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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 44(44)

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Publication Date

2022

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Effects of Language on Social Essentialist Beliefs and Stigma about Mental Illness

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Abstract

Labeling social groups can increase social essentialism (e.g., beliefs that group members are fundamentally the same), leading to greater discrimination and stigmatization. Labels can also increase stigma about mental illness (MI). Some mental health professionals claim that using "person-first" language can reduce stigma, but there is little empirical support for this, and no studies have investigated the relation between person-first language and social essentialism. Here, 513 adults read vignettes describing characters with MI, using person-first (e.g., "a person with autism"), identity-first (e.g., "an autistic person"), or generic noun language (e.g., "an autistic"). We assessed participants' stigmatizing and essentialist beliefs about characters and their MI. Reported stigma and essentialism were correlated. Person-first language reduced stigmatizing beliefs about individuals with some disorders, e.g., depression, but not others, e.g., autism. Relative to generic nouns, person-first language reduced essentialist beliefs about real mental illnesses, but not novel ones.

Keywords: language; person-first language; identity-first language; mental illness; social essentialism

Introduction

Beginning in infancy, the language used to name objects guides how we organize these objects into mental categories (Ferguson & Waxman, 2018). One potential consequence of using language as a tool for categorization is that simply labeling others may inadvertently convey beliefs about the social world that foster harmful biases about groups. Here we explore the role of language in shaping essentialist and stigmatizing beliefs about people with mental illnesses (MI).

Psychological essentialism is the bias to view categories (e.g., plants and animals) as reflecting something deep, stable, and informative about category members (Gelman, 2004). Essentialism shapes how we categorize many aspects of the natural world, beginning with conceptual biases that appear as early as the preschool years. For example, young children make category-based inferences from noun labels in the case of animals (e.g., bird, fish, rabbit), natural substances (e.g., gold, cotton), and social categories (e.g., boy, girl; Gelman, 2004). Social essentialism refers to the belief that social group members share underlying similarities that make the group fundamentally distinct. On this view, group membership is determined by stable, underlying, causally powerful "essences" that all members possess (Rhodes & Mandalaywala, 2017). Social essentialist perspectives shape how people navigate the social world. For example, expecting a young boy to prefer playing with trucks over dolls or believing that only some people are "math people" are common essentialist beliefs.

The problems that arise from essentialist beliefs are particularly evident in the social domain. For example, the belief that social categories reflect natural kinds may also

lead to greater discrimination and stigmatization because categorizing or labeling others establishes *us* vs. *them*. Essentialist thinking promotes prejudices based on race, ethnicity, and gender (but see Peretz-Lang, 2021 for a discussion of prejudice-mitigating consequences of essentialist thinking) and is associated with greater stereotype endorsement about certain social groups (Bastian et al., 2006). In particular, exposure to essentialist beliefs about gender (e.g., biological explanations for sex differences) significantly increases participants' endorsement of gender-based stereotypes (Brescoll & LaFrance, 2004), and exposure to essentialist thinking about social class predicts preferences for high-over low-status groups (Peretz-Lange et al., 2021).

Language can also transmit essentialist beliefs from person to person. In one study, children and adults who heard generic language descriptions of group members (e.g., "*Zarpies* like to eat flowers") endorsed higher levels of essentialist beliefs about the novel social category 'Zarpies' than those who heard a label referring to a specific group member (e.g., "*this Zarpie* likes to eat flowers") or no label (e.g., "*this one* likes to eat flowers"; Rhodes et al., 2012). Generic language also increased beliefs that category-related properties (e.g., liking to eat flowers) resulted from intrinsic causal mechanisms and that category boundaries were inflexible. Furthermore, adult studies have shown that noun-based labels (e.g., "Paul is an artist") imply greater essentialism and induce more stereotyping than adjective-based labels (e.g., "Paul is artistic"; Carnaghi et al., 2008).

The body of work described above suggests that the language we use to describe social groups can communicate social essentialist beliefs by reinforcing the view that categories and their labels mark something stable and informative about category members. If so, language may also facilitate the transmission and maintenance of stigma and essentialist beliefs about MI. Several studies have found that individual differences in essentialist beliefs are associated with differences in language use when talking about individuals with MI. For example, compared to adults with lower levels of essentialist beliefs, adults with high levels of essentialist beliefs are more likely to endorse noun labels (e.g., "He is a schizophrenic") over possessive phrases (e.g., "He has schizophrenia"; Howell et al., 2014). In a more recent study, lower empathy and higher stigmatizing attitudes predicted greater use of noun-based labels to describe individuals with MI (Krzyzanowski et al., 2019).

