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Attitudes Towards Food and Weight in the Mother-Child Dynamic: A Mixed Methods Investigation

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Attitudes Towards Food and Weight in the Mother-Child Dynamic:

A Mixed Methods Investigation

A dissertation submitted in partial satisfaction of the requirements for the degree

Doctor Philosophy in Psychology

by

Jordan Levinson

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ABSTRACT OF THE DISSERTATION

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A Mixed Methods Investigation

by

Jordan Levinson

Doctor of Philosophy in Psychology

University of California, Los Angeles, 2024

Professor A. Janet Tomiyama, Co-Chair

Professor Bridget Callaghan, Co-Chair

Parents are a strong influencer of children and adolescent's developing relationships with food and their bodies. Although research shows that experiencing weight stigma is associated with disordered eating cognitions for the target of the discrimination, no studies have explored whether a parent's experiences of weight stigma are associated with their children's outcomes. Therefore, study 1 sought to establish a relationship between a mother's experiences with weight stigma, her restrictive feeding practices, and her children's disordered eating cognitions. Using data from the NHLBI Growth and Health Study, I tested whether 193 mothers' weight stigma experiences were associated with their children's (N=264) body dissatisfaction and drive for thinness, and whether maternal restricted feeding practices is a mechanism through which they are related. Multilevel mediation models showed significant total effects of maternal weight stigma experiences on child body dissatisfaction. Restrictive feeding practices were a significant

mediator of maternal weight stigma experiences and child body dissatisfaction. There were no significant total effects of maternal weight stigma experiences on child drive for thinness. However, restrictive feeding practices significantly mediated the relationship between maternal weight stigma experiences and child drive for thinness. These associations were sometimes, but not consistently robust when household income, maternal education, child gender, age, BMI, and race were included as covariates, and when stratifying by child race. Overall, results suggest that mothers' experiences of weight stigma may results in more use of restrictive feeding practices, and subsequently more disordered eating cognitions in their children.

Because women and girls are more likely to be affected by disordered eating and cultural norms of thinness, study 2 aimed to more deeply understand how attitudes towards weight and food were transferred from mother to daughter and the effect they have on outcomes such as disordered eating cognitions and behaviors. This qualitative study consisted of independent semi-structured interviews with a community sample of mother-daughter dyads. The sample included 10 young adult women (5 Black and 5 white) aged 20-25 and their mothers. Using a codebook approach to thematic analysis, I identified four themes related to maternal weight talk: 1) Explicit comments about weight, shape or size; 2) Using clothing as a proxy to comment on weight, shape, or size; 3) Negative impact on daughters' body image; and 4) Breaking the intergenerational weight talk cycle, and two themes related to food attitudes: 1) Moral messages about food and 2) The role of culture and way-of-life in food attitudes.

Results of these studies 1) help us understand how disordered eating cognitions and behaviors may develop or worsen in the family context, and 2) potentially inform prevention programs or clinical treatment of eating disorders such as family-based therapy (FBT).

The dissertation of Jordan Levinson is approved.

Patrick Alan-David Wilson

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A. Janet Tomiyama, Co-Chair

University of California, Los Angeles

2024

This is dedicated to the little girls who grew up trying to be smaller above all else.

You are allowed to take up space.

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ACKNOWLEDGEMENTS

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VITA

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Levinson, J. A., Kinkel-Ram, S. & Hunger, J. M. (2024). A systematic review of weight stigma and disordered eating cognitions and behaviors. *Body Image, 48.* https://doi.org/10.1016/j.bodyim.2023.101678

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General Introduction

Children are affected by their parents' experiences in many contexts. Family Systems Theory asserts that the family is an important socialization agent and that the experiences of one family member (for example, a child) do not occur in a vacuum, but are influenced by the presence of and relationships with other family members (Brown, 1999; Cox & Paley, 2016). Further, the tripartite influence model of body image and eating disturbance identifies three main influences of body dissatisfaction and disordered eating: peers, media, and parents (Shroff & Thompson, 2006). Therefore, it is likely that influence from the family, such as from parents, would be particularly salient in the development of cognitions and behaviors around weight and food. Although a robust body of literature exists testing the influence of peers and media on disordered eating behaviors and cognitions, parental influence is often overlooked.

Parents can have a direct or indirect influence on their children's eating behavior and body satisfaction (Brun et al., 2020). Indirect influence, also known as modeling, can be defined as parental behaviors, such as efforts to control their own weight, that may give adolescents an understanding about how they themselves should feel or behave regarding weight or food (Arroyo et al., 2017). Alternatively, direct influence is defined as explicit communication that aims to influence a child's weight, such as comments about weight or the use of specific feeding strategies (Arroyo et al., 2017). Both direct and indirect influences can serve as messages to children about how they should think and behave around weight and food.

Parental Feeding Practices

One direct way parents influence their children's cognitions and behavior is through parental feeding practices. Parents often dictate the time and content of meals and snacks for children and adolescents. Common parental feeding practices, both positive and negative,

include the following: Pressure to eat more (Birch et al., 1998, 2001; Daniels, 2019; Musher-Eizenman & Holub, 2007), for example, requiring a child to finish their whole plate at dinner; Restriction (Birch et al., 1998, 2001; Daniels, 2019; Musher-Eizenman & Holub, 2007), for example, keeping certain foods out of reach from their child; Monitoring (Birch et al., 1998, 2001; Musher-Eizenman & Holub, 2007), for example, keeping close track of food their child eats; Teaching about nutrition (Musher-Eizenman & Holub, 2007), for example, discussing with a child why it's important to eat nutritious foods; and Modeling (Musher-Eizenman & Holub, 2007), for example, a parent eating nutritious foods themselves to model healthy eating behavior for their child.

Many parental feeding practices have an impact on child reactions, behaviors, and outcomes, but restrictive feeding practices, in particular, are relevant to the development of unhealthy relationships with food and disordered eating. Parental restriction is associated with more food responsiveness for the child (Fisher & Birch, 1999; Zohar et al., 2021), and restriction of palatable foods actually increases children's behavioral responses to that food. For example, one experiment found that when a food was restricted, children made more positive comments about it, more requests for it, and more attempts to eat it compared to an unrestricted food (Fisher & Birch, 1999). They also found that children had a greater number of behavioral responses, more selection of, and more intake of a restricted food during restricted periods (not allowed to eat the target food) than during unrestricted periods (allowed to eat target food) (Fisher & Birch, 1999). Restriction is also associated with emotional eating in children (Say et al., 2023; Vollmer et al., 2015; Zohar et al., 2021), and can last into young adulthood. For example, parent's retrospective reports of restrictive feeding practices were associated with higher emotional eating in their college aged children (Galloway et al., 2010).

Parental Modeling and Weight Talk

Other ways that parents can both directly and indirectly affect their children's' cognitions and behaviors is through modeling and weight talk. Indirectly, parents can communicate their attitudes towards food and weight by engaging in weight control behaviors to change their own weight. For higher weight children, those who have parents that make dietary changes aimed at weight loss have a 2.5 times increased likelihood of engaging in an unhealthy weight control behavior (e.g. purging or fasting; Cromley et al., 2010). There are many ways parents can directly communicate messages about food and weight, as well. Weight talk, or comments about someone's weight, shape, or eating (Bauer et al., 2013; Berge et al., 2024) is quantitatively associated with more negative outcomes such as more disordered eating and more depression. Another example of direct communication is parent encouragement to lose weight, which is associated with high drive for thinness, high body dissatisfaction (Wertheim et al., 2002), and bulimic symptoms (Hillard et al., 2016) in kids. Importantly, the effects of experiencing parental encouragement to diet lasts into adulthood— those who were encouraged to diet by their parents in adolescence are more likely to experience the following in adulthood (about 15 years later): dieting, binge eating, unhealthy weight control behaviors, and lower body satisfaction (Berge et al., 2018). In sum, parents' modeling and weight talk can have negative consequences for their children that follow them into adulthood.

As summarized above, existing literature quantitatively demonstrates the impact of parents' food attitudes and weight talk on children's outcomes. Several questions remain: Do parents' experiences of weight stigma influence their feeding practices? Are these feeding practices and talk about weight transferred through generations? What do their children say are the effects of these behaviors? In this dissertation, a mixed methods investigation was used to fill

these gaps. First, a quantitative study statistically tested the relationships between parental experiences of weight stigma, restrictive feeding practices, and child disordered eating cognitions (Study 1). Then, a qualitative study compiling both mothers' and daughters' perspectives uncovered deeper and more detailed motivations of mothers for their behavior (i.e. feeding practices and weight talk) as well as effects of these behaviors on daughters' lives (Study 2).

Study 1: Associations Among Maternal Weight Stigma, Restrictive Feeding Practices, and Child Disordered Eating Cognitions

Introduction

Weight stigma, or the poor treatment of higher weight people, is pervasive in our society (Lee et al., 2021). Weight stigma is associated with disordered eating cognitions, which are thoughts that contribute to disordered eating and eating disorders (Legenbauer et al., 2018). For example, individuals who experience more frequent weight stigma also present with higher body dissatisfaction and drive for thinness in both cross sectional and longitudinal studies (Levinson et al., 2024). Although there is robust evidence of the negative effects of weight stigma on a person's own disordered eating cognitions, what has not yet been examined is if a parent's experiences with weight stigma affect their children's disordered eating cognitions.

To my knowledge, no studies have explored the role of parents' own experiences of weight stigma in children's weight- and food-based behaviors and cognitions. However, the relationship between parental experiences of discrimination and child mental health has been tested in the gender and racial context. For example, one study showed that maternal gender discrimination was associated with greater mental health problems in their children (Stepanikova et al., 2022). Likewise, Ford et al., (2013) found that more caregiver experiences with racism were associated with higher rates of their child's depression and lower levels of their child's well-being in adolescence. Additionally, Bécares et al. (2015) found a direct effect between maternal experiences of racial discrimination and their children's poorer socioemotional development. As relationships between parental weight stigma and child disordered eating behaviors and cognitions have not yet been explored, I draw my first hypothesis from this

literature, and hypothesize that maternal experiences with weight stigma will predict greater disordered eating cognitions among their children.

