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Examining Dehumanization of Individuals with Schizophrenia

University of South Carolina Aiken

In Partial Fulfilment

of the requirements for the Degree

Master of Science

By

Brianna Drake

Examining Dehumanization of Individuals with Schizophrenia

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Abstract

Objective: Previous literature examines dehumanization of marginalized groups; though, most of this work focuses on ethnic and racial groups. Currently, there is a gap in the literature examining the extent to which people with mental illness are dehumanized. This study examined whether people with schizophrenia are dehumanized (relative to other marginalized groups, such as drug addicts). Furthermore, this research will investigate if using “person-first” language can attenuate dehumanization.

Method: Participants (n = 310) were recruited from Amazon Mechanical Turk to complete a measure of dehumanization and demeaning needs for each of the nine targets (i.e., self, close friend, lawyer, elderly, child, homeless, drug addict, chimpanzee, schizophrenia). Each measure was slightly altered to incorporate person-first and noun-based labels for each target and were randomly assigned between participants.

Results: Contrary to prediction, there were no significant effects for the use of person-first language on dehumanization. However, hypotheses 1 and 2 were partially supported through a significant interaction was between dehumanization type and target, as well as need level and target. Specifically, individuals with schizophrenia were viewed as more animalistic and mechanistic than oneself and a close friend. Further, participants perceived middle- and high-level needs for people with schizophrenia as less important than those for themselves and a close friend.

Conclusion: This study provided valuable information on the extent to which individuals with schizophrenia are dehumanized as well as the perceived psychological need importance for this population. Further, this study provided contradictory evidence to the notion of the use of person-first language combatting stigma in that there was no significant interaction between

language type and dehumanization. These results have significant implications regarding how the public views these individuals based on examinations from previous literature on the consequences of dehumanization of racial groups. Thus, this study sheds light on how more research should be conducted on the effects of dehumanization on mental illness and interventions to combat such dehumanization other than language changes.

Examining Dehumanization of Individuals with Schizophrenia

The stigmatization of individuals with mental illness was intensified in the 19th century when mental health treatment was separated from standard healthcare (Shrivastava et al., 2012). Misunderstanding and a lack of education can lead to the stigmatization of individuals with mental illness (Corrigan & Watson, 2007). Stigma can be defined as a set of negative attitudes or beliefs leading to fear, rejection, or discrimination against a group (Parcesepe & Cabassa, 2013). Individuals with a mental illness have two issues at hand. They must handle the complexities of the mental illness itself, and they also may experience discrimination and negativity that results from the stigma associated with it.

There are many stigmatizing beliefs associated with mental illness. A commonly held belief is that people suffering from mental illness are dangerous and prone to violence (Garpenhag & Dahlman, 2021; Parcesepe & Cabassa, 2013). A study conducted by Seeman et al. (2016) examining views of mental illness from 229 countries found that individuals estimate those with mental illness to be more violent than those without and found that individuals believed people could not overcome mental illness. People also tend to view individuals with mental illness as incompetent, prone to criminality, blameworthy for their illness, and shameful (Parcesepe & Cabassa, 2013). Research suggests even though the awareness and education of mental health problems has increased, stigmatizing attitudes have remained constant throughout the last few decades; for example, a study conducted by Mirnezami et al. (2015) assessed attitudes towards mental illnesses from a group of participants in 1976 and again in 2014. They found approximately 77% of the 500 participants believed a label of “mentally ill” harms a person’s reputation, and 25% of participants continued to believe people with mental illness are violent. Similarly, a study conducted by Mehta et al. (2009) found

that after comparing public attitudes towards mental illness across a ten-year span, attitudes were less positive in 2003 compared to 1994. While there has been a push to normalize mental health disorders and treatment, there are still many negative beliefs associated with it that are problematic.

Stigma toward people with schizophrenia

Schizophrenia is characterized by delusions, hallucinations, and/or disorganized speech. Individuals with schizophrenia may also experience grossly disorganized or catatonic behavior as well as negative symptoms including anhedonia, reduced emotional expression, or avolition (American Psychiatric Association, 2013). According to Silverstein et al. (2015), who examined the relationship between schizophrenia and violence, people with schizophrenia are at an increased risk for violence due to their symptoms (e.g., delusional thought). However, the majority of offenses committed by this population are indistinguishable from those committed by individuals without schizophrenia. Further, the authors found individuals with schizophrenia who commit violent acts only represent a small portion of the overall population.

It is clear that individuals with mental illness can be highly stigmatized; however, the degree of stigmatization also depends on different types of mental illness. There has been an abundance of evidence throughout the last few decades supporting the idea of increased stigmatization and discrimination towards individuals with psychosis or psychotic disorders, especially schizophrenia. Some research indicates that schizophrenia is associated with the highest degree of beliefs of incompetency, violence, and dangerousness (Angermeyer & Dietrich, 2006). Additionally, studies examining how attitudes towards schizophrenia have changed over time suggest that they have remain just as negative or even worsen across a span of decades (Angermeyer et al., 2021; 2018; Schomerus et al., 2012). Individuals with schizophrenia

can experience a significant amount of stigma simply based on the nature of their disorder. People living in communities alongside individuals with schizophrenia often oppose the construction of psychiatric hospitals or long-term care facilities, presumably due to the perception of proneness to violence (Solomon & Davis, 1984). Furthermore, people are more likely to ostracize individuals with schizophrenia, making it more difficult for them to gain employment (Baba et al., 2017). A study examining perceptions of stigma among individuals with schizophrenia found that 49% of participants reported alienation and shame, and 87% reported rejection from interpersonal relationships (Gerlinger et al., 2013).