The "People First" movement emerged in the 1970s, initially driven by individuals with disabilities who advocated for these disabilities to be recognized as part of being human (Wehmeyer et al., 2000). The movement has since gained traction, and a shift in language can be seen in

scholarly journals requiring the use of person-first language in articles. Additionally, medical and mental health professionals now advocate for the use of person-first language (e.g., "a person with a disability"), as opposed to identity-first (e.g., "a disabled person") or noun (e.g., "the disabled") descriptors of disabilities and disorders, arguing that it reduces stigmatization and discrimination by emphasizing personhood as opposed to the disability or disorder (e.g., Blaska, 1993; Research & Training Center on Independent Living, 2022; see also Nobel et al., 2017).

Preliminary support for this claim comes from evidence that labeling someone with MI is positively correlated with endorsing stigmatizing beliefs about them (Angermeyer & Matschinger, 2003). Despite healthcare professionals' endorsement of person-first language and its prevalence in healthcare training programs and academic writing, it is less frequently adopted in practice (see Crocker & Smith, 2019 for discussion). Furthermore, there is little empirical evidence that using person-first language actively reduces stigmatizing or essentialist beliefs.

Past research with adults provides preliminary but mixed evidence that reading person-first language (e.g., "a person with schizophrenia") may lead to lower levels of stigmatizing attitudes than reading generic noun language (e.g., "a schizophrenic") or identity-first language (e.g., "a schizophrenic person"). Some evidence suggests that noun labels promote stigmatizing beliefs, resulting in lower levels of tolerance among professional counselors and community members. For example, Fernandes et al. (2009) found that the term "epileptic" elicited more negative attitudes and greater stigmatizing beliefs than "person with epilepsy," but this finding has failed to replicate (Noble & Marson, 2016). Other studies have shown that using person-first language to refer to individuals with MI results in higher levels of tolerance among professional counselors and community members (Granello & Gibbs, 2016; Kelly et al., 2010; Kelly & Westerhoff, 2010). These findings have also failed to replicate, suggesting that subtle differences in language may not impact stigmatizing attitudes about MI (Martinelli, 2020; Masland & Null, 2021; Nobel & Marson, 2016).

Despite the origin of person-first language in a self-advocacy movement, the emphasis on this language shift in psychological settings, and the evidence suggesting that it may reduce bias, person-first language has recently received backlash from some disability communities (Dunn & Andrews, 2015). In some cases, individuals and groups strongly prefer identity-first language (e.g., "an autistic child") or generic noun language (e.g., "Autistic") over person-first language. For example, the Deaf community has chosen not to embrace the notion of person-first language but has adopted identity-first language (see Crocker & Smith, 2019 for discussion). In light of the ongoing discussion about language use when referring to individuals with MI, the current study investigates whether language use significantly impacts stigmatizing beliefs about individuals with MI and essentialist beliefs about MI.

To do this, we asked adults to complete baseline assessments of stigma against MI and general social essentialism. We then randomly assigned participants to one of three experimental language conditions. Participants in each condition read vignettes describing characters with MI using person-first, identity-first, or generic noun language. Finally, participants completed an assessment of stigmatizing attitudes towards individuals with MI, a measure of essentialist beliefs about MI, and one question about their preference for person-first, identity-first, or generic noun language to describe individuals with MI.

This work fills at least two gaps in the literature. First, many studies investigating the benefits of using person-first language focus on perceptions of MI from the clinician's point of view. Here we sample non-experts and non-health professionals. Second, as reviewed above, prior studies with adults have examined the impact of noun vs. adjective labels or person-first language vs. identity-first language on stigmatizing beliefs about individuals with disabilities. Meanwhile, developmental studies have looked at the effect of specific vs. generic language on essentialist beliefs about other social categories (e.g., gender). Both literatures have included generic noun labels as a comparison group, but no study has investigated the impact of all three language types on attitudes and beliefs about MI. Finally, this study is one of the first to explicitly examine the relationship between essentialist beliefs and stigmatizing beliefs about MI.