One important question concerns the mechanism of this intergenerational transmission of weight stigma. That is, how might maternal experiences of weight stigma translate into greater disordered eating among their children? The racial discrimination literature offers a possible generalizable framework for understanding the link between maternal experiences and children's poor outcomes. Bécares et al. (2015) posit that the relationship between parental discrimination experiences and adverse mental health outcomes in their children may exist because discrimination leads to poorer maternal mental health and harsher parenting practices. In testing this theory, they found that a mother's experience with racist insults indirectly negatively affected their child's socioemotional development through harsher parenting practices. Bécares et al. (2015) also speculated that exposure to racial discrimination may elicit a feeling of hypervigilance and fear that they or their child may continue to be a target of such discrimination, leading to harsher parenting in an attempt to protect their children from further exposure to discrimination. Applying this thinking to the weight domain, I therefore hypothesize that maternal experiences with weight stigma may lead to harmful food-related parenting practices, which in turn, predict their child's disordered eating cognitions. Indeed, in the context of weight, one study found that parents who experienced weight stigma were more likely than parents who did not experience weight stigma to engage in negative weight talk with their children. The parents who experienced weight stigma endorsed the idea that talking about weight may help the child develop thick skin against bullies, help them lose weight to avoid bullying, and prevent the same struggles with body weight the parent experiences (Pudney et al., 2022). In fact, in the weight stigma context, Major and colleagues (2020) suggest that disordered eating

(and expected subsequent weight loss) can function as a way for one to escape or avoid weight stigma. Parent reports of reasons for restricting their children's food intake are in line with this theory (Pudney et al., 2022); they may want to help their children escape or avoid future weight stigma that they themselves have experienced. Despite theoretical parallels in the weight and racial discrimination literature suggesting that parent's experiences may lead to adverse outcomes for their children via specific parenting practices, these associations have yet to be tested empirically in the weight stigma domain.

Examining the role of parental feeding practices in the association between maternal weight stigma and children disordered eating cognitions is important because most children and adolescents do not have complete control over their eating behaviors, with parents often governing the time and content of meals and snacks. This limits children's autonomy and allows for parental feeding practices to influence their children's beliefs and behaviors around food. Of the many documented types of parental feeding practices, most relevant to disordered eating risk is restrictive feeding practices. Parents often restrict the amount of highly palatable food that their children can eat, both weight loss and health-related reasons (Birch et al., 1998, 2001; Daniels, 2019; Musher-Eizenman & Holub, 2007). These restrictive feeding practices, in turn, are associated with disordered eating behaviors and cognitions. In 5 and 7 year old girls, respectively, maternal restrictive feeding practices were associated with higher external disinhibition, that is, eating in response to external cues rather than internal body cues (Carper et al., 2000) and eating in the absence of hunger (Birch et al., 2003). In adolescents, mothers' use of restrictive feeding practices is associated with more use of extreme weight control behaviors (use of diet pills, laxatives, diuretics, or vomiting for weight control) (Loth et al., 2014). However,

cardinal disordered eating cognitions, such as drive for thinness and body dissatisfaction, have not yet been examined as outcomes in this context.

Only one study, to my knowledge, has tested the relationship between parental weight stigma experiences and their restrictive feeding practices. This study found that weight stigma experiences were a significant predictor of parental reports of restricting of their child's eating for weight control (Gold & Vander Weg, 2020). This provides preliminary support for my mediation hypothesis that maternal experiences with weight stigma result in more restrictive feeing practices, which in turn contribute to their child's disordered eating cognitions.

Concerningly, most research on risk factors for disordered eating focus on white participants and ignores the unique experience of Black individuals, especially Black women. Despite longitudinal evidence that Black and white girls and women do not differ in terms of their average levels of eating disorder symptomatology over time (Parker et al., 2023), Black participants are significantly understudied compared to white participants in eating disorder research (Egbert et al., 2022), stemming in part from stereotypes that eating disorders predominantly affect thin, white, affluent girls (Halbeisen et al., 2022). Given this oversight, it is imperative to understand Black women's experiences and to investigate potential race-specific family risk factors for Black girls and women. Early literature posited that white women have higher levels of disordered eating and body image disturbances than Black women, but more recent literature suggests that these behaviors and cognitions may just manifest differently (Lovejoy, 2001). Different factors may contribute to Black women's eating behavior and body esteem due to the intersection of racial and gender discrimination (Watson et al., 2019). For example, Black women have unique body image concerns in their hair and skin tone, where in a predominantly white society, these features (e.g. dark skin and natural hair) of Black girls and

women are not valued or upheld as the norm (Watson et al., 2019). Black girls and women may internalize the white ideal of thin, blonde, and blue eyed, leading to body dissatisfaction. However, while mother-daughter relationships do play a role in the development of disordered eating, Black mothers often serve as a buffer from harmful societal normal around bodies for their daughters (Lovejoy, 2001), exemplifying the need to investigate race-specific family dynamics surrounding food and weight.

The current study aims to fill several gaps in the literature. First, the association of parental weight stigma with child disordered eating symptoms, and the subsequent association with parental restrictive feeding practices, has not yet been established. Second, while there is evidence that parental restrictive feeding practices are associated with more child disordered eating, transdiagnostic eating disorder risk factors such as drive for thinness and body dissatisfaction have not been examined as outcomes. Therefore, I hypothesized that 1) Maternal experiences of weight stigma will be significantly related to child disordered eating cognitions, such that greater frequency of maternal weight stigma experiences will predict greater child disordered eating cognitions (total effect) and 2) Restrictive child feeding practices will significantly mediate the relationship between maternal weight stigma experiences and child disordered eating cognitions such that maternal weight stigma experiences will be associated with more restrictive feeding practices, and in turn, more child disordered eating cognitions. (indirect effect). Finally, given literature that suggests disordered eating cognitions may be distinct for Black and white women, I examined these associations separately for white and Black (or biracial) children.

Methods

Participants

This study used data from the National Heart, Lung, and Blood Institute's (NHLBI) Growth and Health Study (NGHS), which assessed psychosocial, socioeconomic, and environmental drivers of physical health. NGHS followed Black and white girls annually from childhood through adolescence (ages 10-19) initially. Original recruitment and descriptive information has been published elsewhere (The National Heart, Lung, and Blood Institute Growth and Health Study Research Group, 1992). Our group recently conducted a follow-up study of the original participants, now approximately age 40. At the age 40 follow up, participants' children were also surveyed (Laraia et al., 2023). The sample for the current study consists of mothers (n = 193) who had children (n = 264) that participated in the study and provided self-report survey data. Only children aged 7 years and older were included because children under that age were found to not be able to complete the surveys accurately on their own. Table 1 displays sample descriptive statistics.

Measures

Maternal Experiences of Weight Stigma

To capture weight stigma comprehensively, we assessed both experienced weight stigma and anticipated weight stigma. In addition to experienced weight stigma, anticipated weight stigma, or the awareness that one may be treated poorly or discriminated against due to their weight (Hunger et al., 2020), may be another mechanism through which parental weight stigma experiences are related to both their feeding practices and their children's disordered eating by serving as a source of hypervigilance that leads parents to restrict their child's intake. Therefore, the measure included one experienced stigma item and two anticipated stigma items (based on Hunger & Major, 2015). The experienced weight stigma item asked "In your day-to-day life, how often are you treated unfairly, teased, or disrespected because of your weight?" Response

options ranged from “Never” to “Almost every day,” and was scored from 1-6. The anticipated weight stigma items asked how much participants agreed with the following statements: “I am worried that most people will judge me on the basis of my weight," and, “I am concerned that I will not be treated fairly by others because of my weight.” Response options ranged from “Strongly disagree” to “Strongly agree” and were scored from 1-7. To create the composite weight stigma measure, the three items were standardized, then summed, and rescored so the minimum value was 0 ($\alpha = 0.79$). Scores of the standardized, rescaled composite score ranged from 0 - 11.37, with higher scores indicating more weight stigma.

Maternal Restrictive Feeding Behaviors

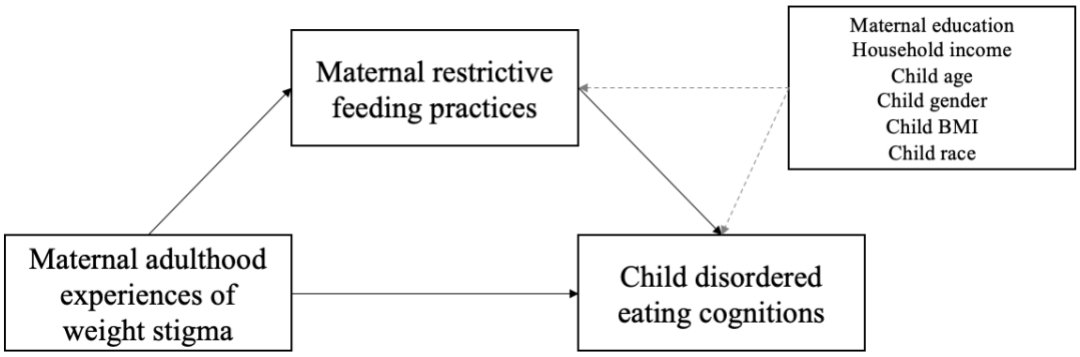
Maternal restrictive feeding behaviors were measured using the Restriction subscale of the Child Feeding Questionnaire (Birch et al., 1998). Mothers completed 8 items for each child. Sample items included: “I have to be sure that my child does not eat too many high-fat foods,” “I have to be sure that my child does not eat too much of his/her favorite foods,” and “I intentionally keep some foods out of my child’s reach.” Response options ranged from “Disagree” to “Agree,” and items were scored from 1-5 (resulting in a possible averaged range of 1-5), with higher scores indicating higher use of restrictive feeing practices.

Child Disordered Eating Cognitions

Child disordered eating cognitions were measured with the Drive for Thinness and Body Dissatisfaction subscales of the Eating Disorder Inventory-3 (Garner, 2004). The Drive for Thinness scale includes 7 items. A sample item from the Drive for Thinness scale is “I am terrified of gaining weight.” The Body Dissatisfaction scale includes 10 items. A sample item from the Body Dissatisfaction scale is “I think that my stomach is too big.” Response options included “Always,” “Usually,” “Often,” “Sometimes,” Rarely,” and “Never.” Items in both

subscales were scored from 0 - 4 (resulting in a possible range of 0 - 40 for body dissatisfaction and 0 - 28 for drive for thinness). Higher scores indicating more disordered eating symptoms. Adolescents and teens completed these measures on their own, without parental assistance.

Figure 1. *Conceptual Diagram of Focal Models*



Analysis

Missing data were addressed using a Bayesian model-based multiple imputation procedure in Blimp 3 (Enders & Keller, 2021). This approach is well-suited for multilevel data, allowing us to account for siblings nested within families (Enders et al., 2020; Parker et al., 2022). Three multilevel mediation models were fit for each outcome to examine the relationship between parental (level 2) weight stigma and child (level 1) disordered eating as well as the mediating role of parental restrictive feeding behaviors (See Figure 1). Theoretically relevant covariates of household income, maternal education, child age, child gender, child BMI, and child race were also included in the models.(Larsen et al., 2015; McPhie et al., 2012; Wang et al., 2022) I controlled for these variables because many are plausible third variables that may drive both restrictive feeding practices and child disordered eating cognitions. Covariates were added in the following order: Model 1: unadjusted model; Model 2: household income, maternal education (dummy coded), child age, and child gender (dummy coded); Model 3: model 2

covariates + child BMI and child race (dummy coded). Significance was determined by the absence of a null value of zero within the 95% credible interval. To evaluate race-specific effects, stratified models (non-white and white) were also estimated. All methods were preregistered on OSF (https://osf.io/9jtr8).

