Assessment of weight-related stigmatisation

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Chapter 16: Assessment of weight-related stigmatization

Megan Lindloff[1] & Angela Meadows[2*]

1 Department of Psychology, Western University, Canada

2 Department of Psychology, University of Essex, UK

*Corresponding author:

Angela Meadows, Department of Psychology, University of Essex, Wivenhoe Park, Colchester, CO4 3SQ, United Kingdom

a.meadows@essex.ac.uk

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Introduction

Anecdotal, observational, and empirical evidence has documented the frequency and severity of weight stigma encountered by higher-weight individuals, often driven by negative stereotypes that depict higher-weight people as lazy, ugly, stupid, or lacking self-discipline and self-control (Puhl & Heuer, 2009). Few areas are left untouched by weight stigma, as it occurs across many life domains, including relationships, work, school, healthcare, and the legal system (Meadows et al., 2020; Puhl & King, 2013). In addition to experiencing weight stigma (EWS) from others, some higher-weight individuals also devalue *themselves* because of their weight, a phenomenon termed internalized weight stigma (IWS; Durso & Latner, 2008). Both EWS and IWS have been linked to a host of detrimental psychological, physical, and behavioral consequences, including depression, anxiety, and suicidal ideation, increased physiological stress, disordered eating, reduced participation in physical activity, and healthcare avoidance (Meadows & Bombak, 2019; Pearl & Puhl, 2018; Wu & Berry, 2018).

There has been increased scholarship around weight stigma particularly in the past fifteen years, as well as a proliferation of assessment tools. Though the research around weight stigma over the last decade and a half has raised awareness of the extent of the problem and the critical need to address it, weight stigma research suffers from the use of limited and inconsistent methods for assessing key constructs. In this chapter, we will provide an overview of existing measures of EWS and IWS, their limitations and suggestions for future research and clinical use.

Experienced Weight Stigma

There have been many scales developed for measuring EWS across a variety of samples and contexts. In this section, we will briefly summarize some of these measures, their psychometric properties, and their limitations, focusing on scales that have been more

extensively tested, are used more widely, or offer a unique tool for measuring weight stigma in specific contexts.

Stigmatizing Situations Inventory (SSI)

The most comprehensive of existing measures of EWS is the SSI (Myers & Rosen, 1999), a 50-item questionnaire that measures lifetime stigmatization frequency. The eleven subscales assess weight stigma originating from a variety of sources (e.g., romantic partners, family members, children, doctors) and different situational contexts (e.g., employment, in public, physical barriers). An example item is, "Having strangers suggest diets to you." The scale was developed and tested in both a clinical sample and in a higher-weight sample drawn from the fat acceptance movement, and demonstrated excellent internal reliability and good criterion validity.

There have been several adaptions of the SSI. A brief 10-item version (Vartanian, 2015) demonstrated similarly good criterion and convergent validity in several community samples of higher-weight adults (Vartanian, 2015). A 12-item version of the SSI was created for use in university student samples (Douglas et al., 2021). The Stigmatizing Situations Questionnaire–Extended was developed to measure EWS across the lifespan, adding 53 items relating to stigma during adolescence and 25 items for stigma during childhood, resulting in a 126-item measure (Annis et al., 2004). One issue with some of these measures is that higher-weight adults were not necessarily heavy as children, and items asking about their experiences in their youth may not be applicable.

Measures of Childhood Weight Stigma in Adult Samples

Some measures are intended specifically for adults to retroactively measure childhood experiences. The Weight-Related Abuse Questionnaire (Salwen & Hymowitz, 2015) is a 15-item

measure that assesses both the frequency and emotional impact of weight-related verbal and physical abuse experienced before the age of 21 years. The 12-item Body Image Victimization Experiences Scale (Duarte & Pinto-Gouveia, 2016) assesses the frequency and impact of victimization pertaining to body image from peers and parents during childhood with 8 items referring to weight or body shape. The Perception of Teasing Scale (POTS; Thompson et al., 1995) is a commonly used measure intended to assess the frequency and impact of weight-related teasing between the ages of 5 and 16 years. The POTS has since been adapted to measure teasing specifically from family members and from peers (van den Berg et al., 2002).

