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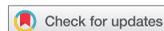
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“Abusing Addiction”: Our Language Still Isn’t Good Enough

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ABSTRACT

Previous research has found initial evidence that word choice affects the perception and treatment of those with behavioral health disorders. These previous studies have relied on vignette-based methodologies, however, and a more quantifiable index of the stigma words can produce is needed. The current study uses the Go/No-Go Association Task to calculate a d-prime (sensitivity) indexed score of automatic attitudes to two terms, substance abuser and person with substance use disorder. Participants have significantly more negative automatic attitudes toward the term substance abuser, as compared to person with a substance use disorder. Consistent with previous research, implicit bias does exist for terms commonly used in the behavioral health field. Substance abuser and its derivatives should not be used in professional or lay settings.

KEYWORDS

Language; addiction; substance use disorders; implicit bias; recovery; addiction stigma

Introduction

Behavioral health disorders, and the manifesting symptomatology that stems from these disorders, have vast social, economic, and physiological impacts that deeply affect American society (Martens, Neighbors, & Lee, 2008). As a primary pathology, behavioral health disorders pose a significant burden on the individuals who experience the disorder; as a secondary or co-occurring pathology, behavioral health disorders pose perhaps one of the largest social welfare and public health concerns that the United States has ever experienced (Health and Human Services [HHS], 2016). With the rise of opioid-related overdose deaths—more than 240% since 2001 in the United States (Rudd, Seth, David, & Scholl, 2016)—and an estimated two million years of life lost in 2010 as a result of opioid dependence and drug poisoning worldwide (Degenhardt et al., 2014; Lozano et al., 2012) untreated substance use disorders (SUDs) have

recently become a topic of urgency in the national and international discussion among public health officials and agencies.

National Epidemiologic Survey on Alcohol and Related Conditions-III (NSEARC-III) data suggests that SUDs, as well as other addictive disorders, go largely untreated in North America with only about one third of individuals ever seeking assistance, including from mutual-aid groups over a lifetime, and that low treatment numbers may indicate “persistent barriers related to stigma” (Grant et al., 2016). The 2014 National Survey on Drug Use and Health (NSDUH) found that of the 19.9 million individuals in the United States age 12 and older that needed SUD treatment in the past year, only, only roughly 4% ($N = 798,000$) perceived the need for treatment (Center for Behavioral Health Statistics and Quality [CBHSQ], 2016). Although this low number is largely unexplained, it is plausible that the lack of education around SUDs as well as the pervasive stigma that exists in the United States in regard to behavioral health disorders attributes to the low perceived need among Americans who needed treatment. It is also plausible that many of those individuals who had a diagnosable SUD would in fact not need treatment, evidenced by the fact that as high as 50% of the population in recovery did so without formal services or intervention (Kelly, Bergman, Hoepfner, Vilsaint, & White, 2017). However, of those that did perceive a need for treatment, 22.7% of individuals reported reasons related to stigma that kept them from seeking out treatment; this included stigma related to negative effects on employment (11.6%) and negative opinions of neighbors/community (11.1%) (CBHSQ, 2016). Although it is clear that the greatest need seems to be directly increasing the ability for individuals to accurately assess their own need for treatment, including a more comprehensive and accurate understanding of what treatment for SUD entails compared to other diseases and disorders, the high prevalence of stigma-related reasons for not seeking out treatment for those individuals aware of the need (i.e., almost one in four people) suggests that stigma is a significant barrier to seeking out medical assistance.

Data also suggests that 40% to 60% of the U.S. population with either a mental health disorder or SUD primary pathology also have a co-occurring disorder (CBHSQ, 2016). In 2015, of the American population that needed SUD treatment, only 10.8% received such treatment (CBHSQ, 2016). Although treatment capacity (e.g., funding, available beds, etc.) provide one potential obstacle to receiving medically necessary treatment services, the impact of pervasive shame and stigma on help-seeking behavior is perhaps much larger (Luoma et al., 2007).