Here, we examine the effect of person-first, identity-first, and generic noun language on stigmatizing beliefs *and* essentialist beliefs about MI to answer four primary research questions: (1) does reading person-first language reduce social essentialism about MI, compared to identity-first or generic noun language and/or (2) does reading generic noun language increase social essentialism about MI compared to identity-first or person-first language? Additionally, (3) does reading person-first language reduce stigma towards individuals with MI, compared to identity-first or generic noun language, and/or (4) does reading generic noun language increase stigma towards individuals with MI, compared to identity-first or person-first language?

We also investigate the relationship between measures of social essentialism and stigma. This link between essentialist and stigmatizing beliefs about MI remains unexplored. Given the link between essentialist thinking and greater stereotype endorsement (e.g., Bastian et al., 2006), one possibility is that essentialist beliefs about MI will be associated with higher levels of stigmatizing beliefs about MI. However, it is also possible that essentialist beliefs about MI may be associated with lower levels of stigmatizing beliefs. For example, in some cases, essentialist thinking about MI is associated with less stigmatizing attitudes, especially those related to a desire for social distance (e.g., Lebowitz et al., 2016).

Finally, we ask if participants' familiarity with the MI moderates the influence of language on stigmatizing or essentialist beliefs. We consider the effect of participants' self-reported familiarity with real disorders, and, borrowing an approach from the developmental literature, we measure

their stigmatizing and essentialist beliefs about novel disorders with which they have no prior experience.

Method

Participants

The final sample included 513 adults recruited on Amazon Mechanical Turk. All participants were fluent English speakers from the U.S. who were at least 18 years of age and had previously completed between 100 and 10,000 Human Intelligence Tasks (HITs) with at least a 97% approval rating. We excluded data from 391 additional participants due to failure to complete all survey questions ($n = 144$) or missing one or more attention-check questions ($n = 247$; see Methods section for more details).

Materials

Study stimuli included a brief description and two vignettes describing individuals with one of five mental illnesses using person-first language (PFL), identity-first language (IFL), or generic noun language (GNL; see Figure 1). Three mental illnesses (autism, depression, schizophrenia) were real disorders from the Diagnostic and Statistical Manual of Mental Disorders - fifth edition (American Psychiatric Association, 2013), while two (career dysphoria, cotarison) were novel disorders developed by the researchers based on real psychological phenomena¹. Vignette characters were gender-matched to the participant, except individuals who identified as non-binary ($n = 2$) read vignettes describing male characters.

Design and Procedure

We randomly assigned participants to one of three language conditions (PFL, IFL, or GNL). The study was self-paced and conducted online via a Qualtrics survey. Participants first completed the 8-item **Kind of Person (KOP) implicit theory scale** (Dweck, 1999), assessing the degree to which individuals perceive personal attributes as fixed (e.g., "People can't really change their deepest attributes"), non-malleable (e.g., "The kind of person someone is, is something very basic about them and it can't be changed very much"), and trait-like entities (e.g., "People can do things differently, but the important parts of who they are can't really be changed"). Items were rated from 1 (*strongly agree*) to 7 (*strongly disagree*). We consider this to be a baseline measure of social essentialism².

¹We included fake disorders to assess beliefs about unfamiliar mental illnesses that participants were unlikely to have preconceived stigma about. Cotarison is modeled on Cotard's syndrome, a delusion in which people believe that they are dead, rotting, or that they do not exist. Career dysphoria is modeled on imposter syndrome, a phenomenon in which people doubt their accomplishments and fear they will be exposed as a fraud.

'Person-first language' (PFL)

[brief description of depression using PFL]

Jennifer is a person with depression. Jennifer is a college student who has important final exams coming up. She is planning a big trip for after her exams are finished. She also likes to read.

'Identity-first language' (IFL)

[brief description of depression using IFL]

Jennifer is depressed. Jennifer is a college student who has important final exams coming up. She is planning a big trip for after her exams are finished. She also likes to read.

'Generic Noun language' (GNL)

[brief description of depression using GNL]

Jennifer is a depressive. Jennifer is a college student who has important final exams coming up. She is planning a big trip for after her exams are finished. She also likes to read.

Figure 1. Example study vignette(s) for depression.

