Empirical Research

The phenomenology of weight stigma in everyday life

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ABSTRACT

The present study examined the phenomenology of weight stigma in people's everyday lives. Participants were 46 community adults who took part in an ecological momentary assessment study of their experiences with weight stigma. Over a two-week period, participants completed a brief survey following each experience with weight stigma in which they reported on the contextual factors related to the stigma episode, including the source of the stigma and where the stigma episode took place. Participants also reported their positive and negative affect following the stigma episode. On average, participants experienced 11.12 episodes of weight stigma over the two-week period. Stigma was most often expressed by strangers, spouses, friends, parents, and the media. Furthermore, stigma occurred frequently at home as well as in public places. Stigma from strangers was associated with more negative affect compared to stigma from spouses, the media, and (to some degree) friends. These findings provide important information about the phenomenology of weight stigma in daily life, which can have implications for efforts to reduce the occurrence of weight stigma as well as efforts to reduce the negative impact of stigma experiences.

1. Introduction

Stigmatization of overweight and obese people has been described as one of the last socially acceptable forms of discrimination. Although weight stigma has most frequently been studied in Western cultures that idealize lean and muscular bodies while disparaging overweight and obese individuals, recent evidence suggests that weight stigma has even spread to traditionally fat-positive cultures (Brewis, Wutich, Falletta-Cowden, & Rodriguez-Soto, 2011). Discrimination against overweight and obese people has been observed in a wide range of domains, including employment settings, healthcare settings, and romantic relationships. For example, prospective employers view overweight job candidates as less desirable—they are seen as less qualified, less effective, and less trustworthy than their slimmer counterparts (Roehling, 1999; Rudolph, Wells, Weller, & Baltes, 2009). Other research has shown that health care professionals, including physicians, dieticians, and medical students, hold negative attitudes towards and stereotypes of obese people (Puhl & Heuer, 2009). In the domain of romantic relationships, research has shown that people prefer a recovering drug addict (Sitton & Blanchard, 1995), a mentally ill person, or a

person with an STD to an overweight person as a potential romantic partner (Chen & Brown, 2005). The stigmatization of obese people is even found in public health campaigns aimed at reducing the prevalence of obesity (Puhl, Peterson, & Leudicke, 2013). The main premise behind this stigmatization approach seems to be that if it were sufficiently unpleasant to be obese, then obese people would be motivated to change their behavior and lose weight (although this view is not supported by the available evidence; see Vartanian & Smyth, 2013).

There is now accumulating evidence that weight stigma can have a range of negative consequences for the stigmatized individuals. For example, experiences with weight stigma are associated with negative psychological outcomes, such as lower self-esteem, increased depression, and increased body dissatisfaction (Friedman et al., 2005; Vartanian & Novak, 2011; Vartanian & Shaprow, 2008). Importantly, there is also evidence that more frequent experiences with weight stigma are associated with more binge eating (Myers & Rosen, 1999; Puhl & Brownell, 2006), decreased motivation to diet (Puhl & Brownell, 2006), and decreased motivation to exercise (Vartanian & Novak, 2011; Vartanian & Shaprow, 2008). Thus, the available evidence suggests that experiences with weight stigma can be demotivating. To the extent that weight stigma reduces the likelihood that individuals will engage in healthy weight-management behaviors, stigmatized individuals will be less likely to successfully lose weight and will therefore be less likely to experience the health benefits associated with weight loss.

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Although researchers and, to some extent, the general public are increasingly aware of the scope and consequences of weight stigma, little is known about the phenomenology of weight stigma and the contexts within which stigma occurs. That is, what is the daily "lived" experience of weight-based stigma? It is important to better understand these contextual factors insofar as they may play a role in efforts both to reduce weight stigma and to help people cope with the stigma they experience. A few studies have used qualitative methods to provide rich contextual details about people's personal experiences with weight stigma (Cossrow, Jeffery, & McGuire, 2001; Puhl, Moss-Racusin, Schwartz, & Brownell, 2008). For example, Puhl, Moss-Racusin, et al. (2008) had community participants who belonged to a weight-loss support organization write in open-ended format about their most significant experience with stigma, and then coded those responses for a variety of contextual factors. They found that stigma was most frequently expressed by peers/friends (16%) or parents (13%), most frequently occurred at home (35%), and was most often expressed through verbal communication (77%). Such research provides a starting point from which to identify the kinds of contextual factors that might influence people's experiences with weight-based stigmatization.

