 5= Strongly agree)

13) A person's basic character is never easily defined

(1= Strongly disagree, 5= Strongly agree)

14) A person either has a certain attribute or they do not

(1= Strongly disagree, 5= Strongly agree)

15) No matter what qualities a person has, those qualities are always indefinite and difficult to define

(1= Strongly disagree, 5= Strongly agree)

16) People can have many attributes and are never completely defined by any particular one

(1= Strongly disagree, 5= Strongly agree)

#### Informativeness

17) When getting to know a person it is possible to get a picture of the kind of person they are very quickly

(1= Strongly disagree, 5= Strongly agree)

18) It is possible to know about many aspects of a person once you become familiar with a few of their basic traits

(1= Strongly disagree, 5= Strongly agree)

19) A person's behavior in a select number of contexts can never tell you a lot about the kind of person they are

(1= Strongly disagree, 5= Strongly agree)

20) Although a person may have some basic identifiable traits, it is never easy to make accurate judgments about how they will behave in different situations

(1= Strongly disagree, 5= Strongly agree)

21) Generally speaking, once you know someone in one or two contexts it is possible to predict how they will behave in most other contexts

(1= Strongly disagree, 5= Strongly agree)

22) It is never possible to judge how someone will react in new social situations

(1= Strongly disagree, 5= Strongly agree)

23) There are different 'types' of people and it is possible to know what 'type' of person someone is relatively quickly

(1= Strongly disagree, 5= Strongly agree)



## Appendix C

### Demographics

- 1) What is your gender?
  - Male
  - Female
  - Non-binary
  - Other
  - Prefer not to say
- 2) How old are you?
- 3) What is your race/ethnicity?
  - White
  - Black or African American
  - American Indian or Alaska Native
  - Asian
  - Native Hawaiian or Pacific Islander
  - Latin American or Hispanic
  - Other
- 4) Have you ever personally experienced drug addiction?
  - Yes
  - No
  - Prefer not to answer
- 5) Has a person close to you ever experienced drug addiction?
  - Yes
  - No
  - Prefer not to answer
- 6) What is your political ideology?

Very liberal. Liberal. Somewhat liberal. Neither liberal nor conservative. Somewhat conservative. Very Conservative