To measure baseline stigmatizing beliefs about MI, participants completed a 7-item version of the **Mental Illness Stigma Scale (MISS)** assessing attitudes towards people with MI (Day et al., 2007). Items (e.g., "I can tell someone has a mental illness by the way he/she acts") were rated from 1 (*completely disagree*) to 7 (*completely agree*).

Following a description of each disorder, participants read two vignettes (10 vignettes in total), as discussed above. Each vignette was followed by the 6-item **Stigma Against Individuals³ (SAI) questionnaire** assessing stigmatizing beliefs about the character (e.g., "How likely is it that you would want to spend time with [character]"). Finally, participants completed the 8-item **Essentialist Beliefs Scale (EBS)**, evaluating their essentialist beliefs about MI (Haslam & Ernst, 2002). For each MI, participants rated items (e.g., "This mental disorder is a disorder that has existed throughout human history with few changes") from 1 (*strongly disagree*) to 7 (*strongly agree*).

Participants also answered general demographic questions (e.g., "Are you fluent in English?"), and questions about each MI ("How much do you know about each disorder?"), familiarity with person-first and identity-first language (e.g., "How much do you know about the term 'person-first language'?"), preference for talking about individuals with MI (e.g., "Which of these sentences do you like the most: 'Drew is a person with depression,' 'Drew is a depressive,' etc."), and if they had ever been diagnosed with a MI.

² The KOP has previously been used to measure endorsement of implicit theories of intelligence. This study is the first to use it as a measure of social essentialism.

³ The SAI is a novel likert-type scale developed to assess stigma against individual characters in our study. The creation of the scale was guided by existing measures of stigma (Day et al., 2007).

Coding and Analyses

To calculate baseline general social essentialism, we averaged responses across all items of the KOP scale for each participant. To calculate baseline stigma against MI, we summed all items of the MISS for each participant. Our two primary outcome measures were the EBS and the SAI questionnaire. To evaluate essentialist beliefs for each disorder, we averaged responses across all items of the EBS for each MI, yielding five EBS scores per participant. To evaluate stigmatizing beliefs about individual characters, we summed all items of the SAI for each vignette, producing 10 SAI scores per participant (two for each disorder).

We fit linear mixed-effects models using the lme4 package in R (Bates et al., 2015). We include a random intercept for subjects, scale all continuous variables, and effect code all fixed effects with predictors centered around 0 [-1, 1]. We performed Wald chi-square tests from type-III analysis-of-variance tables using the car package (Fox & Weisberg, 2019) to determine whether models including each factor of interest provided a significantly better fit of the data than reduced models.

Results

Language, disorder, and stigma. We first asked if the language (PFL vs. IFL vs. GNL), type of MI (real vs. novel), or pre-existing levels of stigma about MI (MISS score) predicted stigmatizing beliefs about individuals with MI (SAI score). We did this to test the possibility that language may impact novel (i.e., fake) and real disorders to different degrees because participants are unlikely to have preconceived beliefs about unfamiliar disorders. We also included an interaction between language condition and MI type in the model. We found a main effect of pre-existing stigma, $\chi^2(1) = 11.46$, $p < .001$, such that (unsurprisingly) higher levels of stigma at baseline predicted higher levels of reported stigma against individuals with MI. We also found a significant interaction between language condition and MI type, $\chi^2(2) = 6.46$, $p = .040$ (see Figure 2). Although the interaction between these factors was significant, we did not find significant main effects of either MI type, $\chi^2(1) = 3.36$, $p = .067$, or language condition, $\chi^2(2) = 5.80$, $p = .055$.

Exploring the interaction between MI type and language condition, we found that when participants read about characters with real mental illnesses, those exposed to PFL reported lower levels of stigmatizing beliefs than participants exposed to GNL (adjusted $p = .022$; see Table 1 for score means). In contrast, when they read about characters with novel, made-up mental illnesses, participants in the PFL condition still reported lower levels of stigmatizing beliefs than participants in the GNL condition, but, additionally, they also reported lower levels of stigmatizing beliefs than those in the IFL condition (adjusted $ps < .031$; see Table 1 for score means).

