# A Qualitative Model of Weight Cycling

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#### Abstract

Weight cycling is a likely consequence of striving to lose weight after internalizing body image ideals, making upward social comparisons, and experiencing weight stigma. Despite weight cycling's potential physical and psychological consequences, the interplay of weight cycling, social pressures, and experienced and internalized stigma have not been qualitatively explored. Thus, through in-depth interviews of 36 weight-cycling adults, this study sought to understand how people negotiate weight cycling. Interviews informed the development of a qualitative model of weight cycling, which was derived from a theory-neutral inductive analysis. The model's stages included entering the cycle, undergoing the cycle, and challenging the cycle. Participants were triggered to enter the cycle due to weight stigma caused by social pressures. Within the cycle, interviewees internalized weight stigma and engaged in disordered weight management behaviors. Some participants challenged the cycle by becoming more self-aware and mitigating their toxic dieting behaviors. However, it was very difficult, if not impossible, for many to fully exit weight cycling and the restraints of previous weight management thinking and patterns. Our investigation underscores the seriousness of weight cycling and suggests ways to combat weight cycling on both macro and individual levels. It may also be useful to consider weight cycling and suggests ways to combat weight cycling on both macro and individual levels. It may also be useful to consider weight cycling as disordered eating in hopes of shifting society's dangerous focus on rapid weight loss.

#### **Keywords**

weight cycling, yo-yo dieting, stigma, weight loss, Tripartite Influence Model

### Introduction

While improving health and well-being is a motivating factor behind weight loss (Pearl et al., 2019, Santos et al., 2017), many Americans want to shed pounds to conform to cultural thin and muscular ideals and to reduce weight stigma (Fardouly & Vartanian, 2012; Mattingly et al., 2009). Out of a belief that thinness will result in a better life (e.g., Bombak & Monaghan, 2017), millions of people pursue rapid weight loss through America's \$71 billion diet industry (Lau, 2021), largely quick fixes of restrictive calorie counting or fad diets (Khawandanah & Tewfik, 2016; Spadine & Patterson, 2022). These diets tend to be unsustainable, pushing extreme calorie deprivation and/or elimination of food groups. While diets may help individuals lose weight in the short term, the majority of people do not maintain weight loss over time (Nordmo et al., 2020). So few people are able to sustain a stable weight that Hankey (2022) called weight maintenance the "Cinderella" of weight management. Instead, dieting can actually promote weight gain (Nordmo et al., 2020) and commonly results in weight cycling (Bacon & Aphramor, 2011; Hankey, 2022; Mehta et al., 2014).

Weight cycling is known colloquially as "yo-yo dieting," in which people's weight rises and falls like a yoyo. It involves intentionally losing and unintentionally regaining as little as 10 pounds (small weight cycles), up to 50 or more pounds (big weight cycles) repeatedly (Mehta et al., 2014; Simkin-Silverman et al., 1998). Weight cycling is largely viewed as an inevitable part of dieting (e.g., Bacon & Aphramor, 2011) that is even encouraged. For example, losing weight for a wedding or high school reunion is culturally lauded, although the

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weight loss is often temporary (Herbers, 2023). Weight cycling specifically has been linked to such adverse outcomes as increased cardiovascular and heart disease risks (American Heart Association, 2019; Montani et al., 2006). Psychologically, individuals who weight cycle are more likely to experience depressive symptoms (Madigan et al., 2018; Quinn et al., 2020), suicidal ideation (Ju et al., 2016), lower body esteem, higher drive for thinness, and less body satisfaction than non-weight cyclers (Osborn et al., 2011; Strychar et al., 2009).

Limited qualitative research involving weight cycling has given voice to the psychological distress it can cause. For example, yo-yo dieters have experienced obsessive weight-related thinking and behaviors, disordered eating, and negative body image (Qazi & Keval, 2013; Rogerson et al., 2016). Furthermore, Bombak and Monaghan (2017) found that repeated weight cycling made women dieters feel shame, embarrassment, stigma, and as though their futures were stalled. Even in the midst of breast cancer treatment, women continued chronic weight management efforts, experiencing weight cycling and feelings of failure and stigma when they did not meet or sustain their weightloss goals, illustrating how all-consuming weight can be (Pila, Sabiston et al., 2018). Another investigation (Pila, Solomon-Krakus et al., 2018) elucidated older participants' lifelong struggles with weight concerns and weight cycling. Even at ages 60–75, women experienced peer pressure associated with body image concerns and internalization of thin ideals associated with dieting, suggesting that weight cycling can have long-standing psychological effects. Quantitatively, weight concerns can increase over time (Neumark-Sztainer et al., 2018). For instance, an 18-year longitudinal study of teens and young adults found that throughout each stage of adolescence to adulthood, most individuals experienced some eating, activity, or weight-related problem (Neumark-Sztainer et al., 2018). Lacking, however, is a rich understanding of how people actually negotiate weight cycling. Society's "cultural mandate for a thinner body" (Farrell, 2011, p. 108), as manifested by comments from family, media, and even government messaging (Hampl et al., 2023), likely drives the pursuit of (often rapid) weight loss. Yet, it is unclear what actual individuals who yo-yo diet identify as triggering the start of the cycle, how people who weight cycle experience and navigate the cycle, and how, if at all, they are able to challenge dieting's powerful hold (e.g., Pila, Sabiston et al., 2018; Pila, Solomon-Krakus et al., 2018). Thus, this investigation answers a call for additional research on the lived experiences of individuals who weight cycle (Foster et al., 1997), as well as more qualitative research on the psychosocial consequences of weight loss (Rogerson et al., 2016). Weight cycling is rising, likely to pose a significant threat to public health (Montani et al., 2006, p. 6), and potentially a form of disordered eating (Qazi & Keval, 2013). Thus, we present a conceptual model of weight cycling based on in-depth interviews of people who yo-yo diet to provide additional insight into a phenomenon with potentially significant health and interpersonal consequences.

