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Just world beliefs, causal beliefs, and acquaintance: Associations with stigma toward eating disorders and obesity

Daria S. Ebneter [a,*], Janet D. Latner [a], Kerry S. O'Brien [b,c]

[a] University of Hawaii at Manoa, USA
[b] Monash University, Australia
[c] University of Manchester, UK

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ABSTRACT

The current study investigated the relationship between just world beliefs and stigmatizing attitudes toward eating disorders and obesity. Further, the associations between stigma and causal beliefs, and between stigma and acquaintance with these conditions, were examined. Participants (n = 447) read four vignettes describing an individual with anorexia nervosa, bulimia nervosa, binge eating disorder, or obesity. After each vignette, participants completed questionnaires assessing stigmatizing attitudes, just world beliefs, causal beliefs, and acquaintance with the condition depicted in the vignette. Stronger just world beliefs were associated with greater stigma toward all three eating disorders, as well as obesity (rs ranging from −.11 to −.18). More stigmatizing attitudes were associated with greater attribution of individual responsibility for the development of the disorder. However, participants with personal experience or who knew someone with the depicted problem did not have lower stigma scores than those who did not. The current study suggests that justification ideologies such as just world beliefs and controllability beliefs may underlie the stigmatization of eating disorders and obesity. These findings provide support for stigma reduction efforts aimed at targeting justification ideologies and altering causal beliefs.
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1. Introduction

Eating disorders such as anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED) affect a large number of individuals in the general population. Lifetime prevalence rates vary between 0.5% and 5% depending on the type of eating disorder and gender of the sufferer (Hudson, Hiripi, Pope, & Kessler, 2007). Obesity rates are significantly higher, with approximately a third of the adult population in the United States being affected (Ogden, Yanovski, Carroll, & Flegal, 2007). Research has demonstrated severe stigma toward both eating disorders (Roehrig & McLean, 2010) and obesity (Puhl & Heuer, 2009). The stigmatization of individuals with these conditions is common (Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000) and has been shown to affect sufferers in multiple ways. Stigma may result in low self-esteem and self-efficacy, social isolation, and lower social confidence (Holmes & River, 1998) and may exacerbate the condition through exclusion and stress and may prevent sufferers from seeking treatment (Corrigan & Rüsch, 2002; Puhl & Heuer, 2009). Therefore, understanding the factors that may contribute to stigmatizing attitudes is important for the development of effective stigma reduction interventions.

Two attitudinal factors have been identified as contributing to obesity stigma: the belief that people's fortunes or misfortunes are deserved (just world beliefs; Lerner, 1971), and the belief that obesity is controllable (Puhl & Brownell, 2003). Crandall and Eshleman (2003) postulated that these core attributions for obesity serve as 'justification ideologies', allowing for stigmatizing attitudes without feelings of guilt. Much of the research on just world beliefs has been conducted in the context of psychological phenomena such as the relationship between just world beliefs and victim blaming (Furnham, 2003). Few studies have focused on the relationship between just world beliefs and the stigmatization of mental disorders (e.g. Rüsch, Todd, Bodenhausen, & Corrigan, 2010). Although it has been demonstrated that greater weight stigma is associated with greater endorsement of just world beliefs (Carels et al., 2009), research has not yet examined the relationship between just world beliefs and negative attitudes toward eating and weight disorders such as AN, BN, or BED.

Another potential correlate of stigma toward eating and weight disorders may be causal beliefs, and particularly perceptions of controllability. Individuals who believe obesity is caused by a lack of self-discipline tend to blame obese people for their condition and stigmatize them accordingly (Crandall, 1994). Previous research investigating the relationship between causal beliefs

* Corresponding author. Address: Department of Psychology, University of Hawaii, 2530 Dole Street Sakamaki C400, Honolulu, HI 96822, USA. Tel.: +1 808 343 9782; fax: +1 808 956 4700.
E-mail address: dariae@hawaii.edu (D.S. Ebneter).

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and stigma toward mental health disorders has resulted in contradictory results. While it has been demonstrated that attributing a mental health disorder to factors outside a person's control such as biological factors may reduce stigma (Martin, Pescosolido, & Tuch, 2000), other studies showed that biological explanations were associated with more stigma (e.g. Dietrich et al., 2004). Therefore, additional research on eating and weight disorders is needed to examine whether causal beliefs related to the controllability of these disorders is associated with their stigmatization.