It is worth noting that previous research on people's experiences with weight stigma has been retrospective in nature. For example, several studies have used self-report measures of weight stigma, such as the Stigmatizing Situations Inventory (SSI; Myers & Rosen, 1999). The SSI asks participants to indicate the frequency with which they have ever experienced a broad range of stigmatizing situations, such as people pointing and laughing at them, negative comments from one's spouse, or a doctor making inappropriate comments. Each item is rated on a 10-point scale ranging from "never" to "daily". Thus, participants are required to reflect on their *entire* lives to determine the average frequency with which they experience stigma. Similarly, the qualitative studies outlined above asked participants to describe their prior experiences with weight stigma, which may have occurred many years in the past. Indeed, 30% of respondents in the study by Puhl, Moss-Racusin, et al. (2008) described an event that happened in their childhood or adolescence. These types of studies provide valuable information about people's experiences with weight stigma. However, because these approaches are retrospective in nature, people's reports of weight stigma might capture particularly salient events, experiences with particularly important individuals (such as a spouse, a parent, or a doctor), or only their most recent experiences. Thus, these retrospective reports shed light on what people *remember* about salient stigma experiences in their lives. The use of complementary research approaches that capture people's *lived* experiences would provide a richer picture of the nature of weight stigma.

Ecological momentary assessment (EMA) encompasses a range of techniques that allow one to observe dynamic processes as they unfold in people's everyday lives. These techniques can provide rich information about people's daily experiences with weight stigma that is obtained in situ (Smyth & Heron, 2012). For example, in the present study, participants carried a personal digital assistant (PDA) with custom software for two weeks and recorded each time they experienced an episode of weight stigma. In addition to largely eliminating recall biases, this method of reporting experiences provides an ecologically-valid assessment of the daily frequency of weight stigma. Another benefit of EMA is that it allows for an examination of the dynamic impact of weight stigma, including the settings and contexts (environmental and interpersonal) associated with the stigma, on individuals' emotional states. Thus, the primary purpose of the present study is to use EMA to explore the phenomenology of weight stigma in people's everyday lives.

Most of the research on stigmatizing experiences has focused on stigma that is interpersonal in nature (such as negative comments from family and friends) or stigma resulting from physical barriers in the environment (such as not being able to fit into an airplane seat). More recently, researchers have been focusing their attention on the stigmatizing media environment. Stigmatizing portrayals of overweight people are common on television, in movies, in newspapers, and on internet webpages. Obese people are frequently presented in stereotypical roles and are targets of ridicule, and obesity itself is often portrayed as resulting from personal shortcomings, such as being lazy or overindulgent (Ata & Thompson, 2010; Puhl & Heuer, 2009). Importantly, such media coverage can exacerbate negative weight-related attitudes in the general public, and can also have negative consequences for obese individuals themselves. For example, McClure, Puhl, and Heuer (2011) found that participants who read an article about obesity that was accompanied by a stereotypical negative image of an obese person (the type commonly used in the media, such as an obese person eating junk food) had more negative attitudes towards obese people than did participants who read the same article that was not accompanied by any image or that was accompanied by a non-stereotypical image (e.g., an obese person exercising). Another study found that overweight women who watched stigmatizing media portrayals ate more snacks than did overweight women who watched a control video (Schvey, Puhl, & Brownell, 2011), suggesting that exposure to stigmatizing media can have a negative impact on obese individuals themselves. What is missing from this literature, however, is an indication of how frequently overweight and obese people feel stigmatized by the mass media during daily life (vs. examining their reactions to experimental presentations of a stigmatizing message). Thus, the present study will specifically inquire about people's perceptions of stigmatizing media.