Many individuals who experience stigma throughout their lives may also harbor negative self-appraisals (Wahl, 2012). Huggett et al. (2018) found participants with mental illness experienced feelings of self-blame, suicidality, and a sense of worthlessness in response to internalized stigma. According to Yanos et al. (2008), self-stigma occurs when an individual loses a sense of personal identity (e.g., student or employee) and adopts an identity derived from stigmatizing attitudes (e.g., incompetent). Brohan et al. (2010) found that 42% of participants with schizophrenia reported moderate to high levels of self-stigma. Further, Vrbova et al. (2016) found, in individuals with schizophrenia, self-stigma was related to higher hospitalization rates. Several studies provide evidence that supports less resilience among individuals with moderate to high levels of internalized stigma (Drapalski et al., 2013; Jahn et al., 2020; Post et al., 2018). In line with this, Modified Labeling Theory (MLT) assumes that when an individual is diagnosed with a mental illness, the person begins to internalize cultural beliefs associated with the illness (Kroska & Harkness, 2008). Cultural perceptions, such as incompetence, become internalized and can transform into negative self-beliefs. These internalized beliefs generate expectations of rejection within the individual which triggers defensive behaviors, such as concealing or

withdrawing, to combat the anticipated rejection. This provides further evidence that stigma increases the hardship associated with living with schizophrenia.

Dehumanization

Some studies have found that stigmatizing beliefs lead to the dehumanization of individuals with mental illness. For example, Boysen et al. (2020) found that stigmatizing attitudes (e.g., fear and social distancing) were related to higher levels of dehumanization of mental illness. Dehumanization is defined as attributing fewer human-like characteristics to individuals or groups (Haslam, 2006). Denial of humanness can occur in various situations of discrimination, such as media portrayals of individuals as beasts or monsters, comparing humans to animals, terminology describing humans as objects, or assuming individuals cannot express complex emotions fundamental to humans (Haslam et al., 2008). There are two types of dehumanization: animalistic and mechanistic. Animalistic dehumanization is defined as a reduced attribution of uniquely human characteristics to others. These individuals are seen as animal-like, and their behavior is believed to be driven by motives, appetites, and instincts. Mechanistic dehumanization can be described as lacking traits that differentiate humans from objects or machines; these individuals are seen as robotic, or lacking agency and emotionality (Boysen et al., 2020; Haslam et al., 2008).

Substance use

Specific to individuals with substance use disorders, Morera et al. (2016) found that participants dehumanized people with addiction, and they attributed more human-like characteristics to “evil people” (e.g., mercenaries or terrorists) than they did to people with addiction. Another study examining this population found that participants perceived these individuals as objects instead of social subjects, and they were rated as relatively dissimilar,

unintelligent, cold, and incompetent (Harris & Fiske, 2006; 2011). Speaking to the dehumanization of substance use compared to other psychiatric disorders, some studies found that participants dehumanized people with substance use disorders more than those with other mental illnesses due to a perception that individuals with substance use disorders have more responsibility over their condition (Fontesse et al., 2021; Schomerus et al., 2011).

Other dehumanized groups

Thus far, research examining dehumanization has focused mainly on different racial and ethnic groups. Often, many racial and ethnic groups are compared to dogs, pigs, rats, parasites, or insects, and are sometimes visually depicted with animal-like features (Haslam, 2006). For example, (Goff et al. (2014) found that individuals attribute less innocence to Black children compared to other races. Specifically, the authors found that participants were more likely to associate Black individuals with apes after being asked to pair words (e.g., Black) with animals (e.g., apes and great cats). Further, they found that associating Black children with apes predicted racial disparities from police officers through measuring culpability of these children committing felonies. Much of the dehumanization literature focuses on instances of dehumanization towards specific racial and ethnic groups such as the dehumanization of Palestinians (Nagar & Maoz, 2017), Black Americans (Costello & Hodson, 2014), and Arabs (Prati et al., 2016).

Some recent, international investigations examined other marginalized groups that are subjected to dehumanization, including individuals with disabilities (Capozza et al., 2016), groups with low socioeconomic status (Loughnan et al., 2014), and members of the LGBTQ+ community (Di Battista et al., 2020; MacInnis & Hodson, 2021). Homeless individuals are also frequently dehumanized. Studies examining this dehumanization found people experience disgust reactions, while viewing photographs, from homeless people via fMRI scans (Harris &

Fiske, 2006), and people have difficulty inferring the contents of these individuals' minds and personalities. That is, participants did not think about the mental content, or thoughts and feelings, of dehumanized targets as often as they did for other non-dehumanized targets (Harris & Fiske, 2011).

Some of this work has focused on dehumanization from a healthcare perspective, examining the frequency of dehumanization among nurses and healthcare students. Fontesse et al. (2021) found nurses dehumanized patients with mental illness more than patients with physical disabilities. Moreover, Trifiletti et al. (2014) found that dehumanizing psychiatric patients resulted in lower stress levels in nurses with higher commitment to their place of employment and commitment to patients compared to those with lower levels of such commitment. This points to the troubling possibility that dehumanization might be negatively reinforced, by reducing stress levels, in medical settings, which may lead to potential negative downstream mental and physical consequences for the dehumanized party.

Healthcare and psychiatric treatment

There is a recent increased interest in research focusing on healthcare settings as a key area of discrimination towards marginalized groups. Research has shown that individuals with schizophrenia receive reduced consideration for their pain and consent in a healthcare setting compared to patients without a mental illness (Fontesse et al., 2021). There is further evidence to support the notion that students in healthcare fields also discriminate against mental illness. For example, a meta-ethnography conducted by Riffel and Chen (2020) examined perceptions of mental illness among healthcare professionals and students. The authors found negative perceptions dominated the 14 articles included in their analysis; such perceptions included those

of fear, powerlessness, frustration, and overall stigmatizing views, which the authors suggest are exacerbated by lack of knowledge, training, resources, etc.

The effects of dehumanization can be debilitating and have clearly negative consequences. Individuals with mental illness are often advised to seek treatment to improve overall functioning. However, dehumanization associated with mental health may prove to be another barrier for individuals seeking treatment. Specifically, it may lead individuals to engage in concealment of the aspect of their identity that is dehumanized, which may entail withdrawal from treatment (Bharadwaj et al., 2017).

