

# Stigma and Health

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# Weight-Based Discrimination, Interpersonal Needs, and Suicidal Ideation

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Body mass index (BMI) has been an inconsistent predictor of suicidal thoughts and behaviors. One reason for this inconsistency may be that weight, per se, does not increase risk; rather, we argue that negative treatment associated with weight is a more critical predictor of suicidal thoughts and behaviors. Thus, the goal of the present research was to examine weight-based discrimination as a predictor of suicidal ideation through the lens of the interpersonal theory of suicide. Two samples of community-dwelling adults ( $N = 254$  and  $306$ , respectively) completed online surveys assessing weight-based discrimination, depression, belongingness and perceived burdensomeness. Participants also reported on their height, weight, and a variety of known risk factors for suicidal ideation (e.g., education, income). As predicted, weight-based discrimination was associated with increased suicidal ideation. This effect was mediated by depression and perceived burdensomeness; contrary to predictions, belongingness was not a significant mediator. This pattern of results was robust to controlling for BMI as well as established risk factors for suicidal ideation. Weight-based discrimination is associated with suicidal ideation, and this relationship may be due in part to increased depression and perceived burdensomeness. The present studies extend our understanding of the mental health outcomes of weight-based discrimination to suicidal ideation and advance the understanding of possible explanatory mechanisms linking discrimination to suicidal ideation. However, these findings should be considered tentative until they are replicated in highly powered and preregistered future research.

*Keywords:* stigma, weight discrimination, suicidal ideation, depression

Body mass index (BMI), a ratio of weight to height, has been inconsistently related to an elevated risk for self-injurious thoughts and behaviors (SITBs; Amiri & Behnezhad, 2018; Klinitzke, Steinig, Blüher, Kersting, & Wagner, 2013; Perera et al., 2015). Understanding the factors associated with greater SITBs is vitally important as individuals reporting SITBs are at a marked risk of future suicide attempt (Castellví et al., 2017). Some researchers have found an inverse relationship between BMI and suicide attempts (Batty, Whitley, Kivimäki, Tynelius, & Rasmussen, 2010), whereas others have found positive nonlinear relationships between BMI and suicidal ideation, such that the association is significant only at BMIs below 18 or over 28 (Dutton, Bodell, Smith, & Joiner, 2013) or the relationship simply becomes more pronounced as BMI increases (Zuromski, Cero, Witte, & Zeng, 2017). We argue that BMI is an inconsistent predictor of SITBs because it is not weight per se that alters risk, but rather the social experiences associated with weight. In line with this perspective, across two studies we examine how weight-based discrimination is associated with suicidal ideation, independent of BMI.

Weight-based discrimination is not only pervasive (Puhl & Heuer, 2009) but escalating (Andreyeva, Puhl, & Brownell, 2008). Higher body weight individuals face discrimination in most every

important domain of life, from employment and education to health care and romantic relationships (Puhl & Heuer, 2009; Puhl & King, 2013). Importantly, experiences with weight-based discrimination are associated with a host of poor mental and physical health outcomes (Hunger, Major, Blodorn, & Miller, 2015; Major, Tomiyama, & Hunger, 2018). Three lines of research suggest that such weight discrimination should increase the risk for SITBs. First, research with other stigmatized populations (e.g., gay and lesbian individuals) has shown an association between discrimination experiences and increased suicide risk (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; de Graaf, Sandfort, & ten Have, 2006). Second, weight-based discrimination is associated with greater depression (Hatzenbuehler, Keyes, & Hasin, 2009; Hunger & Major, 2015; Robinson, Sutin, & Daly, 2017), and depression is an established risk factor for SITBs (Franklin et al., 2017; Witte, Timmons, Fink, Smith, & Joiner, 2009). Finally, previous research has found weight and body-related mistreatment to be associated with suicidal thoughts and behaviors among adolescents (Eisenberg, Neumark-Sztainer, & Story, 2003; Sutin, Robinson, Daly, & Terracciano, 2018) as well as patients seeking bariatric surgery (Chen, Fettich, & McCloskey, 2012); a similar relationship is likely to emerge among community-dwelling adults as well.