# The Climate Underlying Weight Cycling in the United States

A recent Gallup poll reported that 55% of U.S. adults want to lose weight (Brenan, 2022). Aesthetics is a major driver of weight loss, as thinness has remained the U.S. beauty standard since the late 1880s (Brownell, 1991; Farrell, 2011; Hesse-Biber et al., 2006). People learn appearance ideals and how to view their own appearance through sociocultural expectations and pressures (e.g., Bradford & Petrie, 2008). For instance, the widely supported Tripartite Influence Model (TIM; Thompson et al., 1999) has been validated across races (Burke et al., 2021), sexualities (Frederick et al., 2022; Hazzard et al., 2019), ages (Carrard et al., 2020), cultural contexts, body weights (Baceviciene & Jankauskiene, 2021), and genders (Frederick et al., 2022) and showcases how appearance, diet, and weight-related attitudes and behaviors are socially constructed. The TIM (Thompson et al., 1999) posits that the media (and increasingly social media; Farrell, 2011; McComb & Mills, 2022; Roberts et al., 2022), peers, and family communicatively influence people to internalize unattainable beauty ideals. In other words, people are exposed to beauty standards through the media, which are also reflected interpersonally. For example, "fat talk" with peers (Arroyo & Harwood, 2012; Mills & Fuller-Tyszkiewicz, 2017), comments from romantic partners (Theiss et al., 2016), or memorable messages about weight and appearance from sorority sisters and parents (Reno & McNamee, 2015; Thompson & Zaitchik, 2012) reinforce beauty standards. According to the TIM (Thompson et al., 1999), attractiveness for women involves being thin and toned (Bozsik et al., 2018) and men are expected to be lean and muscular (Murray & Touyz et al., 2012). Indeed, a recent large-scale study found women were more likely than men to report high surveillance, thin-ideal internalization, bodv and appearance-related media and family pressures, whereas men reported more muscle/athletic internalization (Rodgers et al., 2021).

The TIM (Thompson et al., 1999) maintains that internalization of beauty ideals, combined with social comparisons related to body, eating, and exercise can lead to body image dissatisfaction and eating disturbances or disorders. Disordered eating, which can range from eating disorders to unhealthy weight control behaviors (such as fasting or skipping meals, purging, and taking weight-loss pills or laxatives; Nagata et al., 2018), and emotional or uncontrolled eating (Barnhart et al., 2021), has been on the rise (Galmiche et al., 2019). Considerable research supports the TIM's (Thompson et al., 1999) tenet that social comparisons (especially over social media) are associated with such negative outcomes as body dissatisfaction and drive to be thin or muscular (Ho et al., 2016; Thompson et al., 1999) as well as depressive symptoms, low selfesteem, and disordered eating attitudes (Pedalino et al., 2022; Stefana et al., 2022). Even girls as young as 5 years old internalize thin ideals from peer and media influences, which leads to low self-esteem (Dohnt & Tiggemann, 2006). Social media usage is also related to body dissatisfaction, upward comparisons, body surveillance, and/ or disordered eating across body weights and genders (e.g., Choukas-Bradley et al., 2022; Saunders & Eaton, 2018). Interpersonal communication is further associated with eating disturbances; for instance, family weightrelated teasing or comments put women at a greater likelihood of unhealthy weight control behaviors (Rodgers et al., 2021).

Weight stigma is another risk factor for disordered eating behaviors (Hooper et al., 2023; Vartanian & Porter, 2016). Likely due to stigma, people with overweight or obesity report higher rates of disordered eating than people with underweight or normal weight (Negata et al., 2018). While not specifically conceptualized as such by the TIM (Thompson et al., 1999), weight-related comments or teasing are considered forms of weight stigma (Hooper et al., 2023) that can have lasting negative ramifications (Lawrence et al., 2022). Weight stigma also includes bullying, negative media portrayals of individuals with overweight or obesity, discriminatory policies, and social rejection (Hooper et al., 2023). Although studies suggest people who have overweight or moderate obesity live as long if not longer than individuals with socalled normal weight (e.g., Flegal et al., 2005; Flegal et al., 2008), and recent body positivity, body acceptance, intuitive eating, and health at any size movements have urged a reconsideration of beauty norms (Bacon & Aphramor, 2011), weight stigma has never been higher (Puhl et al., 2020; Tomiyama et al., 2018). As the average American weight has continued to rise over time (Centers for Disease Control and Prevention, 2021; Wang et al., 2020), individuals with overweight or obesity are stigmatized as "lazy, gluttonous, greedy, immoral, uncontrolled, stupid, ugly, lacking in willpower, primitive" (Farrell, 2011, p. 34). Weight stigma is so pernicious that some people with former overweight or obese concealed their previous weights for fear of residual discrimination (Romo, 2016). In addition to the culturally lauded thin and muscular ideals, even public health messaging reinforces stigma; for example, supporting the blanket notion that people with high BMIs are unhealthy (Campos et al., 2006; Humphreys, 2010; O'hara & Taylor, 2018), thus promoting a "moral hierarchy of bodies" and perpetuating toxic diet culture (Jovanovski & Jaeger, 2022). Although embracing intuitive eating (eating what you want until you are full) and size acceptance is more effective at changing long-term health behaviors than dieting (Bacon et al., 2005), some public health experts believe shaming people to lose weight is an effective weight-loss strategy (Callahan, 2013), reinforcing stigma.

However, experiencing weight-based discrimination has been associated with higher weights over time-both for people with or without obesity (Hunger & Tomiyama, 2014; Sutin & Terracciano, 2013). In general, diets frequently result in weight gain (see Nordmo et al., 2020). For instance, dieting and unhealthy weight control behaviors (e.g., skipping meals and undereating) have been associated with increases in the BMIs of individuals with and without overweight (e.g., Neumark-Sztainer et al., 2012). Weight stigma also frequently results in internalized weight stigma, in which people accept that cultural weight stigma applies to them and devalue themselves based on their weight (Pearl & Puhl, 2018). Internalized weight stigma has also been linked to psychological distress (O'Brien et al., 2016), including binge-eating disorder (e.g., Ratcliffe & Ellison, 2015), disordered eating (O'Brien et al., 2016), fat phobia, depression, and lower self-esteem (Durso et al., 2012), and is a mediating factor between weight cycling and depression (Quinn et al., 2020). Internalized stigma is even more strongly associated with poor mental and physical health than experiencing weight stigma (Pearl & Puhl, 2016). As Tomiyama (2014) suggests with the cyclic obesity/ weight-based stigma model, it is likely that weight stigma functions as a "vicious cycle," wherein stigmarelated stress results in a variety of emotional, behavioral, and physical health outcomes that are harmful to wellbeing (see Wu & Berry, 2018), which results in weight gain, exacerbates stigma, and perpetuates the cycle.