Social contexts

Marginalized groups often face interpersonal maltreatment (Haslam, 2006; Haslam & Stratemeyer, 2016). A study examining global discrimination of schizophrenia found that 55% of the participants anticipated discrimination when looking for friends, 72% felt it best to conceal their diagnosis, and 43% experienced discrimination from family members and friends (Thornicroft et al., 2009). Peers may disregard the existence of dehumanized individuals and forgo the possibility of social connection with them (Haslam, 2006). Further, according to Brandt and Reyna's (2011) view of the social cognitive chain of being, when an individual moves lower on the chain of being (i.e., closer to nonhuman animals), the individual will be perceived as deserving blame, exclusion, and discrimination. The individual is no longer seen as worthy of care or concern and is more likely to experience derision, hate crimes, torture, and possibly even genocide, as seen in past historical events (Brandt & Reyna 2011; Torrey & Yolken, 2009).

There is additional evidence to support the idea of decreased prosociality from peers by providing less collective help, assistance, forgiveness, and solidarity to marginalized groups (Cuddy et al., 2007; Haslam, 2014). This decrease in prosociality is often linked to the concept of

using marginalized groups as scapegoats in crises (Markowitz et al., 2021). These findings are particularly significant due to the implications of isolation of the marginalized, as well as the potential for disinhibiting violence towards these individuals and favoring harsher punishments towards these individuals (Markowitz & Slovic, 2020b) This may lead individuals vulnerable to harassment and overall aggressive behavior.

Psychological consequences of dehumanization

Experiencing denials of humanity can lead to negative psychological effects on an individual. Research shows that dehumanized individuals experience negative self-evaluations and feelings of responsibility for their lower social status (Bastain & Haslam, 2011). There is an abundance of literature pointing towards the difficulty of individuals with mental illnesses gaining employment, housing, insurance, and more (Corrigan et al., 2006). This lack of opportunities, coupled with various other stressors, can have serious implications for the psychological well-being of these individuals. A study conducted by Poremski et al. (2014) examining the relationship between employment and homeless individuals with mental illness found that self-perceived barriers to employment included having a criminal record, difficulty obtaining psychiatric care, and shelter interfering shelter practices (e.g., lack of sleep, losing a bed, no place for personal belongings). This study also found individuals who experienced difficulty maintaining employment due to extraneous factors from living in a shelter were more likely to abuse substances as a coping skill, which added to employment barriers. Long-lasting stressors lead to psychological and physiological responses such as anger, fear, compromised immune systems, and release of stress hormones (Moradi, 2013). Further, discrimination can lead individuals to engage in self-blame, substance use, and detachment (Wei et al., 2010).

Demoting needs is dehumanizing

Schroeder and Epley (2020) argued that demeaning others' needs could reflect a form of dehumanization. Psychological needs (e.g., self-esteem, relationships) relate to human-like mental functions, such as thinking and feeling, whereas physical needs (e.g., food, shelter) relate to bodily states shared with animals. Thus, people's perception of the relative importance of having these needs satisfied serves as a proxy for how "human-like" the target of their perception is. For example, if someone believes that having self-esteem and meaningful relationships is more important for a close friend than for a homeless person (but that having food and shelter are equally important for both targets), this would indicate that the homeless person is perceived as having fewer human-like qualities than the friend. Schroeder and Epley (2020) found this was indeed the case. The degree to which people perceive the relative importance of psychological vs. physical needs for people with schizophrenia has not yet been investigated. Elucidating whether this is the case is one of the goals of the present research. The present study will examine this by including all targets presented in Schroeder and Epley's (2020) study but also including schizophrenia as a target. The present study will utilize such targets to disguise the interest in schizophrenia targets.

Language and dehumanization

Words and phrases used to characterize, describe, and refer to individuals with mental illness are crucial in understanding and appreciating the individuals associated with the illness (Dunn & Andrews, 2015). Though some individuals do not have harmful intentions, the use of unintended stigmatizing language is arguably more dangerous than language with intended meanings. That is, unintended stigmatizing language can perpetuate power dynamics and lends to the idea that this language (e.g., noun-based labels) is becoming "normal" to the point of becoming unintentional or invisible (Shattell, 2009). While examining tolerance, Granello and

Gibbs (2016) found that participants showed less tolerance of targets with a noun-based label (i.e., the mentally ill) compared to those described with person-first language (i.e., person with mental illness). Further, the authors found professional counselors had the lowest level of tolerance of these individuals compared to college students and community members. Within the last decade, there has been a push by mental health professionals for the use of person-first language within healthcare settings rather than labeling individuals using noun-based descriptors (e.g., schizophrenics, addicts, etc.). Since, the American Psychological Association (APA) has advocated for the use of person-first language in an attempt to combat stigma associated with mental illness. The use of person-first language is thought of as a starting point of conveying respect and dignity towards people by placing emphasis on the individual instead of the illness (Jenson et al., 2013).

While it is apparent that dehumanization of individuals with mental illness can be associated with stigmatizing attitudes, it can also be associated with the use of stigmatizing language. That is, individuals who see mental illness as animalistic apply more stigmatizing language, such as the use of noun-based labels (Boysen et al., 2020). Krzyzanowski et al. (2019) examined the relationship between depicted violence and the willingness to use noun-based labels to describe the person. The authors found that participants were more likely to use noun-based labels to describe individuals with mental illness who committed a violent act. Upon further investigation, the authors then found that dehumanization of these individuals mediates that relationship. These findings provide interesting information on the possibility of stigmatizing attitudes, such as perceived dangerousness, and stigmatizing language leading to the dehumanization of this population.

To date, most person-first language literature focuses on language used within medical practice (Hartwell et al., 2020). A cross-sectional analysis examining the use of person-first language, between 2018-2020, found that only 40% of peer-reviewed publications regarding physical disabilities (Headley et al., 2021) and 20% regarding substance abuse (Hartwell et al., 2020) adhered to suggested person-first language use. Similarly, a study examining a larger timeframe, nine years, found that only 13.6% of publications used person-first language (Sharp et al., 2021). Due to this recent push of utilizing less stigmatizing language, there is an increased interest in researching the effects of language changes. There is minimal literature examining the effects of the use of person-first language among populations with mental illness as the literature focuses mostly on physical illnesses. Further, the impact of person-first language on the reduction of stigma among individuals with mental illness still needs additional research to better understand this relationship. A study examining the hypothetical use of language of mental illness found targets with a noun-based label (e.g., schizophrenic) was rated as having more negative traits than the possessive label (e.g., Jessica has schizophrenia) suggesting the type of language used may reduce stigma (Cuttler & Ryckman, 2019).