1.1. The present study

The primary aim of the present study was to develop a more fine-grained understanding of the ecologically valid experience of weight stigma in people's everyday lives. We examined the frequency of stigma experiences over a two-week period in order to provide a temporally detailed assessment of how often people perceive that they are being stigmatized due to their weight in their everyday lives. Building on Puhl, Moss-Racusin, et al. (2008), we obtained information about the source of stigma (who or what made the person feel stigmatized), the modality of the stigma (how the stigma was expressed), the location of the stigma episode (where the person was when the stigma occurred), and if there were any bystanders present when the stigmatizing event took place. Based on previous research, we expected that stigma would most frequently be perpetrated by friends/peers, parents, and spouses. We also expected that the media would be a significant source of stigma. We investigated other contextual factors in an exploratory fashion as there has been very little past research examining those elements of weight sigma. Finally, we also examined the impact of the stigma experiences on people's positive and negative affect to determine whether these mood states were differentially affected by the characteristics of the stigma event.

2. Method

2.1. Participants

Forty-six community members (22 males, 24 females) enrolled in a study on "the life experiences of overweight and obese individuals." Participants were recruited through newspaper advertisements and from online classified advertisements in Sydney, Australia. Participants received AUD$110 for their participation in the two-week study. Their mean age was 28.4 years (SD=21.16;

range=19–70), and their mean body mass index (BMI; kg/m^2) was 30.52 (SD=4.88; range=22.25–42.64[1]). The majority were single (64.4%), earned less than AUD$20,000 per year (53%), and were either White (46%) or Asian (48%). This study was approved by the university's ethics committee.

2.2. Materials and procedure

Participants came to a research laboratory to complete a series of baseline measures, including the Stigmatizing Situations Inventory (SSI; Myers & Rosen, 1999), a 50-item measure of participants' lifetime experiences with weight stigma across a range of domains. Each item is rated on a 10-point scale (0=*Never*; 9=*Everyday*), and the items are averaged with higher scores indicated more frequent experiences with stigma (α=0.94). The rest of the questionnaires were not relevant to the present study. Participants also had their height and weight measured by the experimenter.

After completing the questionnaire packet, participants were then trained on the proper use of the PDA and on how to identify instances of weight-based stigma. During the initial training session, the researcher defined weight stigma as "any instance where you feel you are being treated differently because of your weight" and participants were then provided with several specific examples of stigma drawn from the SSI (Myers & Rosen, 1999), such as "friends, acquaintances, or co-workers making fun of your weight," "being glared at in public," "not being able to find clothes that fit," and "a doctor blaming unrelated physical problems on your weight." The researcher then further explained: "Not much research has been done in the area of weight stigma and therefore we don't have expectations as to how many episodes or what type of episodes you should report on. Rather, we are interested in the episodes of weight stigma that naturally occur in your everyday life. In this way you can act as 'participant investigators' and help us find out more about the phenomenon of weight stigma. We also understand that situations may be ambiguous and events may or may not be interpreted as weight stigma depending on the person involved or the context of the event. We ask that you complete a survey any time *you* interpret the situation as stigmatizing." These instructions were designed to minimize any potential expectancy effects or reactivity on the part of participants. The researcher then guided participants through the PDA procedure to ensure that they understood how to use the device and what they were being asked to do.

The EMA surveys were designed using Satellite Forms version 8.0 (Thacker Network Technologies, 2010), and were administered on Hewlett Packard iPAQ212 PDAs. Participants took the PDA home for two weeks, and were asked to complete a survey each time they experienced an episode of weight stigma over that period (i.e., event-contingent reporting). When they experienced a stigma episode, they completed the following items:

(1) "Who or what made you feel stigmatized or discriminated against?" with the following response options (from which participants selected only one): Spouse/partner, Parent, Son/Daughter, Other relative, Friend, Acquaintance, Stranger, Client, Customer service representative, Doctor/health care professional, Boss/supervisor, Co-worker, Physical environment, Media/advertising, "Other".

(2) "How was the stigmatization expressed?" with the following response options (participants were able to select all that applied to each experience): Verbal comment, Body language/gesture, Exclusion, Physical contact, SMS/email/social networking website, Other forms of written communication, Physical barriers, "Other". A number of stigma episodes were expressed through more than one modality (e.g., verbal comment and physical contact), and these were coded as "multiple modalities".

(3) "Where did the episode of stigmatization take place?" with the following response options (from which participants selected only one): Home/other domestic setting, Workplace, School/educational setting, Medical setting, Street or public place, Public transportation, Restaurant, Shop, "Other".