Table 1: Mean SAI and EBS scores by mental illness type

MI type	$M_{overall}$	M_{PF}	M_{IF}	M_{GN}
SAI				
Real	17.1 (3.24)	16.9 ^{a,c} (3.27)	17.1 ^c (3.35)	17.2 ^{b,c} (3.10)
Fake	16.9 (3.20)	16.5 ^a (3.17)	17.0 ^b (3.39)	17.3 ^b (3.03)
EBS				
Real	35.9 (9.66)	36.2 ^a (10.1)	36.5 ^a (9.75)	35.1 ^b (9.12)
Fake	35.6 (10.0)	35.2 (10.8)	36.3 (9.99)	35.4 (9.18)

Notes. Standard deviations are in parentheses. Scores with different superscripts indicate significant differences in EBS or SAI scores.

To test the possibility that language may impact stigmatizing beliefs about individual disorders to different degrees, we asked if the character's MI (autism, depression, schizophrenia, career dysphoria, cotarision) predicted stigmatizing beliefs. When used in place of the factor coding MI type, the character's MI predicted stigmatizing beliefs, $\chi^2(4) = 144.59$, $p < .001$, and there was an interaction between MI and language condition, $\chi^2(8) = 18.98$, $p = .021$. See Table 1 for mean SAI scores by MI.

Participants reported significantly lower stigma against characters with autism than depression ($p = .007$) or schizophrenia ($p < .001$), and lower levels of stigma against characters with depression than schizophrenia ($p = .003$). We conducted language comparisons within each disorder using Wilcoxon signed-rank tests to explore the interaction between language condition and MI. These tests only revealed differences in stigmatizing beliefs about career dysphoria (one of our novel disorders, based on "impostor syndrome") and depression, with no effects of language condition on stigmatizing beliefs about the other three disorders (see Table 2 for score means). Participants exposed to PFL reported lower levels of stigmatizing beliefs towards individuals with career dysphoria and depression compared to participants who were exposed to either GNL (career dysphoria: $p < .001$; depression: $p < .001$) or identity-first language (career dysphoria: $p = .03$; depression: $p = .041$). Additionally, participants exposed to IFL reported lower levels of stigmatizing beliefs towards individuals with career dysphoria than those exposed to GNL ($p = .03$).

Table 2: Mean SAI and EBS scores for each mental illness

MI	M_{SAI}	M_{EBS}
career dysphoria	16.54 (2.96) ^a	35.44 (10.24)
autism	16.61 (3.21) ^a	36.02 (9.58)
depression	16.98 (2.95) ^b	35.52 (9.85)
cotarision	17.32 (3.39) ^{b, c}	35.76 (9.79)
schizophrenia	17.60 (3.45) ^c	36.24 (9.38)

Notes. Mental illnesses in order of increasing stigma and essentialist beliefs with standard deviations in parentheses. Italics indicate novel disorders. Scores with different superscripts indicate significant differences.

Language, disorder, and social essentialism. We next asked if language condition, MI type, and general levels of essentialist beliefs predicted essentialist beliefs about each MI. We found a similar pattern of results. Again, there was a significant interaction between language condition and MI type, $\chi^2(2) = 15.66, p < .001$, and a main effect of general essentialist beliefs, $\chi^2(1) = 9.12, p = .003$. We did not find a main effect of language condition, $\chi^2(2) = 1.67, p = .435$.

Surprisingly, higher levels of general essentialist beliefs at baseline predicted lower levels of reported essentialist beliefs about MI. When reading about characters with real mental illnesses, participants exposed to PFL or IFL reported lower levels of social essentialism than participants exposed to GNL (adjusted p 's = .05). When participants read about characters with novel, made-up mental illnesses, language type did not impact their essentialist beliefs.

To test the possibility that language may impact essentialist beliefs about individual disorders to different degrees, we also asked if the character's MI (autism, depression, schizophrenia, career dysphoria, cotarsion) predicted essentialist beliefs. When used in place of the factor coding MI type, the character's MI predicted essentialist beliefs, $\chi^2(4) = 13.60, p = .009$, and there was a significant interaction between language condition and the character's MI, $\chi^2(8) = 19.25, p = .014$. However, follow-up language comparisons for each MI did not reveal significant differences in levels of essentialist beliefs between participants exposed to each language type (Table 2).

