

Born that way or became that way: Stigma toward congenital versus acquired disability

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Abstract

Stigma may differ depending on the timing of group-membership entry, whether a person was “born that way” or “became that way.” Disability, a highly understudied minority group, varies on this domain. Three studies demonstrated that congenital disability is more stigmatized than acquired disability and essentialism and blame moderate and mediate this effect. Congenital disability was more stigmatized than the acquired version of the same disability (Studies 1–2). People with congenital disability were more essentialized, but less blamed than people with acquired disability (Study 2). Manipulating onset and essentialism revealed that when disability was acquired, low essentialism predicted greater stigma through blame (Study 3). However, when disability was congenital, essentialism did not affect stigma through blame. For stigmatized groups unlikely to be blamed for their group membership, reducing essentialism could ameliorate stigma, but for groups that might be blamed for their group membership, increasing essentialism may be a tool to reduce stigma by reducing blame.

Keywords

acquired disability, attribution theory, congenital disability, essentialism, stigma

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The study of stigma toward marginalized social groups is one of social psychology’s oldest and most widely studied topics (e.g., Allport, 1954; Goffman, 1963). The bulk of this research has focused on racial and ethnic minorities. Surprisingly, disability stigma is one of the least studied, especially considering it is the largest minority group in the US, constituting 19% of the population (Brault, 2012). Moreover, disability is one of the most stigmatized identities across cultures and across history (Wiener & Willborn, 2010).

The social identities commonly studied in social psychology are identities that people typically believe one is born into such as race and

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ethnicity. While some progress has been made in recent times, it currently causes many people much confusion to understand how someone's gender identity might change (Diamond, 2002), reflecting the intuitive belief that people cannot easily leave and enter different gender categories. Developmental research, for instance, reveals that by ages 3–4, children endorse the idea that one's gender cannot be changed (Martin, Ruble, & Szkrybalo, 2002). Likewise, research on race essentialism reveals that by 7–8 years old, children endorse the idea that people cannot change their racial category (Hirschfeld, 1995; Hughes, 1997), and this belief continues into adulthood (Williams & Eberhardt, 2008). This idea recently reached national prominence when in June, 2015, Rachel Dolezal felt forced to resign her post as president of a chapter of the National Association for the Advancement of Colored People (NAACP) after receiving criticism for claiming to be Black rather than White, although her parents identify her as the latter. In contrast to common and intuitive thinking about race, disability is the only minority group that people readily believe one can join at any time, or one can be born into (Olkin, 1999). Examining disability allows a novel research question: does stigma differ based on whether a person was "born that way" or "became that way?" This research examines disability stigma, and uniquely compares judgments of those with congenital disability to judgments of those with acquired disability. To have a full understanding of how people think about minority groups, how they are judged and stigmatized, it is critical to examine the largest minority group. Moreover, disability presents a unique opportunity to examine how the timing of entry to group membership influences stigma in nuanced ways. As described in the General Discussion section, our findings have implications not just for the study of disability, but for impression formation and treatment of minority groups, more generally.

Disability and Stigma

According to the International Classification of Functioning, Disability, and Health (ICF), disability is created when any physical or mental

impairment interacts with contextual factors (environmental and personal variables) to limit activities and participation in daily life (World Health Organization [WHO], 2002). The ICF takes a biopsychosocial approach to health, noting that disability can be socially constructed from environmental barriers such as stigma, discrimination, and architectural characteristics (WHO, 2002).

Thus, stigma is a common, and even defining, aspect of the disability experience. Stigma is defined broadly as social devaluation based on a discrediting difference or identity (Goffman, 1963). In a recent review of conceptual models of stigma and prejudice, Phelan, Link, and Dovidio (2008) concluded that stigma and prejudice represent the same underlying construct, although, conventionally, the term "stigma" has generally been used in relation to disability and sexual minorities, while the term "prejudice" is typically used in relation to race and ethnicity. They theorize that stigma/prejudice serves three functions: (a) exploitation, (b) social norm enforcement, and (c) disease avoidance. Nonstigmatized individuals enact disability stigma when they try to avoid interactions or social exchanges with those who have devalued identities, whether to avoid (presumed) poor-quality interactions, or even to avoid some form of contamination (Park, Faulkner, & Schaller, 2003).

Although disability stigma is understudied in social psychology, insight into the topic can be found in the rehabilitation psychology literature (Dunn, 2015; Wright, 1983). More than 50 years of research involving thousands of children and adults across several cultures shows that a stable stigma hierarchy emerges when perceivers are asked to rate their social distance preferences for people with and without different types of disabilities (Grue, Johannessen, & Rasmussen, 2015; Olkin & Howson, 1994; Richardson, Goodman, Hastorf, & Dornbusch, 1961; Shears & Jensema, 1969; Thomas, 2000; Tringo, 1970; Westbrook, Legge, & Pennay, 1993). Findings of this work show that people without disabilities are the least stigmatized, followed by physical disabilities including missing limbs, sensory disabilities, and paraplegia, followed by facial disfigurement,

intellectual disability, and finally, psychiatric disabilities being the most stigmatized. For example, when Richardson et al. (1961) asked children aged 10–11 to sort pictures of people with physical disabilities, no disabilities, or obesity, based on how much they liked them, a similar pattern emerged. Regardless of gender, previous contact with people with disabilities, and their own disability status, participants preferred a child with no disability, then one with crutches and a leg brace, then one in a wheelchair, followed by one with a facial disfigurement, and lastly, an obese child.¹ Crucially, these studies did not compare judgments of congenital and acquired versions of disability, so it is unknown whether onset plays a role in the stigma hierarchy. Streams of research on essentialism and attribution offer different hypotheses about whether congenital or acquired disabilities would be more stigmatized. Each is discussed in turn.

Essentialism

Essentialism is the belief that categories have some underlying nature—are natural kinds (Gelman, 2003). Members of categories typically thought to have essences are also thought to have always been in that category and to permanently remain in that category. That is, one might think “a dog was born a dog, it will always be a dog, and its underlying dog nature affects its appearance and behavior.” In social psychology, essentialism is often used to describe beliefs that there are real, underlying differences and rigid boundaries between social identities (Bastian & Haslam, 2006). Bastian and Haslam (2006) posit that essentialist thinking about social categories can be described by the following four factors: (a) *biological*, whereby social categories are natural groupings or have a genetic basis; (b) *discreteness*, whereby social categories fall into distinct categories with clear boundaries; (c) *immutability*, whereby membership in particular social categories is not changeable; and (c) *informativeness*, whereby having membership in a social category allows the perceiver to make accurate inferences about the person. While some prior work has treated these subcomponents separately, they

hang together very highly (Bastian & Haslam, 2006). In the present work, our measures and manipulations of essentialism thereby tap into each of these aspects of essentialism, and we examine essentialism in its broadest form (i.e., a composite of these different aspects).