One factor that may ameliorate the stigmatization of target groups is acquaintance: the 'contact hypothesis' (Allport, 1954) states that contact with marginalized groups may result in more positive attitudes (Pettigrew, 1998). Consequently, it has been suggested that exposure to individuals who suffer from mental health problems may reduce stigma. Research has indeed demonstrated that individuals who have more contact with people seeking mental health treatment hold more positive attitudes toward mental illness (Read & Harre, 2001). However, more research is needed to examine whether acquaintance is related to less stigma toward AN, BN, BED, and obesity.

This study tested the hypothesis that stronger just world beliefs, and stronger beliefs that a disorder is caused by more controllable factors, are associated with more stigmatizing attitudes toward eating disorders and obesity. It was also hypothesized that people acquainted with a particular disorder, endorse less stigmatizing attitudes toward that disorder. Finally, it was hypothesized that stigmatizing attitudes would have no significant relationship with socially desirable response styles, which would suggest that stigmatizing attitudes are independent from participants' desire to appear unprejudiced.

2. Method

2.1. Participants

Participants aged 18 and over were recruited from psychology undergraduate classes at the University of Hawaii and received course credit for their participation. Participants answered questionnaires online on www.surveymonkey.com. Participants completed a demographic questionnaire assessing gender, ethnicity, weight, and height. Participants (n = 447, 68.5% women) self-identified as Asian (59.3%), Caucasian (25.1%), Pacific-Islander (10.1%), Hispanic (3.1%), African-American (1.3%) and Native-American (0.2%). Participants' mean (SD) age was 21 (3.5) years and mean body mass index (BMI; kg/m^2) was 23.09 (4.59). The study was approved by the University of Hawaii Institutional Review Board (IRB), and informed consent was obtained from all participants.

2.2. Measures

2.2.1. Vignettes

Four vignettes were developed, describing a 19-year old woman suffering either from AN, BN, BED, or obesity. All participants read and responded to stigma questionnaires for all four vignettes, presented in counterbalanced order. The AN, BN and BED vignettes were adapted from vignettes used by Mond, Hay, Rodgers, Owen, and Beumont (2004); Mond, Robertson-Smith, and Vetere (2006); Mond and Marks (2007). Based on previous research indicating that 70% of individuals with BED in a community sample report a BMI of 30 and above (Grucza, Przybeck, & Cloninger, 2007), the woman in the BED vignette was described as obese. The obesity vignette was adapted from Bannon, Hunter-Reel, Wilson, and Karlin (2009). All vignettes were made uniform so that language and details unrelated to disorder criteria matched across conditions. The vignettes described cases that met full DSM-IV criteria for AN, BN, and BED (American Psychiatric Association, 1994), while the obesity vignette did not meet any of the BED criteria. Participants were asked to think about the person depicted in the vignette they had just read and to answer questions regarding that person.

2.2.2. Stigma questionnaire

A self-report stigma questionnaire was adapted from previous measures to assess participants' attitudes toward the targets in the vignettes. This composite measure included seven items from Griffiths, Christensen and Jorm's nine-item Depression Stigma Scale (DSS; 2008; sample item: "A problem like Katie's is a sign of personal weakness") and four items from Crisp et al.'s eight-item Opinions Scale (2000; sample item: "In your opinion, do you think Katie could pull herself together if she wanted to?"). One item ("In your opinion, do you think Katie is acting this way for attention?") was added from Stewart, Keel, and Schiavo (2006). The Opinions Scale and DSS have been used to examine stigma toward similar disorders in previous studies (e.g. Crisp et al., 2000; Stewart et al., 2006; Roehrig and McLean, 2010; Griffiths et al., 2006). Two of the nine items from the DSS were not administered because they were worded identically to two included items of the Opinions Scale ("People with depression are unpredictable" and "People with depression are dangerous"). Four items of the Opinions Scale were not administered because they were considered measures of disorder severity rather than stigma (e.g., "People with this disorder would not improve with treatment"). The resulting stigma questionnaire included 12 items, rated on a 5-point Likert scale from 1 = *strongly agree* to 5 = *strongly disagree*. Lower scores indicate more stigmatizing attitudes. Acceptable internal consistency was found in each of the four versions (αs ranged from .76 to .82).