Participant familiarity and language preference. We also asked participants about their language preferences and familiarity with each MI. When asked how they would describe someone with a MI, the majority of participants preferred to use PFL (56%) over IFL (29%) or GNL (15%). Additionally, 70% of participants reported having been diagnosed with a MI at some point in their life. Most participants reported having some prior knowledge (i.e., responding '3' or higher on a response scale ranging from '1 - I don't know anything about this disorder' to '5 - I know a lot about this disorder') about depression (88%), schizophrenia (75%), and autism (82%). About half reported having some prior knowledge about the novel disorders career dysphoria (57%) and cotarsion (53%).

We then asked whether participants' language preference and/or familiarity with each MI predicted their stigmatizing or essentialist beliefs about MI. Only familiarity ($\chi^2(1) = 8.94, p = .002$) predicted stigmatizing beliefs, but both familiarity and preference predicted essentialist beliefs (familiarity: $\chi^2(1) = 51.76, p < .001$; preference: $\chi^2(3) = 12.19, p = .007$). Participants more familiar with the individual mental illnesses generally reported higher levels of stigma and essentialist beliefs. Also, participants who preferred using PFL to talk about individuals with MI

reported lower levels of essentialist beliefs than participants who preferred IFL or GNL.

Correlations between measures. Finally, we ran correlations to assess the relationships between measures of stigma and essentialism taken before and after the language manipulation. Baseline levels of stigmatizing beliefs (MISS scores) were weakly but positively correlated with reported stigma against individuals (SAI scores), $r(511) = .150, p < .001$, and moderately correlated with reported essentialist beliefs about MI (EBS scores), $r(511) = .387, p < .001$. However, baseline levels of essentialist beliefs (KOP scores) were not correlated with SAI scores ($p = .247$), and, more surprisingly, they were weakly and *negatively* correlated with EBS scores, $r(511) = -.130, p = .003$. Moreover, MISS scores were very weakly negatively correlated with KOP scores ($r(511) = -.022, p < .001$), although SAI scores were positively correlated with EBS scores ($r(511) = .115, p = .009$). Given that most observed correlations were low, these findings suggest that these measures may pick up on different aspects of stigma and essentialism. Moreover, our findings suggest that general essentialist beliefs measured by the KOP are not predictive of similar attitudes and beliefs regarding MI.

General Discussion

This study examined the effects of person-first, identity-first, and generic noun language on readers' stigmatizing beliefs about individuals with mental illness and their social essentialist beliefs about specific mental illnesses. The type of language read did not systematically lead to higher or lower levels of stigmatizing or essentialist beliefs across disorders. Instead, the effect of language was small and depended on the type of mental illness described. Furthermore, the patterns of results were different for stigmatizing and essentialist beliefs. Participants exposed to person-first language while reading about individuals with novel disorders reported lower levels of stigma than those exposed to either identity-first or generic noun language. Participants exposed to person-first language while reading about individuals with real mental illnesses (autism, depression, or schizophrenia) reported lower levels of stigma than those exposed to generic noun (but not identity-first) language. We also found an effect of language on essentialist beliefs about real disorders: both person-first and identity-first language were associated with lower levels of essentialist beliefs than generic-noun language. However, there was no effect of language on essentialist beliefs about novel disorders.

These findings do not support a strong effect of language on stigmatizing or essentialist beliefs about mental illness. We observed an effect of language on stigmatizing beliefs for some disorders, such as depression, but these effects were small and inconsistent. In particular, participants exposed to person-first language while reading about an individual with depression reported lower levels of stigmatizing beliefs than those exposed to identity-first or generic noun language. The

same pattern arose for the novel mental disorder career dysphoria but not for other real disorders, including autism.

One possibility is that language only impacts stigma for mental illnesses that are novel or relatively low-stigma. This might explain why we did not find an effect for schizophrenia or cotarsion (a novel disorder based on a real delusion that people with schizophrenia sometimes experience), given that schizophrenia is particularly stigmatized compared to other mental illnesses such as depression (Angermeyer & Dietrich, 2006). Participants also endorsed lower levels of stigma against characters with autism than depression or schizophrenia, and there was no effect of language on stigmatizing beliefs about autism. Nevertheless, autism may represent a special case, given the strong preference for identity-first language among many autistic people (Kenny et al., 2016).