Table 1. *Study 1 sample characteristics.*

	All mothers	All children	Black mothers	White mothers	Non-white children*	White children
N	193	264	107	86	172	92
Age in years	39.1 (1.1)	12.2 (2.5)	39.3 (1.1)	38.9 (1.1)	12.5 (2.4)	11.59 (2.5)
Race						
White	86 (44.8)	92 (34.8)	-	86 (100)	-	92 (100)
Black	107(55.2)	172 (65.2)*	107 (100)	-	172 (100)*	-
Gender						
Woman/girl	193 (100)	127 (48.1)	107 (100)	86 (100)	84 (48.8)	43 (46.7)
Man/Boy	-	137 (51.8)	-	-	88 (51.2)	49 (53.3)
Number of children						
1	133 (68.9)	-	76 (71.0)	57 (66.3)	-	-
2	50 (25.9)	-	25 (23.4)	25 (29.1)	-	-
3	9 (4.7)	-	5 (4.7)	4 (4.7)	-	-
4	1 (5.2)	-	1 (0.9)	0 (0)		
Income						
< $50,000	66 (34.2)	-	50 (46.7)	16 (18.6)	-	-
$50,000-$149,000	94 (48.7)	-	47 (43.9)	47 (54.7)	-	-
≥ $150,000	25 (13.0)	-	4 (3.8)	21 (24.4)[a]	-	-
Education						
High school or less	43 (22.3)	-	29 (27.1)	14 (16.3)	-	-
Some college	92 (47.7)	-	57 (53.3)	35 (40.7)	-	-
College or more	58 (30.1)	-	21(19.6)	37 (43.0)	-	-
Maternal adulthood weight stigma experiences (composite)	1.7 (2.45)	-	1.4 (2.2)	2.1 (2.7)	-	-
Maternal adulthood experienced weight stigma	1.6 (1.13)	-	1.5 (1.1)	1.7 (1.2)	-	-
Maternal adulthood anticipated weight stigma	2.5 (1.7)	-	2.2 (1.6)	2.9 (1.8)	-	-
Restrictive feeding	-	2.8 (1.1)[b]			2.8 (1.2)[c]	2.8 (1.0)[d]
Child body dissatisfaction	-	12.0 (9.27)	-	-	13.2 (9.4)	9.7 (8.67)
Child drive for thinness	-	6.9 (5.2)[e]	-	-	7.5 (5.5)	6.0 (4.6)[f]

*Non-white operationalized as response options: Black, multiracial, & other

Note: Age and study measures are reported on non-imputed data as M (SD), all other categories as *N* (%)

Note: All variables complete except [a](2.3% missing), [b](13.6% missing), [c](13.4% missing), [d](14.1% missing), [e](0.4% missing), [f](1.1% missing)

Results

Body Dissatisfaction

There was a significant total effect of maternal weight stigma experiences on child body dissatisfaction such that more maternal weight stigma experiences were associated with more child body dissatisfaction, but only in the unadjusted model. For all children, maternal restrictive feeding practices was a significant mediator of the relationship between maternal weight stigma experiences and child body dissatisfaction when controlling for household income, maternal education, child age, and child gender, such that maternal weight stigma was associated with more restrictive feeding practices and subsequently, higher body dissatisfaction (but not in the unadjusted model or when adding child BMI and race in the model).

Among both non-white and white children, there was a significant total effect of maternal weight stigma on child body dissatisfaction only in the unadjusted models. For the non-white child sample, maternal restrictive feeding practices mediated the relationship between maternal weight stigma experiences and child body dissatisfaction in the unadjusted model and when controlling for household income, maternal education, child age, and child gender (but not when adding child BMI as a covariate to the model), such that maternal weight stigma was associated with more restrictive feeding practices and in turn, higher body dissatisfaction. Maternal restrictive feeding practices were not a significant mediator in the white child sample. Table 2 illustrates the overall and race-stratified mediation models for body dissatisfaction.

Table 2. *Mediation Models for Body Dissatisfaction for the Overall Sample and Race-Stratified Samples*

Model	a path estimate [95% CI]	b path estimate [95% CI]	Direct effect estimate [95% CI]	Indirect effect estimate [95% CI]	Total effect estimate [95% CI]
Full sample (N = 193 mothers, 264 children)					
1	**0.10 [0.03, 0.17]**	1.05 [-0.07, 2.13]	0.40 [-0.07, 0.85]	0.10 [-0.01, 0.26]	**0.49 [0.05, 0.94]**
2	**0.11 [0.05, 0.18]**	**1.54 [0.36, 2.68]**	0.17 [-0.29, 0.64]	**0.16 [0.03, 0.35]**	0.35 [-0.10, 0.81]
3	**0.09 [0.03, 0.15]**	0.97 [-0.19, 2.11]	0.17 [-0.27, 0.62]	0.08 [-0.02, 0.23]	0.26 [-0.17, 0.70]
Nonwhite children (N = 129 mothers, 172 children)					
1	**0.12 [0.03, 0.21]**	**1.63 [0.29, 2.98]**	0.24 [-0.40, 0.84]	**0.18 [0.02, 0.45]**	**0.42 [0.32, -0.18]**
2	**0.14 [0.05, 0.22]**	**1.85 [0.39, 3.26]**	0.11 [-0.53, 0.76]	**0.24 [0.04, 0.53]**	0.36 [-0.25, 0.99]
3	**0.10 [0.01, 0.18]**	1.44 [-0.02, 2.81]	0.08 [-0.53, 0.69]	0.13 [-0.01, 0.37]	0.22 [-0.37, 0.83]
White children (N = 70 mothers, 92 children)					
1	0.08 [-0.02 0.18]	-0.04 [-2.02, 1.94]	**0.70 [0.01, 1.40]**	-0.002 [-0.21, 0.19]	**0.69 [0.02, 1.36]**
2	0.10 [-0.01, 0.20]	0.53 [-1.56, 2.57]	0.45 [-0.28, 1.18]	0.04 [-0.18, 0.31]	0.49 [-0.20, 1.18]
3	0.08 [-0.02, 0.19]	0.04 [-1.88, 2.04]	0.34 [-0.35, 1.04]	0.001 [-0.21, 0.20]	0.33 [-0.34, 1.00]

Bold = significant
CI = credible interval
Model 1: unadjusted
Model 2: controls for household income, maternal education, child age, child gender
Model 3: controls for model 2 covariates + child BMI, child race (child race excluded from race-stratified

Drive for Thinness

In all models, there was no significant total effect of maternal weight stigma experiences on child drive for thinness. For all children, maternal restrictive feeding practices mediated the relationship between maternal weight stigma experiences and child drive for thinness in all models, such that maternal weight stigma experiences were associated with more restrictive feeding practices and, in turn, higher drive for thinness.

In all models, for both non-white and white children, there was no significant total effect of maternal weight stigma experiences on child drive for thinness. For non-white children, maternal restrictive feeding practices significantly mediated the relationship between maternal weight stigma experiences and child drive for thinness in the unadjusted model only. Maternal restrictive feeding practices were not a significant mediator in the white child sample. Table 3 illustrates the overall and race-stratified mediation models for drive for thinness.

Table 3. *Mediation Models for Drive for Thinness for the Overall Sample and Race-Stratified Samples*

Model	a path estimate [95% CI]	b path estimate [95% CI]	Direct effect estimate [95% CI]	Indirect effect estimate [95% CI]	Total effect estimate [95% CI]
Full sample (N = 193 mothers, 264 children)					
1	**0.10 [0.04, 0.17]**	**1.02 [0.38, 1.63]**	0.04 [-0.23, 0.29]	**0.10 [0.03, 0.21]**	0.14 [-0.11, 0.39]
2	**0.11 [0.05, 0.17]**	**1.06 [0.40, 1.73]**	-0.06 [-0.31, 0.20]	**0.11 [0.03, 0.23]**	0.07 [-0.19, 0.32]
3	**0.09 [0.03, 0.16]**	**0.76 [0.09, 1.41]**	-0.05 [-0.30, 0.20]	**0.07 [0.01, 0.16]**	0.03 [-0.22, 0.27]
Nonwhite sample (N = 129 mothers, 172 children)					
1	**0.12 [0.03, 0.21]**	**0.89 [0.08, 1.69]**	0.21 [-0.15, 0.56]	**0.10 [0.004, 0.26]**	0.31 [-0.02, 0.63]
2	**0.13 [0.05, 0.22]**	**0.84 [0.001, 1.71]**	0.17 [-0.20, 0.53]	0.10 [-0.001, 0.27]	0.28 [-0.07, 0.62]
3	**0.11 [0.03, 0.19]**	0.60 [-0.27, 1.46]	0.15 [-0.21, 0.50]	0.06 [-0.03, 0.30]	0.22 [-0.11, 0.55]
White sample (N = 70 mothers, 92 children)					
1	0.08 [-0.02, 0.18]	**1.21 [0.23, 2.18]**	-0.18 [-0.55, 0.19]	0.08 [-0.02, 0.27]	-0.09 [-0.45, 0.29]
2	0.08 [-0.01, 0.19]	**1.29 [0.25, 2.31]**	-0.30 [-0.70. 0.08]	0.10 [-0.02, 0.30]	-0.18 [-0.59, 0.21]
3	0.08 [-0.02, 0.18]	**1.08 [0.06, 2.08]**	-0.37 [-0.73, 0.01]	0.07 [-0.03, 0.25]	-0.27 [-0.84, 0.09]

Bold = significant
CI = credible interval
Model 1: unadjusted
Model 2: controls for household income, maternal education, child age, child gender
Model 3: controls for model 2 covariates + child BMI, child race (child race not controlled for in race-stratified models)

Additional exploratory analyses were also performed to 1) test whether mothers' adolescent experiences of weight stigma (instead of their adulthood experiences) were related to her adulthood restrictive feeding practices and her children's disordered eating cognitions, and 2) test the independent associations of experienced (external mistreatment based on weight) and anticipated weight stigma (internal belief that one may be mistreated based on weight in the future) with child disordered eating cognitions (Hunger et al., 2020). This distinction is important because even the threat of experiencing weight stigma is often as damaging as actually experiencing it, and yet is often overlooked in the literature on weight stigma and disordered eating outcomes (Levinson et al., 2024). Results showed there was a significant total effect of adolescent weight stigma experiences on drive for thinness and body dissatisfaction in only the unadjusted models; restrictive feeding practices were not a significant mediator. In regards to the individual effects of experienced and anticipated weight stigma, results showed a significant indirect effect of maternal experienced weight stigma on child body dissatisfaction through

maternal restrictive feeding practices. Full results of the exploratory analysis are included in the Supplementary Material.