2.2.3. Beliefs in a just world

The Just World Scale (JWS; Rubin & Peplau, 1975) assesses beliefs that the world is ultimately fair. The measure includes 20 items rated on a 7-point Likert scale from 1 = *strongly disagree* to 7 = *strongly agree* (sample item: "People who meet with misfortune have usually brought it on themselves"). Higher scores reflect stronger beliefs in a just world. The JWS is the most commonly used questionnaire on just world beliefs (Furnham, 2003) and has demonstrated adequate internal consistency (α = .80; Rubin & Peplau, 1975).

2.2.4. Causal attributions

Following each vignette, participants answered seven questions examining their beliefs about the contribution of different factors (environmental, parenting, genetics, imbalance of neurotransmitters in the brain, lack of social support, media influences, and lack of self-discipline) to the development of each condition. The current study extended previous research on causal beliefs by including specific factors that may fall under broader categories such as biological or psychological factors and examining whether these are associated with different degrees of stigma. Three of the causal factors (parenting, lack of social support, lack of self-discipline) were included from previous studies examining stigma (Stewart et al., 2006; Stewart, Schiavo, Herzog, & Franko, 2008). The "lack of self-discipline" item was conceptualized as an attribution to more controllable causal factors, whereas other items were developed and conceptualized by the authors as attributions to less controllable causal factors. Items were rated on a 5-point Likert Scale from 1 = *main causal factor* to 5 = *does not contribute* (sample item: "In your opinion, which of these factors contribute to the development of Katie's problem: Environmental risk factors"). Higher numbers reflect lower perceived contribution of a factor to the development of a condition.

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2.2.5. Acquaintance

Following each vignette, participants were also asked whether they had either personally experienced (currently or in the past), or whether they knew someone who had experienced the problem. These questions were used to determine acquaintance for all disorders including obesity. (BMI was not used to determine obesity experience in order to retain consistency of assessment method across all disorder types.) Personal experience was defined as either having past or current experience with the depicted problem. Acquaintance with a disorder was defined as either having personal experience and/or knowing someone with the problem.

2.2.6. Socially desirable response style

A brief form of the Marlowe–Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1960) was used to assess socially desirable response styles. This 13-item version of the scale has been shown to have acceptable reliability and concurrent validity, with strong correlations to the original version and to other measures of socially desirable responding (Reynolds, 1982). Items are scored as true or false, and higher scores indicate a more desirable response style (sample item: "No matter who I talk to, I'm always a good listener"). This measure had an internal consistency of $\alpha = .65$ in the current study.

2.3. Statistical analyses

Mean scores were computed for the JWS, the four stigma scales, causal attributions and the MCSD. Pearson product-moment correlations were calculated to investigate the relationship of just world beliefs and stigmatizing attitudes. Furthermore, Pearson product-moment correlations were generated to examine the association between causal attributions and stigma. To examine predictors of stigma, multiple linear regression analyses were carried out separately for the four different vignettes. The predictor variables in these analyses included just world beliefs, all causal attributions, and acquaintance entered simultaneously into the regression analysis.

Data for acquaintance with each of the four depicted problems were calculated as the percentage of respondents endorsing they have had personal experience or knew someone with this problem. Independent-samples *t*-tests were conducted to compare stigmatizing attitudes between participants who were acquainted with the depicted problems and participants who were not. Significance level (alpha) was set at $p < .05$ for all analyses.

3. Results

3.1. Correlational analyses

3.1.1. Just world beliefs, causal beliefs, and stigma

As shown in Table 1, stronger just world beliefs were correlated with more stigmatizing attitudes toward all eating disorders and obesity. More stigmatizing attitudes toward AN were correlated with greater beliefs in environmental risk factors, parenting, and lack of self-discipline as main causal factors for AN. More stigmatizing attitudes toward BN were correlated with stronger beliefs in parenting, lack of social support, and lack of self-discipline as main causal factors for BN. Similarly, more stigmatizing attitudes toward BED were correlated with stronger beliefs in parenting and lack of self-discipline as main causal factors for BED. Furthermore, more stigmatizing attitudes toward obesity were correlated with stronger beliefs in lack of social support and lack of self-discipline, and with weaker beliefs in parenting and genetic factors, as main causal factors for obesity.

3.1.2. Acquaintance and stigma

As shown in Fig. 1, many participants reported having experience with or knowing someone with the problem described in each vignette. Participants acquainted with the disorders did not score differently from participants who were not acquainted with the depicted problem on any of the four corresponding stigma scales.