One of the goals of the present study is to examine how the use of person-first language relates to dehumanization. Specifically, it will experimentally examine whether dehumanization of people with schizophrenia is attenuated when noun-based labels are replaced with person-first descriptors. =Dunn & Andrews, (2015) argued phrases such as “a person with schizophrenia” should be used to better accommodate a person’s individual characteristics and maintain the humanness of the individual.

Research overview

While the stigma associated with mental illness has been explored to a great extent, the role of dehumanization is crucial in fully understanding stigmatization and discrimination. Further, the extent to which person-first vs. noun-based descriptors influence dehumanization of individuals may provide valuable insights into future interventions designed to reduce stigma negative outcomes. To my knowledge, there are no studies examining whether the dehumanization of people with schizophrenia occurs, how this relates to other stigmatized groups (e.g., drug addicts), and if language plays a role. This study will explore these possibilities. Dehumanization will be operationalized in two different ways. First, the extent to which people are perceived as relatively mechanistic and animalistic will be examined. Second, the perceived importance of psychological needs (vs. physical needs) will serve as a measure of dehumanization as demeaning psychological needs is viewed as a way to dehumanize individuals (Schroeder & Epley, 2020).

Hypotheses

Hypothesis 1. Homeless individuals, individuals with substance use disorders, chimpanzees, and individuals with schizophrenia will be dehumanized relative oneself and a close friend. Further, people with schizophrenia will be dehumanized the most.

Hypothesis 2. Participants will demean the needs of homeless individuals, individuals with substance use disorders, chimpanzees, and individuals with schizophrenia more than oneself and a close friend. Further, participants will demean the needs of people with schizophrenia most.

Hypothesis 3. Targets described with a noun-based label will be dehumanized to a greater extent than targets described with person-first language.

Method

Participants

A sample of 357 participants were recruited from Mechanical Turk (MTurk), a crowdsourcing service provided by Amazon, to complete an online questionnaire administered through Alchemer survey software. Several participants were excluded from data analysis due to receiving both conditions ($n = 22$) as well as completing the study in an unrealistically short time period ($n = 25$) leaving a final sample of 310 participants. The majority of participants were male (45.7%, $n = 153$) and Caucasian (66.9%, $n = 224$) with 7.5% ($n = 25$) identifying as Black/African American, 0.9% ($n = 3$) as Hispanic/Latino, 1.2% ($n = 4$) as Asian, and 0.3% ($n = 1$) as “Other” identifying as mixed race. Participants had an average age of 38.51 years (range 21-65). Participants were compensated 40 cents for their participation. This payment amount is consistent with studies that are similar in length (e.g., Schroeder & Epley, 2020).

Materials

Dehumanization Scale (Appendix A). The Dehumanization Scale (Haslam et al., 2005) consists of 12 items measuring two aspects of humanity: uniquely human and human nature traits. Six of the items measure uniquely human traits, those that distinguish humans from other animals relative to the capacity to think, (e.g., “relatively mindless like an object”) and six items measure human nature traits, those that distinguish humans from objects relative to the capacity to feel emotions (e.g., “mechanical and cold, like a robot”). Using a Likert scale ranging from one (*not at all*) to seven (*very much*) participants were asked to indicate the degree to which they agree with statements about the target. Higher scores on the uniquely human items reflect animalistic dehumanization, whereas higher scores on the human nature items reflect mechanistic dehumanization. In this study, this measure showed good reliability ($\alpha = .88$).

This measure was completed nine times (once for each target), and responses were averaged across items corresponding to the two different dehumanization categories (animalistic

vs. mechanistic), separately for each target. This is consistent with how this measure is used in previous research (Schroeder & Epley, 2020). For the schizophrenia and substance use disorder targets, different versions of this measure were administered between participants via random assignment. In one version, the target for the schizophrenia trial was described in person-first language (e.g., “people with schizophrenia are mechanical and cold, like a robot”). The other version was worded without emphasizing personhood (e.g., “schizophrenics are mechanical and cold, like a robot”).

Needs Scale (Appendix B). To measure the tendency to demean individuals’ needs, the 15-item Needs Scale was used (Schroeder & Epley 2020). The items measure perceptions regarding the importance of the five need types from Maslow’s hierarchy (i.e., physiological, safety, belonging, self-esteem, and self-actualization). The five need types are categorized into low level, or purely physical needs, middle level, including both physical and psychological (i.e., safety and belonging), and high level, or purely psychological needs (i.e., self-esteem and self-actualization). Participants were asked to rate how important they believe each need is for the target [self, close friend, lawyer, elderly, child, homeless, drug addict, chimpanzee, schizophrenia] using a Likert scale ranging from 1 (*not at all important*) to 7 (*extremely important*). In this study, the Needs Scale was shown to have good reliability ($\alpha = .87$).

Participants completed a separate version of this scale for all nine targets. Responses were averaged across items corresponding to the three different need categories (low, medium, high), separately for each target. This is consistent with how this measure is used in previous research (Schroeder & Epley, 2020). For the schizophrenia and substance use disorder targets, two slightly different versions of this measure were administered between participants via random assignment. In one version, the target for the schizophrenia trial was described in person-

first language (e.g., “please rate how important you think the following needs are for people with schizophrenia”). The other version was worded without emphasizing personhood (e.g., “please rate how important you think the following needs are for schizophrenics”).