Essentialist thinking is a powerful predictor of stigma, including toward racial and ethnic outgroups and people with physical or psychiatric disabilities (Andreychik & Gill, 2015; Bastian & Haslam, 2006; Dolphin & Hennessy, 2016; Haslam & Ernst, 2002; Haslam, Rothschild, & Ernst, 2002; Levy, Stroessner, & Dweck, 1998). Individual differences in essentialism predict automatic approach and avoidance behaviors toward outgroups (Bastian, Loughnan, & Koval, 2011). Further, describing race as having a biological basis, versus comprising a social construct, prompts prejudice and essentialist beliefs in other domains (Williams & Eberhardt, 2008).

However, while some work finds essentialism predicts prejudice, other work has failed to find a positive relationship (for a review, see Hamilton, 2007). For instance, a belief that there is a biological basis to a social category means that those in that social category share certain traits, and this predicts prejudice; believing that appearance-based social categories are biologically based but that differences are only “skin deep,” in contrast, does not predict prejudice (Andreychik & Gill, 2015).

Moreover, increasing essentialism has even been a strategy used to reduce blame toward people with stigmatized identities that, when believed to be controllable, lead to negative judgments from others, such as homosexuality and mental illness. For example, many LGBTQ groups have been vocal that sexuality and gender identity are not choices; that people are born that way and cannot be changed. These views are sometimes associated with lower anti-LGBTQ prejudice, despite the fact that they correspond to the biological and immutability factors of essentialism that can covary with prejudice for other groups (Haslam & Levy, 2006; Haslam et al., 2002).

Based on this notion, public awareness campaigns and interventions have attempted to reduce stigma by framing mental illness and

obesity as biologically based (Harré, 2001; Mehta & Farina, 1997; Read, Haslam, Sayce, & Davies, 2006). Experimental approaches to framing mental illness such as anxiety and ADHD as biologically based have found that biological descriptions led to less blame, social distance, and stigma (Goldstein & Rosselli, 2003; Lebowitz, Rosenthal, & Ahn, 2016). In a study using vignettes about a child with ADHD, describing the condition as having a biological cause reduced participants' desire for social distance from the child, compared to descriptions of the condition as having a psychosocial cause, and this was mediated by a reduction in blame toward the child. Supporting the notion that beliefs about biological underpinnings prompt other essentialist beliefs, describing mental illness as biological also leads to greater prognostic pessimism, that is, a belief that the condition is immutable and is difficult to treat (Lebowitz, Pyun, & Ahn, 2014).

While studies consistently show that biological explanations reduce blame, there have been mixed findings on the relationship between biological explanations and stigma. Some studies have found that biological beliefs reduce stigma (Breheny, 2007; Phelan, 2005), while others have found the opposite relationship (Mehta & Farina, 1997). Mehta and Farina (1997) paired participants with a confederate who was either described as having a psychiatric disability framed as a "disease like any other, which affected . . . biochemistry" (1997, p. 410), or a psychiatric disability framed as "a result of . . . the kinds of things that happened to [the confederate as a child]" (1997, p. 409), or not having a psychiatric disability. Participants were then instructed to engage in a study of learning by administering electric shocks to the confederate when he made a mistake. When participants believed the confederate had a biologically based disease, they tended to blame him less for making a mistake, but inflicted more painful shocks. Increasing essentialist thinking about biology can reduce blame, but seems to ironically increase stigma in some situations.

The discrepant findings on the relationship of essentialism and stigma may be due to differences in beliefs about whether these conditions are

congenital or acquired. However, research has not yet examined whether essentialism or stigma differs as a function of whether someone was born that way or became that way. We examine this question in the present work by presenting the first direct comparison of judgments of people with congenital disability versus acquired disability. We predict that, because people with congenital disabilities are born into their conditions, people likely assume that these disabilities are genetically determined natural kinds (i.e., biological), are fundamentally different (i.e., discrete), are permanent (i.e., immutable), and that the disability influences the person's traits (i.e., informative). We suggest that essentialism will then influence stigma toward those with disability, but that the mechanism through which it does it will vary by onset of disability and its effect on blame (described in what follows).

Attribution Theories

According to attribution research, people tend to blame individuals more for unfavorable outcomes, relative to favorable outcomes (Alicke, 2000; Walster, 1966). In one classic study, participants listened to a story about a man's car accident, which caused either minor or severe damage (Walster, 1966). The man was judged as more blameworthy the more severe the damage was, despite the fact that no other information about the accident changed. This blame-validation process is accomplished through a number of mechanisms (Alicke, 2000). Negative outcomes can prompt participants to alter perceptions of control and evidential standards for what requires blame, and to seek information that supports a desired blame attribution (Alicke, 2000). A proposed motivation behind victim blame stems from the need to perceive the world as a just place in which good deeds are rewarded and bad deeds are punished. Belief in a just world restores a sense of justice, protecting oneself from the fear that bad things can happen randomly to blameless people (Lerner & Miller, 1978).

Attribution research on disability stigma has focused primarily on the factor of controllability

(Weiner, 1993; Weiner, Perry, & Magnusson, 1988). Weiner et al. (1988) found that stigmatized identities perceived as having a mental or behavioral component (e.g., drug addiction) were rated as more controllable, whereas those that were believed to be physical (e.g., blindness) were viewed as less controllable. Controllability attributions about stigmatized identities elicit specific attitude components (i.e., cognitions, emotions, behaviors; Weiner, 1993). When people believe a condition is controllable, they are consequently more likely to believe the person is to blame, which elicits a variety of stigmatizing responses, including feelings of anger and less sympathy toward the person, leading them to distance themselves from the person and be unlikely to help them (Juvonen, 1991, 1992; Stump, LaPergola, Cross, & Else-Quest, 2016; Weiner et al., 1988).

People may be motivated to make causal attributions that allow them to believe they themselves are unlikely to acquire a disability (which is generally perceived as an unfavorable outcome by the public; Olkin, 1999; Weiner et al., 1988). Encountering someone with an acquired disability may remind observers of the possibility that they, too, could acquire a disability. To protect themselves from this *disability acquisition threat*, people may engage in *disability avoidance blame*, whereby people blame those with acquired disabilities for their conditions (to reduce the threat that one could acquire a similar disability). We propose that observers are unlikely to experience disability acquisition threat about congenital disability, because such a disability cannot be acquired, and accordingly, those with a congenital disability will receive less disability avoidance blame. In other words, acquired disability can be perceived as being caused by controllable behaviors, whereas congenital disability is unlikely to be perceived as controllable by the person with the condition.