We chose to examine potential relationships between weight-based discrimination and suicidal ideation through the lens of the interpersonal theory of suicide (IPT; Joiner et al., 2005; Van Orden et al., 2010), a leading empirically based model of suicidality (Chu et al., 2017). The IPT posits that suicidal desire occurs when people feel like they do not belong and perceive themselves to be a burden on those around them. The need to belong is theorized to be a fundamental human motivation (Baumeister &

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Leary, 1995). Thus, when this need is thwarted, it is not surprising that negative outcomes, including increased risk for suicidal ideation, occur (Van Orden et al., 2008). Perceived burdensomeness encompasses feelings of self-hate (e.g., low self-esteem, shame) as well as mistaken beliefs that you are a liability and others would be better off without you. Burdensomeness is an established risk factor for SITBs (Cukrowicz, Cheavens, Van Orden, Ragain, & Cook, 2011; Van Orden, Lynam, Hollar, & Joiner, 2006), and features prominently in suicide notes, with the level of burden denoted in suicide letters even predicting the lethality of an attempt (Glaesmer et al., 2017; Joiner, Pfaff, & Acres, 2002).

Why might weight-based discrimination undermine interpersonal needs? Experiences with discrimination can signal social disregard and exclusion, threatening the fundamental need to belong (Baumeister & Leary, 1995; MacDonald & Leary, 2005). Given the pervasiveness of weight-based ridicule and discrimination (Andreyeva et al., 2008; Spahlholz, Baer, König, Riedel-Heller, & Luck-Sikorski, 2016), it follows that such experiences thwart belongingness. This would be consistent with research showing that race-based discrimination is related to greater loneliness (Priest, Perry, Ferdinand, Kelaher, & Paradies, 2017). Furthermore, preliminary qualitative research among higher body weight individuals found that problems of belongingness (e.g., loneliness, social withdrawal, absence of supportive others) were commonly reported as perceived effects of weight stigma (Lewis et al., 2011). In addition to impacting belonging, weight-based discrimination likely also contributes to perceptions of burdensomeness (i.e., feelings of self-hate and of being a liability). Weight-based discrimination leads to real financial (Puhl & Brownell, 2001; Swami, Chan, Wong, Furnham, & Tovée, 2008), physical (Sutin, Stephan, Luchetti, & Terracciano, 2014; Tsenkova, Carr, Schoeller, & Ryff, 2011), and psychological costs (Carr & Friedman, 2005; Durso, Latner, & Hayashi, 2012; Hatzenbuehler et al., 2009), likely to contribute to one's sense of being a liability, and moreover is associated with self-hatred, feelings of worthlessness, decreased self-esteem, and internalized stigma (Durso et al., 2012; Hilbert, Braehler, Haeuser, & Zenger, 2014; Lewis et al., 2011), which likely also contribute to perceptions of burden. Thus, we predicted that weight-based discrimination would be related to greater burdensomeness, belongingness, and suicidal ideation. Consistent with past research (Hatzenbuehler et al., 2009; Hunger & Major, 2015; Robinson et al., 2017), we also predicted that weight-based discrimination would be related to greater depression. We hypothesized that weight-based discrimination would indirectly relate to suicidal ideation through burdensomeness, belongingness, and depression. We anticipated these findings to emerge independent of BMI and a host of established risk factors for SITBs (e.g., education, income). We tested these hypotheses in two online studies of community-dwelling adults.

## Study 1

### Method

**Participants.** Participants ( $N = 254$ ) were recruited online from Mechanical Turk (Buhrmester, Kwang, & Gosling, 2011).<sup>1</sup> We chose a target sample size of 250 as there is research to suggest that even modest correlations stabilize at this number (Schönbrodt & Perugini, 2013). Sample demographics and descriptive statistics are presented in Table 1.

Participants were recruited for a study titled “Self-Perception and Interpersonal Needs,” which was described as a study interested in exploring how past social experiences influence behavior, perception, and experiences. This study was approved by Institutional Review Board for Human Subjects Research Subcommittee in the Miami University, Department of Psychology. Participation was limited to English-speaking participants from the United States. We restricted participation to individuals with a 95% approval rating or higher, as this approach is an established means of obtaining high quality data on Mechanical Turk (Peer, Vosgerau, & Acquisti, 2014). The sample was 53.6% female ( $n = 134$ ,  $n = 1$  did not report gender) and 74.4% self-identified as White ( $n = 186$ ), with an average age of 32.27 ( $SD = 10.63$ ), with one participant failing to report their age. The mean self-reported BMI was 27.79 ( $SD = 6.96$ ). The median income range reported was \$20,001 to \$40,000 and 49.5% of the sample had a bachelor's degree or higher.