Level of Contact (Appendix C). In order to measure degree of contact participants have with schizophrenia and substance use disorders, the Level of Contact Report was used. The Level of Contact Report consists of 12 intimate situations ranging from least intimate (e.g., “I have observed, in passing, a person I believe may have a mental illness”) to medium intimacy (e.g., “I have worked with a person with mental illness at my place of employment”) to high intimacy (e.g., “I have a mental illness”). Participants were asked to check all situations on the list that they had experienced in their lifetime. Participants received a score for the number of situations they have checked off experiencing. These scores were created by summing the total number of intimate situations endorsed. Two versions of the survey were presented to assess level of contact towards schizophrenia and substance use disorder.

Demographic Survey (Appendix D). Each participant was asked to complete a demographic survey for qualitative purposes. The survey included age, race/ethnicity, gender, and questions about a diagnosis of schizophrenia or substance abuse history.

Procedure

The study was advertised on Amazon Mechanical Turk. Participants followed a web link to gain access to the study. To begin, participants read an information letter that clearly outlined the study procedure, along with a brief description of the measures that were assessed. Once participants agreed to continue, they were presented with the measures listed above in sequential order, separately for each of the nine targets. This study used a 9 (target: self, close friend, lawyer, elderly, child, homeless, drug addict, chimpanzee, schizophrenia) x 2 (language: person-

first, control) mixed-model design with the former variable manipulated within-subjects and the latter variable manipulated between subjects. Finally, participants filled out the demographic survey, were thanked for their time, and compensated for participation.

Results

Dehumanization

A series of mixed-model ANOVAs were utilized to test each hypothesis. To test the presence of dehumanization, a 6 (target group) x 2 (dehumanization type) x 2 (language type) mixed-model ANOVA was conducted. The analysis revealed a significant two-way interaction between dehumanization type and target $F(5, 1305) = 37.84, p < .001$. Due to this significant interaction, the subsequent analyses were run separately across each dehumanization type (i.e., animalistic and mechanistic). Contradictory to predicted outcome, there was no significant main or interactive effects for the use of person-first language $F(1, 261) = .04, p = .852$. Further, ancillary analyses examining whether these patterns of results differed across sex $F(2, 260) = .73, p = .482$ or ethnicity $F(5, 257) = .80, p = .554$ yielded null results. Ancillary analyses including level of contact as a covariate yielded similar results.

Regarding animalistic dehumanization, a 6 (target group) x 2 (language type) mixed-model ANOVA was conducted. This analysis revealed a significant main effect of target group $F(5, 1305) = 37.81, p < .001$. Hypothesis 1 was partially supported through pairwise comparisons revealing significant differences between schizophrenia ($M = 3.89, SE = .03$) and oneself ($M = 3.58, SE = .05$), a close friend ($M = 3.62, SE = .05$), chimpanzee ($M = 4.25, SE = .05$), and individuals with substance use disorders ($M = 4.03, SE = .04$). Specifically, individuals with schizophrenia were viewed as more animalistic than oneself and a close friend. However, contradictory to predicted outcome, the schizophrenia target was viewed as less animalistic than

a chimpanzee or an individual with drug addiction. See Figure 1 for means and standard errors for each target. No main or interactive effects emerged for language type ($ps > .10$).

Regarding mechanistic dehumanization, results revealed a significant main effect of target group $F(5, 1305) = 23.18, p < .001$. Pairwise comparisons also revealed significant differences between schizophrenia and all targets except chimpanzees. Similarly, hypothesis 1 was partially supported given that individuals with schizophrenia ($M = 3.87, SE = .04$) were seen as more mechanistic than oneself ($M = 3.58, SE = .06$), a close friend ($M = 3.59, SE = .06$), and a homeless individual ($M = 3.75, SE = .04$). However, individuals with schizophrenia were seen as less mechanistic than someone with addiction ($M = 3.99, SE = .04$). See Table 1 and Figure 1 for means and standard errors for each target. Again, there was no significant main or interactive effects on the use of person-first language ($ps > .11$). See Table 2 for means and standard errors for each target and condition.

Table 1

Target Means and Standard Errors

Dehumanization	Animalistic		Mechanistic	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Self	3.58	0.05	3.58	0.06
Close friend	3.62	0.05	3.59	0.06
Homeless	3.83	0.04	3.75	0.04
Drug addict	4.03	0.04	3.99	0.04
Chimpanzee	4.25	0.05	3.90	0.04
Schizophrenia	3.90	0.03	3.87	0.04

Table 2

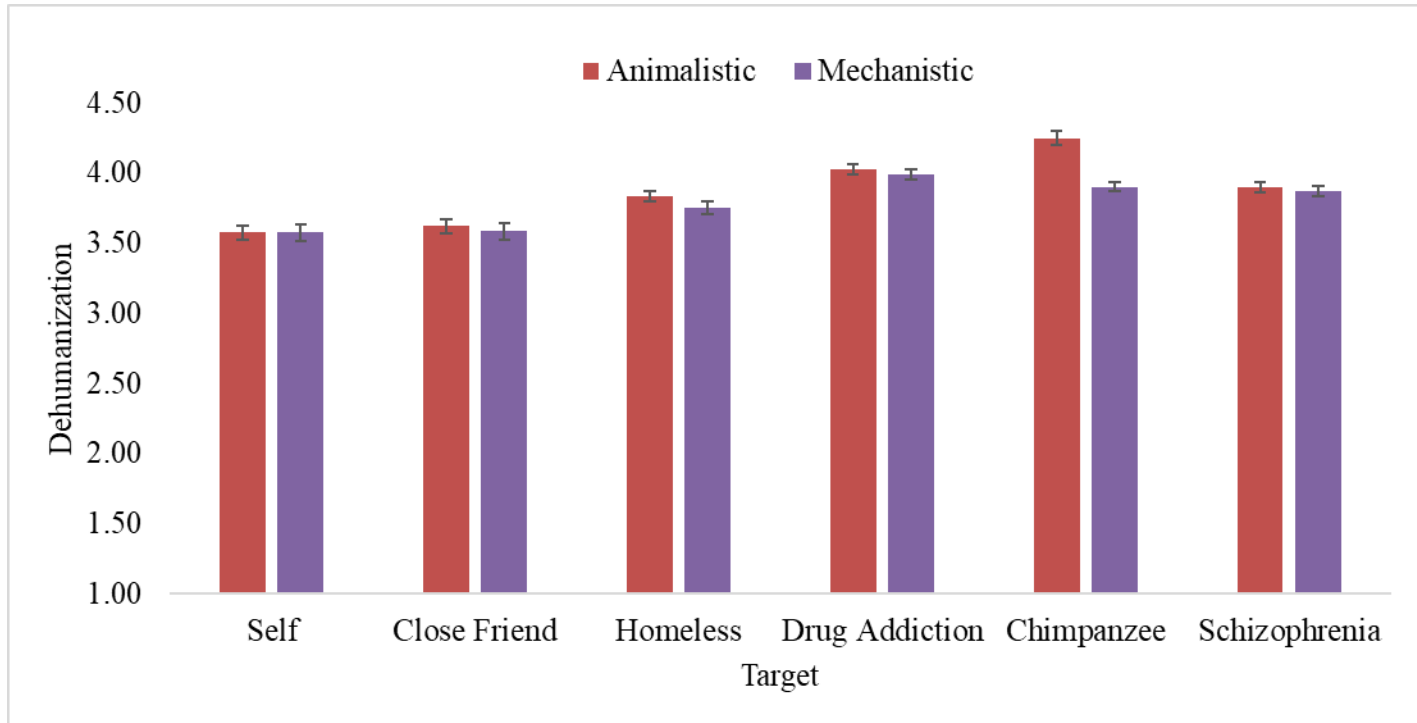
Target and Condition Means and Standard Errors