Indeed, people frequently ask individuals with disabilities intrusive questions about the cause of their condition (Olkin, 1999). For example, an observer encountering someone who became disabled from a bicycle accident may ask if the person was wearing a helmet. If the cyclist had not been wearing a helmet, the observer can

judge the disability as controllable, blame the cyclist for being careless, and simultaneously assure him/herself that such a thing could never happen to him/herself (“I am careful!”). Such disability avoidance blame protects against disability acquisition threat (Dunn, 2015). Olkin (1999) theorized that people with acquired disability, whose conditions could be perceived as more controllable and more personally threatening, would be more easily blamed for their disability and would consequently be more stigmatized than people with congenital disability. However, extant research has not tested this hypothesis.

The Current Research

Integrating research on essentialism and attribution theory, we predict that applying essentialist thinking toward those with disability will influence stigma by changing blame, but in diverging ways, depending on the onset of disability. Specifically, essentializing someone with acquired disability may make that person seem fundamentally different from the self, which should reduce concern that one could become like that person, thereby reducing any stigma that might arise from compensatory disability avoidance blame. We expect that de-essentializing those with acquired disability may backfire and increase stigma. The rationale for this prediction is that people with acquired disability may already be perceived as not essentially different from those without disability (given they acquired disability later in life), and so instead, their disability may be seen as controllable, and they are thus likely to be blamed for it. Consequently, further reducing essentialist thinking about this group (making them seem more similar to the self) should highlight that the disability could happen to anyone, increasing disability acquisition threat. It is these conditions that heighten a need to blame someone for their condition (as if it were controllable), and blaming someone for their disability should increase stigma (Juvonen, 1991, 1992; Stump et al., 2016; Weiner et al., 1988). In contrast, essentializing those with acquired disability (which makes them seem essentially different from those without

disability), should reduce blame (i.e., people will be less concerned about acquiring a disability when it seems so far removed from the self). Reducing blame should thereby reduce stigma (Harré, 2001; Mehta & Farina, 1997; Read et al., 2006). Thus, we predict that de-essentializing (vs. essentializing) people with acquired disability will actually increase stigma through increasing blame. In contrast, for people with congenital disability, we do not anticipate that essentialism will predict stigma through blame, because those with congenital disability are not typically blamed for it.

We present three studies to test these predictions. Study 1 first established a disability hierarchy that explicitly compared participants' preferred social distance to people with congenital and acquired versions of the same disability. Study 2 replicated this hierarchy and examined the roles of blame and essentialism. Finally, Study 3 independently manipulated disability onset (congenital vs. acquired) and essentialism (essentializing or de-essentializing the disability) to examine their effect on blame, and consequently, stigma. In order to build upon previous work, we used disabilities presented in previous disability stigma hierarchy research, including deafness, blindness, paraplegia, and mental illness, which can be congenital or acquired.² We operationalize stigma by first focusing on social distance (Studies 1 and 2), as has been done in the disability hierarchy and attribution literatures (Grue et al., 2015; Olkin & Howson, 1994; Richardson et al., 1961; Shears & Jensema, 1969; Thomas, 2000; Tringo, 1970; Westbrook et al., 1993). Subsequently, in Study 3, we examine stigmatizing cognitions (i.e., blame), emotions (i.e., anger, pity), and behaviors (i.e., social distance, help), as has been done in the disability attribution research (Juvonen, 1991, 1992; Stump et al., 2016; Weiner et al., 1988).

Study 1

Method

Participants. We anticipated that stigma-based responses to those with disability would present a medium effect size, and thus, in all studies, we sought to recruit at least 75 subjects per study cell

for sufficient power (with 80% power, this sample size can detect an effect size of $r = .32$ at $\alpha = .05$; see Fritz, Morris, & Richler, 2012). A first study sought to collect over this sample size, and thus recruited 100 U.S. participants on Mechanical Turk (MTurk) for a within-subjects design, wherein 110 completed the study (56% female; $M_{age} = 37.06$, $SD_{age} = 13.41$; 74% Caucasian, 11% Asian, 8% Hispanic, 4% Black, 4% other).³ Participants were not allowed to complete more than one of the studies described here, thus, each study represents an independent sample.

Procedure. This study presented different types of disabilities followed by a social distance scale, similar to the procedures used in other disability stigma hierarchy studies. We selected seven disabilities from the previous literature which could have congenital or acquired onset. They were presented to participants using the following language: "blind," "deaf," "facial disfigurement," "intellectual disability (low IQ)," "mental illness," "missing an arm/arm amputation," and "paraplegia." Disabilities were as specific as possible while ensuring congenital and acquired disabilities remained analogous and easily recognizable. For example, facial disfigurement can be congenital or acquired, but more specific diagnoses like cleft lip and burns can only be congenital or acquired, respectively. Each condition was presented once as congenital and once as acquired, for a total of 14 disability targets. For example, facial disfigurement was presented as follows: "Imagine a person [who developed a facial disfigurement as a teenager/who was born with a facial disfigurement]." The order of presentation of disabilities and onset was randomized.

After presentation of each target, participants answered four social distance questions drawn from previous research (Grue et al., 2015; Olkin & Howson, 1994; Richardson et al., 1961; Shears & Jensema, 1969; Thomas, 2000; Tringo, 1970; Westbrook et al., 1993). We asked, "How comfortable would you be. . ." (a) "marrying a person with this condition," (b) "becoming friends with a person with this condition," (c) "working next to a person with this condition," and (d) "having this person as a neighbor." Response options

Table 1. Study 1: Hierarchy of disability depicted in social distance scores.

Disability	Acquired		Congenital		Total	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Arm amputation	2.71	0.12	2.82	0.13	2.77 ^a	0.12
Deafness	2.77	0.13	2.85	0.13	2.81 ^{ab}	0.13
Blindness	2.85	0.13	2.89	0.13	2.87 ^{ab}	0.12
Paraplegia	3.00	0.12	3.14	0.12	3.07 ^c	0.12
Facial disfigurement	3.21	0.14	3.26	0.14	3.24 ^c	0.14
Intellectual disability	4.02	0.14	4.17	0.15	4.09 ^d	0.14
Mental illness	4.37	0.15	4.54	0.16	4.45 ^c	0.16

Note. Different letters indicate significant differences.

were given on an 8-point scale (1 = *extremely uncomfortable*, 8 = *extremely comfortable*). Responses to the four social distance questions were reverse-scored and averaged, with higher numbers indicating a preference for greater social distance to the target (i.e., greater stigma; $\alpha = .98$).

Results and Discussion

A 2 (onset) \times 7 (disability type) repeated measures ANOVA revealed a significant main effect for onset, $F(1, 109) = 16.18, p < .001, \eta_p^2 = .13$, whereby congenital disabilities were more stigmatized than acquired disabilities (independent of type of disability), and a significant main effect of disability type, $F(6, 654) = 69.36, p < .001, \eta_p^2 = .40$, which revealed significant variation among the kinds of disability (independent of onset), but no interaction, $F(6, 654) = 0.80, p = .57, \eta_p^2 = .01$. See Table 1 for *M*s and *SE*s depicting disability hierarchy and pairwise comparisons by disability type.