**Weight-based discrimination.** Six items ( $\alpha = .87$ ) modeled after the measure used by Hunger and Major (2015) assessed the daily experiences of weight-based discrimination. For example, participants indicated how often in their day-to-day life they experience being treated with less courtesy than others because of their weight or how often they are called names or insulted because of their weight. These items were assessed on a scale ranging from 0 (*never*) to 3 (*often*).

**Interpersonal Needs Questionnaire (INQ; Van Orden, Cukrowicz, Witte, & Joiner, 2012).** Nine items (e.g., “These days, I feel disconnected from other people”) assessed thwarted belongingness and six items (e.g., “These days the people in my life would be better off I were gone”) assessed perceived burden. Items were answered on a Likert scale ranging from 1 (*not at all true for me*) to 7 (*very true for me*). Both subscales were highly internally consistent ( $\alpha$ s = .94 and .95, respectively).

**Current depression.** We measured depression using five items ( $\alpha = .92$ ) from the Brief Symptom Inventory (Derogatis & Melisaratos, 1983). Participants rated the extent to which they have been bothered in the past 7 days by issues such as feeling lonely, feeling no interest in things, and feelings of worthlessness on a scale from 0 (*not at all*) to 4 (*extremely*).

**Suicidal ideation.** One item from the Brief Symptom Inventory (Derogatis & Melisaratos, 1983) assessed suicidal ideation by asking participants the extent to which they have been bothered in the last 7 days by thoughts about ending their life, rated on a scale from 0 (*not at all*) to 4 (*extremely*).

**Additional risk factors.** A number of additional risk factors for suicidal thoughts and behaviors were included as control variables. These included age, gender, educational attainment and income, relationship status, and employment status.

<sup>1</sup> Three individuals with self-reported BMIs  $<16$  were removed from analyses; we chose to exclude participants with a BMI  $\leq 16$ , as these individuals are considered “extremely high risk,” and cognitive impairment becomes more pronounced at low BMIs among those with suspected anorexia nervosa (Zakzanis, Campbell, & Polsinelli, 2010). Additionally, one participant who self-reported a BMI of 61.46 was excluded, as this was an extreme outlier (i.e., over 3.3 standard deviations above the mean). All results hold with or without these participants. One participant also identified outside of the gender binary. Given power issues associated with low frequency, this participant was excluded from analyses that included gender.

Table 1  
Sample Demographics and Descriptive Statistics

Variable	Study 1				Study 2			
	M	SD	Range		M	SD	Range	
			Minimum	Maximum			Minimum	Maximum
Weight-based discrimination	1.67	.61	1.00	3.67	.55	.53	.00	2.56
Depression								
BSI	2.03	1.04	1.00	5.00				
PHQ					7.80	6.83	.00	27.00
Perceived burdensomeness	1.81	1.30	1.00	7.00	1.10	1.41	.00	6.00
Thwarted belongingness	3.04	1.50	1.00	7.00	3.29	.86	.00	5.00
Suicidal ideation	1.31	.81	1.00	5.00	1.08	1.80	.00	8.00
Age	32.27	10.63	18.00	72.00	31.89	11.19	17.00	76.00
Body mass index	27.79	6.96	17.16	51.68	26.86	7.51	17.15	54.97
		%		n		%		n
Race								
White		74.4		186		75.3		222
Non-White		25.6		64		24.7		73
Gender								
Male		45.6		114		46.4		137
Female		53.6		134		52.9		156
Nonbinary		.4		1		.7		2

Note. BSI = Brief Symptom Inventory; PHQ = Patient Health Questionnaire.