Weight cycling is likely a consequence of the drive to lose weight after internalizing body image ideals (Quinn et al., 2020), making upward social comparisons (Thompson et al., 1999), and navigating a world in which weight stigma is rampant (Tomiyama et al., 2018; Puhl et al., 2020). After all, weight cycling has been called a form of disordered eating (Qazi & Keval, 2013) and people recounted shame and stigma from regaining weight (e.g., Pila, Sabiston et al., 2018). Researchers have begun quantitatively exploring sociocultural associations behind stigma, suggesting that thin- and muscular-ideal internalization and appearance comparisons can impact stigma (see Nutter et al., 2021). However, the interplay of social pressures suggested by the TIM (Thompson et al., 1999), experienced and internalized stigma, and weight cycling have not been qualitatively explored, despite the

potential physical and psychological consequences. Thus, this study's goal was to uncover people who weight cycle's negotiation of experiences entering into, during, and potentially resisting the cycle.

## Method

Following Institutional Review Board (IRB) approval, we recruited people aged 18 and older who identified as having engaged in yo-yo dieting, which we defined as intentionally losing and regaining 11 or more pounds at least once, consistent with criteria employed in previous weight cycling research (e.g., Luo et al., 2007; Popkess-Vawter et al., 1998). Participants were recruited through flyers displayed on and nearby the authors' Southeastern U.S. university, posts on social media pages, and via snowball sampling. Potential participants scanned a QR code, which generated an electronic sign-up page. They were then contacted by one of three co-authors or a research assistant to participate in an individual, in-depth, semi-structured interview. At that time, we also provided them with an electronic link to the consent form to review. The consent form informed participants that if they were experiencing psychological distress, at any point they could stop the interview or skip any uncomfortable questions. It also told them they could text "HELLO" to 741741 to reach the National Crisis Hotline and explained the Crisis Text Hotline is available 24 hours a day, 7 days a week throughout the United States to connect people with a crisis counselor who can provide support and information. Participants were further instructed, if they desired nutrition information, to visit https://www.nutrition.gov/. To protect interviewees' confidentiality, the consent form explained the likelihood of breaches in confidentiality was minimal because we would never connect the interviewees' real name to their interview. Instead, they would choose a pseudonym, which would immediately be applied to their transcript. They would also not be signing the consent form. The audio files and transcript were stored on password-protected computers only accessed by the researchers.

## Participants

Between August 2022 and January 2023, three of the four authors, as well as a research assistant, interviewed 39 individuals. As an incentive, each participant received a \$15 Amazon gift card funded by a grant from the authors' university. Interviews took place over Zoom, with both cameras off to maximize privacy. Interview length ranged from 30 to 92 minutes (M = 57 minutes). We recorded the interviews through Zoom and used the auto-generated transcripts as a starting point for our own transcription and data analysis, fully listening to each interview at least once to edit the transcripts to ensure accuracy. We ultimately removed three participants from data analysis. One interview's poor audio quality made it unusable, and two participants revealed they had been clinically diagnosed with an eating disorder. As weight cycling in eating disorders could arise from attempts at recovery or treatment-based weight gain, we determined their experiences were inconsistent with our other participants who weight cycled in the course of dieting. Our study thus resulted in 36 interviews upon which we based data demographics analysis and (see Table for 1 demographics).

### Procedure

We began each interview by confirming that interviewees identified as intentionally losing and regaining at least 11 pounds at least once. After securing participants' verbal

Table I. Participant Demographics.

	n (%)
Gender	
Male	13 (34%)
Female	23 (64%)
Race	
White	24 (67%)
Asian American	4 (11%)
Hispanic	2 (5%)
Middle Eastern	2 (5%)
Indian	2 (5%)
African American	I (3%)
Other	I (3%)
Marital status	
Single	17 (47%)
In a relationship	19 (53%)
Children	
Yes	4 (11%)
None	32 (89%)
Highest level of education	
Some college	23 (64%)
Undergraduate degree	7 (19%)
Some graduate	2 (5%)
Master's degree	2 (5%)
Doctorate degree	2 (5%)
Range of weight cycled	
15–30	12 (33%)
30–50	13 (36%)
50–90	8 (22%)
Declined to answer	4 (11%)
Weight based on BMI	
Overweight	15 (42%)
Obese	5 (14%)
Other	16 (44%)

consent, we invited them to choose a pseudonym, then asked several demographic questions before using a semistructured interview guide to probe interviewees to tell their weight-cycling story. The interview schedule included: What influenced you to gain or lose weight? How has your weight and weight management (eating/exercise) stayed the same or changed over the years? To what extent has social media changed the way you look at your body? If so, how? To what extent do you think things your family said or behaviors they modeled have influenced your relationship with weight, your body, food, dieting, exercise habits? How would you describe your body now? How do you feel about it? (see Appendix for complete interview schedule). We instructed participants they could skip questions or discontinue the interview at any time. We did not enter the study with a preexisting framework but took an emic approach, allowing meaning to emerge from participants' voices (Blumer, 1986).

We also want to acknowledge our standpoints as four highly educated women—three of whom have experienced either weight cycling and/or disordered eating. All authors have a mother figure who experienced disordered eating or weight cycling, and to some extent we have all been influenced by cultural beauty standards. Each author approached the interviews and data with sensitivity, care, and the goal of understanding participants' weightcycling experiences to shed light on this cultural phenomenon.