Measures for Children or Adolescents

While originally intended to retrospectively assess childhood experiences, POTS and its modifications are often used in samples of children and adolescents. Additionally, Najjar et al. (2018) developed a 42-item SSI–Adolescents, removing items specific to adults (e.g., "Losing your job because of your size") and altering wording of other items to be clearer for adolescents. Several measures have been developed specifically for use with children or adolescents. The 22-item Adolescent Weight-Based Victimization scale (Puhl et al., 2013) was used in adolescents aged 14–18 years and assesses verbal teasing, relational victimization, cyberbullying, and physical aggression. Puhl and Luedicke (2012) used similar items with additional subscales to assess sources and locations of the bullying, and how students responded. Shorter measures include a 5-item scale assessing weight-related teasing and criticism from parents or siblings (Levine et al., 1994); a 6-item measure of EWS during sports and physical activity (Faith et al., 2002); a 4-item scale adapted from an adolescent racial discrimination scale (Golaszewski et al., 2018); and the 5-item Peer Teasing Scale for use in younger children (Young-Hyman et al., 2003).

Cultural-Specific Measures

In contrast to the number of age-specific scales that have been developed, few culturally appropriate measures exist specific to non-White populations. One good example, however, is the 43-item Perceived Weight Stigmatization Scale, written in Urdu, which measures stigma experiences, perceptions of societal rejection, and the impact of weight-related stigma in Pakistani adults (Rafeh & Hanif, 2019). Development of this scale included focus groups with weight- and gender-diverse samples of Pakistani university students and a formal Delphi review to ensure both scientific and cultural validity.

Setting-Specific Measures

Other measures have been developed for use in specific settings, some expanding on items included in the SSI. For example, the 20-item Stigma Situations in Healthcare (Ferrante et al., 2016) includes items such as, "A doctor saying your weight is a health problem even when you are in good health"; The 6-item Healthcare Weight-Related Stigma (Raves et al., 2016) asks about feeling stigmatized by various healthcare professionals (e.g., doctors, nurses, nutritionists); and the 10-item Healthcare Questionnaire (Wadden et al., 2000) assesses negative weight-related interactions with patients' physicians, (e.g., "Doctors have said critical or insulting things to me about my weight").

Beyond the healthcare setting, scales are available for weight-related teasing or criticism specifically from romantic partners (4 items; Befort et al., 2001); weight stigma in a school or work environment (5 items, Puhl et al., 2020); in the family, at work, and in public places (14 items; Rand & MacGregor, 1990); and in the military (26 items; Schvey et al., 2017a).

Adaptation of Measures of Other Types of Stigma

Many studies have used measures adapted from scales for other types of discrimination. The 9-item Everyday Discrimination Scale (Williams et al., 1997), originally

intended for racial discrimination, is commonly modified to assess weight stigma experiences. An example item is "You receive poorer service than other people at restaurants or stores." Additional measures of weight stigma have been adapted from other racial discrimination scales (Carr et al., 2007; Hatzenbuehler et al., 2009), gender discrimination scales (Farrow & Tarrant, 2009), and measures of stigma against those with chronic illness (Truong et al., 2016) or Human Immunodeficiency Virus (Polk & Hullman, 2011). The Multidimensional Scale of Perceived Discrimination (Magallares et al., 2017) was created to assess discrimination against any stigmatized group, which then can be adapted for any target group.

Limitations of Existing Measures

Issues of Validity

While most authors report the internal reliability of their scales, the majority of measures of EWS are lacking further psychometric assessment. Additionally, many of the existing measures have been developed and tested in predominantly White and female samples, excluding the likely unique experiences of fat non-White and non-female-identifying people. Consequently, even when studies use these measures in more diverse samples, findings as to the extent and type of weight stigma experiences should not be considered uncritically.