Between mental health and SUDs, stigma has evolved in different ways. Beginning in the late 1970s, deinstitutionalization drove a widening of educational resources concerning mental health. The medicalization of mental health and psychopharmacotherapy contributed to increased exposure to

the causes and symptoms of mental health disorders, which likely peaked with the advent and widespread use of antidepressant medications in the 1990s. However, the rate of stigma has remained relatively stable and has actually increased in some categories related to mental health and violence (Pescosolido, 2013). Increased knowledge sophistication has not directly translated to reduced stigma across the public sphere, though some decrease in stigma can be seen in some areas, such as the language used to describe individuals that have a mental health disorder (i.e., person-first language) (Brown & Bradley, 2002).

SUDs, on the other hand, experienced widespread criminalization beginning with the Nixonian “War on Drugs” and “tough on crime” initiatives of the 1980s and 1990s, leading to “double and triple stigmas” involving ethnicity, gender, criminal histories, coupled with SUD (Hartwell, 2004). When combined with co-occurring mental illness, the effect of stigma is compounded (Downing, 1991; Hartwell, 2004; Lloyd, 2013; Sanders, 2014). Additionally, the degree to which many laypeople still retain negative associations with individuals with SUDs remains staggeringly high as well as the acceptance of discriminatory practices against individuals with substance use issues (Barry, McGinty, Pescosolido, & Goldman, 2014). Thus, negative public beliefs about individuals with SUDs has lagged behind much of the progress made in mental health perceptions though stigmatization of both populations remains relatively stable (Corrigan, Kuwabara, & O’Shaughnessy, 2009).

Stigma has been linked to reduced help-seeking behaviors for women, pregnant women, ethnic minorities, young people, men, military and health professionals, and various other identities (Clement et al., 2015; Stone, 2015; Stringer & Baker, 2015). Stigma is a complex phenomenon that involves various levels of identities, culture, values, power, and beliefs and occurs across public, personal, and structural spheres (Link & Phelan, 2013; Bos, Pryor, Reeder, & Stutterheim, 2013). Public stigma and self-stigma are directly related to one another and have a negative effect on help-seeking behaviors (Bathje & Pryor, 2011; Keyes et al., 2010; Vogel, Wade, & Hackler, 2007).

Public attitudes and beliefs toward individuals with mental health and/or SUDs are shaped by linguistics utilized to label such disorders and individuals with those disorders; recent studies report a bilateral impact of the linguistic terms used to describe behavioral health disorders. For the individual with a SUD, phrases such as “addict” and “substance abuser” can lead to social exile and self-stigmatization (Kelly, 2004; Luoma et al., 2007; Radcliffe & Stevens, 2008). For the lay public and behavioral health professionals, the same phrases can lead to an increase in the utilization of punitive approaches and client blaming (Kelly, Dow, & Westerhoff, 2010; Kelly & Westerhoff, 2010). In fact, Van Boekel, Brouwers, Van Weeghel, and Garretsen (2013) found that not only are negative attitudes for those with SUDs pervasive among health

professionals, but that this likely contributes to suboptimal healthcare service delivery. Similarly, mental health illnesses that are portrayed as untreated and dehumanizing have been shown to decrease social desirability and self-efficacy, while also affecting the policies people would support once primed with stigmatizing terms (e.g., untreated schizophrenia, chronic symptom relapse) (McGinty, Goldman, Pescosolida, & Barry, 2015).

Although the SUD field has seen a decrease in the use of these pejorative terms, most notably with the exclusion of *abuse* from the Diagnostic and statistical manual of mental disorders (5th ed.) (DSM-5; American Psychiatric Association, 2013), the continued use of “abuse” in American institutions (National Institute on Drug Abuse, Substance Abuse and Mental Health Services Administration, etc.) propagates the professional and public use of stigmatizing language, despite advances such as the *DSM-V* (American Psychiatric Association, 2013; Kelly, Saitz, & Wakeman, 2016; White, 2004; White & Kelly, 2011). It should be noted, however, that international institutions have begun to use less stigmatizing language in their institution names and reports. For example, the Canadian Centre on Substance Abuse was recently renamed to the Canadian Centre on Substance Misuse and Addiction (CCSA; 2017).