(4) "Who was present during the episode of stigmatization?" with the following response options (from which participants selected only one): Only myself and the source of stigmatization, 1–2 bystanders, 3–8 bystanders, 9 or more bystanders.

In addition to those contextual details, participants also indicated the extent to which they felt four positive emotions (happy, strong, proud, confident) and four negative emotions (angry, discouraged, embarrassed, ashamed) following the stigmatizing event. Each item was rated on a 5-point scale (0=*Not at all*; 4=*Extremely*), and the items were averaged to create a composite index of positive affect (α=0.87) and negative affect (α=0.78).

At the end of the EMA assessment period, participants returned to the research laboratory to return the PDAs and to complete a final questionnaire in which they were asked to reflect on the most significant instance of weight stigma that occurred over the previous two weeks. This final assessment was included because it is possible that, during the EMA portion of the study, participants reported many stigma episodes that were relatively inconsequential but one or two very significant stigma episodes that were particularly impactful (cf. Pinkus, Lockwood, Schimmack, & Fournier, 2008). Thus, we also explored the stigma experiences that participants subjectively considered to be most important or significant. Participants described this event in open-ended format, and responses were coded to determine who the perpetrator was, where the stigmatization took place, what the modality of the stigma was, and how many other people were present (using the same categories that participants responded to during the EMA portion of the study). Some of the participants' open-ended responses did not contain sufficient information to code for the variables of interest. Therefore, the analyses of these data are based on fewer participants (range=32–43).

3. Results

3.1. Frequency of stigma experiences

Ninety-one percent of participants reported at least one episode of weight stigma over the 14-day study period. On average, these participants reported 11.12 (SD=10.89) episodes of weight stigma (0.79 episodes per day). There was, however, considerable variability in the frequency of stigma experiences between individuals, with the range of stigma experiences from 1 to 49 (over the two-week period). The number of episodes participants experienced per day ranged from 0 to 11. The overall frequency of stigma experiences was not related to participants' BMI (r=0.15, p=0.33), but was significantly correlated with scores on the SSI (r=0.48, p=0.001). None of the other demographic characteristics (sex, age, income, ethnicity) was significantly associated with frequency of reported stigma experiences ($ps > 0.24$).

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[1] We included all respondents, regardless of whether or not their BMI was within the official cut-offs for the overweight BMI category. Research shows that even individuals who are not overweight according to official definitions experience weight stigma and the negative consequences associated with stigma (Vartanian & Shaprow, 2008).

3.2. Testing for biased responding

We tested for biased responding in our sample by examining participants' response rate to an end-of-day report that they completed each night (data from these night surveys are not reported here because they are unrelated to the present study). If low rates of reported stigma among some participants during the EMA portion of the study were due to general non-compliance, then there should be a significant positive correlation between the number of stigma episodes reported and the proportion of night surveys completed. On average, participants completed 92.5% of their night surveys. Furthermore, the correlation between the number of stigma episodes reported and the rate of completion of the night surveys was not significant ($r = -0.24$, $p = 0.13$). Thus, non-compliance is unlikely to be a major issue in the present study.

3.3. Contextual factors associated with stigma experiences

3.3.1. Source of stigma

The first two columns of Table 1 present the frequencies for each perpetrator group across the two-week study period. Even within a narrow two-week window, weight stigma occurred from a varied range of sources. The most frequent perpetrators of stigma were strangers, one's spouse/partner, friends, parents,

and the media/advertising. Family members, as a group, accounted for 35% of all stigma experiences recorded. The last two columns of Table 1 show the characteristics of the most significant stigmatizing event that participants experienced. For the most significant event, parents were the most common source of stigma, followed by friends, strangers, and one's spouse. In contrast to the daily experiences, the media was not frequently cited as a source of the most significant stigmatizing event that people experienced.