Discussion

To my knowledge, this is the first study to examine how parental experiences of weight stigma are associated with feeding practices toward their children, and their children's subsequent disordered eating cognitions. Hypotheses for this study were based on prior research that shows in the gender and racial context, parental discrimination is associated with parenting practices and subsequent child mental health outcomes (Bécares et al., 2015; Ford et al., 2013; Stepanikova et al., 2022).

In partial support of hypothesis 1, there was a significant total effect in the unadjusted body dissatisfaction models, but not in the drive for thinness models. In support of hypothesis 2, the current study found that restrictive feeding practices were a significant mediator of the relationship between maternal weight stigma experiences and child body dissatisfaction (when controlling for household income, maternal education, child age, and child gender, but not child race and child BMI) and drive for thinness (controlling for all covariates). Significant mediation models appeared to be driven by significant associations observed among non-white children, as race-stratified models among white children were non-significant. Non-white children may experience additional race-based body image concerns that change the relationships between the tested variables. While the a and b paths may have been appropriately powered to detect an effect, race-stratified models were not powered to detect an indirect effect.

For many of the models, significant effects disappeared with the inclusion of certain covariates. These covariates may actually be third variables that drive both restrictive feeding practices and child disordered eating cognitions, resulting in null effects. It is also possible that

covariates such as child age, gender, race, and BMI actually serve as moderators of these relationships. This would be in line with prior research that identifies child age and weight as factors associated with behaviors such as parental weight talk and food restriction. Though due to the sample size of the current study, there would not be adequate power to detect an effect using moderated mediation. Future studies with larger samples should include those variables as moderators to disentangle their effect on the tested relationships.

Implications

There are several important implications for the results of this study. If replicated in longitudinal designs, they have the potential to provide targets at several points for the prevention of disordered eating and subsequent eating disorders in the family setting: maternal coping with weight stigma, maternal feeding practices, and societal weight stigma. Helping mothers cope with weight stigma without engaging in restrictive feeding may be a mechanism to reduce the burden of disordered eating cognitions among children whose mothers experience weight stigma. These results could also be used by primary care pediatricians in conversations with parents about helping their children to develop healthy relationship with their bodies and food.

Limitations

There are several limitations to the Study 1 methodology. First, the main mediation analysis used cross-sectional data, which means I was not able to establish causation. Additionally, literature has stated that child reports of parents' food-based behavior are more strongly associated with child outcomes than the parent's own reports of their food-based behavior (Baker et al., 2000); however, the current study uses parent report of their use of restrictive feeding practices to predict child outcomes as this was the only data source available

in the study. This study also examined patterns based on child's race, but not based on maternal race, and children who selected "Black" and "biracial" as their race were combined into one racial category due to sample size, so this analysis could have potentially missed patterns unique to Black children or biracial children. Finally, based on a power analysis using a joint significance test (Fossum & Montoya, 2023), all models in this study were underpowered to detect an indirect effect except for the model for the Drive for Thinness outcome with the full sample. Future studies should seek to replicate these results with a larger sample size.

Future directions

Future studies should test these models and concepts with more comprehensive measures of both experienced (one item in this analysis) and anticipated (2 item composite in this analysis) weight stigma. Prior literature also identifies many other factors not studied here that are associated with parental restrictive feeding practices. For example, parents use more restrictive feeding practices with children that have higher food enjoyment and lower satiety (Pesch et al., 2018), and for children for whom they are concerned about their weight (Gray et al., 2010; Vollmer et al., 2015). Therefore, those factors should be quantitatively tested as moderators of the relationship between weight stigma experiences and the use of restrictive feeding practices in the above tested model. The studied patterns should also be examined with races other than just Black and white children and mothers. Finally, additional study designs, such as qualitative, experimental, and Ecological Momentary Assessment, can be deployed to more deeply understand these relationships. It would be unethical to conduct an experiment and assign certain mothers to engage in restrictive feeding practices. However, based on the social identity threat literature, we know that there are interventions that buffer against the effects of weight stigma;

an experimental option would be to randomly assign mothers to one of those interventions and measure these relationships post-intervention.

Supplementary Material

Exploratory Analysis

Methods

Maternal experiences of weight stigma measured in adolescence were used in exploratory analyses. Participants were asked at ages 10, 13, and 15 whether anyone had ever called them "too fat." Responses to this question at all three time points were collapsed into a binary lifetime variable (yes/no) indicating whether or not the participant had *ever* been weight-labeled. All other measures are described in the main manuscript.

Results

Maternal Adolescent Weight Stigma Experiences

An exploratory analysis was conducted to investigate the effect of maternal adolescent, rather than adulthood, weight stigma experiences on their later restrictive feeding practices in adulthood, and their children's disordered eating cognitions. There was a significant total effect of maternal adolescent weight stigma on both body dissatisfaction and drive for thinness before controlling for any covariates. Maternal restrictive feeding practices were not a significant mediator in the relationship between maternal adolescent weight stigma and either child body dissatisfaction or drive for thinness. See Table S1.

Table S1. *Mediation models for child disordered eating predicted by maternal adolescent weight stigma*

Model	a path estimate [95% CI]	b path estimate [95% CI]	Direct effect estimate [95% CI]	Indirect effect estimate [95% CI]	Total effect estimate [95% CI]
Outcome: Body Dissatisfaction (N = 193 mothers, 264 children)					
1	0.11 [-0.22, 0.44]	**1.27 [0.19, 2.32]**	**2.42 [0.05, 4.78]**	0.12 [-0.30, 0.69]	**2.54 [0.13, 4.92]**
2	0.20 [-0.13, 0.53]	**1.67 [0.57, 2.77]**	1.86 [-0.56, 4.27]	0.29 [-0.21, 1.03]	2.18 [-0.21, 4.52]
3	0.14 [-0.18, 0.46]	**1.12 [0.04, 2.20]**	1.42 [-0.89, 3.67]	0.13 [-0.21, 0.67]	1.53 [-0.74, 3.85]
Outcome: Drive For Thinness (N = 193 mothers, 264 children)					
1	0.10 [-0.22, 0.43]	**1.02 [0.41, 1.61]**	1.34 [-0.003, 2.65]	0.09 [-0.23, 0.48]	**1.42 [0.03, 2.75]**
2	0.20 [-0.22, 0.51]	**1.02 [0.38, 1.65]**	1.11 [-0.22, 2.47]	0.18 [-0.12, 0.60]	1.30 [-0.04, 2.63]
3	0.12 [-0.20, 0.44]	**0.71 [0.07, 1.35]**	0.94 [-0.37, 2.26]	0.07 [-0.15, 0.38]	1.02 [-0.28, 2.32]

Bold = significant
CI = credible interval
Model 1: unadjusted
Model 2: controls for household income, maternal education, child age, child gender
Model 3: controls for model 2 covariates + child BMI, child race

Experienced and Anticipated Weight Stigma

A second exploratory analysis was conducted to determine the individual effects of maternal experienced weight stigma and maternal anticipated weight stigma on child disordered eating cognitions, as well as the mediating effect of maternal restrictive feeding practices. There was a significant total effect of maternal experienced weight stigma (in the unadjusted model only), but not anticipated weight stigma, on child body dissatisfaction. Maternal restrictive feeding practices was a significant mediator of the relationship between maternal experienced weight stigma, but not maternal anticipated weight stigma, and child body dissatisfaction when controlling for household income, maternal education, child age, and child gender. This relationship was not significant in the unadjusted model or when adding child BMI and child race as covariates. Tables S2 includes coefficients for these models. There was no significant total effect of maternal experienced or anticipated weight stigma on child drive for thinness. Regardless of covariates, maternal restrictive feeding practices were a significant mediator of the relationship between maternal experienced weight stigma, but not anticipated weight stigma, and child drive for thinness. Table S3 includes coefficients for these models.

Table S2. *Mediation models for body dissatisfaction by experienced and anticipated weight stigma*

Model	a path estimate [95% CI]	b path estimate [95% CI]	Direct effect estimate [95% CI]	Indirect effect estimate [95% CI]	Total effect estimate [95% CI]
Experienced (N = 193 mothers, 264 children)					
1	**0.28 [0.13, 0.43]**	0.98 [-0.16, 2.07]	0.91 [-0.10, 1.90]	0.25 [-0.04, 0.65]	**1.16 [0.21, 2.12]**
2	**0.30 [0.17, 0.46]**	**1.48 [0.28, 2.64]**	0.41 [-0.60, 1.48]	**0.42 [0.08, 0.89]**	0.86 [-0.10, 1.94]
3	**0.24 [0.10, 0.38]**	0.99 [-0.16, 2.12]	0.35 [-0.64, 1.31]	0.22 [-0.04, 0.594]	0.58 [-0.36, 1.51]
Anticipated (N = 193 mothers, 264 children)					
1	0.034 [-0.01, 0.08]	**1.25 [0.15, 2.30]**	0.13 [-0.20, 0.46]	0.04 [-0.02, 0.13]	0.17 [-0.15, 0.50]
2	0.037 [-0.01, 0.08]	**1.69 [0.53, 2.81]**	0.05 [-0.28, 0.37]	0.06 [-0.01, 0.17]	0.12 [-0.22, 0.43]
3	0.027 [-0.02, 0.07]	**1.12 [0.02, 2.22]**	0.09 [-0.23, 0.39]	0.03 [-0.02, 0.10]	0.12 [-0.19, 0.43]

Bold = significant
CI = credible interval
Model 1: unadjusted
Model 2: controls for household income, maternal education, child age, child gender
Model 3: controls for model 2 covariates + child BMI, child race

Table S3. *Mediation models for drive for thinness by experienced and anticipated weight stigma*

Model	a path estimate [95% CI]	b path estimate [95% CI]	Direct effect estimate [95% CI]	Indirect effect estimate [95% CI]	Total effect estimate [95% CI]
Experienced ((N = 193 mothers, 264 children)					
1	**0.28 [0.14, 0.42]**	**1.02 [0.37, 1.64]**	0.04 [-0.54, 0.59]	**0.27 [0.09, 0.53]**	0.32 [-0.24, 0.97]
2	**0.30 [0.16, 0.43]**	**1.06 [0.47, 1.72]**	-0.13 [-0.72, 0.44]	**0.30 [0.10, 0.60]**	0.19 [-0.36, 0.74]
3	**0.25 [0.11, 0.38]**	**0.76 [0.10, 1.43]**	-0.17 [-0.72, 0.39]	**0.18 [0.02, 0.41]**	0.03 [-0.50, 0.56]
Anticipated (N = 193 mothers, 264 children)					
1	0.04 [-0.01, 0.08]	**1.04 [0.41, 1.65]**	0.01 [-0.17, 0.20]	0.03 [-0.01, 0.10]	0.05 [-0.14, 0.24]
2	0.03 [-0.01, 0.08]	**1.07 [0.44, 1.71]**	-0.03 [-0.21, 0.16]	0.04 [-0.01, 0.10]	-0.02 [-0.17, 0.20]
3	0.03 [-0.02, 0.07]	**0.74 [0.10, 1.38]**	-0.01 [-0.18, 0.17]	0.02 [-0.01, 0.07]	0.02 [-0.16, 0.19]

Bold = significant
CI = credible interval
Model 1: unadjusted
Model 2: controls for household income, maternal education, child age, child gender
Model 3: controls for model 2 covariates + child BMI, child race

Discussion

Results of the exploratory analysis showed that restrictive feeding practices are almost never a significant mediator of the relationship between maternal adolescent weight stigma experiences and child disordered eating cognitions. Unlike the main analysis, this model does provide temporal ordering, an essential component to establishing causation, as the adolescent weight stigma variable was collected at the mother's age of 10, 13, and/ or 15. However, that variable is a single item indictor and a crude measure of weight stigma experiences in adolescence (i.e., it is dichotomous and an unvalidated question).