The main effect of onset presents the first evidence that we are aware of that congenital disabilities are more stigmatized than acquired disabilities. Importantly, the main effect of disability type, demonstrating significant variation among the kinds of disabilities, replicates the traditional disability stigma hierarchy found over the course of more than 50 years in the literature. Consistent with previous work, the present participants stigmatized people with mental illness the most, followed by intellectual disabilities, facial disfigurement and paraplegia, and stigmatized people with blindness, deafness, and arm

amputation the least. The current study provides an important addition to the literature: congenital disabilities are more stigmatized than acquired disabilities overall. For each type of disability, the acquired disability was rated more positively than the congenital disability.

Study 2

In Study 2 we sought to replicate our disability hierarchy results and also examine differences in beliefs about essentialism and blame for congenital and acquired disabilities. Further, we ascertained whether those differences in essentialism and blame predicted stigma toward congenital and acquired disability.

Method

Participants. We recruited 75 Mechanical Turk users living in the US for a within-subjects design, and 73 participants completed the study. An attention check item asking participants to select the third option from the left was included (see Oppenheimer, Meyvis, & Davidenko, 2009) and five participants failed this check. Thus, 68 participants (59% female; $M_{age} = 38.94, SD_{age} = 12.35$; 77% Caucasian, 13% Asian, 4% Hispanic, 3% Black, 3% other) were included in this within-subjects design study.

Procedure. This study replicated the methods of Study 1 (presenting a disability in a question stem and measuring social distance), followed by an additional block of five randomized questions

Table 2. Study 2: Hierarchy of disability depicted in social distance scores.

Disability	Acquired		Congenital		Total	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Deafness	2.25	0.13	2.38	0.16	2.31 ^a	0.14
Blindness	2.43	0.15	2.51	0.15	2.47 ^a	0.15
Paraplegia	2.78	0.15	2.84	0.16	2.81 ^b	0.15
Intellectual disability	3.96	0.22	4.04	0.23	4.00 ^c	0.22
Mental illness	3.94	0.24	4.29	0.23	4.12 ^c	0.23

Note. Different letters indicate significant differences.

assessing beliefs about essentialism and blame for each disability. Essentialism was measured using the following four items modified from Haslam and Ernst (2002): “This person’s disability is informative, so knowing that this person has this disability tells us a lot about the person”; “This person’s disability is a category that has clear and sharp boundaries, either the person has the disability or the person does not”; “This person’s disability could be readily and completely cured”; “This person’s disability has a biological basis.” Each item measured one of the four commonly described essentialism factors (informativeness, discreteness, immutability, and biologicalness/naturalness, respectively). An item about blame used by Phelan (2005), “This person is to blame for their disability,” was also presented. Response options were given on an 8-point scale (1 = *strongly disagree*, 8 = *strongly agree*). For each disability, social distance questions were averaged ($\alpha = .97$), as were essentialism items to create a total scale ($\alpha = .93$). Higher numbers indicate greater endorsement of social distance, essentialism, or blame. In order to reduce participant fatigue due to the addition of more questions, facial disfigurement and arm amputation, which are less commonly assessed in the disability hierarchy literature, were omitted in this study.

Results and Discussion

Social distance. A 2 (onset) \times 5 (disability type) repeated measures ANOVA on social distance revealed a main effect of onset, $F(1, 67) = 10.66$, $p < .01$, $\eta_p^2 = .14$, again demonstrating that

congenital disabilities were more stigmatized than acquired disabilities (independent of disability type), and a main effect of disability type, $F(4, 268) = 50.45$, $p < .001$, $\eta_p^2 = .43$, again revealing significant variation among the kinds of disability (independent of onset), but no interaction, $F(4, 268) = 2.06$, $p = .09$, $\eta_p^2 = .03$. See Table 2 for *M*s and *SE*s depicting the disability hierarchy and pairwise comparisons by disability type. These results replicated our disability hierarchy from Study 1.

Essentialism and blame. Next, we examined differences in essentialism and blame toward targets with congenital and acquired disabilities. As predicted, paired *t* tests demonstrated that people with congenital disability ($M = 1.57$, $SE = 0.14$) were blamed less than people with acquired disability ($M = 2.18$, $SE = 0.16$), $t(67) = -4.31$, $p < .001$, but people with congenital disabilities ($M = 5.82$, $SE = 0.12$) were essentialized more than those with acquired disabilities ($M = 5.35$, $SE = 0.10$), $t(67) = 6.12$, $p < .001$. Essentialism and blame should be negatively related. We examined the relationship between essentialism and blame separately for congenital and acquired disability. For congenital disability, essentialism was negatively correlated with blame ($r = -.50$, $p < .001$), but for acquired disability, essentialism and blame beliefs were negatively, but not significantly, correlated ($r = -.10$, $p = .44$). Thus, at least for congenital disability, essentialism and blame beliefs are at odds with each other.

Finally, we tested whether perceptions of blame and essentialism predicted stigma toward

congenital and acquired disability. A regression analysis predicting social distance toward congenital disability found that both essentialism ($b = 0.36$, $SE = 0.18$, $p = .04$) and blame ($b = 0.33$, $SE = 0.14$, $p = .03$) emerged as significant predictors. However, a regression analysis predicting social distance toward those with acquired disability found that only blame ($b = 0.25$, $SE = 0.11$, $p = .02$), not essentialism ($b = 0.23$, $SE = 0.17$, $p = .18$), was a significant predictor.⁴

One possibility is that participants are more familiar with the acquired versions of the disabilities presented in Studies 1–2, and thus familiarity (rather than essentialism and blame) is driving the present results. To test this possibility, we conducted a posttest where 77 participants recruited from MTurk using the same method ($M_{\text{age}} = 34.42$ years, $SD = 10.83$; 42% female) were presented with the disabilities from the prior studies, in a random order, and indicated how much they agreed with the statement “I am familiar with this disability” on an 8-point scale (1 = *strongly disagree*, 8 = *strongly agree*). Contrary to an explanation based on familiarity, participants actually reported greater familiarity with the congenital versions of the disorders ($M = 4.81$, $SD = 1.99$) than the acquired versions ($M = 4.38$, $SD = 1.95$), $t(76) = 3.27$, $p < .01$. This pattern of results is inconsistent with the alternative explanation based on familiarity. There is ample research demonstrating that familiarity is overall linked with positive attitudes and reduced prejudice (for a recent meta-analysis see, Pettigrew & Tropp, 2006). And yet, our participants overall stigmatized those with congenital disabilities more despite reporting greater familiarity with such conditions. Thus, the results do not seem driven by familiarity.