Relatedly, several weight stigma measures have been adapted from measures of other forms of discrimination, such as racial or gender discrimination. However, because experiences of stigmatized groups are unique and rooted in a history of discrimination towards that group, these measures may not be fully capturing higher-weight people's experiences of weight discrimination. For example, qualitative studies have reported that one of the more commonly reported experiences of weight stigma is a lack of seating that fits (Hunt & Rhodes, 2018; Owen, 2012). This is a unique obstacle that higher-weight people face, and therefore would not be included in a measure that has been adapted from a scale for racial discrimination.

Stigma Awareness

Many higher-weight individuals may not recognize what experts would consider stigmatizing events as being a form of stigma because their high levels of IWS may normalize these occurrences. As such, items that phrase experiences in more general terms (e.g., "Have you experienced discrimination because of your weight?") rather than describing specific scenarios (e.g., "Being glared at or harassed by bus passengers for taking up 'too much' room") risk underestimating the frequency with which higher-weight people experience stigma. Studies using scenario-specific measures such as the SSI consistently report greater rates of experienced stigma (nearly 100% of participants in community samples have experienced at least one type of stigma at least once in their life) than those using more generic questions, which tend to find only 30–50% of individuals in community samples report having experienced weight stigma (Himmelstein et al., 2017; Puhl et al., 2018). Yet even SSI studies tend to produce a total frequency score equivalent to only "several times in their life." Further, the SSI is now over 20 years old, and may no longer reflect the current lived reality of many higher-weight people. For example, none of the items refer to any form of media, now a major source of stigmatizing messaging.

Recall Bias

All retrospective experience measures are likely to underestimate prevalence due to recall bias. This is likely to be especially true of stigma, where day-to-day microaggressions are much more common than major or overt forms of discrimination, but the latter are more likely to be remembered in the longer-term (Swim et al., 2001). This problem will be further compounded in the case of low stigma awareness.

While most studies assess EWS through questionnaire measures, experience sampling techniques are becoming increasingly popular. For example, ecological momentary assessment

(EMA) is a technique using mobile devices or other technological equipment to gather data in real time, reducing recall bias and increasing ecological validity (Potter et al., 2021; Smyth & Heron, 2014). Due to the everyday nature of weight stigma and fat microaggressions, EMA may be particularly useful to capture the full extent of these experiences. A small but growing number of studies have used EMA to assess everyday experiences of weight stigma (Carels et al., 2019; Potter et al., 2021; Vartanian et al., 2014, 2018) and have often found more frequent reports of daily stigmatizing experiences than studies using retrospective questionnaires. Lower-tech experience sampling techniques are also available. A study that used daily diary entries to capture the frequency of the 50 events included in the SSI experienced by 50 higher-weight women recruited from weight-related discussion boards and forums found that the women reported an average of 3.1 events *per day* over a one-week period (Seacat et al., 2016).

Internalized Weight Stigma

Several measures have now been developed to assess IWS, all of which operationalize the construct slightly differently. A 2018 review of the health correlates of IWS identified 74 studies (Pearl & Puhl, 2018), of which over 70% used the Weight Bias Internalization Scale (WBIS; Durso & Latner, 2008) or one of its modifications. A further 20% used the Weight Self-Stigma Questionnaire (WSSQ; Lillis et al., 2010). Other less frequently used measures include the Weight- and Body-Related Shame and Guilt Scale (WEB–SG; Conradt et al., 2007), which assesses feelings of shame about one's size and guilt at failing to lose weight, and the Acceptance and Action Questionnaire–Weight (AAQW; Lillis & Hayes, 2008), a measure of experiential avoidance and psychological inflexibility around weight-related feelings and behaviors.