#### Data Analysis

We analyzed our data via reflexive thematic analysis (Braun & Clarke, 2006). First, we familiarized ourselves with the data (transcripts) before creating coding categories and subcategories, including coding for instances of social media influences. After debriefing as a research team, what emerged as most salient to us across transcripts was a process by which participants were undergoing and making sense of various stages of weight cycling. Similar to the goals and methodology in a study that examined processes of youth suicide (Törnblom et al., 2015), we thus sought to build a generic conceptual model of the processes underlying weight cycling, grounded in the perspectives of people who yo-yo diet, through a theoryneutral, empirically driven, inductive analysis. We consequently returned to the data to manually code all utterances related to participants' experiences of and meaning-making of weight cycling, using constant comparative analysis to determine coding categories and subcategories and identify patterns across transcripts. We uncovered three main stages of weight cycling.

We then revisited the data and met over several months to refine and integrate our findings into a tentative model of weight cycling. Next, we graphically connected the

categories into a diagram to visually depict and examine the relationships, with broader themes and subthemes that captured meaning patterns to elucidate what we conceived as the main weight-cycling stages. We then condensed and refined themes several times to finalize our model of processes underlying weight cycling (see Figure 1). The content of each category is considered a theme. To ensure credibility and trustworthiness, we kept detailed notes and outlines, generating an audit trail that allowed us to illustrate our categories and relationships through participants' voices (Lincoln & Guba, 1985). We also engaged in peer debriefing to enhance our credibility and trustworthiness (Tracy, 2010), regularly meeting and discussing emergent themes and talking through similarities and differences throughout data analysis as we honed and refined our findings. Additionally, although all research team members participated in coding and data analysis, as the second author was not part of the interview process, but rather entered the study during the transcription phase, she was able to provide a fresh perspective and validity check on the data, serving as a source of triangulation (Lincoln & Guba, 1985).



Figure 1. Weight cycling model.

## Findings

We uncovered that participants underwent three distinct stages of weight cycling: (1) entering the cycle; (2.) undergoing the cycle; and (3.) challenging the cycle. First, entering the cycle involved two subcategories: making social comparisons and experiencing weight stigma. Next, undergoing the cycle included internalizing weight stigma and engaging in disordered weight management behaviors. Last, challenging the cycle consisted of two subcategories: becoming more self-aware and mitigating toxic dieting behavior. Participants entered the cycle after experiencing initial triggers for their dieting behavior. Within the cycle, interviewees experienced negative outcomes from the cyclical gain and loss. Despite these harmful consequences, some were able to resist and adopt a more positive attitude toward their body and weight management, thereby challenging the cycle. For many, however, negative weight-related thoughts seemed to remain, restricting individuals from fully exiting the cycle.

# Entering the Cycle

Nearly every participant acknowledged they were not motivated to lose weight to improve their health but "definitely [due to] societal pressure" (Bee, 20). For instance, Patrick, 23, explained he wanted to lose weight "so I look good with my shirt off and so I feel good about myself." The factors that triggered participants to begin their weight-cycling journey involved wanting to look "hot" or "better" due to social comparisons and experiences of weight stigma.

Making Social Comparisons. Many interviewees reported learning weight attitudes and behaviors from the media, family, and peers. Consequently, they compared their bodies to others, felt dissatisfied about their appearance, and thus began their weight-loss journey. For participants, media messaging and depictions of beauty ingrained their pursuit of thin and muscular ideals. As Saoirse, 23, said: "I clearly did not look like who is being called very beautiful on the big screen and I probably internalized a lot of that." Additionally, as Marsha, 20, recounted: "There's so much society influence saying that you need to be thin." Participants spoke of social media as a driving factor behind their body dissatisfaction, despite knowing that "We compare ourselves to things that aren't real" (Tony, 28). As Scarlett, 19, stated: "On the Internet everyone is really beautiful and really put together, and really at society standard." Both men and women felt cultural norms played a role in triggering their weight cycling. For instance, George, 19, acknowledged, "Societal expectations are definitely something that has influenced me in terms of losing weight." However, some voiced a gendered double standard regarding body size, suggesting women had a higher expectation to conform to cultural beauty standards. For example, Marty, 21, remarked that women have "the pressure to be skinny and look a certain way."

Family and friends also significantly influenced participants' views of their appearance. A loved one or peer attempting to lose weight made participants think they too should shed pounds. As Jill, 25, said: "I kind of grew up where most of the women in my life constantly dieted." Similarly, Charlotte stated, "I guess my entire family kind of has a toxic relationship with their body and body image." Further, as Gaga, 67, recounted: "You know, your girlfriends were [going on a fad diet] and, okay, we're all going to do this. Let's try it." Participants spoke of comparing themselves to friends' and family' bodies. For example, Jim, 20, felt the need to keep up with his friends' physiques: "I [had] a lot of friends that were ... super skinny and shredded. So I guess that's kind of who I was comparing myself against." Similarly, Jill stated, "I would compare myself to all of my smaller girlfriends and smaller teammates." Additionally, Kaylee, 21, described, "When I was in middle school I weighed more than all of my friends, so that made me think that I was fat." These social comparisons triggered participants' weight cycling because they made participants believe their own bodies were flawed.

Experiencing Weight Stigma. In addition to social comparisons, participants overwhelmingly recounted experiencing weight stigma, which triggered weight cycling. Experiencing weight stigma is a form of enacted stigma that was largely manifested via weight-related comments and teasing from friends and family. As Ava, 18, recalled: "I remember being 14 and everyone's calling me fat. I was just like, 'Oh, I don't want to be fat'. Nobody wants to be fat." So Ava put herself on a diet, setting the cycle in motion. Similarly, as Reggie, 18, recounted: "Some of my friends, they would always call me fat, and they would always make fun of me ..." Even jokes made participants self-conscious and unhappy with their bodies. Wendy, 70, said her father-in-law mocked her body and chest, which fueled her weight concerns: "Forty some years ago, and that moment still sticks with me." Similarly, Julia, 20, wished her father did not "make comments about my weight when I was younger because I think that really did affect me even now." Jade, 22, a former ballerina, described her dance instructors' stigmatizing remarks: "... On the most mild end of it, they would come up to you and like poke your stomach and be like, 'Next time, I don't want to see your lunch." Experiencing weight stigma via weight-related comments and jokes also triggered participants' weight cycling.