## Results and Discussion

Suicidal ideations were uncorrelated with BMI ( $r = .02, p > .77$ ). As predicted, however, suicidal ideations were significantly and positively correlated with weight-based discrimination ( $r = .26, p < .001$ ). To test our primary hypothesis that weight-based discrimination was associated with suicidal ideation indirectly through burdensomeness, belongingness, and depression, we used the PROCESS macro for SPSS (Hayes, 2013). PROCESS uses ordinary least squares regression to simultaneously estimate parameters for total and direct effects as well as indirect effects for each mediator. Five thousand bootstrap samples were used to create 95% percentile-based confidence intervals (CIs) to test the significance of effects, which are deemed significant at  $p < .05$  if the 95% CI does not include zero.

Specifically, we used PROCESS Model 4 to examine the indirect effects of weight-based discrimination on suicidal ideation via burdensomeness, belongingness, and depression (see Table 2). We tested this model controlling for BMI and the risk factors for suicidal thoughts and behaviors described in the preceding text. Listwise deletion was employed, yielding a sample size of 248 for these analyses. As predicted, weight-based discrimination was associated with greater perceived burden ( $b = .82, SE = .13, p < .0001$ ), thwarted belongingness ( $b = .67, SE = .15, p < .0001$ ), depression ( $b = .46, SE = .11, p < .0001$ ), and suicidal ideation ( $b = .31, SE = .09, p < .0005$ ). Moreover, weight-based discrimination was indirectly related to ideation through perceived burden ( $b = .22, SE = .08, 95\% \text{ CI } [.08, .40]$ ) and depression ( $b = .12, SE = .05, 95\% \text{ CI } [.04, .22]$ ). Contrary to hypotheses, the indirect effect through thwarted belongingness was nonsignificant ( $b = -.04, SE = .03, 95\% \text{ CI } [-.10, .02]$ ). With depression, burdensomeness, and belongingness in the model, the relationship between weight-based discrimination and suicidal ideation became near zero and nonsignificant ( $b = .002, SE = .08, p > .98$ ).

As predicted, Study 1 found that weight-based discrimination was associated with greater perceived burdensomeness, thwarted belongingness, depression, and suicidal ideation. In partial support of our hypotheses, weight-based discrimination was indirectly asso-

Table 2  
Results for Study 1: Depression, Perceived Burdensomeness, and Thwarted Belongingness as Mediators of the Effect of Weight-Based Discrimination on Suicidal Ideation

Path and mediator	Point estimate	SE	95% CI
Paths a			
Weight-based discrimination → depression	.46***	.11	[.25, .67]
Weight-based discrimination → perceived burdensomeness	.82***	.13	[.57, 1.07]
Weight-based discrimination → thwarted belongingness	.67***	.15	[.38, .96]
Paths b			
Depression → suicidal ideation	.27***	.06	[.15, .39]
Perceived burdensomeness → suicidal ideation	.27***	.04	[.18, .36]
Thwarted belongingness → suicidal ideation	-.05	.04	[-.14, .03]
Path c			
Weight-based discrimination → suicidal ideation	.31***	.09	[.14, .48]
Path c'			
Weight-based discrimination → suicidal ideation	.002	.08	[-.15, .15]
Indirect effect (ab)			
via depression	.12*	.05	[.04, .22]
via perceived burdensomeness	.22*	.08	[.08, .40]
via thwarted belongingness	-.04	.03	[-.10, .02]

Note. CI = confidence interval.

\*  $p < .05$ . \*\*\*  $p < .001$ .

ciated with suicidal ideation through its relationship with burden and depression, but not through belongingness. This study provided initial evidence for a relationship between weight-based discrimination and suicidal ideation. Although important, the frequent failure of psychological findings to replicate (Open Science Collaboration, 2015) has called into question the value of results from a single study. Thus, the goal of Study 2 was to replicate the findings from Study 1 using an improved measurement approach. Recognizing the shortcomings of a single-item suicidality measure, in Study 2 we employed a well-validated measure of suicidal ideation. Moreover, we assessed depression using a self-reported diagnostic tool that reliably predicts depression severity (Kroenke, Spitzer, & Williams, 2001).