3.3.2. Modality of stigma

As shown in the first two columns of Table 2, stigma in everyday life was most often expressed through verbal comments, through body language/gestures, or through multiple modalities (e.g., verbal comment and body language; body language and exclusion; etc.). Sixty-six percent of all stigma episodes included verbal comments (either verbal comments alone, or in combination with some other modality), and 36% of all stigma episodes included body language/gestures (either body language/gestures alone, or in combination with some other modality). Results from the most significant event (last two columns of Table 2) also showed that verbal comments were by far the most common modality through which stigma was expressed, but stigma was also regularly expressed through multiple modalities.

3.3.3. Location of stigma episode

As shown in the first two columns of Table 3, almost half of stigma experiences in daily life occurred while the participant was at home, with the rest occurring in public places. The data for the most significant event (last two columns of Table 3) also revealed that over half of these experiences occurred at home.

3.3.4. Number of bystanders

As shown in the first two columns of Table 4, approximately half of stigma experiences in daily life occurred when only the target and the source of stigma were present. A substantial proportion of stigma experiences, however, occurred when other people were present. A similar pattern emerged for the most significant stigmatizing event (last two columns of Table 4), although larger groups (9+ bystanders) were relatively uncommon.

3.4. Contextual factors and affective responses

3.4.1. Data analytic strategy

Due to the nested structure of the data (i.e., multiple stigma episodes were nested within individuals), we used multilevel modeling with full maximum likelihood estimation to analyze the event-contingent data using HLM 6.06 software (Raudenbush, Bryk,

Table 1
Sources of weight stigma.

Perpetrator	Daily experiences				Most significant	
	N	%	PA	NA	N	%
Stranger	85	18.4	0.94	2.02	7	16.3
Spouse/partner	75	16.2	1.04	1.75	5	11.6
Friend	73	15.8	0.89	1.77	6	14.0
Parent	50	10.8	0.97	1.87	9	20.9
Media/advertising	49	10.6	0.98	1.65	1	2.3
Other relative	22	4.8	–	–	1	2.3
Customer service representative	20	4.3	–	–	2	4.7
Physical environment	20	4.3	–	–	2	4.7
Acquaintance	17	3.7	–	–	0	0.0
"Other"	15	3.2	–	–	5	11.6
Son/daughter	14	3.0	–	–	1	2.3
Doctor/health care professional	7	1.5	–	–	1	2.3
Boss/supervisor	7	1.5	–	–	1	2.3
Co-worker	7	1.5	–	–	2	4.7
Client	1	0.2	–	–	0	0.0
Total	462	100	0.96	1.83	43	100

Note: PA=predicted mean for positive affect; NA=predicted mean for negative affect. Examples of the "Other" category included "myself," "self," and "looking in the mirror".

Table 2
Modality of weight stigma.

Modality	Daily experiences				Most significant	
	N	%	PA	NA	N	%
Verbal comment	172	37.5	0.97	1.90	24	55.8
Multiple modalities	160	34.9	0.97	1.99	10	23.3
Body language/gesture	48	10.5	1.02	1.66	3	7.0
E-mail/text message/social networking website	26	5.7	–	–	1	2.3
Physical barrier	18	3.9	–	–	2	4.7
Other forms of written communication	12	2.6	–	–	0	0.0
Physical contact	10	2.2	–	–	0	0.0
Exclusion	7	1.5	–	–	0	0.0
"Other"	6	1.3	–	–	3	7.0
Total	459	100	0.97	1.90	43	100

Note: PA=predicted mean for positive affect; NA=predicted mean for negative affect. Examples of the "Other" category included "feeling discomfort with myself," "loneliness," and "cannot fit in pretty dress."

Table 3
Location of weight stigma episode.

Location	Daily experiences				Most significant	
	N	%	PA	NA	N	%
Home/domestic setting	226	48.9	1.00	1.88	23	59.0
Combined public places	*219*	*47.4*	*0.99*	*1.90*	*16*	*41*
Street/public place	63	13.6	–	–	5	12.8
Public transportation	43	9.3	–	–	1	2.6
School/educational setting	36	7.8	–	–	0	0.0
Shop	27	5.8	–	–	3	7.7
Restaurant	23	5.0	–	–	3	7.7
Workplace	18	3.9	–	–	3	7.7
"Other"	17	3.7	–	–	0	0.0
Medical setting	9	1.9	–	–	1	2.6
Total	462	100	0.99	1.89	39	100

Note: the "Combined public places" category is the sum of all categories of stigma that took place in public (i.e., excluding "Home" and "Other"). PA=predicted mean for positive affect; NA=predicted mean for negative affect. Examples of the "Other" category included "internet website," "phone," and "in the car."