Language	Animalistic				Mechanistic			
	Control		Person-First		Control		Person-First	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Drug addict	4.05	0.05	4.01	0.05	3.98	0.05	3.99	0.06

Schizophrenia 3.91 0.05 3.87 0.05 3.91 0.05 3.83 0.06

Figure 1

Dehumanization of Targets



Need Importance

In order to test perceived psychological need importance, a 6 (target) x 3 (need level) x 2 (language type) mixed ANOVA was conducted. This analysis revealed a significant two-way interaction between need level and target group $F(10, 2520) = 135.35, p < .001$. Due to this significant interaction, the subsequent analyses were run separately across each need type (i.e., low, middle, and high-level needs) separately for each target. No significant main or interactive effects of the use of person-first language on perceived need level emerged $F(1, 254) = 1.06, p = .304$. See Table 3 for means and standard errors for each target and condition. Ancillary analyses including level of contact as a covariate yielded similar results.

Regarding low-level needs, a significant main effect of target group was identified $F(8, 2240) = 226.15, p < .001$. Pairwise comparisons revealed a significant difference between schizophrenia ($M = 5.52, SE = .07$) and the homeless target ($M = 3.67, SE = .05$) where low-level needs for individuals with schizophrenia were perceived as more important than they were for homeless individuals.

Analysis of middle-level needs revealed a significant main effect of target group, $F(5, 1260) = 14.80, p < .001$. Pairwise comparisons revealed significant differences between schizophrenia and all target groups except for individuals with drug addiction. Specifically, participants perceived middle-level needs for individuals with schizophrenia ($M = 5.34, SE = .07$) as more important than those for homeless individuals ($M = 5.25, SE = .07$) and chimpanzees ($M = 5.10, SE = .08$). However, participants perceived middle-level needs for individuals with schizophrenia as less important than those for themselves ($M = 5.46, SE = .07$) and a close friend ($M = 5.50, SE = .06$).

Lastly, high-level needs also showed a significant main effect of target group $F(5, 1260) = 22.24, p < .001$. Pairwise comparisons revealed significant differences between schizophrenia, oneself, a close friend, and chimpanzees. Specifically, perceived high-level needs were more important for individuals with schizophrenia ($M = 3.83, SE = .04$) than for chimpanzees ($M = 3.83, SE = .04$). However, they perceived these needs as less important for individuals with schizophrenia than for themselves ($M = 3.83, SE = .04$) and a close friend ($M = 3.83, SE = .04$). See Table 3 and Figure 2 for means and standard errors for each target. See Table 4 for means and standard errors for each target and condition.

Table 3

Target Means and Standard Errors

Need Level	Low		Middle		High	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Self	5.62	0.07	5.46	0.07	5.51	0.06
Close friend	5.58	0.07	5.50	0.06	5.48	0.06
Homeless	3.67	0.05	5.25	0.07	5.30	0.07
Drug addict	5.46	0.07	5.24	0.07	5.22	0.08
Chimpanzee	5.59	0.07	5.10	0.08	4.89	0.09
Schizophrenia	5.52	0.07	5.34	0.07	5.24	0.07