The current study seeks to expand upon the research on linguistic mechanisms in the SUD field through the administration of the Go/No Go Association task (GNAT; Nosek & Banaji, 2001). The initial experiment focuses on the implicit associations of one identified negative linguistic term *substance abuse*, and the suggested positive alternative *substance use disorder* (Kelly, 2004).

The GNAT is an implicit association measure that is related to the broadly used Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). *Implicit association* in this context means subconscious memory that operationalized produce a potential unknown bias, either positive or negative, to certain phrases and concepts. The GNAT involves participants classifying words into subordinate categories and then examining the speed (response time) and correctness of the classification (signal detection theory).

In the current study, the GNAT procedure is concerned with the classification of the objective terms *substance abuser* and *person with a substance use disorder*, and the evaluative terms in categories of “good” and “bad.” Importantly, as compared to other measures of implicit association such as the IAT, the GNAT allows for the evaluation of the objective term in isolation rather than having a comparison category as a prerequisite. This distinct feature allows for separable analysis of positive and negative bias for the objective terms (in this instance *substance abuser* and *person with a substance use disorder*).

Methods

Participants

Forty-four adult (age 18+ years) participants were recruited through groups on popular digital media platforms for individuals interested in, or impacted by, SUDs. Participants had a mean age of 35.52 years ($SD = 11.80$ years); 72.7% were female, 88.6% were White, 6.8% were of Latino origin or descent, 65.9% had either a 4-year bachelor's degree or graduate degree, 81.8% were employed, 29.5% were employed in the behavioral health field, 45.5% had a household income of more than \$50,000 in the previous calendar year, and 72.7% considered themselves in recovery. Participants held primary residence in southern, Atlantic, Northeast, and western United States.

Design

In this study, we administered two different measures, vignettes and the GNAT, which are designed to measure bias towards individuals with a SUD.

Vignettes

Three vignettes were used in the study (Table 1). The first vignette served as a control and did not portray a person with a SUD. The second vignette portrayed a person with a SUD but did so using terms such as “substance abuser” and “recovering addict.” The third vignette portrayed a person with a SUD and did so using terms such as “substance use disorder” and “person in long-term recovery.” After reading vignettes, participants were asked to complete the Bogardus Social Distance Scale (BSDS; Bogardus, 1925, 1933) in relation to the person described in the assigned vignette.

Table 1. Vignettes randomly assigned to participants.

Group	Vignette
Control ($n = 15$)	Mary is a White woman who has completed college. She has experienced the usual ups and downs of life, but managed to get through the challenges she has faced. Mary lives with her family and enjoys spending time outdoors and taking part in various activities in her community. She works at a local store.
Substance abuser ($n = 15$)	Mary is a White woman who has completed college. She is also a substance abuser but has managed to get through the challenges she has faced. As a recovering addict, she lives with her family and enjoys spending time outdoors and taking part in various activities in her community. She also works at a local store.
Substance use disorder ($n = 14$)	Mary is a White woman who has completed college. She also has a substance use disorder but has managed to get through the challenges she has faced. As a woman in recovery, she lives with her family and enjoys spending time outdoors and taking part in various activities in her community. She also works at a local store.

Bogardus social distance scale

The Bogardus Social Distance Scale (BSDS) (Bogardus, 1925, 1933) is used to assess the comfort level of participants in response to other individuals that differ from them. The BSDS was developed to assess comfort toward individuals of different ethnicity and racial identities; however, it has also been used in recent years to assess comfort of doctors toward nurses (Pearlin & Rosenberg, 1962), among college students with and without intellectual disabilities (Dent, 1966), and of nurses and patients who are terminally ill (Kalish, 1966). The original BSDS studies conducted by Bogardus in 1925 have been replicated multiple times in the last 70 years, and though criticism exists questioning the reliability and validity of the measure (Krech & Crutchfield, 1947; Sartain & Bell, 1947), the replication studies have provided evidence of the measure as a reliable and valid measure (Hartley & Hartley, 1952; Newcomb, 1950; Sherif & Sherif, 1956). In the current study, we administered the BSDS following the participant reading a vignette describing an individual. The BSDS prompt requested the respondent to answer the seven -questions as it relates to the vignette just read.