3.2. Regression analyses

Regression analyses examined simultaneously the contributions of just world beliefs, causal attributions, and acquaintance to the variance in stigma scores. AN stigma scores were predicted by the model ($F(9411) = 8.22$, $p < .0001$), which accounted for 15% of the variance. Stronger just world beliefs ($\beta = -.13$, $p < .01$) and stronger beliefs in lack of self-discipline ($\beta = .32$, $p < .0001$) and parenting ($\beta = .10$, $p < .05$) as causal factors for AN independently predicted greater AN stigma. For BN stigma, the regression model accounted for 18% of the variance ($F(9418) = 10.00$, $p < .0001$). Stronger beliefs in lack of self-discipline ($\beta = .36$, $p < .0001$) and weaker beliefs in media influences ($\beta = -.11$, $p < .05$) as causal factors for BN independently predicted greater BN stigma. For BED, the regression model accounted for 20% of the variance ($F(9416) = 11.58$, $p < .0001$). Stronger beliefs in lack of self-discipline ($\beta = .40$, $p < .0001$) and parenting ($\beta = .13$, $p < .01$) as causal factors for BED, as well as acquaintance ($\beta = .09$, $p < .05$), independently predicted greater BED stigma. For obesity, the regression model accounted for 23% of the variance ($F(9414) = 13.57$, $p < .0001$). Stronger beliefs in lack of self-discipline ($\beta = .39$, $p < .0001$) and parenting ($\beta = .16$, $p < .01$), and weaker beliefs in genetic factors ($\beta = -.16$, $p < .01$) as causal factors for obesity, as well as acquaintance ($\beta = .14$, $p < .01$), independently predicted greater obesity stigma.

3.3. Socially desirable response style and stigma

None of the four stigma scales were significantly correlated with socially desirable response styles as measured with the MCSD.

4. Discussion

The current study investigated the relationships of just world beliefs, causal beliefs, and acquaintance to stigmatizing attitudes toward eating disorders and obesity. As hypothesized, stronger just world beliefs were correlated with greater stigma across all four conditions. Consistent with previous research (Crandall, 1994), the present study showed that stigma toward obesity is associated with endorsement of just world beliefs. The present study extended previous findings by demonstrating that other stigmas are similarly related to just world beliefs. It is possible that stigmatization of eating and weight disorders may stem from the underlying ideological assumption of a just world where people get what they deserve.

The current results also suggest that more stigmatizing attitudes are associated with stronger beliefs that the individual shows lack of self-discipline. Perceiving mental illness and conditions such as obesity as moral flaws is not only harmful to the sufferer but may also hinder public health interventions for preventing and treating disorders (Brownell et al., 2010). However, it has been proposed that acceptance and commitment should be emphasized in eating disorder treatment, by focusing on self-affirmation and change of maladaptive behaviors instead of a more passive approach to illness (Wilson, 1996). Similarly, Brownell et al. (2010) distinguished between personal and collective responsibility, both of which need to be addressed to reduce the

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Table 1
Means, standard-deviations and Pearson product-moment correlations between causal attributions, just world beliefs and stigma toward AN, BN, BED, and obesity.

	AN stigma	BN stigma	BED stigma	Obesity stigma
Means (SD)	3.29 (.57)	3.25 (.63)	3.38 (.59)	3.36 (.56)
JWS	−.18**	−.14**	−.11*	−.12*
Causal contributions				
Environmental risk factors	.09*	.03	.09	−.09*
Parenting	.10*	.10*	.15**	.09
Genetic factors	.02	.01	−.03	−.14**
Neurotransmitter imbalance	.05	.04	−.06	−.03
Lack of social support	.07	.14**	.05	.12*
Media influences	−.04	−.08	−.01	.07
Lack of self-discipline	.35**	.38**	.40**	.41**

AN, anorexia nervosa; BN, bulimia nervosa; BED, binge eating disorder.
* $p < .05$.
** $p < .01$.

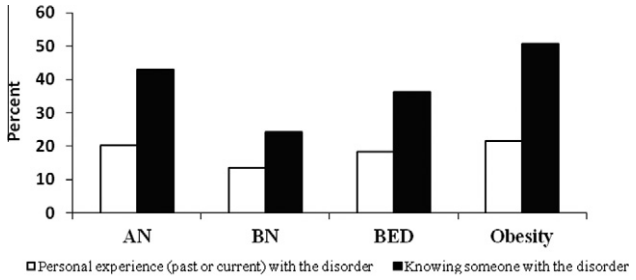

Fig. 1. Percentage of people reporting knowing someone or having personal experience with the depicted problems.

prevalence of obesity, as well as stigma toward obese people. While obesity is controllable to some degree and weight can be decreased through diet and activity, the difficulty of long term weight loss suggests a degree of uncontrollability of weight (Dansinger, Tatsioni, Wong, Chung, & Balk, 2007). Therefore, efforts should be made to address the collective responsibility by changing environmental factors that promote obesity.