## Study 2

### Method

**Participants.** Participants ( $N = 306$ ) were recruited online from the behavioral research website SocialSci.<sup>2</sup> Participants for Study 2 were recruited from SocialSci.com using the same study title and description used in Study 1. This study was approved by Institutional Review Board for Human Subjects Research Subcommittee in the Miami University, Department of Psychology. Participation was again limited to English-speaking individuals from the United States. SocialSci described its recruitment and data quality protocol in the following way:

We take a three-tiered approach to our participant pool. We first authenticate users to make sure they are human and not creating multiple accounts. We then send them through our vetting process, which ensures that our participants are honest by tracking every demographic question they answer across studies. If a participant claims to be 18 years old one week and 55 years old the next, our platform will notify you and deliver another quality participant free of charge. Finally, we compensate participants via a secure online transaction where personally identifiable information is never revealed.

The sample was 52.9% female ( $n = 156$ ), and 75.3% self-identified as White ( $n = 222$ ), and had an average age of 31.89 ( $SD = 11.19$ ). The mean self-reported BMI was 26.86 ( $SD = 7.51$ ). The median income range reported was \$30,000 to \$40,000 and 61.9% of the sample had a bachelor's degree or higher. Sample demographics and descriptive statistics are presented in Table 1.

**Weight-based discrimination.** Nine items ( $\alpha = .92$ ) were used to assess the daily experiences of weight-based discrimination (Hunger & Major, 2015). Three additional items were added to more comprehensively capture discrimination experiences and to be consistent with the Everyday Discrimination Scale (Williams, Yu, Jackson, & Anderson, 1997). These items were again assessed on a scale ranging from 0 (*never*) to 3 (*very often*).

**Interpersonal needs.** The INQ (Van Orden et al., 2012) again reliably assessed thwarted belongingness ( $\alpha = .95$ ) and perceived burdensomeness ( $\alpha = .95$ ).

**Depression.** We measured depression using nine items ( $\alpha = .92$ ) from the Patient Health Questionnaire (Kroenke et al., 2001). Participants rated on a scale from 0 (*not at all*) to 3 (*nearly every day*) the extent to which they have been bothered over the past two weeks by problems such as little interest or pleasure in doing things, feeling down, depressed or hopeless, and feeling tired or having little energy.

**Suicidal ideation.** We assessed suicidal ideation using the four-item ( $\alpha = .89$ ) Depression Screening Inventory Suicidality subscale (Joiner et al., 2002). These items assess the frequency of thoughts about suicide, the extent to which a suicide plan has been articulated, perceived control over suicidal thoughts, and the frequency of suicidal impulses. Items are rated on a 0 to 3 scale, with higher scores indicating more severe suicidal ideation.

**Additional risk factors.** Study 2 assessed the same risk factors as Study 1, but also assessed the number of current medical conditions (e.g., arthritis, diabetes).

## Results and Discussion

Suicidal ideations were again uncorrelated with BMI ( $r = .02$ ,  $p > .77$ ). As predicted, however, suicidal ideations were significantly and positively correlated with weight-based discrimination ( $r = .29$ ,  $p < .001$ ). We again used PROCESS Model 4 to examine the indirect effects of weight-based discrimination on suicidal ideation via burdensomeness, belongingness, and depression, while controlling for BMI and the risk factors for suicidal thoughts and behaviors described in the preceding text (see Table 3). List-wise deletion was employed, yielding a sample size of 292 for these analyses. Replicating the findings from Study 1, weight-based discrimination was associated with greater perceived burden ( $b = 1.32$ ,  $SE = .13$ ,  $p < .0001$ ), thwarted belongingness ( $b = .51$ ,  $SE = .09$ ,  $p < .0001$ ), depression ( $b = 4.86$ ,  $SE = .69$ ,  $p < .0001$ ), and suicidal ideation ( $b = .81$ ,  $SE = .20$ ,  $p < .0001$ ). Again, weight-based discrimination was indirectly related to suicidal ideation through perceived burden ( $b = .29$ ,  $SE = .15$ , 95% CI [.01, .59]) and depression ( $b = .50$ ,  $SE = .12$ , 95% CI [.28, .77]), but not thwarted belongingness ( $b = .10$ ,  $SE = .07$ , 95% CI [-.03, .26]). With depression, burdensomeness, and belongingness in the model, the relationship between weight-based discrimination and suicidal ideation again became nonsignificant ( $b = -.08$ ,  $SE = .20$ , 95% CI [-.47, .31]). Study 2 replicated the findings from Study 1 using a more comprehensive measure of suicidal ideation and stronger measure of depression. Again, weight-based discrimination was indirectly related to greater suicidal ideation through its association with perceived burden and depression, but not thwarted belongingness.