## Undergoing the Cycle

Within the weight-cycling cycle, participants struggled with internalizing weight stigma and engaging in unhealthy weight control behaviors.

Internalizing Weight Stigma. Experiencing weight stigma involves direct comments and weight-related jokes.

Internalizing weight stigma, however, is when individuals truly believe the negative comments and jokes apply to themselves, making them feel inferior and shameful about their weight. Rose, 22, demonstrates how her grandmother's stigmatizing remarks resulted in internalizing weight stigma:

She would always tell me that you have to lose weight. "No one's gonna look at you. You're never gonna get married. No guy will ever want you because of how big you are!" So whenever I would go to her house it was like misery for me ... it hurt me so much, and when I would leave her house, I would go home and comfort myself with food again.

Rose internalized her grandmother's comments, despising her body and leaning on food for comfort. Relatedly, Ava expressed, "I felt the thinner I got, the less space I took up, the more desirable I was just in the eyes of everybody," reflecting how she tied her self-worth to her weight. Similarly, Luna, 18, said, "I felt like I couldn't eat around others because they judged me because I was overweight ... And it just made me feel sad about myself." These feelings perpetuated cycles of weight gain and loss.

Many participants described how experiencing weight stigma activated them to cycle, but even as they were losing weight, they still found themselves unhappy and looking down on themselves. In this way, interviewees internalized weight stigma, no matter their size. Jill recalled that she "would drop like 10 pounds or something ... and you still feel like you don't look good enough." Valarie, 18, said:

Sometimes I get caught in a low, and then I'll just be bawling my eyes out because I'm like, "Oh, my God! I'm huge, I'm so fat! I hate this. I hate myself. Why can't I get control of it? Why does everyone else get to be super skinny and I get to be this tub of lard?"

Participants especially internalized weight stigma when they regained weight they had lost. They expressed a sense of "self-hatred" (Beth, 18) and as though they had "let themselves go" (Sara, 21), were "lazy" (Patrick), or "stupid" (Lady, 65). As Kaylee recounted: "I felt really uncomfortable in my body and just upset with myself for gaining the weight back. So I was like, okay, I'll start another diet." Interviewees described weight cycling as never-ending because no amount of weight loss or weightloss effort was sufficient. As Jill detailed: "You feel the need to lose 10 more pounds, and it was just like this vicious cycle, where it was never good enough ..." Relatedly, Adam stated, "I always feel like I need to lose more." Within the cycle, numerous participants felt unhappy, not just about their appearance but about their worth as individuals.

Engaging in Disordered Weight Management Behaviors. Within the cycle, participants also reported engaging in disordered weight management behaviors. These actions included binge or emotional eating, restricting food, memorizing calorie counts, over-exercising, and falling back on quick fixes for weight loss. Jill stated she would start "binging" and then "restricted" again because "I didn't really know how to cope with that [feeling of failure after weight gain]." Many participants were particularly preoccupied with counting calories. As Marsha detailed: "I used to be able to look at a food and know around how many calories it was ... I was so miserable." Saoirse recounted her obsession with eating less than her calorie counting app recommended:

It would tell me, "Oh, you need to eat 1,600 calories a day," and so I would be like, "I have to beat that." So I would only eat like 1,400 or 1,000, things like that. Yeah, it was not healthy.

Other interviewees relied on extreme "quick fixes" to achieve their weight-loss goals. Rose said she would purposely fall asleep hungry to avoid eating, and even used diet pills to lose weight (despite side effects of high heart rate and nausea). Others described trying fad diets (e.g., cabbage soup diet and Keto) or fasting after being triggered to lose weight. Michael, 30, recounted how he lost 40 pounds in 2 months by drastically reducing his caloric intake:

I would count my calories to the calorie. Every teaspoon, tablespoon. I started off with regular food, and then I found out that Equate meal replacements was a much simpler way of counting calories, and so I would drink four meal replacements a day and have a Campbell's soup.

Several participants echoed Rose, who admitted, "No matter what was the method, all I wanted was to see my weight dropping down on the scale." Since participants'

extreme eating and exercise habits were impractical over the long term, they inevitably "fell off the wagon" and regained weight. As Jill recalled: "My biggest cycles ended up being if I was restricting my calories very, very low and when I was doing Keto. That was usually my worst weight gain back because it's the most unsustainable and unrealistic ...." Regain caused feelings of shame and failure, perpetuating a vicious weight cycle. Within the cycle, many participants seemed to be controlled by weight loss, which Julia even described as an addiction: "I realized that I was never gonna feel satisfied or happy with myself. So I think addictive would be the best way to describe what my mindset was." Some even expressed wanting to rid themselves of compulsive thoughts, with Hank, 50, admitting: "I wish it did not occupy so much mental space." However, as 70-year-old Wendy confessed, "I'll have an issue with weight in my mind until I die. I'm sure."

## Challenging the Cycle

While many interviewees seemed stuck in the cycle, others challenged it by becoming more self-aware and mitigating toxic dieting behaviors. Despite the stress, frustration, and feelings of shame and stigma resulting from yo-yo dieting, some spoke of ways they were able to resist the cycle.

Becoming More Self-Aware. Becoming more self-aware involved participants' ability to recognize and largely cease their adverse weight management behaviors, which also helped them challenge the yo-yo dieting cycle. Part of this self-awareness entailed recognizing triggers and negative dieting behaviors and attempting to stop them. As some interviewees lamented the ways they previously dieted and exercised, they deliberately worked to challenge those old habits. As Rachel, 23, reflected: "I really regret going through that, because the stuff I was doing just leaves no room for energy or like things outside it." Similarly, Valarie realized that comparing herself to her eighth grade weight was futile: "There's no way I'm going to get back down to that [115 pounds]."

