

THESIS

THE DEVELOPMENT OF A SCALE TO MEASURE DIET-CULTURE BELIEFS

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## ABSTRACT

### THE DEVELOPMENT OF A SCALE TO MEASURE DIET-CULTURE BELIEFS

In the United States, it is widely assumed that dieting is a healthy practice and a thin body represents physical health (Bacon, 2010). Many people believe that a person's body size is a direct result of their behaviors related to food and exercise, dismissing the impact of other factors that influence body size (e.g. genetics) (Chrisler & Barney, 2017). It is common for people to view food as "good" or "bad" based on how the food is thought to impact a person's body. "Bad" foods cause weight gain, while "good" foods result in weight loss or maintenance (Vartanian, Herman, & Polivy, 2007). Research demonstrates that women tend to experience negative moral emotions such as guilt and shame after eating foods society characterizes as "bad" or after eating more than they view as acceptable (Sheikh, Botindari, & White, 2013). Along with health and morality, dieting and thinness holds significance in the area of social status. Thinness persists as the ideal body type in the U.S. and dieting offers a path to achieve that socially prized body type. Dieting and health, moralization of food and bodies, and dieting and status are three aspects of diet-culture. This study sought to examine how women experience diet-culture and create a tool to measure women's diet-culture beliefs.

I consulted previous literature and conducted focus groups investigating women's experiences with diet-culture. The focus groups revealed important themes related to diet-culture that were subsequently used to generate items for the Diet-Culture Beliefs Scale (DCBS). DCBS items were administered to a sample of psychology students ( $n = 517$ ) who identified as women. I conducted an exploratory factor analysis (EFA) and a parallel analysis, which both pointed to a

three-factor structure for the DCBS. I then conducted a confirmatory factor analysis (CFA) specifying three factors and selected items based on psychometric quality. After modifications, analyses suggested a good model fit for the nine-item, three-factor scale. This scale is a useful first step in empirically measuring diet-culture, though additional research must be conducted to further validate the DCBS.

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## Introduction

For decades, medical professionals have prescribed dieting for weight loss. The idea that individuals' food choices determine their weight, and that weight determines their health often goes uncontested (Hooper et al., 2012; Sievert, 2019). Research indicates that though weight is an important health factor at both extremes of the body size spectrum, it may not be a particularly meaningful indicator of health for most individuals (McGee, 2005). Though dieting for health is not a necessity for most of the population, enacting rules and restraint around food in order to achieve weight loss or a slender figure is sold to the general population as a behavior that everyone—especially women—should practice. Dieting is not simply a behavioral norm—it has been presented as a moral, health, and social obligation (Bacon, 2010; Lelwica, Hoglund, & McNallie, 2009; Levinovitz, 2015).

The intersection of gender and body size reveals that women in the United States and uniquely experience societal pressure pertaining to food and bodies. From an early age, girls have an awareness that society holds appearance standards mandating a physical form that many cannot attain (Campos, Saguy, Ernsberger, Oliver, & Gaesser, 2005). Research indicates that as early as age five or six, girls are aware of the connection between dieting and weight loss and report that their ideal body is significantly thinner than their current body (Davison, Markey, & Birch, 2000; Lowes & Tiggeman, 2003). Dieting is a common behavior among women in response to cultural body and health ideals (Abramovitz & Birch, 2000). Studies indicate that 59% of teenage girls are actively dieting, seven in 10 women and girls report appearance anxiety and low body confidence, and nine out of 10 women report that they know the risks associated with not eating yet still choose to restrict food in response to negative body image (Dove, 2016;

The National Center on Addiction and Substance Abuse, 2003). While appearance is a central component of how women are judged by others, the methods used to achieve specific body manipulation and maintenance are likewise laden with societal evaluation (Magnus, Kowalski, & McHugh, 2010; Rudd & Lennon, 2000).