Table 4
Bystanders present during weight stigma episode.

Bystanders	Daily experiences				Most significant	
	N	%	PA	NA	N	%
None	236	51.1	0.99	1.88	16	50.0
1–2	99	21.4	0.98	1.78	11	34.4
3–8	66	14.3	1.07	1.83	4	12.5
9+	61	13.2	0.95	2.05	1	3.1
Total	462	100	0.99	1.87	32	100

Note: PA=predicted mean for positive affect; NA=predicted mean for negative affect.

& Congdon, 2008). Specifically, we examined how the contextual factors impacted people's ratings of their positive and negative emotions following a stigma experience in their everyday lives. The middle two columns of Tables 1–4 present the predicted means for positive and negative affect for each category. Only categories that occurred with sufficient frequency to model (i.e., greater than 10% of responses) were included in the analyses below.

The level-1 models included those time-varying contextual predictors relevant to the weight-stigma episodes (i.e., source of stigma, modality of stigma, setting of stigma, number of bystanders present) and the level-2 models included fixed person-level predictors (i.e., gender, BMI). Gender and BMI were included in the analyses because past research suggests that stigma experiences might differ as a function of these factors (e.g., Puhl, Andreyeva, & Brownell, 2008). The level-1 predictors were dummy-coded as follows: For source of stigma, the categories were Spouse, Friend, Parent, and Media (with Stranger as the reference category); for modality of stigma, the categories were Body language/gesture and Multiple modalities (with Verbal as the reference category); for setting of stigma, the categories were Public place collapsed across all public places (with Home as the reference category); and for number of bystanders present, the categories were 1–2 people, 3–8 people, and 9 or more people (with Alone as the reference category).

A prototypical set of equations is outlined below.

Level-1 model:

$$\text{Negative affect} = \pi_{00} + \pi_{10}(\text{Spouse}) + \pi_{20}(\text{Friend})$$
$$+ \pi_{30}(\text{Parent}) + \pi_{40}(\text{Media}) + e$$

Level-2 models:

$$\pi_{00} = b_{00} + b_{01}(\text{Gender}) + b_{02}(\text{BMI}) + r_0$$
$$\pi_{10} = b_{10}$$
$$\pi_{20} = b_{20}$$
$$\pi_{30} = b_{30}$$
$$\pi_{40} = b_{40}$$

Mixed model:

$$\text{Negative affect} = b_{00} + b_{01}(\text{Gender}) + b_{02}(\text{BMI}) + b_{10}(\text{Spouse})$$
$$+ b_{20}(\text{Friend}) + b_{30}(\text{Parent}) + b_{40}(\text{Media}) + r_0 + e$$

In this mixed model, the dependent variable Negative affect is predicted from a grand-mean intercept (b_{00}) that varies randomly across individuals (r_0), the main effects of Gender (b_{01}) and BMI (b_{02}), the main effects of each of the dummy-coded source of stigma predictors (b_{10}–b_{40}), and a residual error term (e).

3.4.2. Source of stigma

The source of stigma was not differentially related to positive affect (all $ps > 0.29$). Compared to being stigmatized by a stranger, however, people felt less negative affect following the experience when the perpetrator was a spouse ($b = -0.268$, SE=0.093, $t(327) = -2.878$, $p = 0.005$) or a media source ($b = -0.367$, SE=0.148, $t(327) = -2.479$, $p = 0.014$), and felt marginally less negative affect when the perpetrator was a friend ($b = -0.250$, SE=0.150, $t(327) = -1.667$, $p = 0.096$). There was no significant difference between when the perpetrator was a stranger or a parent ($b = -0.148$, SE=0.164, $t(327) = -0.905$, $p = 0.366$). Subsequent analyses in which the parent category was specified as the reference category further indicated that negative affect following stigma from parents did not differ from any of the other categories ($ps > 0.21$). This pattern of associations held when controlling for gender and BMI.