Several interviewees voiced a clear distinction between the old me (engulfed in calorie counting and influenced by others) and the new me (learning to follow hunger cues, exercising for fun and fitness, and trying to avoid negative influences). After struggling with self-hatred and her concern with others' perception of her weight, Beth said, "I've tried to surround myself with people that I know truly like me for me ... I have started to follow people [on social media] that are more body positivity or ... the importance of loving yourself." Similarly, Wendy stated, "If you have low self-esteem ... the only way you change it is by thinking about your thoughts and changing them to positive thoughts." Gaga acknowledged she used to believe "thin is best" and engaged in fad diets to lose weight. As she became more confident, she believed body size was "superficial as long as you are well. It doesn't matter what other people think. What matters is what you think and your health." While this process was not automatic, being selfaware helped some interviewees counter weight cycling.

Mitigating Toxic Dieting Behaviors. During the yo-yo dieting cycle, many interviewees were obsessed with the number on the scale and engaged in extreme weight-loss behaviors. However, after some participants reflected on their behavior, they were able to shift to a more positive mindset about their bodies and weight management, helping to resist toxic diet culture and potentially free themselves from yo-yo dieting. For instance, Charlotte voiced, "I think it's good to ... try to like indoctrinate the idea that it doesn't matter like what the scale says." Additionally, Saoirse acknowledged, "... When I calorie count ... like my OCD acts up a lot." Realizing the harmful effects of calorie counting helped Saoirse discontinue this behavior. Other participants implemented new techniques such as intuitive eating to mitigate weight cycling. As Rose explained: "How I broke this cycle was just by not sticking to a specific diet plan, not being too strict and following crazy fad diets. Just go with the flow and not put that much pressure on ourselves." Additionally, viewing exercise as fun, not purely a means to burn calories, helped some participants reframe their weight management not as an unpleasant activity but as something enjoyable. As Charlotte shared: "Last night I just got a burst of energy. So I just was dancing around my room." Seeking mental health counseling/therapy also provided some interviewees with tools to resist the cycle. For instance, Sarah, 25, said her therapist helped her realize that others shared Sarah's body type and "understand that I wasn't alone, and that there were other people that were okay with where they were." Jade said therapy "really kind of opened my eyes" to the negatives of weight cycling and helped her "heal." Therapy enabled several participants find support and strength and feel better about their bodies.

# Restraints of the Cycle

Although some interviewees seemed to challenge the cycle, ingrained thought patterns, societal thin expectations, toxic diet culture, and pervasive weight stigma likely made it difficult for most to completely exit the cycle, despite their best intentions. For instance, although Reggie had become more self-aware and worked to minimize negative weight management behaviors, he admitted still being consumed by his weight: "I think it's on my mind a significant amount of time ... It's really hard to not think about it." Similarly, while Kaylee mentioned that she was in "recovery" from weight cycling, she believed her recovery would be indefinite: "It's still on my mind like a lot throughout the day, and it's still something that I'm anxious about, and I still kind of obsess over." Additionally, several interviewees recounted how they had stopped thinking about their weight and made peace with their bodies but then were triggered by others' weight management behaviors and comments, which put them at risk of reentering the cycle. For instance, Rachel recalled a nurse praising her for losing five pounds during a period in which she had stopped thinking about her weight: "I wish that she hadn't said that ... because I wasn't even thinking about it anymore until she had said it." It seemed almost impossible for interviewees to avoid thoughts of weightand the temptation to try to lose weight-in a culture consumed by diet messaging and thinness. Furthermore, some interviewees worried that their own (former) weight-cycling tendencies might negatively impact their future children, underscoring weight cycling's potential lifelong impact. As Saoirse stated:

My parents really fostered such a great support system for me, and I still fell prey to a lot of toxic mindsets ... so there is a part of me that has accepted that if I do all the right things my kids still might struggle with that.

Similarly, Jade admitted she likely would not have children because of the detrimental consequences she experienced from weight cycling: "I'm very much leaning towards not ... so that I will not inadvertently pass on all of my hang-ups and issues on to a daughter or on to a child." Although some participants felt as though they had largely combatted the cycle themselves, they worried that years of yo-yo dieting and related harmful weight management behaviors would resurface and have a residual harmful effect on their future families.

## Discussion

Through an exploration of the lived experiences of 36 people who engaged in yo-yo dieting, our study presents a qualitative model of the general process of weight cycling, shedding light on how people negotiate entering, navigating, and challenging the cycle.

Our study lends support to the TIM (Thompson et al., 1999) as well as the notion that weight stigma is cyclical (Tomiyama, 2014). Consistent with the TIM (Thompson et al., 1999), participants reported being culturally exposed to and internalizing thin and muscular ideals and comparing themselves to these societal beauty standards. Reinforcing existing research, upward social comparisons as well as experiences of weight stigma (Ho et al., 2016; Pedalino et al., 2022; Stefana et al., 2022) prompted

participants to become dissatisfied with their bodies, initiating the weight cycle. Once in the cycle, interviewees experienced internalized weight stigma and disordered weight management behaviors (i.e., restricting calories and binge eating), which perpetuated weight loss and gain, keeping many participants entrenched in yo-yo dieting (Quinn et al., 2020). Indeed, participants' experiences in the cycle are consistent with theorizing about the cyclical nature of weight stigma (Tomiyama, 2014), as both stigma and body weight were not static but fluctuated based on participants' internalized stigma (Latner et al., 2014; Sutin & Terracciano, 2013). Once in the throes of yo-yo dieting, weight gain or regain was often propelled by feelings of shame and disappointment after failing to sustain unrealistic weight control habits, or continued low self-esteem despite weight loss (Bombak et al., 2017; Pila, Sabiston et al., 2018; Rogerson et al., 2016).