Additionally, maternal restrictive feeding practices were not a significant mediator of the relationship between anticipated weight stigma (on its own) and either child body dissatisfaction or drive for thinness, in any model. There was a significant indirect effect of maternal experienced weight stigma on child drive for thinness, regardless of covariates, and on body dissatisfaction only when controlling for household income, maternal education, child age, and child gender. Results indicate that experienced weight stigma may be more strongly related to restrictive feeding practices than anticipated weight stigma. However, future studies should examine this relationship with more comprehensive measures of weight stigma.

Study 2: Transmission of Attitudes Towards Food and Weight from Mother to Daughter

Study 1 allowed for the examination of statistical relationships between parental experiences of weight stigma, restrictive feeding practices, and child disordered eating. However, it could not help identify motivations for parental restriction, or the broader daily effects of this parental behavior. Therefore, I conducted a qualitative study to understand how a mother's experiences with her own body influence her behavior and subsequently, her daughter's life.

Introduction

The ways in which parents engage in weight talk, or discuss their children's weight and eating (Bauer et al., 2013), can have a profound impact on disordered eating cognitions and behaviors. The mother-daughter relationship is of particular interest in the transmission of ideas about weight and food (Brun et al., 2020). Women and girls are more likely to be affected by disordered eating and cultural norms of thinness, such that girls are expected to eat less food, often feel judged in regards to their eating behavior, and have bodies that are policed more (for weight and size) than men (Jensen & Holm, 1999). Prior literature also stresses the unique influence of mothers on their daughters in this context. Research shows that weight talk from mothers in particular is associated with higher depression, more use of unhealthy weight control behaviors, and more binge eating in their daughters (Bauer et al., 2013).

Patel et al. (2022) found quantitatively that if a mother has experienced food restriction for weight control herself, she is likely to use of restriction with their own child. However, to my knowledge, only two qualitative studies have explored the transfer of such food and weight attitudes and behaviors from mother to daughter. The first is a study of fat women who identified their mother as a central influence in the development of a negative attitude towards their body

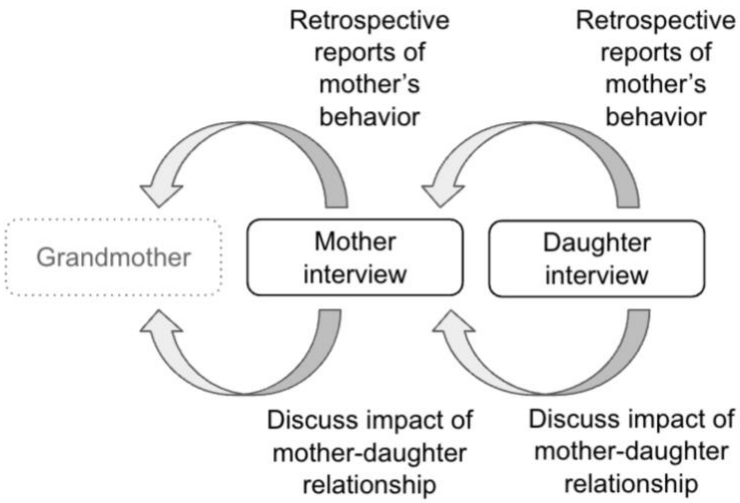
weight (Maor, 2012). Some women attributed their tumultuous relationship with their body to negative comments their mother made in the past, their mother taking them to weight loss groups, or telling them they need to diet. The second compiles the experiences of mothers with eating disorders (past or present) and the impact of that on their parenting behaviors and philosophies around food and weight (Horton, 2023). A common theme was their own upbringing and its effect on them. One participant explained that she was brought up in a non-weight-neutral home and that she believes it led her to develop disordered eating behaviors and cognitions. Another mother explained that she received negative messages about weight from her own mother, and she eventually went into eating disorder treatment because when she had children, she never wanted them to struggle with an eating disorder. These women also expressed that they wanted to take action in order to prevent "body image issues and disordered eating from being passed on to the next generation." (p.4)

There have been no qualitative studies (and very few quantitative studies) focusing on Black women's experiences with weight talk in the family setting. Black women experience race-specific appearance pressures that white women do not, for example, skin color dissatisfaction and societal pressures about natural hair. And although Black and white women exhibit similar levels of disordered eating and eating disorders, Black women are severely understudied in this domain (Egbert et al., 2022). It is imperative to understand more deeply the development of Black women's body image and relationship with food as influenced by the family environment.

Understanding more deeply how and why beliefs about weight and food are transmitted from mother to daughter and the real-life effects of those experiences is imperative in the prevention of dangerous disordered eating behavior and body dissatisfaction, which are risk factors for the

development of eating disorders. The aforementioned qualitative studies include the perspectives of either mothers or daughters, but not both. The current study sought perspectives from both mothers and daughters to understand more deeply the intergenerational effect and transmission of parental feeding practices as well as beliefs and behaviors around weight and food. Therefore, the current study had two aims: 1) To understand if and how mother's weight-related experiences influence their child feeding practices; and 2) to understand if and how attitudes and behaviors around food and weight are passed down from mother to daughter through three generations (see Figure 2)

Figure 2. *Qualitative Interview Structure*



Method

Participants and Recruitment

The analytic sample consisted of 10 young adult Black (n = 5) and white (n = 5) women between the ages of 20 and 25, and their mothers (n = 9; two of the daughters have the same mother). Mothers ranged from age 50 to 63 years old. Participants were recruited through posted flyers, social media advertisements, listserv emails, and referrals to attract a community sample of participants. Young adult women completed a screening questionnaire answering questions about race, age, and body dissatisfaction and drive for thinness. Young adult women were considered eligible if they were age 18-25, identify as Black or white, were English-speaking, and had a mother who is willing to participate and satisfied inclusion criteria. In addition, to recruit participants who had as least some body image concerns, young adult women needed to have a raw sum score of or higher than 12.6 or 8.9 for white and black women, respectively, for body dissatisfaction, and a sore of or higher than 4 or 1.3 for white and black women, respectively, for drive for thinness. These values were derived from the median scores of each subscale from a Black and white sample of young adult women in the National Heart, Lung, and Blood Institute's Growth and Health Study. Mothers then completed their own screening questionnaire to express interest in participating and answered similar demographic questions. Mothers were eligible if they identified as a woman, identified as Black or white, were English-speaking, and had a daughter who was willing to participate and met inclusion criteria. Each participant received $50 in an e-gift card of their choice for their time.

Interviews

The interview guide was created based on theory, prior literature, and the results of Study 1. Study 1 used maternal weight stigma as a predictor, and in the current study, mothers were

asked about their experience with being exposed to weight talk, which is a form of weight stigma. Additionally, because study 1 showed significant associations between maternal restrictive feeding practices and child disordered eating cognitions, I included questions in both interview guides about the presence of and reasons for restrictive feeding practices. In this study, rather than collect data from quantitative measures of disordered eating cognitions (study 1), more open-ended questions were asked about concepts such as body image and drive for thinness. After creating the interview guide, the guide was piloted with two interviewees; questions and probes needed little adjustment based upon the information received from those interviews. Mothers and daughters were interviewed independently of each other. Interviews took place over Zoom and ranged from approximately 20-60 minutes based on the natural course of each individual interview. In order to be culturally responsive and help participants feels as comfortable as possible, a white female interviewer interviewed the white participants and a Black female interviewer interviewed the Black participants. The two interviewers met several times to go over the interview guide, as well as watched each other's pilot interviews and discussed them. Each participant chose their own alias to be used in publications and presentations. To protect participant anonymity, names in the table or narrative do not appear with their matched counterpart in each mother-daughter pairing.

Analytic Framework

Interviews were automatically transcribed by Zoom and checked and edited manually. Data were analyzed using a codebook approach to thematic analysis (Braun & Clarke, 2006, 2014, 2021) as the aim of this analysis was to identify and describe patterns in the data (Braun & Clarke, 2021). Dyads were treated as the unit of analysis to identify common themes across the mother-daughter dyads, while themes across the daughters and themes across the mothers were

also identified. The thematic analysis process was characterized by the six phases outlined by Braun & Clarke (2006): 1) familiarization, 2) generating initial codes, 3) developing themes, 4) reviewing themes, 5) defining and naming themes, and 6) writing a report. I familiarized myself with the transcripts and conducted an iterative coding process with input from the second interviewer. I applied both a deductive and inductive approach to developing codes (Roberts et al., 2019); the codebook was initially constructed based on questions asked in the interviews, which were guided by theory and results of the quantitative study (deductive). Then, other common ideas became codes when identified by the researchers after familiarization with transcripts (inductive). Manual coding was completed in the qualitative data analysis software Dedoose. I and the second interviewer identified patterns among codes in order to generate themes.

Results

Both mother and daughter interviews consisted of questions about two distinct categories: maternal weight talk and food behaviors and attitudes in their homes and families growing up; themes below are organized using those two categories. In quotes from participants below, I delineate whether a participant was Black (B) or white (W) and a mother (M) or a daughter (D).

Maternal Weight Talk

Participants were asked to describe if and how maternal self-directed weight talk (mothers discussing their own weight or size), and maternal daughter-directed weight talk (mothers discussing their daughters' weight or size), occurred in their households growing up. In relation to weight talk, I identified four themes: 1) Explicit comments about weight, shape or size; 2) Using clothing as a proxy to comment on weight, shape, or size; 3) Negative impact on daughters' body image; and 4) Breaking the intergenerational weight talk cycle.