Go/no go association task

The GNAT administered in this study was a modified version of the GNAT designed by Nosek & Banaji (2001) for the Millisecond Inquisit web application. The GNAT involved classifying two objective categories (substance abuser and person with a substance use disorder) with two evaluative categories (good and bad) (Table 2).

Table 2. Go/No Go Association task design.

Blocks	Tasks	Trials	Stimuli
1	Practice	20	Target: Substance abuser, distractor: substance use disorder
2		20	Target: Substance use disorder, distractor: substance abuser
3		20	Target: Good, distractor: bad
4		20	Target: Bad, distractor: good
5	Practice	16	Targets: Substance abuser or bad, distractors: substance use Disorder or good
	Main Task 1	60	
6	Practice	16	Targets: Substance abuser or good, distractors: substance use disorder or bad
	Main Task 2	60	
7	Practice	16	Targets: Substance use disorder or good, distractors: substance abuser or bad
	Main Task 3	60	
8	Practice	16	Targets: Substance use disorder or bad, distractors: substance abuser or good
	Main Task 4	60	

Note. Good = positively associated adjectives; Bad = negatively associated adjectives. Words were shown on screen one by one, requiring participant to press a space bar for words that belonged to target categories (signals), and do nothing for words that did not belong to target categories (noise). The presented order of all blocks 1–8 was random.

Administration procedure

Following Institutional Review Board approval from the University of Pennsylvania Review Board #8, participants were recruited from digital media platforms. Following recruitment survey administration was completed via a participant's personal computer through Qualtrics and the Inquisit V.5 (Inquisit, 2016). The survey began with a digital informed consent form that required a participant to answer in the affirmative to continue with the study. After agreeing to the informed consent, the survey used the Qualtrics randomizer element to deliver either a vignette or GNAT. The randomizer element equally distributed the order of section delivery among all participants, with 50% receiving the GNAT first, followed by the vignette. A secondary randomizer element was used to randomly assign one of three vignettes to participants, again with equal distribution among all participants. Additionally, randomly assigned response IDs were used via the embedded data function of Qualtrics to allow participants data from the GNAT to be associated with responses to the vignettes. Upon completion of the vignette and GNAT sections, all participants completed a brief demographics battery.

Vignettes

Administration of the vignettes began with random participant assignment to one of the three used vignettes (control, substance abuse, substance use disorder). Randomization was completed as to ensure equal distribution of participants into each type of vignette. Participants were asked to read the assigned vignette, making sure to read carefully as they would not be able to go back and reread once they moved forward in the survey. After reading, participants were taken to a new page of the survey that administered an BSDS. The scale required participants to answer seven questions in relation to the person described in the previously read vignette.

GNAT

Administration of the GNAT began with two practice blocks to introduce each participant to the task by asking the participant to classify the objective categories with no evaluative category used, and to classify the evaluative categories with no objective category used. Following the practice blocks, each participant completed eight GNATs, consisting of two blocks each (practice and test). Each GNAT appeared in partially randomized order, with four GNATs measuring automatic attitudes toward *substance abuse* and the remaining four GNATs measuring automatic attitudes toward *person with a substance use disorder*. The response deadline for the practice blocks was 1000ms, and the test blocks used response deadlines of 750ms first, and 600ms second. Each practice block consisted of 20 practice trials, whereas test blocks began with 16 practice trials, followed by 60 test trials that were used in final analysis.

Data analysis

All data analysis was completed via IBM SPSS. Statistical significance was defined a priori at .05.

The BSDS results were scored cumulatively, with *yes* responses for Questions 1 through 6 given one point (*no* responses given zero points) and *yes* responses to QUESTION 7 given zero points (*no* responses given one point). Higher participant scores on the BSDS correlate with a greater willingness to have less social distance between the participant and the described person in the vignette.