3.4.3. Other contextual factors

The modality of the stigma showed no differential relation to either positive or negative affect (all $ps > 0.13$). Similarly, neither the setting of the stigma (all $ps > 0.89$) nor the number of bystanders present when the stigma event took place (all $ps > 0.14$) were related to positive or negative affect.

4. Discussion

The aim of the present study was to provide novel insights into the phenomenology of weight stigma in people's everyday lives. We used EMA to assess stigma experiences in an Australian sample that was predominantly Caucasian or Asian, and relatively young and poor. One of the most striking findings from this study is the frequency with which participants in this study experienced weight stigma. Past studies using the Stigmatizing Situations Inventory have reported the frequency of weight stigma to be somewhere in the range of "once in your life" to "several times in your life" (e.g., Friedman et al., 2005; Myers & Rosen, 1999; Vartanian & Novak, 2011). Using a more ecologically-valid measure, however, we found that participants in our study reported experiencing weight stigma almost once per day (an average of 11 episodes of stigma over the two-week period). Thus, stigma experiences were a regular occurrence in this sample, a finding that adds to growing evidence that stigma experiences are common in a wide range of samples and contexts. The frequency of stigma experiences should be cause for concern, particularly in light of the consequences of weight stigma identified in past research. We believe it unlikely that the relatively high frequency of reported stigma experiences is due to reactivity resulting from multiple assessments in the present study, because past research

has found no evidence of reactivity using EMA in similar assessment domains (e.g., Heron & Smyth, 2013). It is possible that EMA picks up more frequent, but more minor experiences, that are not captured by the SSI or other global retrospective approaches. Based on the observed pattern in our data, however, the characteristics of stigma experiences appear to be largely similar between the EMA reports and the "most significant" stigma reports (the latter being more analogous to the SSI). Taken together, these findings highlight the scope of the problem of weight-based stigmatization.

The present study also examined the contextual factors associated with weight stigma experiences. Of note is the diverse range of contexts within which this stigma occurs. Consistent with our hypotheses, and with other studies using retrospective self-report measures (Puhl & Brownell, 2006) and qualitative methods (Puhl, Moss-Racusin, et al., 2008), parents, friends, and one's spouse are among the most common sources of weight stigma (both in daily life and in the "most significant weight stigma episode" analyses). Our EMA approach, which is less subject to recall bias than traditional self-report measures, further showed that strangers are the most common source of stigma in people's everyday lives, and that the media is also a frequent source of stigma. Another important finding from this research is that almost half of the stigmatizing episodes occurred when the individuals were at home. Thus, overweight and obese people are vulnerable to experiencing stigma in the privacy of their own homes, and not only when they are out in public. Furthermore, the majority of stigma experiences included verbal comments, body language/gestures, or multiple modalities of stigma, and almost half of stigma episodes occurred when other people were present. These results were consistent across both the EMA data and the most-significant event data, and are also consistent with the findings of Puhl, Moss-Racusin, et al. (2008). We thus extend prior work by identifying the contextual features of weight-stigma experiences as they occur in people's everyday lives.

We also examined how the daily stigma experiences were related to participants' positive and negative affect. Although most contextual factors were not differentially related to affect ratings, participants did report less negative affect following stigma experiences from their spouse and from the media than from strangers. Thus, not only were strangers the most frequent source of stigma, but stigma stemming from strangers was also associated with the most negative mood. Perhaps this is because the positive personal histories that people have with family members, friends, and spouses—personal histories that are absent with strangers—serve to partly buffer against the negative effect of stigma from those individuals. There is a growing literature indicating that weight-stigma experiences are associated with a range of negative psychological outcomes (Friedman et al., 2005; Puhl & Brownell, 2006; Vartanian & Novak, 2011; Vartanian & Shaprow, 2008). The findings of the present study further highlight that the impact of weight stigma might vary depending on the source of the stigma, as was previously suggested by Vartanian and Shaprow (2008). It would be worthwhile for future research to examine additional contextual factors that might moderate the impact of stigma experiences, such as the relevance of the stigma to one's sense of self or the importance of the consequences of the stigma (e.g., lost employment opportunities).