Weight Bias Internalization Scale (WBIS)

The WBIS (Durso & Latner, 2008) is an 11-item unidimensional measure with good internal reliability, convergent and predictive validity reported in multiple studies (Lacroix et al., 2017; Papadopoulos et al., 2021). The scale was originally developed using a higher-weight community sample but is now frequently used in both clinical and non-clinical samples. An example item is, "I don't feel that I deserve to have a really fulfilling social life, as long as I'm overweight." Item 1 on the scale, "As an overweight person, I feel that I am just as competent as anyone," is sometimes found to be unreliable (Durso et al., 2016; Lee & Dedrick, 2016), and many researchers use a 10-item version of the scale; some studies have also used further reduced scales. Scores on the WBIS tend to be higher in clinical or treatment-seeking populations (Meadows, 2018), although no population norms or clinical cut-offs have been determined (Pearl & Puhl, 2018; for an exception, see Hilbert et al., 2014, who provided gender-specific population norms in a German population). The WBIS has been translated and validated in German (Hilbert et al., 2014; which also led to development and validation of a German version for adolescents; Ciupitu-Plath et al., 2017), Spanish (Sarrías-Gómez & Baile, 2015; two-factor structure), Italian (Innamorati et al., 2017), Chinese (Wong et al., 2019), and Persian (Lin et al., 2020).

However, doubts have been raised about the operationalization of the WBIS and whether it does indeed assess weight-related self-devaluation (Meadows & Higgs, 2020a). Although IWS as measured by the WBIS did mediate the relationship between EWS and disordered eating behaviors in an international sample of higher-weight individuals, the majority of the variance was explained by general aspects of body image and global self-esteem, rather than weight-related self-worth specifically, challenging the construct validity of the scale (Meadows & Higgs, 2020a). A 13-item two-factor version of the scale (WBIS–2F; Meadows & Higgs, 2019) comprises a separate self-devaluation subscale and a weight-related distress

subscale, and evidence from a large international study of self-classified higher-weight individuals suggests that distress may be a major component of individuals' scores on the WBIS, rather than self-devaluation *per se* (Meadows & Higgs, 2022).

A modified version of the WBIS (WBIS–M) replaces wording related to "overweight" to wording such as "because of my weight" (Pearl & Puhl, 2014) to facilitate use of the measure in a weight-diverse sample (i.e., not only those who are objectively or subjectively "overweight"). While the WBIS–M tends to perform well on standard psychometric tests (Lacroix et al., 2017; Papadopoulos et al., 2021), there is some evidence that the scale is not measurement-invariant across the weight spectrum (Meadows, 2018), indicating that weight category membership may introduce an element of measurement bias. It is possible that the WBIS–M is not measuring the same thing in higher-weight and normative-weight samples, and it may be unwise to treat it as such. In particular, IWS appears to be more focused on desire for weight change and low fat identity in normative-weight individuals, compared with a more even representation of items relating to reduced self-worth and fear of stigma in higher-weight individuals (Meadows, 2018). Thus, for slimmer individuals, high WBIS–M scores may be more indicative of body image distortion or eating disorder cognitions than of weight-related self-devaluation or even weight-related distress.

The WBIS–M has been translated into Turkish (Apay et al., 2017), Chinese (Pakpour et al., 2019), Spanish (Macho et al., 2021), and Greek (Argyrides et al., 2021), and a version for children (WBIS–C) was developed in German (Zuba & Warschburger, 2018). The WBIS–C was subsequently validated in a sample of Chinese children and adolescents (Chen & Ye, 2021). Aimé et al. (2020) tested measurement invariance of the WBIS–M across eight countries

(Australia, Belgium, Canada, China, Italy, Japan, Spain, United States) and found only partial metric and scalar invariance, meaning that the comparability of findings cannot be assumed across countries, and differences should not be over-interpreted. Interestingly, a recent 3-item German version of the WBIS–M (WBIS–3) demonstrated metric and scalar invariance across weight categories, suggesting that group mean scores can be meaningfully compared for "overweight" and "non-overweight" individuals (Kliem et al., 2020). This improvement compared with the standard WBIS–M may be because the problematic items previously identified in the full scale were not included in the WBIS–3. However, all three included items capture aspects of weight-related distress rather than weight-related self-devaluation.