Our study reinforces the pernicious nature of diet culture, unrealistic beauty standards, and thin ideals (Jovanovski & Jaeger, 2022) and how damaging it can be for most people to initially start dieting unless medically necessary. Early diets-which they embarked on not for their health but to meet society's standards-seemed to set participants up for years of shame, body dissatisfaction, unhappiness, stress, social comparisons, and weightrelated preoccupation, often causing them to gain more weight (e.g., Neumark-Sztainer et al., 2012). Weight cycling still consumed many interviewees' lives and minds, preventing many from completely exiting. In this way, our study is consistent with prior research that showcases the complexity and challenges of dieting (Qazi & Keval, 2013; Rogerson et al., 2016) and the long-term, even worsening weight management and weight-cycling struggles faced by many (Neumark-Sztainer et al., 2018; Pila, Sabiston et al., 2018; Pila, Solomon-Krakus et al., 2018). Even when participants managed to lose weight, it was often a pyrrhic victory. Weight loss was often achieved at considerable cost (American Heart Association, 2019; Montani et al., 2006; Qazi & Keval, 2013), and typically fleeting (Nordmo et al., 2020), as the cycle continued (Bacon & Aphramor, 2011).

While research suggests it is extremely difficult for people to not be controlled by their weight for much of their lives (e.g., Bacon & Aphramor, 2011; Bombak & Monaghan, 2017), our investigation did uniquely uncover ways some participants challenged the cycle. As ours was not a longitudinal or observational study, it was impossible for us to determine definitively whether individuals permanently exited the cycle and would never again engage in yo-yo dieting. However, several participants shared tangible strategies they used to resist and fight back against U.S. beauty standards. By becoming more selfaware of and working to mitigate aversive weight management and dieting behaviors, some interviewees seemed able to resist the pull of yo-yo dieting. Similar to strategies used by people who successfully challenged other stigmatized conditions (e.g., being an alcoholic; Romo & Obiol, 2023), some participants were able to reframe their thoughts on diet culture and about their own appearance, thereby resisting internalizing stigma. Participants also spoke of avoiding situations and people in which they could experience weight stigma (consistent with the premises of stigma management communication theory; Meisenbach, 2010).

Not all participants were able to challenge the cycle, however. Lingering thoughts and worries about "passing" weight-related "hang-ups and issues" onto future children illustrate the lasting negative effects of weight cycling and the hold it had even on participants who were in a better place with their weight management mindsets. Additionally, while our study supported that women's bodies were judged more harshly than men's (Buote et al., 2011; Farrell, 2011), we found that the men we interviewed were also not immune from societal pressures and struggled with similar emotions and struggles. Contrary to existing research that found men versus women wanted to lose weight for health reasons as opposed to aesthetics (Sares-Jäske et al., 2019), beauty standards influenced participants to lose weight (Thompson et al., 1999).

Despite the physical and mental health risks uncovered by existing research (e.g., Mackie et al., 2017; Madigan et al., 2018), weight cycling has largely not been viewed as a serious problem.

Although weight cycling is culturally normalized and not clinically considered a mental disorder, a growing body of literature suggests weight cycling shares many similarities with disordered eating and eating disorders. For example, Qazi and Keval (2013) highlight that individuals engaging in weight cycling often exhibited behaviors commonly characteristic of eating disorders, such as restricting food, over-exercising, and fearing weight gain (Nagata et al., 2018; O'Brien et al., 2016). Given its potentially dangerous consequences, weight cycling should not be viewed as an accepted part of everyday life but rather a maladaptive practice. Exploring weight cycling in the context of disordered eating may be an important next step in emphasizing the relevance and seriousness of this phenomenon and further stimulating systematic research and unique clinical programs and interventions. Weight cycling does not need to be an inevitable byproduct of cultural beauty standards and a chronic and upsetting part of so many people's lives.

# **Practical Applications**

The vast majority of participants wished they had never begun dieting, that they had never received weight-related comments, that they had never compared their body to others, and that they had never restricted their food, overexercised, or undergone so many stressful lose-gain cycles. Findings suggest the need to combat weight-cycling risk factors on both macro and individual levels. On a macro level, it is first necessary to challenge the weight normative approaches common to public health messaging and initiatives in the United States that encourage individuals to lose weight for the sake of health (Hunger et al., 2020; McGregor et al., 2022). This messaging prioritizes a focus on weight loss, often via fad diets, calorie counting, and restrictive eating (Campos et al., 2006; Humphreys, 2010; O'hara & Taylor, 2018), even shaming people for having overweight or obesity (Callahan, 2013). In this way, public messages exacerbate experienced and internalized weight stigma, spread health myths about thin being best, and increase the prevalence of weight cycling (O'Brien et al., 2016; Salas, 2015; Tomiyama, 2014).

Consequently, initiatives such as recent U.S. pediatric guidelines for weight loss (Hampl et al., 2023) should be reconsidered, as an emphasis on childhood weight loss may set children up for lifelong weight struggles and heighten weight stigma. Indeed, diets can put children's self-worth and emotional well-being at risk (Andreassen et al., 2013). The American Medical Association recently declared that BMI alone is an imperfect measure of weight risk (Berg, 2023), which is a step in viewing health more holistically. Instead of restricting calories, individuals of all ages should be guided to focus on nutrition, movement, eating a wide variety of foods, and learning how to regulate emotions (Van Strien, 2018). After all, intuitive eating-as opposed to obsessing over calories consumed and burned-was an effective way interviewees challenged the cycle that is also supported by the literature (Bacon et al., 2005). Broader initiatives, such as Health at Any Size (Bacon & Aphramor, 2011) or smaller scale programs such as New Moves, an NIH-funded schoolbased physical education program which promotes adolescent girls being "fab, fueled, and fit" regardless of size, shape, or skill (Neumark-Sztainer et al., 2018), push against stigmatizing paradigms and help to empower body positivity and acceptance and viewing health as a multifaceted state that is not defined solely by weight (Tylka et al., 2014). These programs should be more broadly promoted and funded, as initiatives and programs shifting away from the weight-centered paradigm of health have the potential to have a ripple effect on the way society views weight. Additionally, while it is certainly not our intent to shame people who weight cycle, perhaps if yo-yo dieting was officially considered disordered eating, or even classified as a type of an eating disorder, as opposed to an almost automatic byproduct of dieting (Bacon & Aphramor, 2011; Hankey, 2022; Mehta et al., 2014), America's dangerous focus on rapid weight loss (Greenway, 2021) could begin to shift.