Theme 1: Explicit Comments About Weight, Shape, Or Size

One way mothers discussed their own or their daughters' bodies were to make explicit comments about weight, shape, or size of bodies or certain body parts. Within this theme, two subthemes were identified; the first was negative comments about a larger size or higher weight, and the second was positive comments about smaller size or lower weight.

Subtheme: Negative Comments about Higher Weight or Larger Size

Most of the explicit comments daughters reported in this study were negative comments about having a higher weight or larger size.

Maternal Self-Directed Weight Talk. Both mothers and daughters in the study reported that they heard their mothers explicitly expressed that they weighed too much or the size of certain body parts was too big. Marcy (WM) noticed that her mother " would definitely talk about how her maybe her thighs were getting bigger or her butt looked huge." Jasmine (BD) recalls that her mother "always expressed being self-conscious about her weight." Alexa (WD) recalled that her mother would hate taking photos because she would see them and say "I look so heavy" or "I look so big in that."

Maternal Daughter-Directed Weight Talk. Common ways that mothers outwardly critiqued their daughters' higher weight or larger shape were by explicitly encouraging their daughter to lose weight or to watch what they ate in order to lose or stop from gaining weight. For example, Joy (WM) recalled hearing negative comments from her mother, such as "Hey, if you lose a few pounds you'd be so pretty," and "Do you really want that piece of cake?" Another way mothers would engage in negative weight talk was to point out the size or (dis)proportionality of certain body parts. For example, Melody (WD) remembered her mother

pointing out that since she gained weight, some of her body parts were less proportionate to the rest of her body than they were prior to gaining weight.

Subtheme: Positive Comments about Lower Weight or Smaller Size

In addition to making negative comments about a higher weight or larger size, mothers would also make positive comments about having a lower weight or a smaller size.

Maternal Self-Directed Weight Talk. No study participants reported that their mothers spoke positively about their own thinness. However, one daughter (WD) picked up on potential feelings that her mom had about her own thinness; she explained that her mother would talk often about how she was very underweight when she was younger, "but it seemed like she enjoyed the fact that she was small." Sarah (BD) remembered that her mother would comment on how skinny Sarah was and then reminisce on her own past by saying "she used to look like that when she was younger." Additionally, some mothers in the study did speak positively about their own past or present thinness during the interviews, which revealed their feelings about thinness. Upon recalling during her interview that she was thin when she was young, one mother said, "I was very thin. The perfect body, tall, thin. So I was so blessed. Gifted, actually" (WM). When Joy was describing a period of time when she was losing weight, she said, "when I did lose the weight, I felt more confident for sure."

Maternal Daughter-Directed Weight Talk. Alternatively, some daughters recalled being praised for being thin or smaller as they were growing up or for losing weight. In contrast to negative talk about having a higher weight or larger size, there were positive comments directed towards daughters who had a lower weight or a smaller size. Melody (WD) recalled such an experience: "There were a lot of comments about like kind of how scrawny I was, but then also how that was like…attractive in a way […]. It was kind of like the beauty

standard…[and] a lot of people would make comments, including my mom about like, 'Oh, that's attractive, like, you're thin, that's what people wanna look like.'" Some daughters also recalled that their mothers would praise weight loss or indicate that there was a positive change in their daughter after weight loss. After Alexa (WD) lost weight, she remembered: "my mom would talk about it in a good sense where it was like, 'oh, you feel like you seem so much happier, […] like you seem a lot happier with losing weight.'" No mothers in the study expressed that their mothers made positive comments about them being thinner or smaller.

Theme 2: Using Clothing as a Proxy to Comment on Weight, Shape, or Size

Maternal Self-Directed Weight Talk

Daughters in the study reported that they were exposed to maternal self-directed weight talk in the context of clothing or shopping. They would witness their moms struggling with how clothing looked on their bodies and critiquing their shape and weight through critiquing the fit of clothing. One daughter (BD) recalled a specific instance when she and her sisters were shopping with her mom and she noticed that her mother did not come out of the dressing room to show her children the clothes she had tried on; she said she didn't like the way the clothes fit or draped off of her. She noticed that her mom "felt really down like about herself," after exiting the dressing room and did not end up buying any clothes. Alexa (WD) recalled her mother making comments such as: "oh do I look fat in this? Do I look big in this? […] I feel really fat in what I'm wearing right now, I feel really large. […] I feel like I look obese in this." Some daughters also expressed that their mothers would reminisce on a size of jeans that they fit into when they were young and sadly say they could no longer fit in that size because of an increase in weight or size. No mothers in the study reported that their mothers used clothing to comment on their own weight, shape, or size.

Maternal Daughter-Directed Weight Talk

Both mothers and daughters in the study reported that mothers used clothing and shopping as an opportunity to engage in comments about their daughter's weight, shape, or size. Instead of explicitly commenting on weight or shape, they would point out that clothes were ill-fitting or perhaps were fitting differently as a proxy for commenting on their daughter's body. Marcy (WM) remembered: "[Weight] wasn't discussed directly, but if my mother noticed that me or my sister were gaining a little weight, she'd say, 'oh, those pants make you look a little bigger,' […] or 'that looks a little tight.'" Jesse (BD) recalled that there was talk in her family about how being a Black woman specifically played into how her family discussed clothing and shape. She remembered: "[…] being Black women, being shaped more voluptuous, especially, you know, going through puberty at younger ages... [There was] just a lot of talk about how we can't wear certain clothes, you know." At least one daughter experienced the use of clothing to comment on her body, but in a more positive way. Sarah's (BD) mother once used shopping as an opportunity to point out her thinness: "Whenever I would try stuff on the fitting room […] and show her like when I was younger she'd say like, 'Oh, everything looks good on you because you're skinny.'"

Theme 3: Negative impact on daughter's body image

Maternal Self-Directed Weight Talk

Being exposed to self-directed weight talk affected daughters' body image. By witnessing their mothers make either explicit or veiled negative comments about their own bodies, daughters were given messages about what is acceptable or not regarding what bodies look like; they then use those messages to critique their own bodies, and those standards stayed with them into their young adulthood. In other words, mothers may have unintentionally modeled body

dissatisfaction for their daughters. Jill (WD) explained: “I remember like hearing criticisms about her body very early on, and not knowing how to respond to that and then realizing that like, I should be very aware of my body, because she's so aware of hers.” Modeling of these beliefs and behaviors also led to daughters feeling poorly about their own body image by comparing themselves to their mothers. Jasmine (BD) explained that she feels as though her mom deserves to give herself grace regarding her higher weight because she has had children, gotten older, and lived a whole life, but then extending that logic to herself, she feels she just doesn’t “have a reason to […] be this big.” Mothers in the study did not expand on how maternal self-directed weight talk impacted their body image, but one mother (Scarlett; WM) explained that while her mother did not engage in self-directed weight talk, she did engage in dieting behaviors; she recalled that witnessing her mother dieting “kind of just normalized [dieting] and normalized my own by then, fairly strong, internalized anti fat beliefs.”

Maternal Daughter-Directed Weight Talk

Being exposed to maternal daughter-directed weight talk negatively affected daughters’ body image and resulted in a lasting preoccupation with shape and weight. Daughters discussed that their mothers’ past comments about their bodies continue to replay in their heads as adults, making them self-conscious about how they look and what types of clothing they should wear. Melody (WD) revealed that when she has gone through different phases of weight gain in her life, she will “think about specific body parts that were commented on and then worry about the size of those parts or the shape of them.” Additionally, Joy (WM) experienced very explicit comments about her weight growing up and expressed the long term impacts of that: “[…] I know I have body dysmorphia now. I have a lot of trauma from that period. I tend to focus on my weight. I recently just lost a lot of weight. and I'm so focused on that because it's like in me like,

‘Oh, God! Look at you gained 5 pounds. You're going to be bigger again.’ And so it's really followed me through my whole life, sadly.”

Even those who were praised for being thin reported that it gave them unrealistic expectations and set standards they felt they had to continue to reach as they grew and developed. Because she was praised for being skinny, Jill expected to continue to stay that size while she was growing up; now in adulthood, she said “it's like I'm constantly trying to fit that standard that I had […and] I feel like I'm constantly competing with my younger self.” Sarah (BD) was also affected by positive framing around thinness. She remembered, “[When I was younger and called skinny,] I feel like it would make me feel like good but then, when I got older and I feel like I didn't necessarily look like that anymore, I would just like want to get that back.” While Jill (WD) hadn’t experienced that change in weight or size at the time of interviews, she expressed that, because she had been praised for being thin in the past, she has concerns about how others will see her if at some point she gains weight and is no longer thin: “I'm probably not gonna look this way forever. So like when I stop looking the way I currently do, am I still gonna be receiving this praise? And am I gonna be valued?”

When asked what would be different for them if they were not exposed to maternal weight talk, most of the daughters reported that they believe they would have a better body image and be less negatively preoccupied with their bodies. For example, Jasmine (BD) said, “I would be okay with the way that I look, like be accepting of the body that I'm in.” Additionally, Melody (WD) said, “…if [my mom] didn't do those things when I was a kid, I think I wouldn't have as much of a focus on specific body parts […] like my butt and that's kind of harmful cause like, now, I hyper focus on it, and I seek reassurance from others that I look proportionate and like what's considered the beauty standard.”

Daughters recognized that comments about both weight gain and thinness often occurred during normal pubertal stages, so mothers often negatively critiqued natural processes of development where women's bodies grow and change. This negatively affected how daughters saw normal development and bodily changes. When asked what would be different if she was not exposed to weight talk, Sarah (BD) said, "I think I would have just been more like, okay, with the changes that would happen with my body, or just like not viewing being skinny, as like something that I needed to achieve, or something that like I needed to feel good about myself." When asked the same question, Jill (WD) expressed: "I think that I just feel like I would be better prepared to age, and like, less afraid of, like the way that my body might change as I grow up."

Theme 4: Breaking The Intergenerational Weight Talk Cycle

Reports from both mothers and daughters in the study allowed me to piece together the intergenerational transmission of weight talk from grandmother to mother to daughter. In four mother-daughter dyads, mothers that they were exposed to maternal self-directed and daughter-directed weight talk, then those same mothers engaged in self-directed and/or daughter-directed weight talk themselves as reported but their daughters. Finally, daughters plan to break that cycle by behaving differently when it comes to discussing weight and bodies with their children in the future. In another three dyads, daughters reported that their mothers engaged in weight talk and subsequently expressed planning to do things differently in the future.