The GNAT administrations were scored using the d-prime (d') method described by Nosek and Banaji (2001), originally defined by Green and Swets (1966). This method calculates sensitivity, which is indexed by d' , by first converting the proportion of correct “go” responses for signal items and incorrect “go” responses for noise items into z-scores and then calculating the difference between the z-score values. Of note, is that d' values of 0 or below (negative) indicate that participants were either not performing the task as instructed or were unable to correctly identify signal items from noise items. As such, test blocks with d' scores of 0 or below are always removed from final analysis. This resulted in seven participants who completed the study having scores removed from GNAT analyses (final $N = 37$). These excluded participants had a mean age of 41.86 years ($SD = 14.42$ years); 85.7% were female, 85.7% were White, 14.3% were of Latino origin or descent, 71.5% had either a 4-year bachelor’s degree or graduate degree, 71.4% were employed, 42.9% were employed in the behavioral health field, 57.1% had a household income of more than \$50,000 in the previous calendar year, and 85.7% considered themselves in recovery. Participants held primary residence in southern, Atlantic, and northeast United States.

Paired t -test analyses were used to compare the test blocks mean d' scores (M “substance abuse + good” – M “substance abuse + bad”; M “person with substance use disorder + good” – M “person with a substance use disorder + bad”), and Cohen’s d was calculated for each test block, with negative scores indicating negative evaluations of the objective target. Additionally, independent t -test analyses were used to find if sensitivity varied by object category, and if sensitivity varied by presentation randomization order of the GNAT and vignettes.

Results

Vignettes

BSDS results were not found to be significant when the control vignette was compared to the substance abuse vignette, when the control vignette was compared to the SUD vignette, nor when the substance abuse vignette was compared to the SUD vignette (control vs. substance abuse, $t(28) = 1.156$,

$p = .258$, $d = .422$; control vs. SUD, $t(27) = 1.689$, $p = .103$, $d = .619$; substance abuse vs. SUD, $t(27) = .281$, $p = .781$, $d = .105$).

Descriptive results from participant responses to the BSDS found participants in the control condition reporting the greatest willingness to have less social distance from the person described as having neither a SUD or as a substance abuser ($n = 15$, $M = 6.866$, $SD = .352$). Both the substance abuser vignette ($n = 15$, $M = 6.533$, $SD = 1.061$) and the SUD vignette ($n = 14$, $M = 6.428$, $SD = .938$) found an increased participant desire for more social distance compared to the control vignette. Compared to the control, respondents to the substance abuse vignette and the SUD vignette were less likely to feel comfortable with the described person marrying into immediate family (0%, 13.3%, 21.4%), having the person in the immediate social circle (0%, 13.3%, 7.1%), having this person as a neighbor (0%, 13.3%, 7.1%), and having this person as a coworker (0%, 6.7%, 7.1%). There were no differences in willingness across vignettes related to comfort with having the described person be a citizen of country, being a visitor to country, or excluding from country.

Go/no go association task

As in Nosek and Banaji (2001) GNAT exploratory experiments, the current study d' score indicates participants' ability to discriminate targets (signal) from distractors (noise). The assumption is that higher d' scores will be present in test blocks that have stronger automatic attitudes, or implicit associations (substance abuse + good, substance abuse + bad, person with a substance use disorder + good, person with a substance use disorder + bad).

Sensitivity did not vary by objective category (substance abuse or person with substance use disorder; $F(1,36) = .001$, $p = .980$), or by evaluative category (good or bad; $F(1,36) = .109$, $p = .743$), suggesting that automatic attitudes found between the test blocks was unique toward the association between objective and evaluative targets. Additionally, sensitivity did not vary by presented order (GNAT first > Vignette, Vignette first > GNAT); substance abuser + good, $F(2,35) = .728$, $p = .399$; substance abuser + bad, $F(2,35) = .862$, $p = .360$; person with substance use disorder + good, $F(2,35) = 2.482$, $p = .124$; person with substance use disorder + bad, $F(2,35) = 1.350$, $p = .253$

Participants had significant stronger associations with substance abuser + bad ($d' = 1.989$) as compared to substance abuser + good ($d' = 1.174$, $t(36) = -6.003$, $p < .0001$, $d = -0.93$), and with person with substance use disorder + bad ($d' = 1.609$) as compared to person with substance use disorder + good ($d' = 1.155$, $t(36) = -3.397$, $p = .002$, $d = -0.46$). Although both objective categories had significant stronger negative associations, the average difference in negative associations with person with substance use disorder and that of substance abuser was significant, $t(36) = 2.433$, $p = .020$, $d = .385$. On average, the negative

association d' score for substance abuser was 0.380 higher than that for person with a substance use disorder (95% confidence interval [CI] [0.063, 0.697]).