In sum, in both Studies 1 and 2, people with congenital disability were stigmatized more than people with acquired disability. Study 2 furthermore revealed that people with congenital disability were less blamed, but more essentialized and stigmatized than people with acquired disability. Essentialism and blame showed different patterns in predicting stigma toward people with congenital

and acquired disability. This suggests that those with congenital disability and those with acquired disability are stigmatized through different routes, a hypothesis we test experimentally in Study 3.

Study 3

The previous studies established that manipulating disability onset influences essentialism, blame, and stigma. In the final study, we manipulated both disability onset and essentialism to examine whether essentialism in conjunction with onset plays a moderating role in people’s tendency to stigmatize congenital and acquired disability through blame. Because Studies 1 and 2 were within-subjects, it is possible that participants were aware of our manipulation of onset. To address this issue, we utilized a between-subjects design in the final study.

Predictions

Onset by essentialism predicting blame. We predicted that a target with acquired disability whose disability is described in a nonessentialist way would be blamed more than an acquired target whose disability is essentialized. The rationale for this prediction is that essentializing an acquired disability will make the target seem to be distinct from the participant (i.e., they have some essence that makes them fundamentally different). If a person with such a disability is fundamentally different from other people, then the disability could *not* happen to just anyone, and under such conditions, people are unlikely to blame them for their condition (Olkin, 1999). Conversely, by *not* essentializing acquired targets (i.e., thereby highlighting how they are *not unlike us*), for a nonessentialized person with acquired disability there is no essence that makes them fundamentally different, and so consequently, the disability could happen to anyone and it is thus controllable. Under these latter conditions (i.e., when a disability seems more controllable), people are more likely to blame them for their condition (Juvonen, 1991, 1992; Stump et al., 2016; Weiner et al., 1988). In contrast, we predicted that participants would be unlikely to blame targets with congenital

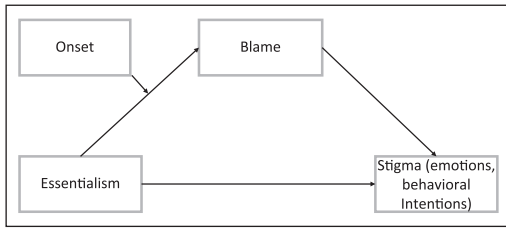


Figure 1. Conceptual moderated mediation model for Study 3.

disability, regardless of whether it was described in an essentialist way. We predicted this pattern because congenital disability does not prompt disability acquisition threat, and Study 2 showed that people are less likely to blame those with congenital disability.

Blame predicting stigma. Further, we predicted that this interactive effect (Disability Onset x Essentialism) on blame would go on to predict stigma (i.e., moderated mediation). Specifically, we predicted that the interactive effect on blame would elicit stigmatizing emotions (greater anger and less sympathy) and behavioral intentions (greater social distance, less personal help, and less institutional help).

Moderated mediation. These predictions thus combine to yield the moderated mediation model depicted in Figure 1. In Study 2, we found that blame was the sole predictor of stigma to people with acquired disabilities. Thus, we predicted that when disability is acquired, then nonessentialized (vs. essentialized) targets will be stigmatized through increased blame toward those targets. In contrast, we did not expect essentialism to affect views toward congenital targets through blame because blame toward that group is already low. We predicted that when disability is congenital, then nonessentialized (vs. essentialized) targets will not be stigmatized through blame.

Method

Participants. To account for participants that would be lost to attention and manipulation

checks (per the prior study), 175 participants living in the US were requested on MTurk for a between-subjects design; 176 participants completed the survey. Eight failed attention checks and 42 failed manipulation checks asking whether the target's disability was congenital or acquired and whether the disability was genetic (part of the manipulation, see following lines), and were excluded, leaving a sample of 126 (50% female; $M_{age} = 34.95$, $SD_{age} = 10.79$; 74% Caucasian, 7% Asian, 9% Hispanic, 6% Black, 4% other).

Procedure. We randomly assigned participants to read a vignette about a person named Amy who was either born paralyzed from the waist down (congenital) or became paralyzed from the waist down as a teenager (acquired). In each case, the cause was described as an enlarged blood vessel pressing on her spinal nerves. In one set of vignettes, this disability was described with essentialist language, that is, as making her different from other people, genetic, incurable, and fundamentally affecting who she was as a person. In the other set of vignettes, this disability was described with nonessentialist language, that is, not making her different from other people, not genetic, possibly curable, and not fundamentally affecting who she was as a person. The descriptions thus matched all four aspects of essentialism, broadly construed, discreteness, biological, immutable, and informative, respectively. The vignettes are presented next.

Congenital essentialized

When Amy was born, she was paralyzed from the waist down. The doctors said she had a condition in which an enlarged blood vessel was pressing on her spinal nerves. This made her different from other people. It was genetic. The doctors said she will not get any better and she will probably need to use a wheelchair for the rest of her life. The doctors said her condition would have a large bearing on what Amy would be like—that this condition would not only affect her ability to walk, but would fundamentally affect who she is as a person.

Congenital nonessentialized

When Amy was born, she was paralyzed from the waist down. The doctors said she had a condition in which an enlarged blood vessel was pressing on her spinal nerves. It was not genetic. The doctors said she may or may not get better and she will probably need to use a wheelchair for the rest of her life. The doctors said her condition would not have any bearing on what Amy would be like—that this condition would not affect who she is as a person, only her ability to walk.

Acquired essentialized

When Amy was a teenager, she became paralyzed from the waist down. The doctors said she had a condition in which an enlarged blood vessel was pressing on her spinal nerves. This made her different from other people. It was genetic. The doctors said she will not get any better and she will probably need to use a wheelchair for the rest of her life. The doctors said her condition would have a large bearing on what Amy would be like—that this condition would not only affect her ability to walk, but would fundamentally affect who she is as a person.

Acquired nonessentialized

When Amy was a teenager, she became paralyzed from the waist down. The doctors said she had a condition in which an enlarged blood vessel was pressing on her spinal nerves. It was not genetic. The doctors said she may or may not get better and she will probably need to use a wheelchair for the rest of her life. The doctors said her condition would not have any bearing on what Amy would be like—that this condition would not affect who she is as a person, only her ability to walk.

In an attempt to replicate our stigma findings using a different measure, and thus gain additional generalizability, we employed the newly validated Measure of Disease-Related Stigma (MDS; Stump et al., 2016). Designed to be paired with a vignette describing a person with a

disability, the MDS examines the components of stigma predicted by attribution theory, including participants' cognitive attributions (blame), emotions (anger and sympathy), and behavioral intentions (social distance, willingness to personally provide help, and support for institutional and governmental help) toward the target. Response options for the MDS were given on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*), including statements such as "Amy's disability is due to a mistake she made." Higher numbers indicated greater blame ($\alpha = .91$), anger ($\alpha = .80$), sympathy ($\alpha = .73$), social distance ($\alpha = .69$), and intentions to provide personal help ($\alpha = .90$) and institutional help ($\alpha = .84$). As a manipulation check to determine whether the vignettes affected essentialism beliefs, we administered the same essentialism composite measure used in Study 2. An example item is "Amy's disability is informative, so knowing that she has this disability tells us a lot about her."