## General Discussion

Across two studies we found that weight-based discrimination was associated with suicidal ideation, and the size of this effect was comparable to risk factors such as perfectionism (Smith et al., 2018) hopelessness (Beevers & Miller, 2004; Ribeiro et al., 2012), and insomnia (Ribeiro et al., 2012). Importantly, this association occurred indirectly through perceived burdensomeness and depression, but not belongingness. These results suggest that weight-based discrimination may contribute to suicidal ideation in part via

<sup>2</sup> One individual with a self-reported BMI  $\leq 16$  was again removed from analyses, as were four participants with self-reported BMIs  $\geq 57.8$ , as these were extreme outliers (i.e., over 3.3 standard deviations above the mean). An additional six participants were removed because they failed to provide height and/or weight necessary to calculate their BMI. All results hold with or without these participants. Two participants also identified outside of the gender binary. Given power issues associated with low frequency, these participants were excluded from analyses that included gender.

Table 3  
*Results for Study 2: Depression, Perceived Burdensomeness, and Thwarted Belongingness as Mediators of the Effect of Weight-Based Discrimination on Suicidal Ideation*

Path and mediator	Point estimate	SE	95% CI
<b>Paths a</b>			
Weight-based discrimination → depression	4.86***	.69	[3.50, 6.22]
Weight-based discrimination → perceived burdensomeness	1.32***	.13	[1.06, 1.59]
Weight-based discrimination → thwarted belongingness	.51***	.09	[.33, .69]
<b>Paths b</b>			
Depression → suicidal ideation	.10***	.02	[.07, .14]
Perceived burdensomeness → suicidal ideation	.22*	.09	[.04, .40]
Thwarted belongingness → suicidal ideation	.20	.13	[-.06, .46]
<b>Path c</b>			
Weight-based discrimination → suicidal ideation	.81***	.19	[.43, 1.20]
<b>Path c'</b>			
Weight-based discrimination → suicidal ideation	-.08	.20	[-.47, .31]
<b>Indirect effect (ab)</b>			
via depression	.50*	.13	[.28, .77]
via perceived burdensomeness	.29*	.15	[.01, .59]
via thwarted belongingness	.10	.07	[-.03, .26]

Note. CI = confidence interval.

\*  $p < .05$ . \*\*\*  $p < .001$ .

its association with burdensomeness and depression. Across both studies the direct effect of weight discrimination was reduced to near zero when mediators were included in the model, suggesting that depression and perceived burden may represent meaningful mechanisms that account for much of the association between discrimination and ideation. This is consistent with existing research showing that experiences with racial discrimination (Hwang & Goto, 2008) and racial microaggressions (Hollingsworth, Cole, O'Keefe, Tucker, Story, & Wingate, 2017; O'Keefe, Wingate, Cole, Hollingsworth, & Tucker, 2015) is related to suicidal ideation, and this association may be mediated in part by perceived burdensomeness (Hollingsworth et al., 2017). Ultimately, our results suggest that experiences with weight discrimination are associated with increased risk for suicide (in the form of increased ideation) and offer partial support for the tenets of the IPTS as an explanatory model for understanding suicide risk factors.

Why might burdensomeness—but not belongingness—mediate the association between weight-based discrimination and suicidal ideation? This finding is consistent with research by Hollingsworth and colleagues (2017), who likewise found that the association between racial microaggressions and ideation was mediated by burdensomeness but not belongingness. This pattern is also reflected in the broader IPTS literature, which has found belongingness to be an inconsistent predictor of ideation when controlling for burdensomeness (e.g., Cero, Zuromski, Witte, Ribeiro, & Joiner, 2015). One explanation for this pattern of results may be the cultural representation of stigmatized groups (e.g., individuals with mental illness, racial minorities, higher weight individuals). These groups are routinely portrayed as a burden on numerous segments of society, from close others to social services and the

health care system, perhaps lending to the predictive utility of burdensomeness over belongingness. This is of course speculative and should be tested more directly in future research.