A fixation on food consumption and restraint, a morally charged expectation that every person should strive for a healthy body, and a worship of thinness is often referred to as *diet-culture* within groups of practitioners and activists who reject these cultural norms. Christy Harrison (2017), a registered dietitian and leader in the field of treating disordered eating defines diet-culture as, “A system of beliefs that equates thinness to health and moral virtue, that promotes weight loss as a means of attaining higher status, and that demonizes certain ways of eating while elevating others” (see Appendix A). It is common knowledge that the majority of Western culture associates thinness with health, and views dieting behaviors as conducive to increasing one’s physical health (Bunda & Busseri, 2019). People in smaller bodies are praised for their self-restraint, discipline and health-consciousness, and individuals regularly pronounce certain foods “good” and others “bad” based on the way that food is assumed to effect one’s weight (Rozin, Ashmore, & Markwith, 1996).

### **Components of Diet-Culture**

**Dieting and status.** To fully understand diet-culture, it is important to explore each aspect of diet-culture’s definition. Dieting and weight loss as a means of increasing one’s status are main components of diet-culture. This idea is heavily informed by feminist theory. Naomi Wolf (1991), in her book *The Beauty Myth: How Images of Beauty Are Used Against Women*, explored processes by which dieting has become the influential force in women’s lives that it is today. She proposed that once women moved into the male sphere of the professional world and

were no longer confined to domesticity, the rise of the thin ideal functioned to trap women in their own bodies (Wolf, 1991). Stringent beauty standards served to distract and exhaust women, thereby upholding the status quo of men holding more power in the world of work.

With dieting for status concentrated in the female population, it is common for women to engage in social comparison around these practices and the physical characteristics that dieting is expected to alter (Fisher, Dunn, & Thompson, 2002; Rancourt, Leahey, LaRose, & Crowther, 2015). Social comparison theory asserts that people are driven to assess themselves and will compare themselves to others when there is a lack of objective, individual-based material to use for comparison (Festinger, 1954). People are also most likely to compare themselves with individuals who most closely resemble them (Festinger, 1954). Social comparison plays a key role in organizing and reinforcing the hierarchy within diet-culture; women's choice of whether to employ dieting and exercise behaviors has implications for their social standing. Women's food choices are not confined to the private sphere—how they navigate food is a public performance that symbolizes social worth (Wolf, 1991). Similarly, the idea of food behaviors and appearance indicating a person's worth is a meaningful aspect of the moralization aspect of diet-culture.

**Moralization of food and body size.** A second dimension of diet-culture is the moralization of thinness and foods that are deemed healthy. Rozin (1999) describes moralization as, “the process through which preferences are converted into values, both in individual lives and at the level of culture” (p. 1). He notes that this process is most prevalent in Western countries, because it is grounded in Protestant values such as self-discipline, restraint, and control. Moralization is often concentrated in the health field, likely a result of the Protestant idea that the body is a gift from God and therefore should be protected and preserved as an act of obedience

(Rozin, 1999; Steim & Nemeroff, 1995). Additionally, creating systems of morality can serve to quell anxiety associated with the randomness of the world, as moralization allows people to apply meaning and purpose to arbitrary realities (Levinovitz, 2015).

Alan Levinovitz (2015), a scholar of religion, speaks to the pattern observed in diet-culture of engaging in the practice of eliminating types of food to escape uncertainty and fear. American culture has historically demonized categories of foods, such as food containing gluten or additives like monosodium glutamate (MSG). This practice has created a market for products that claim to be dietary cures, for the harm caused by the “unsafe” food. Moreover, the idea of dietary practices allowing people to return to “paradise” has taken various forms throughout history (Levinovitz, 2015). In all cases, avoiding certain foods or eating according to a specific set of rules has been associated with purifying or cleansing people from illness and eradicating guilt. Dieting trends such as “clean eating” highlight the association in Western culture between food and purity (Bell, 1985). Bell (1985) proposed that starvation functions as method of purification for individuals with restrictive eating disorders. Similarly, Lelwica (1999) speaks to the spiritual and moral elements contained in women’s dieting behaviors. The historical connection between women, sin, and shunning the “desires of the flesh” persists today and may be expressed through food restraint and extreme exercise (Lelwica, 1999). On some level, manipulating food intake and exercise may be a method of fulfilling a spiritual hunger that leaves women doubly empty (Lelwica, 1999).