Results

Manipulation check. In order to confirm that we successfully manipulated essentialism beliefs about the target, we conducted a 2 (onset) \times 2 (essentialism) ANOVA on essentialism scores. Providing support for our manipulation, there was a significant main effect of essentialism condition, showing that the essentialized target ($M = 4.40$, $SE = 0.09$) was rated as more essentialized than the nonessentialized target ($M = 3.86$, $SE = 0.09$), $F(1, 122) = 18.15$, $p < .001$, $\eta_p^2 = .13$. Suggesting our explicit manipulation of essentialism equalized individual differences in beliefs about congenital and acquired essentialism, there was no significant main effect of onset, $F(1, 122) = 0.60$, $p = .44$, $\eta_p^2 = .01$, nor was there an interaction, $F(1, 122) = 0.13$, $p = .72$, $\eta_p^2 = .00$.

Blame. A 2 (onset) \times 2 (essentialism language) ANOVA examined blame attributions. This analysis revealed a main effect of onset showing that the acquired target was blamed more than the congenital target, $F(1, 122) = 0.04$, $p = .04$, $\eta_p^2 = .03$. The main effect of essentialism was not significant,

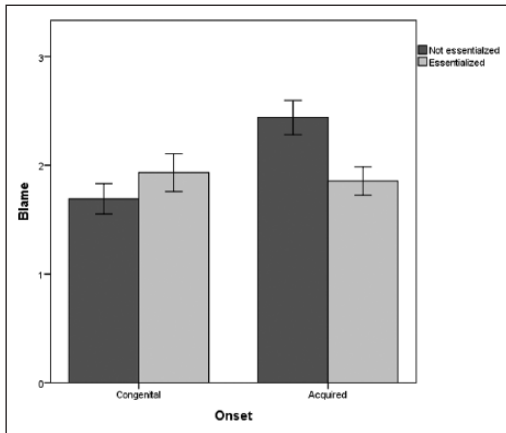


Figure 2. Study 3 blame ratings by onset and essentialism condition.

$F(1, 122) = 1.13, p = .29, \eta_p^2 = .01$. Thus, independent of essentialism, those with acquired disability were blamed more for their disability than those with congenital disability, whereas, independent of onset, essentializing the disability did not influence blame.

The main effect was moderated, however, by a significant Essentialism \times Onset interaction, $F(1, 122) = 6.56, p = .01, \eta_p^2 = .05$, whereby essentialism influenced blame only when the disability was acquired (see Figure 2). When the disability was acquired, nonessentialized targets were blamed more than essentialized targets, $F(1, 122) = 6.38, p = .01, \eta_p^2 = .05$. In contrast, when the disability was congenital, essentialism did not influence blame, $F(1, 122) = 1.16, p = .29, \eta_p^2 < .01$.

We next conducted a series of regression analyses testing whether blame (controlling for onset, essentialism, and their interaction) predicted our measures of stigma. Blame significantly predicted increased anger ($b = 0.82, SE = 0.08, p < .001$), less sympathy ($b = -0.42, SE = 0.08, p < .001$), increased social distance ($b = 0.54, SE = 0.09, p < .001$), less personal willingness to help ($b = -0.45, SE = 0.11, p < .001$), and less support for institutional help ($b = -0.26, SE = 0.11, p = .03$).

Moderated mediation. Given that blame predicted our dependent measures of stigma, and that onset interacted with essentialist language in

predicting blame, this led us to test a series of bootstrapped moderated mediational paths (with 5,000 iterations) predicting stigmatizing emotions and behavioral intentions at each level of the moderator (*nonessentialized* coded as 1, *essentialized* coded as 0). All direct effects and interactions can be viewed in Table 3.

Emotions. The moderated mediation analysis predicting anger revealed that when the disability was acquired, *nonessentialized* (vs. *essentialized*) targets were met with increased anger through increased blame. However, when congenital, essentialism did not predict anger through blame. The direct effect of onset indicated that congenital targets were met with greater anger than acquired targets, while the direct effect of essentialism indicated that essentialized targets were met with greater anger.

Similarly, for sympathy, the moderated mediation analysis revealed that when disability was acquired, *nonessentialized* (vs. *essentialized*) targets elicited reduced sympathy through increased blame. However, when disability was congenital, essentialism did not predict sympathy through blame. The direct effect of onset indicated that congenital targets were met with less sympathy than acquired targets, and there was no direct effect of essentialism.

Behavioral intentions. The moderated mediation analysis on social distance indicated that when disability was acquired, participants preferred greater social distance from *nonessentialized* (vs. *essentialized*) targets, through increased blame. However, when disability was congenital, essentialism did not predict social distance through blame. The direct effect of onset indicated that participants preferred greater social distance from congenital compared to acquired targets, and there was no direct effect of essentialism.

Similarly, for personal help, the moderated mediation analysis showed that when disability was acquired, *nonessentialized* (vs. *essentialized*) targets elicited less personal help, through increased blame. However, when disability was congenital, essentialism did not predict help through blame. The direct effect of onset indicated that

Table 3. Study 3: Moderated mediation effects.

	Direct effect of onset			Direct effect of essentialism			Onset x Essentialism			Indirect effect when acquired			Indirect effect when congenital		
	<i>b</i>	<i>SE</i>	95% CI	<i>b</i>	<i>SE</i>	95% CI	<i>b</i>	<i>SE</i>	95% CI	<i>b</i>	<i>SE</i>	95% CI	<i>b</i>	<i>SE</i>	95% CI
Anger	-0.31	0.15	[-0.61, -0.02]	-0.67	0.13	[-0.93, -0.40]	0.82	0.33	[0.17, 1.46]	0.46	0.16	[0.16, 0.79]	-0.19	0.18	[-0.57, 0.15]
Sympathy	0.46	0.14	[0.18, 0.76]	0.12	0.15	[-0.17, 0.41]	0.83	0.32	[0.19, 1.46]	-0.20	0.07	[-0.34, -0.08]	0.08	0.07	[-0.06, 0.23]
Social distance	0.35	0.17	[0.02, 0.68]	-0.16	0.17	[-0.49, 0.18]	0.83	0.32	[0.19, 1.46]	0.31	0.10	[0.12, 0.53]	-0.13	0.12	[-0.37, 0.09]
Personal help	0.44	0.21	[0.03, 0.85]	0.43	0.21	[0.03, 0.84]	0.83	0.32	[0.19, 1.46]	-0.22	0.10	[-0.47, -0.07]	0.09	0.08	[-0.06, 0.25]
Institutional help	0.53	0.21	[0.13, 0.94]	0.20	0.21	[-0.21, 0.62]	0.83	0.32	[0.19, 1.46]	-0.10	0.07	[-0.28, -0.01]	0.04	0.05	[-0.02, 0.17]

Note. Conditions were coded as follows: congenital = 0; acquired = 1; essentialized = 1; nonessentialized = 0; nonessentialized = 1.

congenital targets elicited less personal help. Further, the direct effect of essentialism indicated that essentialism elicited less personal help.