Discussion

Similar to the findings of previous studies (Kelly, 2004; Luoma et al., 2007; Radcliffe & Stevens, 2008; Kelly et al., 2010; Kelly & Westerhoff, 2010; McGinty, Goldman, Pescosolida, & Barry, 2015), negative associations, in the form of implicit bias or automatic attitudes, do exist within the language used to describe and identify those with SUDs. However, results presented in the current study go further in quantifying the negative association, providing a measurable index of the association between a commonly used term *substance abuser* and the evaluative concept of “bad.” Additionally, the recommended alternative term to substance abuser, *person with a substance use disorder*, was found to also induce a negative association; this association was less severe than the negative association with *substance abuser*, however. The findings suggest a measurable benefit of using the phrase *person with a substance use disorder*, but this benefit does not produce a positive association, merely a less negative one than *substance abuser*. It is unknown at this time whether a term, or set of terms, exist that can produce such a positive association, but the results provide strong evidence that the GNAT can be used to test hypothesis stemming from the desire to identify such terms.

The current study also provides a basis for using the GNAT to test additional terms identified as stigma inducing and the suggested alternatives. The potentially stigmatizing terms being *clean* and *dirty* (associated with urinalysis tests), *addict*, *alcoholic*, *recovering addict*, *recovering alcoholic*; and the suggested alternatives of *positive* and *negative*, *person with a drug use disorder*, *person with an alcohol use disorder*, *person in long-term recovery from a substance use disorder*, *person in recovery from an alcohol use disorder* (Kelly, 2004; Kelly et al., 2010, 2016; Kelly & Westerhoff, 2010; White & Kelly, 2011).

The strong negative associations that exist for the term *substance abuser* provide further rationale that the term should cease to be used within a professional or personal context as it relates to behavioral health treatment and recovery. Given that strong explicit negative attitudes toward clients with SUDs already exist within the health professions (Van Boekel et al., 2013), driven in large part by nonlinguistic factors (e.g., perception of violence, lack of motivation, and manipulation), it is critical that implicit negative associations are mitigated as much as possible, so as not to compound potentially discriminatory behaviors such as reductions in quality care delivery. With 28% of participants in the current study reporting employment in the healthcare professions, it is likely that implicit negative associations are as pervasive within the field as the explicit associations.

Although improvements have been made in language choice in the profession, as previously discussed, the behavioral health field still has government agencies (National Institute on Drug Abuse, Substance and Mental Health Services Administration, National Institute on Alcohol Abuse and Alcoholism) and professional organizations (National Association for Alcoholism and Drug Abuse Counselors) that readily use the term *abuse* (White, 2004; White & Kelly, 2011). The results described in this article provide stronger evidence that the suggestions made in previous studies (e.g., the field should cease using *substance abuse* in any form) should be adhered to. Additionally, the negative association also present with *person with a substance use disorder*, although less negative than *substance abuser*, suggests that we have not yet gone far enough in modifying our language to more positive linguistic terms.

Though the results from the current study also suggest that negative implicit bias exists for individuals with a SUD regardless of how they are labeled, it also suggests that the magnitude of the bias can in fact be manipulated via language choice. Similar to previous studies, implicit bias is seemingly affected (i.e., manipulated) by situational context, media content, and in the case of the present study, language choice (Austin & Smith, 2008; Sonnett, Johnson, & Dolan, 2015). Finding additional means to reduce the magnitude of negative implicit bias toward SUDs outside of language change, thus, should be strived for.