Drawing further on food moralization, Contois (2015) reviewed two of the best-selling diet books, Dr. Robert Atkin’s (1992) *Dr. Atkin’s New Diet Revolution* and Dr. Arthur Agatston’s (2003) *The South Beach Diet*, for themes of religiosity and proposed theology based on dieting and weight loss. The foundation of the theology Contois observed focused on “a

dichotomy between ‘good’ and ‘bad’ foods, is viewed as culminating in the thin or fat body of the eater” (p. 112). Both diet texts include weight loss testimonies that serve to cultivate ambivalent dieters’ faith in the doctrine. These testimonies consist of individuals becoming enlightened through learning specific dietary rules and achieving salvation by practicing those rules and banishing fat from their bodies (Contois, 2015).

This moralization of food choice is evident in everyday conversations in grocery stores or office lunchrooms and over tables at restaurants. Food is dichotomized and labeled as “good” or “bad”—labels that extend beyond food to be applied to their consumers (Chernev, 2011; Rozin, Ashmore, & Markwith, 1996; Steim & Nemeroff, 1995). Studies confirm that “you are what you eat” is more than just an expression; the types of food people consume do affect how others perceive them (Contois, 2015; Levinovitz, 2015; Oakes & Slotterback, 2004; Vartanian, Herman, & Polivy, 2007). The implications of eating “good” or “bad” foods are especially meaningful in light of healthism, which can be defined as a focus on one’s personal health as the most significant indicator of well-being achievement (Crawford, 1980). This socially constructed view of health does not acknowledge the numerous facets that comprise well-being while also implying that individuals can achieve health through moral conduct and self-discipline that leads to changes in body shape or size (Nicolosi, 2006). Research suggests if individuals eat “good” food, they are viewed as healthier, having a smaller body size and having more positive attributes than people who consume “bad” foods (Oakes & Slotterback, 2004; Vartanian, Herman, & Polivy, 2007). Additionally, women are judged more harshly than men when they consume “bad” foods and are considered less likeable and athletic (Oakes & Slotterback, 2004).

In addition to receiving judgment from others, women seem to judge themselves based on lack of restraint and overeating. For example, in a study conducted by Sheikh, Botindari, and

White (2013) some participants were instructed to reflect on a time when they ate “too much” while other participants did not complete a reflection. Participants who reflected on a past restrained eating failure chose more words and phrases related to cleanliness in follow-up tasks compared to participants in the control group. This pattern was only observed in participants who identified as women. Importantly, the desire for cleanliness in response to overeating was fully mediated by negative moral emotions. That is, overeating triggered feelings of guilt and shame that made women more aware of morality associated with eating behaviors. Steim and Nemeroff (1995) explored the moralization of food and bodies in a qualitative study that revealed a common theme of eating behaviors indicating an individuals’ moral worth as well as superiority and guilt associated with consuming “good” and “bad” foods. They also found that individuals who did not have faith in healthism and rejected cultural healthy eating ideals did not experience guilt, moral failure, or pressure to regulate their food in the same way as did those who accepted cultural health ideals. These findings support the idea that healthist ideals may be socially constructed (Lelwica, Høglund, & McNallie, 2009; Steim & Nemeroff, 1995). The concept that some beliefs around health are contrived rather than based in empirical evidence could be impactful information, as the pursuit of health is an important value for many people. Considering this idea may alter individual’s the choices aimed at health promotion as well as foster the development of a critical approach to health claims.

**Dieting and health.** In contrast with the overwhelming focus in Western society on losing weight for health, research indicates that weight is not a holistic reflection of health and that dieting is not a legitimate method for losing weight or improving well-being (Bacon, 2010). Tylka and colleagues (2014) argue that focusing on weight rather than health promoting behaviors does not increase well-being and conflicts with clinicians’ ethical commitment to do

no harm. It is common to experience weight cycling and feelings of failure, both of which are associated with lower psychological well-being (Gagnon-Girouard et al., 2010). Additionally, being more connected and responsive to one's internal cues of hunger and satiety, rather than focusing on external measures such as weight—is associated with greater well-being (Tylka et al., 2014). No study has successfully identified how much weight is “too much,” such that all individuals would experience negative health consequences as a result of their body weight (Chrisler & Barney, 2017; McGee, 2005). Even the cut-offs that define the medical category of “overweight” are heavily contested, and some research suggests that being overweight may actually function as a protective health factor (Bacon, 2010; McGee, 2005).