Finally, for institutional help, the moderated mediation analysis indicated that when disability was acquired, *nonessentialized* (vs. *essentialized*) targets received less intentions to provide institutional help, through increased blame. However, when disability was essentialized, onset did not predict institutional help through blame. The direct effect of onset indicated that congenital targets elicited less personal help, and there was no direct effect of essentialism.

Thus, each of these moderated mediation models show the same pattern of results, whereby when the disability was acquired, nonessentialized (vs. essentialized) targets were stigmatized through blame; however, when disability was congenital, essentialism did not predict stigma through blame. Further, replicating our previous studies, in each model, the target with a congenital disability was stigmatized more than the target with an acquired disability.

Alternative models

Moderated direct effect. In order to ensure that the moderated mediation model was the best fit for our data, we tested an alternative model, a simple moderation of onset and essentialism on stigma (i.e., not through blame). The interaction of onset by essentialism, approached, but did not reach significance for anger (*b* = 0.70, *SE* = 0.38, 95% CI [-0.05, 1.45]) and social distance (*b* = 0.66, *SE* = 0.38, 95% CI [-0.09, 1.41]). In contrast, sympathy (*b* = 0.23, *SE* = 0.03; 95% CI [-0.38, 0.85]), personal help (*b* = 0.24, *SE* = 0.43; 95% CI [-0.61, 1.09]), and institutional help (*b* = 0.29, *SE* = 0.42; 95% CI [-0.53, 1.11]) did not approach significance. There was not a consistent significant Onset × Essentialism effect on stigma outcomes, suggesting that a moderated direct effect model on stigma is missing meaningful variance that is captured by a moderated indirect effect that operates through blame.

Alternate mediator for moderated indirect effect. It is possible that the vignettes about Amy elicited

some sympathy, and that our moderated indirect effect on blame instead reflects an effect operating through sympathy. To test this possibility, we reran our moderated mediation analyses with the addition of sympathy as a potential mediator. It was not a significant predictor of *anger* (congenital indirect effect: $b = 0.03$, $SE = 0.06$; 95% CI [-0.09, 0.17]; acquired indirect effect: $b = -0.04$, $SE = 0.06$; 95% CI [-0.20, 0.05]), *social distance* (congenital indirect effect: $b = -0.06$, $SE = 0.14$; 95% CI [-0.19, 0.36]; acquired indirect effect: $b = -0.06$, $SE = 0.11$; 95% CI [-0.28, 0.15]), *personal help* (congenital indirect effect: $b = 0.08$, $SE = 0.17$; 95% CI [-0.43, 0.23]; acquired indirect effect: $b = 0.08$, $SE = 0.15$; 95% CI [-0.17, 0.42]), or *institutional help* (congenital indirect effect: $b = 0.07$, $SE = 0.15$; 95% CI [-0.39, 0.22]; acquired indirect effect: $b = 0.07$, $SE = 0.12$; 95% CI [-0.17, 0.31]). These findings suggest that the moderated effect on stigma operates through blame, not sympathy.

Discussion

In summary, people stigmatize those with congenital disability more than acquired disability. However, when people with acquired disability are not essentialized (vs. essentialized), people actually stigmatize them more through increased judgments of blame. This may be because acquired but not essentialized disability is threatening (it could happen to anyone), as reflected by increased blame (i.e., this person is to blame, as if the disability were controllable). On the other hand, acquired *and* essentialized disability may make the acquired disability seem farther removed from the self, and under these conditions, people are less likely to blame the target (as if the disability were uncontrollable; Juvonen, 1991, 1992; Stump et al., 2016; Weiner et al., 1988).

In other words, Study 3 found that describing those with acquired disability with essentialist language seems to be beneficial in reducing stigma by reducing blame. In Study 2, essentialism predicted stigma for congenital targets, but not for acquired targets; whereas, in Study 3, the essentialism manipulation only influenced stigma (through blame) for acquired targets. While these findings at first glance may seem at odds with one another, the

reconciliation might be best explained by the complex relationship between blame, essentialism, and social distance in the domain of disability.

In Study 2, people with acquired disability were blamed more and essentialized less than those with congenital disability. Also in Study 2, while both blame and essentialism independently predicted social distance from those with congenital disability, only blame (not essentialism) predicted social distance for acquired disability. As a whole, then, it seems that the average response to those with acquired disability is not one of essentialism, but one of blame, and that blame feeds forward to seeking social distance.

Relative to those with congenital disability, people essentialize those with acquired disability less (Study 2). In Study 3, when inducing participants to essentialize acquired disability, the desire for social distance from acquired targets was reduced through reducing blame, as seen in Study 2. The typical response to acquired targets is blame, not essentialism, and thus subsequent stigma tends to operate through blame for this group (not essentialism). Yet, this tendency toward blaming acquired targets can be overcome through increased essentialism, which explains why essentialism here can reduce stigma for acquired targets (rather than congenital targets). With no natural tendency to blame congenital targets, the manipulation of essentialism (which offers some social distance from the target)—through reducing blame—does not decrease stigma of congenital targets, as people have no need to blame them as a distancing mechanism.

Typically, it is essentialism that we would seek to reduce for those with congenital disability and it would be blame that we would seek to reduce for those with acquired disability, but we show here that in certain cases, essentialism would be the more useful tool in reducing stigma toward acquired targets. That is, we see that because *acquired* targets who are *not* essentialized may pose the greatest disability acquisition threat (i.e., in theory, one could become like this person), then in such a case, essentialism becomes the tool for changing stigma by reducing the blame normally ascribed to targets who seem similar to us.

These findings dovetail with the suggestion that increasing essentialist beliefs about sexual

orientation (for those who believe it to be a choice) could reduce stigma (for those individuals; Haslam & Levy, 2006; Haslam et al., 2002), but we caution more research should be done before any such intervention is to be applied in the public domain. In the current domain, essentialism seems to reduce blame normally prompted by targets with acquired disability.

General Discussion

Across three studies, we have shown for the first time that individuals who are born into a stigmatized social category face greater stigma than those who join that category later in life, and that essentialism and blame moderate and mediate this effect. Two studies replicated a disability stigma hierarchy (Grue et al., 2015; Olkin & Howson, 1994; Richardson et al., 1961; Shears & Jensema, 1969; Thomas, 2000; Tringo, 1970; Westbrook et al., 1993), while adding an important distinction: that congenital disabilities were consistently more stigmatized than the acquired version of the same disability.