Interestingly, the more people attributed obesity to biological causes, the less they reported stigmatizing attitudes. A stronger emphasis on a medical basis for obesity may help alleviate weight-related stigma. Whether this effect might also show utility with eating disorders is less certain. However, previous research has demonstrated that college students found individuals with eating disorders more likeable when they were presented with a biological explanation versus an ambiguous etiology (Wingfield, Kelly, Serdar, Shivy, & Mazzeo, in press). Other causal factors associated with greater stigma were stronger beliefs in the impact of parenting (for AN, BN, and BED) and lack of social support (for BN and obesity). These findings may seem surprising given that these causal factors are relatively uncontrollable. However, it has also been shown that individuals who are presented with a sociocultural (vs. biological) etiology for eating disorders hold sufferers more responsible for their condition (Crisafulli, Von Holle, & Bulik, 2008).

Regression analyses supported the present correlational findings, revealing that lack of self-discipline was an independent predictor of stigmatizing attitudes for all disorders. These findings are consistent with Crandall's view (2003) that believing a condition to be internally controllable may lead to stigmatization of that condition. However, just world beliefs did not emerge as a significant independent predictor of stigma except in the case of AN. This may indicate that it is premature to assume that ideological assumptions such as just world beliefs predict stigma toward all mental health disorders. Our results suggest that while just world beliefs may play a role in stigma toward certain mental health disorders, they may not predict stigma to the same degree as other factors. Therefore, future studies should continue to explore the predictive power of just world beliefs in relation to other factors that may be associated with stigma. Previous studies on causal beliefs and mental disorders have resulted in mixed findings. When participants were presented with a biological explanation for mental disorders, participants reported lower blame in one study (Mehta & Farina, 1997), but more pessimistic expectations for recovery (Lam & Salkovskis, 2007) and more negative attitudes (Read & Harre, 2001; Read & Law, 1999) in other studies. Furthermore, Bannon et al. (2009) found no difference between the effects of a psychological versus biological causal explanation on stigma toward BED and obesity.

The current findings did not fully support the contact hypothesis; participants with contact experience with disorders did not have lower stigma than those without contact experience. Individuals acquainted with someone with mental illness have previously expressed more positive views of people with mental illness (Penn et al., 1994). Individuals with personal experience or acquaintance with AN reported less discomfort interacting with someone with AN (Stewart et al., 2008); on the other hand, it has been demonstrated elsewhere that contact with eating disorders is not associated with more favorable attitudes (Wingfield et al., in press). In contrast, acquaintance independently predicted lower stigma toward BED and obesity. These findings are somewhat surprising in light of the recent rise in obesity stigma (Andreyeva, Puhl, & Brownell, 2008; Latner & Stunkard, 2003) occurring despite the simultaneous increase in prevalence of (and exposure to) obesity (Flegal, Carroll, Ogden, & Curtin, 2010). Personal experience also has not mitigated obesity stigma in past research on obese individuals' attitudes: obese individuals frequently internalize obesity stigma (Durso & Latner, 2008) and endorse antifat attitudes as strong as those of normal-weight individuals (Wang, Brownell, & Wadden, 2004).

Although the current study had several strengths, such as a large and ethnically diverse sample, certain limitations should be noted. Participants in this sample were from a college population, limiting the generalizibility of the findings. Further, in the current study, beliefs on controllability were only assessed with one causal factor (lack of self-discipline). Therefore, future studies should explore additional causal attributions that may indicate beliefs of controllability, and multidimensional measures need to be developed. In addition, future research should explore the use of free-response methods in examining the association between causal beliefs and stigma.

In sum, the results of the current study indicate that justification ideologies, such as just world beliefs, may underlie the stigmatization of eating disorders and obesity. A stronger emphasis on biological causal attributions appears to be associated with less

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stigma toward obesity, whereas stronger belief in personal responsibility and self-discipline is related to more stigma across all disorders. Taking these findings into consideration, stigma reduction efforts targeting attributional errors, such as just world beliefs, may be promising strategies for future research.

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