All daughters in the study expressed that their experiences growing up regarding food and weight in their home has influenced how they plan to behave around those things with their own children or children whose lives they are a part of in the future. All but one expressed that they would do things differently than their mothers did with them. The daughters seek to be a

positive influence on their children's relationships with their bodies. Ways they would do so included not making negative comments about their own body or their children's bodies, not commenting on how clothing fits, teaching kids to be more in tune with their bodies rather than what they see in the mirror, and making sure they do not foster associations of positive feelings with being smaller and negative feelings with being bigger. In contrast to what many of the mothers in this study promoted, Jill (WD) plans foster a very neutral and individualized approach to thinking about weight: "I really am gonna try and emphasize like, there is no good or bad connotation to body weight at all - bodies or just bodies. And what makes someone beautiful is not their shape in any way, shape, or form, but it's like the way that they choose to like express themselves. And that beauty is relative, subjective and a choice. It's not something that you're like born into or given." When asked what she would do differently with her children or children whose lives she is a part of, Jasmine (BD) explained, "Right now I don't have any children. And I don't intend to have any children until I have overcome a lot of these [body image] battles because I don't want to put the same stress on my children or any children that I'm around, you know. And even though I know my mom didn't intentionally try to make me feel insecure, I don't want to inadvertently do that to my own children or someone else's children. I want them to love who they are. I want them to embrace what they look like, battle scars and all."

Interestingly, several mothers in the study also endorsed that their experiences with maternal weight talk influenced their desire to not engage in daughter-directed weight talk, but their daughters still reported being exposed to maternal self-directed weight talk. This indicates that self-direct and daughter-directed weight talk are distinct concepts for the mothers, and that perhaps they did not understand the impact of being exposed to self-directed weight talk. For example, both Joy (WM) and Marcy (WM) said that they did not want to make comments about

their daughters' weight or bodies because of what they experienced, and their daughters reported hearing them talk about her own bodies negatively (maternal self-directed weight talk). Natasha (WM) and Sherry (WM) had the same desires, but their daughters report actually being exposed to both self-directed and daughter-directed weight talk.

Food Attitudes

During interviews, mothers in the study were asked questions relating to their own food environments growing up and if and how they restricted or managed their children's diets as their children grew up. From their responses, we identified two major themes relating to food attitudes: 1) Moral messages about food and 2) The role of culture and way of life in food attitudes.

Theme 1: Moral Messages About Food

Mothers in the study expressed a variety of different food management methods and feeding practices. These ranged from explicitly restricting specific types of food, to keeping certain foods out of the house, to encouraging moderation.

Subtheme: Positively and Negatively Valenced Descriptors of Food

One theme common in almost all of the responses though, was the use of positively and negatively valanced descriptors of food such as good and bad, healthy and unhealthy, or other negative words such as "junk" and "garbage." Moms expressed teaching their children about what types of foods are good and bad or healthy vs. unhealthy. Daughters also recalled learning those descriptors from their moms. One daughter, Jill (WD), described the food environment growing up: "It was more like, this is a food that is good, and you can have a food that's bad, but you have to have food that's good, too." This shows that even messages about moderation included positively and negatively valenced descriptors.

Subtheme: Judgements of the Healthfulness of Food

When asked why they engaged in certain food management or control practices, most mothers responded that they wanted their children to be healthy or healthy diets. This prompted interviewers to inquire about how the participant defined "healthy." Inherent in the definitions of "healthy" eating and diet seemed to be more valenced descriptors of food as well as messages about what to restrict or not eat. These messages could be more explicit, for example, Theresa (BM) said "To be healthy is like, […] not to drink a lot of sugar […] and limit whatever you put in your body…" There, Theresa was indicating that sugar is not healthy for you. The messages could also be more implicit, for example: "I made almost everything from scratch. They ate primarily gluten free. I'd say 90% gluten free, 90% dairy free. […] I would call the unhealthy food the snack foods, things like potato chips, cookies, or even candy." (WM) By stressing that a homemade, gluten free, and dairy free diet is healthy, it implies that non-homemade food, gluten, and dairy are unhealthy. Fewer mothers' definitions of healthy included eating a balanced diet, focusing on how food can help the body function, and getting exercise. More daughters' than mothers' definitions of healthy included more neutral and holistic perspectives like eating three balances meals per day, eating a variety of foods, being aware of nutrition, and taking care of your mental health.

Some daughters expressed that even a staunch focus from their mothers on moderation and healthy eating growing up had some negative impacts on them because of strict categorization of food. Melody (WD) said of her mother's promotion of healthy eating: "It did lead into my teenage years to like hyper fixating on like, what's a healthy food and what isn't a healthy food […] almost in like an orthorexic type of sense. […] it was kind of like we were learning these food rules from [my mother], and then we were sort of adopting them on our

own." Jill (WD) expressed that her mother's focus on moderation sent implicit messages about what foods should and should not eaten and resulted in weight control behavior: "It created this idea in me that like if I was not being careful with like moderation, […] I have to restrict myself because of that. […] The emphasis on moderation […] sometimes just was like the first step in like a self imposed diet." She saw moderation as the healthiest way to eat, and when she was not able to achieve perfect moderation, she turned to disordered eating behaviors.

Theme 2: The Role of Culture and Way of Life on Food Attitudes

When asked about how food was discussed in their homes growing up, a majority of mothers expressed that the attitude toward food at home was that you ate what you were given and there should be no food waste; there was no labeling or concern over healthy versus unhealthy food. For six of those mothers, the reasons for these attitudes ranged from low socioeconomic status to living in a rural setting. For example, Scarlett (WM) grew up on a farm (outside of the United States) and therefore there was no delivery, fast food, or take-out; there were few options other than food that the family produced themselves on the farm. Further, Natasha (WM) recalled, "My grandparents were farmers. […] Because food had been scarce at times in their lives, they were very much like, 'you gotta eat everything.' So it wasn't really about healthy or unhealthy. It was more about like, if you're given it, you eat it."

Patience (BM), Theresa (BM), Martha (BM) all grew up in African countries (Nigeria, Eritrea, and Ethiopia, in no particular order), and all endorsed that food was grown fresh and was not processed. They explain that there was no classification of food as healthy or unhealthy, or dieting, since there was not a wide variety of choice other than what they had grown in their backyards. One mom recalled: "Nigeria […] is a poor country so whatever they give to you is what you eat. so there's no [declining food]. No healthy or unhealthy or whatever, you just eat,"

and another said, “They give you whatever they cook, they give it to you and you just eat […] There is no refrigerator, there is no junk food.” No daughters in the study experienced a food environment where there was limited access to myriad food choice or where the attitude towards food was that of ‘you eat what you get.’

All three moms born in Africa noted that there was more choice and more processed food in America. Martha pointed out that there were no processed foods where she grew up, and Patience (BM) and Theresa (BM) seemed to have a larger problem with processed foods in the US. Patience said, “…the kind of food I ate back then it's quite different from the food they eat here. Here they eat all kinds of processed food, and those are the things that make them gain weight.” Theresa also said “Sugar is the enemy in America.” In turn, their daughters reported that there was a very clear healthy vs unhealthy delineation coming from mom’s messaging about food. Fast food, in particular, was demonized and vastly limited. It is clear that culture and geographic setting influence behaviors and attitudes around food.

It is important to note that many of the participants, both mothers and daughters, acknowledged that their mothers had good intentions with their behaviors. Common sentiments were that their mothers were just products of their generations and didn’t know better, or they were trying to make sure their daughters (and other children) were healthy. In reference to experiencing maternal self-directed weight talk, Melody said, “When I was a kid there was a sense of like kind of protecting myself and my sister as much as possible, and I think she really did make an effort to try and reduce it.” Relating to maternal daughter-directed weight talk, Joy, a mother herself, said, “I don't wanna portray my mom in a negative way, because I think she did the best she could at the time.[…] I feel like she had that experience with her mother. She didn't want […] society or people making fun of us, I guess. I don't think she was doing it out of spite. I

think she was trying to protect us because she had a bad childhood experience." While many daughters have struggled with body image as a result of their mothers' engagement in weight talk, these attitudes are also influenced by greater cultural attitudes in society and therefore, blame should not be placed solely on mothers' shoulders.

Discussion

Regarding weight talk, results of this qualitative study suggest that maternal self-directed and daughter-directed weight talk is common, and any comments (positive or negative) have a negative impact on daughters' body image. Participants reported that maternal weight talk resulted in low body satisfaction, preoccupation with weight and size, and appearance concerns, which are eating disorder risk factors (Barakat et al., 2023).

These results are in line with previous quantitative studies that found that maternal behaviors such as encouragement to diet and maternal self- and daughter-directed weight talk are associated with lower body satisfaction and other weight and shape concerns for daughters (Arroyo et al., 2017; Berge et al., 2018; Hillard et al., 2016). Results also support previous qualitative findings on weight talk that found that higher-weight daughters often first heard they are "fat" or have a larger body through their mothers, that clothes shopping is a major opportunity for mothers to comment on daughters' body shape and size, and that mothers' negative feelings about their own bodies are influential in daughter's development of body dissatisfaction (Maor, 2012). Like Trofholz et al. (2023) found, mothers in the study had mixed experiences of maternal weight talk themselves; however, most daughters in the study reported being exposed to some form of maternal weight talk.

Further, I identified an intergenerational pattern of weight talk and a subsequent desire for daughters in the study to break the cycle of two prior generations of weight talk by

approaching topics of weight and size differently than their mothers did. In line with Horton (2023), mothers in the study did intend to change their approach with their children based on their own experiences. In this study though, I was able to understand that daughters did not fully see that intention realized because I sought perspectives from that generation; even though mothers wanted to eliminate daughter-directed weight talk, they often still engaged in self-directed weight talk that their daughters noticed. Although this study cannot tell us is if the daughters' intentions to behave differently in the future will hold, it is likely that these women will raise children in a very different society than their mothers did, one where size diversity and body neutrality is actively becoming more common.

Regarding food attitudes, results showed that descriptors of food were almost always categorized as having a positive or negative valence, for example, good versus bad, or healthy versus unhealthy. Recognizing these types of descriptors is important as rigid categorization of foods may affect how one feels about themselves. For example, in a study of female undergraduate students, participants ate either a perceived "healthy" snack (banana) or perceived "unhealthy" snack (donut) (Hayes et al., 2011). Results showed that state body satisfaction scores decreased for those who ate a donut but not for those who ate a banana or ate nothing. Strict categorization of food is also a common quality in those with orthorexia (McGovern et al., 2020), an eating disorder defined by "a pathological fixation on eating proper food" (Bratman, 1997; Scarff, 2017). These types of descriptors and categorizations can contribute to further disordered eating cognitions.