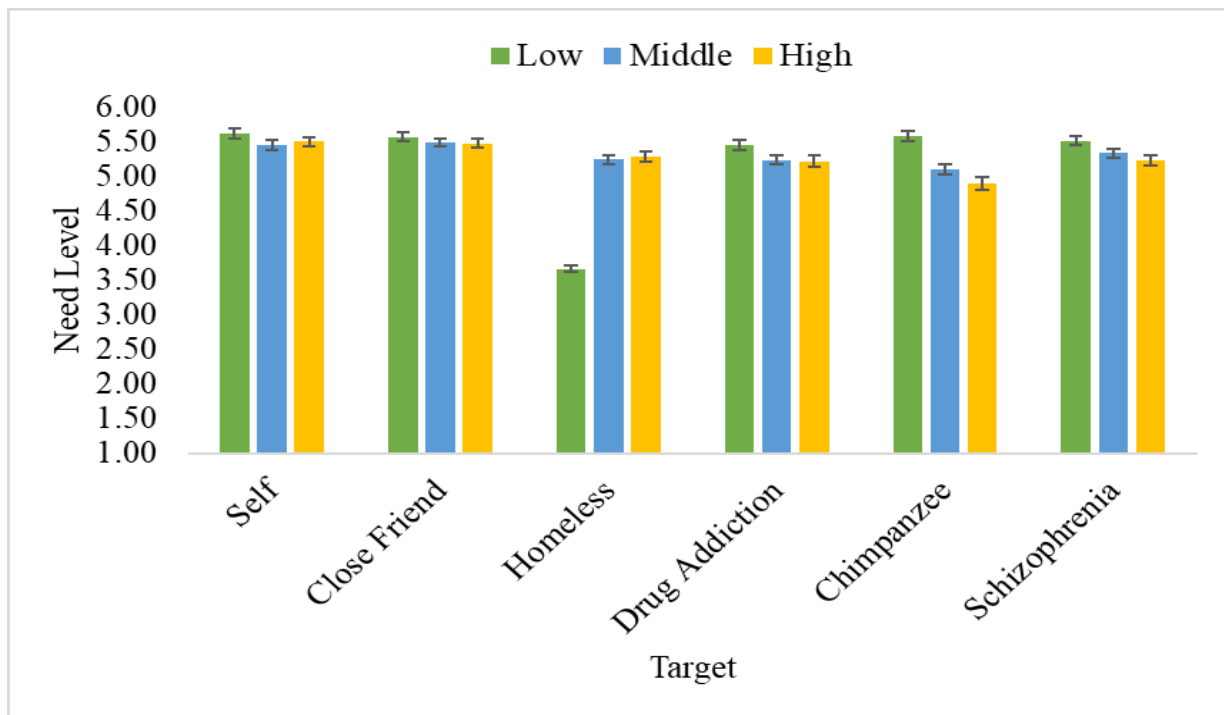
Table 4

Target and Condition Means and Standard Errors

Language	Low				Middle				High			
	Control		Person-First		Control		Person-First		Control		Person-First	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Drug addict	5.52	0.01	5.41	0.11	5.16	0.01	5.32	0.10	5.16	0.11	5.28	0.11
Schizophrenia	5.62	0.01	5.42	0.11	5.35	0.09	5.33	0.01	5.26	0.09	5.21	0.1

Figure 2

Perceived Psychological Need Importance for Targets



Discussion

Literature examining stigma associated with schizophrenia is vast and extends over decades. It is suggested that stigmatizing beliefs may lead to dehumanization or the denial of human characteristics (Boysen et al., 2020). However, the literature examining the dehumanization of schizophrenia remains limited. Further, while there has been a significant push for the utilization of person-first language to combat stigma, literature examining the effects of a language change on this population is also limited. The purpose of this study was to examine the relationship between dehumanization and schizophrenia and how schizophrenia compares to other marginalized groups (e.g., substance use disorders). Further, this study sought to better understand the role person-first language plays in the dehumanization of schizophrenia and substance use disorder.

This study extends the work of Schroeder and Epley (2020). Similar to their study, results indicate participants significantly dehumanize marginalized groups (e.g., homeless and substance use) more than themselves or a close friend. Schroeder and Epley (2020) also consistently found participants demeaned the needs of individuals with substance use disorder more than oneself and a close friend. This study replicates this finding. The present study adds to their work by including the dehumanization and perception of need importance for individuals with schizophrenia. Similar to substance use disorder, participants perceived the middle and high-level needs of individuals with schizophrenia as less important than themselves or a close friend. Consistent with the previous study, this study also revealed participants perceived the low-level needs (e.g., food and water) of individuals with drug addiction were significantly less important than for a chimpanzee, which speaks to the level of dehumanization this population faces. This finding may be related to the general public's idea that those with substance use disorder only

care to satisfy one need; that is, the need to satisfy their urge to use drugs (Schroeder & Epley, 2020).

The extension of their work provides important implications for the dehumanization of schizophrenia in terms of dehumanization type as well as perceived need importance. As predicted, participants viewed psychological needs (i.e., self-esteem and self-actualization) as well as middle-level (e.g., safety and belonging) of people with schizophrenia as significantly less important compared to themselves or a friend. Understanding public perception of need importance provides insight into the neglected psychological well-being of these individuals. The belief of unimportance of psychological needs in individuals with schizophrenia may lead to peers and family ignoring the requests of further care to address psychological concerns or lead peers and family to minimize the individual's attempts at improving their psychological well-being. Speaking to the perceived lesser importance of middle-level needs, existing literature posits these individuals are at an increased risk of experiencing derision, hate crimes, and torture as seen in historical events (Brandt & Reyna 2011; Torrey & Yolken, 2009). The problematic view of believing individuals with schizophrenia do not value their own safety may exacerbate the endangerment and purposeful harm brought onto this population.

As predicted, results indicate participants specifically dehumanized individuals with schizophrenia and substance use disorders more than themselves or a close friend. This finding aligns with previous research indicating the public often dehumanizes individuals with a mental illness (Boysen et al., 2020; Morera et al., 2016; Schroeder & Epley, 2020). Contrary to predicted outcome, individuals with substance use disorders were dehumanized, both animalistically and mechanistically, to a greater extent than individuals with schizophrenia. While this finding was not predicted, the outcome is not surprising due to some literature

suggesting substance use disorders are dehumanized to a greater extent than other psychiatric disorders including schizophrenia (Fontesse et al., 2021; Schomerus et al., 2011). However, the literature comparing the dehumanization between the two psychiatric disorders is limited and outdated; therefore, additional research should be conducted before conclusions regarding the differences between schizophrenia and substance use disorders can be drawn.

This study also provides insight into additional factors that may play a role in mistreatment of individuals with schizophrenia in healthcare settings and health-related needs. As stated previously, there has been recent interest in understanding stigma of schizophrenia within healthcare settings (Fontesse et al., 2021; Riffel and Chen, 2020). While this study did not specifically utilize healthcare providers as participants, implications can be drawn regarding the general public's attitudes towards these individuals. Specifically, perceived inhumanness of schizophrenia may lead to reduced consideration of health-related needs. Existing literature posits dehumanized individuals are seen as less worthy of care or concern (Brandt & Reyna 2011; Torrey & Yolken, 2009). Further, literature points to peers providing less collective help, assistance, forgiveness, and solidarity (Cuddy et al., 2007; Haslam, 2014). In sum, the view of being less human can lead peers to ignore the psychiatric or physical healthcare needed by individuals with schizophrenia. Further, reduced consideration of needs and animal-like perceptions of this population may lead healthcare providers to engage in inequitable treatment of these individuals such as reduced consideration of pain as shown in previous literature (Fontesse et al., 2021). . Furthermore, reduced consideration for these individuals' psychological needs may lead to a reduced likelihood of referral to appropriate care. For example, healthcare providers may not recommend psychotherapy for dehumanized groups due to perceived unimportance of their psychological needs.