Weight Self-Stigma Questionnaire (WSSQ)

The WSSQ is a 12-item measure comprising two subscales: Self-Devaluation and Fear of Enacted Stigma (Lillis et al., 2010). The Self-Devaluation subscale captures shame and guilt around body weight, but again, is not specifically about a weight-related devalued global self. Three of the six items do assess devaluation, but all three pertain to only one of the stereotypes associated with higher-weight individuals, namely lack of willpower (e.g., "I became overweight because I'm a weak person,") rather than a devalued social identity. The Fear of Enacted Stigma subscale primarily assesses beliefs about others' negative judgments. A sample item is, "Others will think I lack self-control because of my weight problems." As such, this subscale overlaps somewhat with the conceptualization of weight-related distress in the WBIS–2F. While the two subscales are generally strongly correlated and have similar predictive characteristics across many cognitive, affective, and behavioral outcomes, some studies have found differential associations for the subscales and some outcomes, including dietary restraint and eating and weight concerns (Almenara et al., 2017), weight loss during an online weight management

intervention (Lillis et al., 2020), and worsening of addictive-like eating patterns over time (Meadows & Higgs, 2020b).

The WSSQ was originally developed and validated in two higher-weight community samples: one from the general population and one that recruited active dieters and demonstrated good convergent and discriminant validity in both (Lillis et al., 2010). Participants from the dieting sample were randomized to either receive a 1-day mindfulness and acceptance-based workshop or to a control group, with the WSSQ being completed both at baseline and at 3-month follow-up. Significant differences between the two groups at follow-up indicated that the WSSQ is sensitive to change and may be used to evaluate treatment success. Based on follow-up data from the control group, test-retest reliability at 3 months was acceptable (Lillis et al., 2010). As with the WBIS, the scale is now routinely used in both clinical and non-clinical samples. The WSSQ has been translated into German (Hain et al., 2015), Portuguese (Palmeira et al., 2016), Chinese (Lin & Lee, 2017), Romanian (Puia et al., 2017), Turkish (Erdogan et al., 2018; Sevincer et al., 2017), French (Maïano et al., 2019), Arabic (BinDhim et al., 2020), and Persian (Lin et al., 2020).

Although the wording of the WSSQ tends to limit its use to higher-weight individuals, some studies have used the measure in weight-diverse samples (e.g., Meadows et al., 2017; Pakpour et al., 2019). In a Hong Kong study of children aged 8 to 12 years old, the Chinese version of the WSSQ was found to be measurement invariant across weight categories (Pakpour et al., 2019). To our knowledge, cross-country measurement invariance of the WSSQ has yet to be assessed.

Weight- and Body-Related Shame and Guilt Scale (WEB–SG)

The WEB–SG assesses feelings of shame at one's size and guilt about not pursuing or achieving weight loss (Conradt et al., 2007). The scale was originally developed in a German

community sample of ‘obese’ participants, in which it showed good convergent and test–retest reliability at 6 months. Both the Shame and Guilt subscale explained additional variance in scores on body self-acceptance, depressive symptoms, and self-esteem, beyond that accounted for by shame and guilt related specifically to eating, although only the Guilt subscale explained additional variance in dietary restraint (Conradt et al., 2007). Other studies in non-clinical samples have linked both subscales in the expected directions with a range of eating behaviors, including emotional eating, binge eating, and intuitive eating (Craven & Fekete, 2019; Schulte, 2016). The Guilt subscale perhaps aligns most closely with measures of disordered eating cognitions, and will not be discussed further here.

Shame can be conceptualized as a trait-level perception of self-worth (i.e., being a bad person) whereas guilt captures state negative affect relating to specific non-normative behaviors (i.e., doing a bad thing; Lewis, 1971). Thus, the Shame subscale of the WEB–SG could be expected to capture weight-related self-devaluation aligning with the conceptualization of IWS. Indeed, the Shame, but not the Guilt, subscale mediated the negative relationships between objective weight status and global self-esteem (Pila et al., 2015) and perceived weight and engagement in physical activity (Lucibello et al., 2020) in a weight-diverse sample of Canadian young adults. Both weight-related shame and guilt tend to be higher in women than in men, and significantly increase across body mass index (BMI) categories (Pila et al., 2016). A trait version of the Shame subscale has been used in experimental studies, and was responsive to social-evaluative body-related threat (Cloudt et al., 2014).