Examining lay beliefs revealed that people with congenital disabilities are more essentialized but less blamed than people with acquired disabilities, and that these beliefs differentially predict stigma. Moreover, independently manipulating onset and essentialism revealed that describing an acquired disability in an essentialist way reduces blame. When disability is described in a nonessentialist way, people with acquired disability are more stigmatized than when it is described in an essentialist way because they are more blamed. This may be because acquired but *not* essentialized disability is perceived as threatening (i.e., anyone could acquire that disability), leading to disability avoidance blame, and stigma. On the other hand, acquired and essentialized disability may be perceived as farther removed from the self, reducing threat and blame.

Although our studies were conducted on MTurk, which may raise concerns about representativeness of the sample, MTurk samples have produced valid and reliable data on a variety of

psychological measures and yield samples that are generally more socioeconomically and ethnically diverse than the typical undergraduate psychology participants (Buhrmester, Kwang, & Gosling, 2011; Casler, Bickel, & Hackett, 2013). Moreover, Studies 1–2 replicate the basic disability hierarchy that has been seen for half a century with other samples, thereby suggesting the current sample behaves in a way similar to other samples. Additionally, in Studies 2 and 3, we took precautions to ensure the quality of our data by using attention and manipulation checks. We also triangulated measurement of stigma, our dependent variable, by using multiple scales.

Implications for Reducing Disability Stigma

Essentialism has been typically seen as a problematic lens through which to view social groups. Indeed, our findings suggest that attempts to reduce stigma should focus on reducing essentialist thinking, but we clarify that this is particular to situations in which the target is unlikely to be blamed for their group membership (e.g., people with congenital disability, racial minorities). Yet, in other cases, essentialism may actually be a tool to reduce blame. For stigmatized groups whose conditions may be perceived by some as controllable and blameworthy—like people with acquired disability, chronic illness like HIV, LGBTQ people, and obese people—essentialism may ameliorate stigma. In Study 3, we found that essentialist language actually reduced the tendency to blame someone for their acquired condition, reducing stigma. Although essentialist thinking is associated with lower stigma and blame toward several groups (Haslam & Levy, 2006; Haslam et al., 2002), it has also been found to increase discriminatory behavior toward people with mental illness (Lam, Salkovskis, & Warwick, 2005; Mehta & Farina, 1997). As most research, including the present studies, focuses on the attitudinal and behavioral intention components of stigma, future research is needed to examine the effects of onset, blame, and essentialism on actual behavior.

Another way to reduce disability stigma may lie in the *social model* of disability endorsed by many disability scholars and activists and included in the ICF. This model provides a conceptualization of disability that serves to reduce both essentialism and blame. This model holds that: disability is a socially constructed group, thus reducing blame on the individual; and it is a universal experience falling on a continuum with permeable membership, thus reducing essentialism (Olkin, 2002). According to this model, disability occurs because societies tend to be constructed based on the assumption that everyone is nondisabled and functions according to a culturally constructed norm or ideal (Wendell, 1996). Previous work shows that describing race as a social construction reduces prejudice (Williams & Eberhardt, 2008), and belief in the social model is associated with lower stigma and greater support for disability social policies (Bogart, Logan, Hospodar, & Woelke (in press); Dirth & Branscombe, 2017).

Finally, it is important to consider the lived experience of people with congenital and acquired disability. Compared to people with acquired disability, people with congenital disability may be better adapted (Bogart, 2014; Bogart, Tickle-Degnen, & Ambady, 2012) and have a stronger disability self-concept, leading to higher satisfaction with life than those with acquired conditions (Bogart, 2014). This suggests that those with congenital disability face a double-edged sword: they are better adapted but more stigmatized. Future research should examine the self-perceptions of individuals with congenital versus acquired social identities, and whether they hold the same causal beliefs and stigma that others have about them.

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Notes

1. We do not conceptualize obesity as a disability. However, the stigma experienced by obese people may share similarities with that experienced

by people with disabilities because it is a highly visible condition which people are often blamed for having.

2. For example, symptoms of disorders like anxiety and depression may be present at birth or early childhood, or symptoms may appear later in life. We anticipate that the general public will readily accept the distinction of congenital and acquired disability, even though this distinction is recognized as more nuanced by experts. For example, researchers' understanding of mental illness often involves a diathesis–stress model. That is, someone may be born with some genetic predisposition to developing a condition, such as anxiety or depression, which may be activated by environmental events. Thus, technically, these disabilities have some congenital aspects and some acquired aspects, but again, we find lay people readily accept a division between congenital and acquired.
3. As is common with MTurk, additional participants occasionally took part in our studies beyond the allotment (e.g., this can happen if a user does not submit their work for payment, allowing another person to participate). We include all participants who took part in our studies.
4. While we did not make specific predictions by each subscale of the overall essentialism measure, we report supplemental tests by subscale here for the interested reader. Compared to people with acquired disabilities, people with congenital disabilities were rated as having conditions that were more biological $t(67) = 6.02, p < .001$; immutable $t(67) = 3.27, p < .01$; discrete $t(67) = 2.47, p = .02$; (marginally) more informative $t(67) = 1.88, p = .07$; but less blameworthy $t(67) = -4.31, p < .001$. Thus, analyzing the essentialism items separately shows that people with congenital disabilities are rated consistently higher than people with acquired disabilities on every essentialism item and lower on blame. When the separate essentialism items were analyzed in a regression alongside blame predicting stigma toward people with congenital disability, believing that conditions are less biological was associated with greater stigma ($b = -0.23, SE = 0.10, p = .03$), while believing that conditions were more immutable ($b = 0.28, SE = 0.13, p = .04$) and marginally more informative ($b = 0.14, SE = 0.07, p = .05$) was associated with greater stigma, but blame ($b = 0.23, SE = 0.16, p = .16$) and discreteness ($b = 0.16, SE = 0.12, p = .18$) did not approach significance. When predicting stigma toward people with acquired disability, no factors

were significant predictors, but greater informativeness ($b = 0.17, SE = 0.09, p = .06$), immutability ($b = 0.20, SE = 0.12, p = .09$), and blame ($b = 0.20, SE = 0.12, p = .09$) were marginally related to greater stigma; while biologicalness ($b = -0.14, SE = -0.18, p = .14$) and discreteness ($b = -0.02, SE = 0.12, p = .84$) did not approach significance. These regression results generally parallel those in the main analyses in that essentialism factors predict stigma toward people with congenital better than acquired disability. It is interesting that believing a congenital disability is more biological is associated with less stigma, although other essentialism factors predict greater stigma. These results imply a complex relationship between essentialist beliefs and stigma, as described in the introduction. Because we did not make predictions by subscale, and the overall scale shows good internal consistency, it is appropriate to treat essentialism as one construct. These supplemental analyses thus point toward potential further nuance and future research directions for this work.

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