The frequency and range of stigmatizing situations experienced by overweight and obese people, along with emerging evidence of the negative outcome associated with those experiences, highlights the need for efforts to reduce the prevalence of stigma perpetrated by various sources. A promising approach in this regard might be the use of Acceptance and Commitment Therapy (ACT). Past research has shown that shown that ACT can be effective in reducing the perpetration of stigma toward other social groups (e.g., racial groups, individuals with psychological disorders; Lillis & Hayes, 2007; Masuda et al., 2007). Moreover, ACT can be useful for reducing self-stigma (Luoma, Kohlenberg, Hayes, Bunting, & Rye, 2008), which is known to be a problem for overweight and obese people (Schwartz, Vartanian, Nosek, & Brownell, 2006). ACT-based interventions might therefore also be effective in reducing weight-based stigmatization and even self-stigma among overweight and obese individuals.

The present research also highlights the potential utility of EMA in designing interventions to help overweight and obese individuals cope with their stigma experiences. For example, in examining an individual's response to a stigma episode, EMA can be used to identify the antecedent (e.g., the source of stigma), the behavior (e.g., active vs. passive coping), and the consequences (e.g., the specific emotional response). In this way, interventions can be tailored to match the specific responses of the stigmatized individuals (e.g., demotivation vs. anger). For example, among individuals who experience depression and demotivation following stigmatizing experiences, it would be beneficial to encourage active coping (as opposed to passive coping). Research indicates that obese individuals who are stigmatized because of their weight are less likely to engage in weight-management behaviors (Puhl & Brownell, 2006; Vartanian & Novak, 2011), which suggests that these individuals might be using passive or avoidant coping strategies. Encouraging attempts to actively cope with stigma experiences, including problem solving and re-appraisal, could potentially benefit both their psychological well-being and their physical health. More generally, a range of intervention content and delivery mechanisms could be developed to best match the unique features of the stigmatized individual in a given context. Such interventions could themselves be delivered in 'real-time' during daily life (i.e., Ecological Momentary Interventions; see Heron & Smyth, 2010; Smyth & Heron, 2012).

Although this work makes a number of unique contributions to our understanding of weight-based stigmatization, there are several limitations as well. The sample size was not sufficient to allow for fine-grained analyses of the interactions between contextual factors (e.g., who stigmatized and how the stigma was expressed), as well as interactions with individual-level characteristics (such as gender, BMI, and ethnicity). Further, our sample may not be fully representative of the general population of Australia (notably with respect to age and income level). Another limitation is that we did not obtain ratings of how important the most significant event was to participants. That is, although we asked participants to describe the most significant stigma episode that occurred over the past two weeks, it is possible that participants described an event that was not particularly significant or impactful. Thus, future research could include additional assessment of the subjective significance of the stigmatizing event. Another potential limitation of the present study is that, in order to minimize participant burden, we did not include additional assessments of affective states outside of the context of participants' weight-stigma experiences (i.e., when not experiencing stigma). As such, we were not able to assess the specific affective consequences of weight-stigma experiences, or the related temporal dynamics (e.g., how long any dysphoric mood lasts). Now that these data have begun to clarify the frequency and nature of stigma experiences in daily life, further research should consider designing and implementing a more comprehensive mood assessment strategy to better allow for the characterization of reactions to both stigma and non-stigma states.

In conclusion, the present study provides important information about the phenomenology of weight stigma in daily life, which can have implications for efforts to reduce weight bias as well as efforts to reduce the negative impact of weight bias. Notably, we identify that weight-related stigma experiences are

much more common in daily life than previously reported, although perhaps not all at similar levels of intensity. Moreover, our analysis of the contextual factors indicated that stigma experiences arise from a range of sources (including strangers, spouses, friends, parents, and the media), and are also common both at home and in public. These data have implications for the design of prevention/intervention programs. Specifically, there may be a need for approaches tailored to provide intervention content matched to needs arising for individuals in different contexts. For example, intervention strategies designed to reduce stigmatizing behavior from family and other loved ones may not be effective for preventing weight stigma from strangers. Furthermore, interventions designed to help people cope with their weight stigma experiences may need to incorporate different strategies depending on the source of the stigma (e.g., family members vs. strangers vs. the media). By taking these steps, the field can work toward easing the burden of weight stigma that is all too common.

Acknowledgments

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