Our findings may hold important implications for mental health care practitioners working with individuals who may experience weight discrimination. Recent recommendations for counseling marginalized populations note the importance of addressing and validating clients' experiences of discrimination and microaggressions (Nadal, Griffin, Wong, Hamit, & Rasmus, 2014; Sue & Sue, 2013). However, much of the existing work on clinical considerations for addressing experiences of discrimination has focused on dimensions of discrimination unrelated to weight (e.g., race, ethnicity, gender). Based on the existing literature as well as the results of the present study, we suggest that clinicians also consider openly talking with clients about experiences with weight-based discrimination. We further suggest that the IPTS offers a useful explanatory model for suicide risk, and thus among individuals experiencing weight-based discrimination, interventions to decrease burden (e.g., modifying maladaptive cognitions related to burdensomeness) may help to buffer against the negative effects of weight-based discrimination.

The present research provides initial evidence that the harmful effects of weight-based discrimination extend to suicidal ideation in a general adult population. These studies had several notable strengths. First, we assessed and controlled for a range of well-established suicide risk factors (e.g., gender, current medical conditions) in our analyses. In doing so, we address potential confounds and showcase the robust nature of weight discrimination as a predictor of suicidal ideation. The findings were also replicated in two independent samples, using disparate measures of both depression and suicidal ideation, suggesting that this is a reliable pattern of results. Finally, the theoretically derived hypothesis for the relationship between weight-based discrimination, perceived burden, and suicide ideation was supported even with depression included in the model, suggesting that these associations are meaningful (i.e., cannot be explained by the relation these variables have with depression).

In light of the cross-sectional design, and given that an a priori power analysis was not used to guide sample size selection, these data should be considered preliminary until replicated in a well-powered and preregistered study. Longitudinal research is critical to bolster the causal nature and directionality of these relationships, and larger samples are needed to examine the potential moderating role of individual characteristics such as gender, something the present studies were underpowered to examine. Additionally, research is needed to extend the present research to other demographic groups (e.g., racial, ethnic, and sexual minorities), as well as among clinical populations. In particular, individuals with binge eating disorder (BED) are at higher risk for suicide than those in the general population (Forrest, Zuromski, Dodd, & Smith, 2017) and are more likely to have a higher body weight (Kessler et al., 2013) relative to their counterparts without BED. Given they are an at-risk group for both suicide and weight-based discrimination, it would be particularly useful for future research to examine these relationships among individuals with BED.

The current research is also limited in part by relying exclusively on self-report measures of all constructs, which may have inflated associations due to shared method variance (Campbell & Fiske, 1959). As such, future research may benefit from alternative

assessment approaches for assessing depression and suicidal ideation such as a structured clinical interview or an implicit measure (e.g., suicide IAT; Nock, Park, Finn, Deliberto, Dour, & Banaji, 2010). Future research would also benefit from integrating attention or instructional manipulation checks to ensure high-quality data collection (Oppenheimer, Meyvis, & Davidenko, 2009). It is also possible that the present findings are confounded by unmeasured variables, such as personality. Although some facets of personality are correlated with ideation (e.g., neuroticism; Brezo, Paris, & Turecki, 2006), the relationship between personality and weight-based discrimination is minimal (Sutin & Terracciano, 2019). Thus, it seems unlikely that unmeasured individual differences in personality fully explain the present findings. This should be confirmed in future research, which also may benefit from examining the relationship between additional dimensions of weight stigma (e.g., weight bias internalization) and suicide risk.

The present findings highlight an association between weight-based discrimination and suicidal ideation in a general adult population, which is consistent with findings from adolescent (Eisenberg et al., 2003; Sutin et al., 2018) and bariatric patient samples (Chen et al., 2012). This association may operate through increased depression and perceived burdensomeness, although this notion should be considered tentative until it can be confirmed using a well-powered, preregistered, longitudinal design. Nonetheless, the present findings strengthen our understanding of the negative mental health correlates of weight-based discrimination and advance our understanding of possible explanatory mechanisms linking discrimination to suicidal ideation. Continued understanding of the role that discrimination plays in the clinical realm will be vital for improving clinical care and the development of future interventions for stigmatized individuals. At the same time, research in this vein underscores the importance of intervening at community, societal, and structural levels to mitigate stigma and discrimination before it can complicate individual clinical outcomes.

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