On an individual level, interventions and techniques specifically focused on addressing and resisting experienced and internalized weight stigma through interpersonal communication (Lawrence et al., 2022; Rodgers et al., 2021) would be useful. As the TIM (Thompson et al., 1999) argues—and our study supports—dieting and disordered eating for people of all weights are bolstered by micro-level interactions. Therefore, it would be valuable to develop school-based communication initiatives to teach students and parents about the dangers of such talk, as weight comments and teasing (while potentially wellintentioned) can spark lifelong negative self-image and social comparisons and increase susceptibility to weight cycling (Lawrence et al., 2022). Relatedly, young adultsand people in general-should be informed about the dangers of social comparisons, especially to social media influencers, as such comparisons can also initiate and perpetuate weight cycling (Choukas-Bradley et al., 2022; Saunders & Eaton, 2018). In general, people should consider limiting their social media-especially on sites and platforms that depict unrealistic beauty standards-to minimize dieting triggers. Instead, people should focus on body positive social media content that fosters body acceptance and challenges thin and muscular beauty ideals (Rodgers et al., 2022).

Moreover, while it may be difficult to change cultural beauty standards, individuals could be trained to use communication as a tool to resist internalizing stigma through strategies such as reframing, avoiding, and distancing oneself from stigma (see stigma management communication theory; SMC; Meisenbach, 2010; Romo & Obiol, 2023). Helping people perceive themselves as worthy and reconceptualizing diet culture-for example, as something that originated from a patriarchal capitalist system fueled by consumerist dieting practices (e.g., Jovanovski & Jaeger, 2022)-may empower individuals to withstand U.S. body ideals. Additionally, people who have experienced or internalized weight-related stigma should also be encouraged to seek counseling. Not only did this emerge as an effective strategy for our participants but psychological acceptance and mindfulness therapy have been shown to reduce the effect of weight stigma (O'Brien et al., 2016).

## **Limitations and Future Directions**

This study has several limitations. First, there was a lack of racial and ethnic diversity in our participants, as the overwhelming majority were white. Additionally, while we did interview a number of men, consistent with predominantly women-centric weight concerns and weight cycling research (e.g., Bombak & Monaghan, 2017; Pila, Sabiston et al., 2018, Pila, Sabiston et al., 2018), the majority of our participants were women, and no interviewees identified as nonbinary. Also, while interviewees' ages ranged from 18 to 70, the average age was 26, reflecting a younger sample who may have different interpersonal influences and social standards (Dohnt & Tiggemann, 2006), as well as magnitude and length of time cycling (Lahti-Kosko et al., 2005; Svetkey et al., 2014). However, while not the focus of our analysis, we found that themes cut across participant ages and genders, suggesting limited variability across the sample. Also, as we did not capture socioeconomic information, we cannot speak to income differences. Future research should seek a more robust sample to capture the unique weight-cycling experiences of individuals across multiple identities. Additionally, while we did not specifically explore these concepts, it is important to learn more about what specifically prompts an individual diet cycle to start and end to provide more nuance to our model. Furthermore, beyond changing one's weight-related beliefs broadly, or avoiding triggers to challenge weight-cycling, how can people learn to recognize a diet cycle coming on and develop resistance strategies?

Researchers could also apply quantitative approaches to test the proposed relationships presented in our model. For example, while our model uncovered factors that prompted participants to enter, undergo, and challenge the cycle, the relationships between thin- and muscular-ideal internalization, upward social comparisons, comments from friends and family, and entering the cycle have not been quantitatively tested with respect to weight cycling, nor has the role of internalized stigma with perpetuating the weight gain and losses that we found kept the cycle in motion. Additionally, as our study was not longitudinal and observational, we were unable to determine the extent to which participants truly were able to leave the cycle. It is also uncertain which factors most heavily influenced interviewees' resistance to vo-vo dieting or susceptibility for reentering the cycle (for instance, to what extent is selfesteem, social comparisons, or experienced or internalized stigma correlated with challenging beauty norms? What is the relationship between stigmatizing comments from family and peers and the stage of weight cycling a person is in?). It is also unclear what role such factors as weightcycling intensity and frequency (Pearl et al., 2020) play in conjunction with the entering, undergoing, and challenging factors we elucidated in the present study. Uncovering these relationships would provide a valuable test into how the TIM (Thompson et al., 1999) and cyclical weight-based stigma theorizing (Tomiyama, 2014) interact with weight cycling. Last, forthcoming studies could also explicitly frame weight cycling through cultivation, relational dialectics, social learning, and/or cognitive dissonance lenses to further unpack the influences, tensions, and dissonance voiced by individuals navigating their bodies in U.S. diet culture.

## Conclusion

Through the development of a qualitative model of weight cycling, the present study builds on quantitative research to richly showcase how social pressures, experienced and internalized stigma, and weight-cycling interplay. Consistent with the TIM (Thompson et al., 1999), socially constructed beauty standards led participants to make comparisons and experience weight stigma, largely through comments and teasing, which then resulted in internalized weight stigma and engagement in disordered weight management behaviors. Stigma experiences and internalizations seemed to reinforce weight loss and gain, supporting emerging weight stigma and cycling frameworks (Tomiyama, 2014), and keeping many people on a yo-yo diet. Some participants challenged the cycle by becoming more self-aware and mitigating toxic dieting behaviors, but the hold weight cycling had on participants was strong, consistent with existing research on the challenges of weight management (Bacon & Aphramor, 2011). This investigation supports existing research that weight cycling is a form of disordered eating (Qazi & Keval, 2013; Werbart & Werbart, 2015) that should potentially even be classified as an eating disorder.

#### **Declaration of Conflicting Interests**

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#### **Ethical Statement**

#### Ethical Approval

Our study was approved by the North Carolina State University Institutional Review Board (approval no. 25203).

#### Informed Consent

All participants provided verbal consent prior to the start of the study interviews.

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#### **Data Availability Statement**

The study dataset is available by emailing the first author.

#### **Supplemental Material**

Supplemental material for this article is available online.

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