Creating new language is critical for modifying the impact of stigma. However, a greater linguistic challenge remains: preventing the degradation of clinical terms into pejoratives to stigmatize certain groups, which hints at deeper social issues than language. In the case of SUD, where chief symptomatology often includes socially aberrant “immoral” behavior (such as dishonesty, and law breaking), the language used to define such pathology must be carefully selected so as to not reflect moral disqualification through negative terms like “abuse.”

Findings from the current study should be viewed within the context of potential limitations. Although a large effect size was found with all GNAT results, the convenience sampling mechanism and relative small sample size have an impact on the generalizability, though the final sample ($N = 37$) is similar to sample sizes in two seminal articles using GNAT testing and methodology (Buhlmann, Teachman, & Kathmann, 2011; Teachman, 2007) that also found significant and large effects. Similarly, the pilot sample here is skewed toward White, college-educated, females; this presents a potential problem in biasing results. However, as this was a pilot study of the methodology we believe this limitation is acceptable. At this time, we do intend to replicate the current study with a sample size of 1,500 to provide further generalization to the larger general population and further validate significance and effect sizes. This planned larger study will seek to address the potential bias in the current study by using randomized sampling techniques

to control for demographic variables such as age, gender, education, employment, and race/ethnicity. The larger study will also allow us to analyze results using a mixed-design ANOVA model to explore differences between participant typology. Additionally, though the vignette results found a descriptive participant desire for more social distance when a person was described as a substance abuser or person with a SUD, sample size was not large enough to find a significant effect or to calculate odds ratio scores. When compared to previous vignette-based studies (McGinty, Goldman, Pescosolida, & Barry, 2015; Kelly et al., 2010), the descriptive results are similar but, again, appear to be underpowered and unable to duplicate the significant findings.

The percentage of respondents identifying as “in recovery” and working in the health professions also presents a unique situation of potential sampling bias; however, within this context the results are also more striking. If implicit bias exists in such strong levels of those individuals close to the subject matter, and in the case of those in recovery, likely affected by stigma that is pervasive, it is likely that even higher levels of implicit bias exist in the general population. As previously suggested, self-stigma and public stigma are inter-related concepts, and it is possible that those in recovery have internalized the stigmatizing messages of terms like “substance abuser,” resulting in higher levels of self-stigmatization. If this is the case, which should be a direction for future study, it is plausible that popular mutual aid groups, which often use this language to great lengths, may cause subconscious harm to individuals in recovery that participate in them.

It is clear that implicit bias exists for one of the most commonly used terms in behavioral health, by professionals and lay persons. Research suggests that any bias toward the population struggling with behavioral health disorders affects help-seeking behavior, self-esteem, and self-efficacy—all of which are critical to producing positive outcomes for those needing assistance. As such, future research should focus not only on providing further evidence that the previously identified stigmatizing terms, and the alternative positive terms, are in fact negatively associated and to what extent this negative association is present, but also the impact this negative association has on the individuals with a SUD. Identifying terms that have a positive association, rather than a less negative association, should also be a priority of future studies. Continuing to explore other commonly used terms in the behavioral health field to identify potential stigmatizing effects should be completed, as the impact of this stigma has a potentially dramatic effect on help-seeking behavior and policy creation. As this work is completed, it will likely be critical for the behavioral health field as a whole to implement changes in communication protocols and accepted vernacular.

The likely key to any substantial shift in public and professional stigma is consistent messaging and training. Given that stigma exists explicitly and implicitly, it is important that future efforts be used to increase the training

to professionals in a way that not only uses more positive language, but also intentionally educates practitioners on the effects and impact of stigma on clients in the past. Educational materials, marketing campaigns (i.e., public advertising), should immediately not only cease using negative terms such as substance abuse, but also should remain committed to regularly updating these materials and campaigns in line with emerging research. We would also suggest that such endeavors be careful in their execution so as not to create a “before and after” binary that further promotes the stigmatizing language being replaced. Language change will likely take a substantial investment of time, fiscal resources, and willingness. However, given the negative impact that stigma plays in improving healthcare services, and the seeking out of those services by some of our most vulnerable populations, it is an investment that is necessary.

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Statement of Interest

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