Results also show that culture seemingly plays a role in weight talk and food attitudes. For example, a majority of the mothers growing up were instructed to eat when they were given and there was no talk of healthy versus unhealthy food. However, very few daughters reported

these food attitudes while they were growing up, and they were often exposed to talk of healthy versus unhealthy food. It may be due to generational, cultural, and financial differences that mothers seem to not be perpetuating those specific foods environments in which they grew up. Meaning, daughters seem to have grown up with higher socioeconomic status, less food scarcity, and more convenience items (i.e. fast food and ample grocery stores) than their mothers, creating different weight- and food- based experiences than their mothers. It is important to note those factors that may contribute to attitudes towards food as these topics of disordered eating are often discussed independently of issues such as food insecurity or access.

Interestingly, I did not identify any themes or patterns unique to Black women in the study. One reason for this may be because three of the four Black mothers were immigrants to America, spending many of their formative years in African countries, developing values and views on eating and body image appropriate to their culture, and bringing them to their children's household in America. These may be different values and views than a Black woman who was born and raised in America. Therefore, weight talk and the food environment may not be what I expected, approaching this study based on what we know about how Black women in America interact with societal body ideals. It is also possible that their circumstances of culture, poverty, and rural setting may have overshadowed unique experiences of race as we see it function in America.

Strengths and Limitations

One strength of this qualitative study was that interviewees and interviewers were race-matched. This hopefully fostered trust and understanding between the researcher and participants, especially for Black women. Some limitations include the timing of interviews, as well as potential social desirability bias. First, I attempted to schedule mother and daughter

interviews immediately back-to-back so there would be no opportunity for mother and daughter to discuss before one of them participates. However, challenges of participant work and school schedules often did not allow for such scheduling, and while we did ask each participant to not discuss with their dyadic partner until after their interview, I cannot be sure they did not share information. Additionally, although we made clear to participants that we were not there to judge them and wanted them to answer honestly, it is possible that both mothers were not truthful in their accounts of their own behavior in order to appear as their definition of a "good mother," and daughters did not want to speak poorly about their mothers.

Implications

Having in-depth information about how a mother's behavior affects their daughters lives that goes beyond mathematical values of disordered eating cognitions and behaviors (e.g., the score of a drive for thinness measure) can lead to more specific intervention targets in the prevention and treatment of disordered eating symptoms, and subsequently, eating disorders. The results of study 2 have the potential to improve approaches both in broader parenting interventions and in specific eating disorder treatment, such as Family Based Therapy, which is common in the eating disorder context (Baker et al., 2023; Rienecke, 2017).

General Conclusion

We see anecdotally from friends, family, and even internet blogs and celebrity interviews that the way a mother behaves in the context of food and weight has a profound impact on their children's, and especially their daughters', development of unhealthy relationships with their bodies and food. Existing literature, as well as results from these studies, confirm that specific parenting behaviors, such as weight talk and feeding practices, lead to disordered eating cognitions and behaviors in their children.

Study 1 found that maternal experiences of weight stigma are associated with more restrictive feeding practices, and subsequently, more disordered eating cognitions in their children. To my knowledge, study 1 is the first to test the intergenerational effect of maternal weight stigma on child disordered eating cognitions. Study 2 found that mothers engaging in any type of weight talk, positive or negative, sends messages to daughters about how their bodies should look, now and in the future. Daughters in the study aim to change the way their children will grow up and develop more positive relationships with weight and food. Finally, culture and societal norms should be taken into a count when observing patterns of disordered eating and body image.

Several differences exist between Study 1 and Study 2. In study 1, measured maternal weight stigma was related to any type of weight discrimination, while in study 2, weight stigma was mostly related to maternal weight talk. Additionally, in study 1, measures on disordered eating from children were completed during their adolescence, while in study 2, both mothers' and young adults' accounts of things like weight talk and disordered eating were recalled retrospectively. More qualitative studies should examine these concepts with younger children and adolescents rather than examining retrospective reports of young adults.

Disordered eating cognitions, such as body dissatisfaction, should be treated as early warning signs of potential eating disorders as body image concerns predict later onset of more serious disordered eating behaviors (i.e. bingeing and purging) and eating disorder diagnoses (Barakat et al., 2023; Neumark-Sztainer et al., 2006), and it is estimated that around 22% of children and adolescents exhibit disordered eating cognitions and behaviors (López-Gil et al., 2023). In the United States, one person dies every 52 minutes as a direct result of an eating disorder (Deloitte Access Economics, 2020), which is why we should deploy all methods possible to prevent them. Together, results of these studies provide valuable insight on the importance of intervening early on body image and disordered eating cognitions at the parent level (e.g., in parenting classes/books or at early pediatric well-visits) in order to prevent lasting negative effects for their children.

Appendix A: Study 1 Quantitative Measures

Construct: Restrictive feeding practices

Restraint Scale of the Children's Feeding Questionnaire (Birch et al., 1998, 2001)

Answer options*: Disagree, slightly disagree, neutral, slightly agree, agree*

1. I have to be sure that my child does not eat too many sweets (candy, ice cream, cake or pastries).
2. I have to be sure that my child does not eat too many high-fat foods.
3. I have to be sure that my child does not eat too much of his/her favorite foods.
4. I intentionally keep some foods out of my child's reach.
5. I offer sweets (candy, ice cream, cake, pastries) to my child as a reward for good behavior.
6. I offer my child his/her favorite foods in exchange for good behavior.
7. If I did not guide or regulate my child's eating, he/she would eat too many junk foods.
8. If I did not guide or regulate my child's eating, he/she would eat too much of his/her favorite foods.

Construct: Maternal experiences of weight stigma

Weight Discrimination (based on Hunger & Major, 2015)

Answer options*: Never, less than once a year, a few times a month, at least once a week, almost everyday*

In your day-to-day life, how often are you treated unfairly, teased, or disrespected because of your weight?

Answer options: *Strongly disagree, disagree, somewhat disagree, neither agree nor disagree, somewhat agree, agree, strongly agree*

How much do you agree or disagree with this statement: "I am worried that most people will judge me on the basis of my weight."?

How much do you agree or disagree with this statement: "I am concerned that I will not be treated fairly by others because of my weight."?

Construct: Child disordered eating cognitions

Eating Disorder Inventory-3 (Garner, 2004)

The following questions are about food and eating. For each statement, mark the answer box that tells us how often you feel that way. The answer choices are: always, often, sometimes, rarely, and never.

Drive for Thinness

Answer options*: Always, Often, Sometimes, Rarely, Never*

1. I think about dieting.
2. I feel extremely guilty after overeating.
3. I am terrified of gaining weight.
4. I exaggerate or magnify the importance of weight.
5. I am preoccupied with the desire to be thinner.
6. If I gain a pound, I worry that I will keep gaining.
7. I eat sweets and carbohydrates without feeling nervous.*

*Reverse coded

Body Dissatisfaction

Answer options*: Always, Often, Sometimes, Rarely, Never*

1. I think that my stomach is too big.
2. I think that my thighs are too large.
3. I think that my stomach is just the right size.*
4. I feel satisfied with the shape of my body.*
5. I like the shape of my buttocks.*
6. I think my hips are too big.
7. I feel bloated after eating a normal meal.
8. I think that my thighs are just the right size.*
9. I think my buttocks are too large.
10. I think that my hips are just the right size.*

*Reverse coded

Appendix B: Study 2 Semi-Structured Interview Guide

Daughter Interview

Environment:

1. I want to start by asking you how food was discussed in your family and home growing up. For example, were foods classified as health or unhealthy? Or was their talk of calories?
2. How was weight discussed in your family and home growing up?
   [PROBE] For example, did anyone mention their own or other people's weight?
   Who in your family was typically involved in [these discussions/making comments]?
   How do you think those [discussions/comments] have impacted you back then? [PROBE: how you felt about your weight? your relationship with food?]
   How do you think those [discussions/comments] have impacted you now? [PROBE: how you feel about your weight? your relationship with food?]
3. Were you ever explicitly encouraged to diet or put on a diet?
   [IF YES]: At how old? By whom?

Mother:

IF THEY **DIDN'T** MENTION MOM ABOVE:

Now I want to focus more specifically on your mom. Was your mom ever involved in

the discussions/comments about weight and food?

IF THEY **DID** MENTION MOM ABOVE:

Now I want to focus more specifically on your mom. You said that your mom was

someone who was engaging in those [discussions/comments] about weight and food.

4. How did she talk about her own weight or body, if at all?
   [PROBE/IF YES]: What types of things would she say or do?
   [PROBE/IF YES]: Do you remember noticing or thinking anything about that?
5. How did she talk about your weight or body, if at all?
   [PROBE/IF YES]: What types of things would she say?
   [PROBE/IF YES]: Do you remember noticing/thinking about that?
6. How did she talk about other people's weight or body, if at all?
   [PROBE/IF YES]: What types of things would she say?
   [PROBE/IF YES]: Do you remember noticing/thinking about that?
7. Did you ever notice your mom limiting the amount of food or types of food you could eat? [PROBE: Tell me more about that]
   [IF YES]: How do you think that affected you back then and now? [PROBE: your body image? Your relationship with food?]
8. Is there anything you wish your mom would have done differently in the way she talked about or behaved around food or weight? Back then or even now?
   [IF YES] How do you think that change might have affected you? What would be different?

9. As a young adult now, has the way your mom behaved around weight and food as you have grown up informed how you plan to behave with your own child or children whose lives you are a part of in the future?

Those are all the questions I have for you. Is there anything else you'd like to share that we haven't touched on?

Mother Interview

Environment:

1. I want to start by asking you how food was discussed in your family and home growing up. For example, were foods classified as health or unhealthy? Or was their talk of calories?
2. How was weight discussed in your family and home growing up?

[PROBE] For example, did anyone mention their own or other people's weight?
Who in your family was typically involved in [these discussions/making comments]?
How do you think those [discussions/comments] have impacted you back then? [PROBE: how you felt about your weight? your relationship with food?]
How do you think those [discussions/comments] have impacted you now? [PROBE: how you feel about your weight? your relationship with food?]

3. Were you ever explicitly encouraged to diet or put on a diet?
   [IF YES]: At how old? By whom?
4. Is there anything you wish your mom would have done differently in the way she talked about or behaved around food?
   [PROBE] How do you think that change may have affected you?

Experiences with own body:

5. Have you ever struggled with your body image or weight?
   [PROBE] Can you tell me a bit more about that?

Own behavior/feeding practices:

6. As a mom, how does the way your mother behaved around weight and food when you were growing up inform how you behave with your own daughter?
7. Did you ever limit the amount of food or type of food that your daughter could eat? Either with or without her knowing? *Examples if necessary*: Keeping certain foods out of reach
   [PROBE] Tell me more about that.
   [PROBE] What was your goal?
   [PROBE] Do you think you restricted your daughter's eating because your mom did the same with you?
   [PROBE] Did it have anything to do with your daughter's weight?

Those are all the questions I have for you. Is there anything else you'd like to share that we haven't touched on?

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