Healthcare providers champion person-first language as being more respectful because it emphasizes the person over the diagnosis, but there is also a growing movement within self-advocacy groups promoting the use of identity-first language to highlight the disability as a fundamental part of one's personhood rather than a deficit or characteristic (see Dunn & Andrews, 2015 for discussion). Both communities that endorse and discourage the use of person-first language tend to agree that person-first language removes the focus of a diagnosis as something central to a person's identity. The difference between these views has more to do with whether conceiving a diagnosis as central to one's identity is considered favorable. This, in turn, depends on the relationship between essentialist beliefs about MI and stigma against individuals with MI.

What do the present results tell us about the relationship between stigma and social essentialism? Consistent with prior work demonstrating a link between essentialism and stigma, we found that having pre-existing stigmatizing beliefs about mental illness (MISS scores) was predictive of having essentialist beliefs about specific mental illnesses (EBS scores, $r = 0.4$). However, our results also indicate that greater social essentialism in general – e.g., a tendency to think that people can't change who they really are deep inside – is not predictive of having essentialist or stigmatizing beliefs specifically about MI. In fact, though the correlations were weak, people with higher general essentialism scores also reported *lower* stigma (MISS) and essentialism (EBS) about MI.

Although greater social essentialism has been linked with stereotyping in some domains, such as gender (Gülgöz et al., 2019), as discussed in the introduction, essentialist beliefs do not correlate with negative prejudice across all social contexts. In some cases, the opposite pattern has been observed. For example, a few recent studies have found that essentialist thinking may mitigate children's weight biases (see Puhl & Latner, 2007 for review) and reduce children's prejudices toward LGBTQA+ individuals (Horn & Heinze, 2011, see also Horn, 2019). Investigating the possibility that essentialist views of MI may reduce stigma toward individuals with MI is an important avenue for future work.

We also found that factors other than language exposure had different effects on participants' stigmatizing and essentialist beliefs about MI. For example, essentialist and stigmatizing beliefs were associated with participants' prior knowledge about each MI. Participants who reported knowing 'a lot' about a given MI reported higher levels of essentialist beliefs about the MI. Additionally, because we included both real and novel disorders in the study, we could test whether prior exposure to the diagnostic category was a necessity for (or a hindrance to) language effects. The idea of using novel diagnostic categories was inspired by the developmental literature finding that language influences children's essentialist beliefs about novel social groups (e.g., Zarpies; Rhodes et al., 2012). We reasoned that having less prior knowledge about the diagnosis might lead adults to rely more on subtle linguistic cues to guide their judgments. However, surprisingly, we found the opposite – there were no effects of language on essentialist beliefs about novel disorders (only real ones). Importantly, the present results do not address what dimensions of essentialist beliefs are most impacted by language or prior knowledge (e.g., beliefs about how category boundaries are set, relations between category members, or how category members come to be the way they are; for discussion, see Rhodes & Moty, 2020). Investigating the multidimensionality of essentialism, as it relates to beliefs about individuals with MI, is also an important direction for future research.

Finally, participants' language preferences for talking about individuals with MI were related to their endorsement of essentialist beliefs about MI, but not their endorsement of stigmatizing beliefs. Notably, 70% of our sample reported having been diagnosed with a MI at some point in their life. Person-first language was preferred by a majority (56%) of participants, but we also had a sizable group (29%) who preferred identity-first language. The latter finding may reflect the current trend in some disability communities. Unsurprisingly, people who preferred person-first language reported lower levels of essentialist beliefs about MI than those who preferred identity-first or generic noun language. This is consistent with past findings that adults with high levels of essentialist beliefs are more likely to endorse generic noun labels than adults with lower levels of essentialist beliefs. Importantly, though, this group did not show lower levels of stigmatizing beliefs against individuals with MI.

Although our findings do not support a strong effect of language on essentialist or stigmatizing beliefs about MI in general, they do suggest that factors other than language, such as prior knowledge about disorders or diagnostic criteria and personal preference for the type of language used when talking about individuals with MI, may play a role in shaping essentialist beliefs and stigma about people with MI. Given the small differences in stigma scores across disorders in our study and the possible role of social desirability biases, follow-up work is needed to investigate case-specific effects of language use on stigmatizing and essentialist beliefs and attitudes about MI.

Acknowledgments

Thank you to Leela Srinivasan and Austin Thought Lab research assistants Nuha Hossain, Christina Howell, Syeda Jilani, and Jessica Tran for their assistance with survey development. We also want to thank the participants, without whom this research would not be possible.

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