However, more recent work on the operationalization of shame suggests that the construct comprises not only aspects of global self-devaluation, but also perceived judgment and devaluation by others (Gausel & Leach, 2011; Gausel et al., 2016), and it is this latter component

that is assessed by five of the six items on the WEB–SG Shame subscale, for example, “When I am in a situation where others can see my body (e.g., pool, changing room), I feel ashamed.” Thus, the Shame subscale of the WEB–SG appears to capture weight-related distress rather than weight-related self-devaluation.

Acceptance and Action Questionnaire–Weight (AAQW)

The AAQW is a 22-item measure assessing experiential avoidance and psychological inflexibility with respect to negative weight-related thoughts, feelings, and behaviors (Lillis & Hayes, 2008). Initial development and testing were carried out in a clinical population participating in a study of Acceptance and Commitment Therapy (ACT) for weight-maintenance (Lillis & Hayes, 2008). Within this population, several of the items could be considered to encapsulate weight-related self-devaluation, for example, “I should be ashamed of my body.” Other items relate more to weight-related distress, such as, “I need to avoid social situations where people might judge me,” or to weight-related eating behaviors, for example, “If I eat something bad, the whole day is a waste.” The AAQW is moderately to strongly correlated in the expected directions with weight-related quality of life, psychological wellbeing, objective binge episodes, intuitive eating, and exercise engagement (Lillis & Hayes, 2008) and is responsive to ACT interventions in clinical populations (Levin et al., 2018; Lillis & Hayes, 2008; Weineland et al., 2013). The scale is also strongly correlated with both the Self-Devaluation and Fear of Enacted Stigma subscales of the WSSQ (Lillis et al., 2010). The scale has been translated into Finnish (Sairanen et al., 2015), Portuguese (Palmeira et al., 2016), and Swedish (Weineland et al., 2013). A study in a Swedish bariatric surgery sample suggested a 5-factor structure, including a 3-item Body Acceptance factor and a 5-item Self-Stigma factor (Weineland et al., 2013). However, the items in the Self-Stigma subscale comprise a mix of weight-related self-devaluation, weight-related distress, and disordered eating cognitions. Validation in a weight-

diverse sample of Hispanic US college students suggested a 6-item, single-factor solution that included items related to both weight-related self-devaluation and weight-related distress (AAQW–6; Flynn et al., 2019). The AAQW–6 was strongly negatively correlated with scores on the Eating Attitudes Test; however, surprisingly, there was a small to moderate positive correlation with BMI (Flynn et al., 2019), possibly due to cultural differences in this sample.

A revised version of the scale (AAQW–R) includes 10 items across three subscales – Food as Control, Weight as a Barrier to Living, and Weight Stigma, and was developed and validated in two samples of Portuguese women: a weight-diverse community sample and a higher-weight treatment-seeking sample (Palmeira et al., 2016). The latter two subscales comprise items relating predominantly, but not exclusively, to weight-related self-devaluation and weight-related distress, respectively, and align closely with the Body-Acceptance and Self-Stigma factors in the 5-factor Swedish AAQW. Both correlate in the expected directions with eating pathology and subjective happiness, and scores on all three subscales are significantly higher in high- versus normative-BMI individuals (Palmeira et al., 2016). The three-factor structure was confirmed in a US sample of treatment-seeking higher-weight adults (Dochat et al., 2020). The AAQW–R is responsive to ACT interventions in clinical samples (Palmeira et al., 2016).

Limitations

Operationalization of Internalized Weight Stigma

The major limitation of existing measures of IWS is the lack of consistency in operationalization of the construct. Weight stigma in general can be defined as being marked and devalued because of one's weight. As such, most researchers would agree that internalization of weight stigma should reflect accepting that mark and devaluing *oneself* because of one's weight. Yet many measures of IWS fail to clearly distinguish this construct from other, related,