Also contrary to predicted outcome, there was no significant difference between the use of person-first and noun-based language. As stated previously, literature examining the effectiveness of person-first language is scarce. Though, there are some studies pointing towards the use of person-first language as an effective way to combat stigma (Baker et al., 2021) as well as the idea that noun-based labels lead to greater negative biases (Ashford et al., 2018).

Although, findings from the present study presents contradictory evidence to the discussion of use of person-first language combatting dehumanization and stigma, at least in schizophrenia and substance use disorders. However, this finding may be related to other factors; for example, the gender and race of participants may play a role in the severity of dehumanization that occurs in these populations. Although, post hoc analysis revealed, in this study, there was no main or interactive effects of gender or race on dehumanization. Another reason there may not have been a significant difference is the level of education of participants. This study did not examine this factor and research supports the notion that level of education is linked to stigmatizing others (Corrigan & Watson, 2007). Similarly, political orientation (Schomerus & Angermeyer, 2021) or religious beliefs (Wesselmann & Graziano, 2010) may affect one's tendency to stigmatize others.

Due to contradictory results and limited research, it is crucial for future research to continue examining this relationship and possible factors that interfere with said relationship. Further, it is important for future research to consider the idea that the public's use of stigmatizing language is so engrained in its culture that simply adding a humanized term (e.g., person with schizophrenia versus schizophrenic) is not enough to combat instilled stigma. These findings suggest the current efforts for a change in language as a major contender in reducing stigma may not lead to the substantial reduction believed to come. That said, further efforts of stigma reduction should be investigated in attempt to understand the effects of the use of person-

first language on mental illness stigma as well as contributing factors to the use of various types of language (e.g., gender and race).

There were a few limitations of this study that should be taken into consideration. First, the lack of ability to generalize the study due to the overwhelming number of white male participants is important to make note of. Participants of various genders and races may dehumanize individuals to varying degrees; Therefore, future research should take steps to achieve a more inclusive sample to better generalize findings. In line with this, this study did not consider cultural differences, such as gender, age, religious beliefs, race etc., in the view of dehumanization. All of these factors and more may lead to varying degrees of dehumanization; therefore, to gain a more wholistic view of the dehumanization and perceived need importance of these populations, it is important for future studies to consider cultural factors. An additional limitation is the examination of dehumanization from participants is based solely from self-report data. Individuals' self-report may not truly capture the extent of dehumanization posed on these populations. In future research, it is important to consider this limitation when designing future studies to account for this possibility. For example, research could explore implicit attitudes towards relating to dehumanization such as the use of the Implicit Association Test (IAT).

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Appendix B: Needs Scale

All living creatures have things that they need in life. Some are necessary for survival, others for happiness, and others for practical reasons. For example, all people and animals need to breathe oxygen. If you deprived a living creature of oxygen, he or she would die. Oxygen is therefore a fundamental need that is extremely important to all living creatures on the Earth.

But other needs are perhaps weaker, more important for some than others. For example, some people feel they need a lot of money and are very motivated to make more money, whereas money is less important for others and they are not very motivated to make more money.

Below is a list of things that some (or all) people or animals need. Some of these things on this list you may think are extremely important needs, whereas others are less important needs.

For the questions below, please consider (target). How important do you think each thing on the list is for (target)?

1	2	3	4	5	6	7
Not at all important			Somewhat important			Extremely important

1. Eating food (i.e., avoiding hunger)
2. Drinking (i.e., avoiding thirst)
3. Sleeping (i.e., avoiding exhaustion)
4. Feeling safe
5. Having routine in life
6. Having predictability in life
7. Feeling loved
8. Feeling like he or she belongs
9. Getting attention from others
10. Feeling respected by others
11. Feeling adequate self-esteem
12. Achieving personal and professional goals

13. Living with a full sense of meaning and purpose in life
14. Feeling independent, being able to make choices freely
15. Realizing full potential in life

Appendix C: Level of Contact Report

Please read each of the following statements carefully. After you have read all the statements below, place a check by the statements that best depict your exposure to persons with (target, i.e., schizophrenia/substance use disorder).

1. I have never observed a person that I was aware had schizophrenia/substance use disorder
2. I have observed, in passing, a person I believe may have had schizophrenia/substance use disorder
3. I have watched a movie or television show in which a character depicted a person with schizophrenia/substance use disorder
4. I have watched a documentary on the television about schizophrenia/substance use disorder
5. I have observed persons with schizophrenia/substance use disorder on a frequent basis
6. I have worked with a person who had schizophrenia/substance use disorder at my place of employment.
7. My job includes providing services to persons with schizophrenia/substance use disorder
8. My job involves providing services/treatment for persons with schizophrenia/substance use disorder
9. A friend of the family has schizophrenia/substance use disorder
10. I have a relative who has schizophrenia/substance use disorder
11. I live with a person who has schizophrenia/substance use disorder
12. I have schizophrenia/substance use disorder

Appendix D: Demographic Survey

What is your age? _____

What is your gender?

Male

Female

Transgendered Female

Transgendered Male

Gender Neutral

Other: _____

What is your race/ethnicity?

Black/African American

Hispanic

Asian/Pacific Islander

White

Native American/Alaskan Native

Other: _____

What is your highest level of education? _____

What is your political affiliation?

1

2

3

4

5

6

7

Strongly

Moderately

Slightly

Neutral

Slightly

Moderately

Strongly

Conservative

Conservative

Conservative

Liberal

Liberal

Liberal

Have you ever been diagnosed with schizophrenia?

Yes

No

Have you ever had a history of substance abuse?

Yes

No