phenomena, in particular, conflation with body image, concern about others' perceptions, and general negative affect related to living in a fat body. Thus, great care must be taken in choice of measure used depending on the specific construct being targeted, and is not always self-evident from the name of the scale or subscale. Self-devaluation is best captured by the WBIS–2F Self-Devaluation subscale or the AAQW–R Weight as a Barrier to Living subscale. Weight-related distress may be best captured by the standard WBIS, the WSSQ–Fear of Enacted Stigma subscale, the WEB–SG Shame subscale, or the AAQW–R Weight Stigma subscale. Distress could further be broken down into concern about other-judgment (i.e., what people think about you), and fear of other-discrimination (i.e., how people will treat you). This latter could be classified as anticipation or expectation of stigma. While several of the scales above include items that assess this construct, none are ideally suited to measuring it exclusively. If anticipated stigma is the construct of interest, the Weight-Based Rejection Sensitivity scale (Brenchley & Quinn, 2016) would be the best choice.

Issues of Validity

Beyond the major concern about whether these scales are indeed measuring what they are supposed to, measures of IWS share some of the same issues as measures of EWS. Most scales have been developed and tested in predominantly White, predominantly female samples, by researchers working within a medicalized model of body weight. None have drawn on the lived experiences of higher-weight people, and in particular, higher-weight people not seeking to lose weight, in their development. As such, these measures should not be assumed to represent the lived experience of all, or even most, higher-weight individuals.

In addition, while most of these measures demonstrate excellent internal reliability, and good convergent and predictive validity in reported studies, further psychometric testing is often lacking. Only the WSSQ, AAQW–R (both three months) and the WEB–SG (six months) have

data confirming test-retest reliability. And there is little evidence of discriminant validity or of measurement invariance across populations in which many measures are routinely used. Perhaps the most serious of these omissions, given the widespread use of the WBIS–M, is the lack of evidence for measurement invariance across the weight spectrum.

Conclusions

There are a range of options available for measuring both EWS and IWS. In choosing an appropriate scale, researchers should take into consideration the specific aspect of stigma that they are interested in measuring, the sample of interest, as well as the limitations associated with each measure. Some of these limitations, such as lack of psychometric testing, are relatively easily remedied. However, other issues are more fundamental. Inconsistencies in operationalization (and terminology), development of measures without input from diverse populations with lived experience, or those outside treatment-seeking environments, limit the validity of most of the currently available measures. In addition, the widespread acceptability of weight stigma in society and high levels of IWS in higher-weight people compound the difficulties associated with measuring experiences of other forms of stigma.

Future measures of EWS should use situation-specific items that can prompt both awareness and recall, rather than generic questions about having "experienced discrimination" that will likely under-estimate the extent of weight stigma experienced by many participants. Experience sampling techniques, which need not be high-tech, can also be used to address the issue of recall bias, although this may not be feasible for many studies.

Weight stigma intersects with various other axes of discrimination, including gender, race and ethnicity, and socioeconomic status, among others. New measures should be grounded in the lived experiences of higher-weight people, preferably capturing experiences from more diverse

populations, including those with different gender and racial identities, and individuals who tend to be more stigma-aware, such as those in the fat acceptance community. It is only by doing so that measures will likely reflect the current lived experience of higher-weight people, rather than weight stigma as it is imagined by academics. In particular, many current measures focus on less common forms of weight stigma than on the everyday microaggressions that make up the totality of living in a fat body in our current cultural environment (Munro, 2017). While it is of course critical that overt weight discrimination in employment contexts, refusal of access to medical treatment, or physical attacks on higher-weight people are documented (and addressed by policy makers), it is the cumulative nature of more minor slights that have the larger impact on the health and wellbeing of stigmatized groups, as evidenced both in the wider stigma literature and in qualitative studies with higher-weight individuals. The Fat Microaggression Scale (Lindloff et al., 2022a) and the Antifat Microaggression Experiences Questionnaire (J. Webb, personal communication, February 11, 2022) are two measures currently in development looking to include these more "everyday" experiences of weight stigma, or fat microaggressions.

Notwithstanding the limitations of our current measures of EWS and IWS, weight stigma is demonstrably associated with a wide range of negative outcomes. Despite the proliferation of measures in recent years, most do not address the problems inherent in existing measures, and better approaches are needed if the field is to produce robust research that can inform intervention and policy.

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