Additionally, the idea of the obesity “epidemic” in the U.S. proposes a strong, unambiguous connection between weight and health. An epidemic is characterized by exponential patterns of growth, and the data on weight trends in the US population do not demonstrate that pattern (Campos, Saguy, Ernsberger, Oliver, & Gaesser, 2005). Campos and colleagues (2005) note that the trend in weight gain is best described as a “modest rightward skewing of average weight on the distribution curve” (p. 55). This rightward skewing means that many individuals with body mass indexes (BMIs) previously in the “overweight” category are now categorized as “obese,” though their weight gain was not particularly drastic. Significant weight gains have been observed on the heavier end of the spectrum, but the majority of people have experienced only subtle shifts in weight (Bacon, 2010; Campos, Saguy, Ernsberger, Oliver, & Gaesser, 2005; Freedman, Khan, Serdula, Galuska, & Dietz, 2002). This trend is not unique to humans, as the body weight of animal populations living with and around humans in industrial societies has also increased in the last three decades (Klimentidis, et al., 2011). Animals are not exposed in the same way to the influences that are typically identified as contributing to obesity

(e.g. increase in fast food restaurants, use of labor-saving devices, high prevalence of refined food low in fiber), which speaks to the need for greater understanding of health and weight determinants.

Though numerous studies have reported a positive correlation between body weight and illnesses such as type 2 diabetes, hypertension, cancer, and atherosclerosis, the relationship between weight and health is complex (Chrisler & Barney, 2017). The Americans Changing Lives study, which examined the interplay of both behavioral and socioeconomic factors that impact mortality using a nationally representative sample from 1986-2005, found that individuals with a BMI in the obese category did not have a higher risk of mortality (Lantz, Golberstein, House, & Morenoff, 2010). When health status (e.g., self-reported general health status, physical mobility) and other health risk behaviors (e.g., smoking, alcohol abuse) were controlled for, individuals categorized as obese had a significantly lower risk of mortality than people in the normal weight category (Lantz et al., 2010). Weight loss interventions have been shown to effectively reduce weight in the short term as well as improve health metrics (Bacon, 2011; McEvedy, Sullivan-Mort, McLean, Pascoe, & Paxton, 2017). However, these types of interventions typically involve other behavioral changes such as increasing physical activity, making it difficult to accurately attribute the cause of health improvements (Bacon & Aphramor, 2011). The “obesity paradox” is the pattern of people classified as “obese” who have a serious injury or illness experiencing increased survival time, despite the general population with the same injury or illness experiencing decreased survival time. It seems that being at a higher weight may serve as a protective factor for some individuals (Lantz et al., 2010). This pattern opposes the assumptions made within diet-culture and adds another interesting facet to the relationship between weight and health (Childers & Allison, 2010, p. 1231).

Diet-culture is a multi-layered concept that may manifest in a variety of different ways. One aspect of diet-culture involves using dieting and thinness as a way of gaining social power. The second is placing moral value on specific foods and body types, and the third is rigidly associating thin bodies with health. All three of these components combined have the potential to impact personal, social, and professional spheres of a person's life. For this reason, it is critical to examine diet-culture's impact.

### **Risks Associated with Diet-Culture**

**Dieting and power.** The oppression that stems from the pressures within diet-culture is evident in the measures women take to avoid or remove perceptions of fatness. Surveys have shown that women would rather lose 10 to 15 pounds than experience success in areas of love or work and that they opt out of significant events in their lives due to perceived appearance shortcomings (Dove, 2016; Wolf, 1991). For women who are in bodies that do not naturally conform to the thin ideal (i.e., the majority of American women), nourishing oneself in a health-promoting way may be a barrier to conforming to the thin ideal, ultimately situating women such that they must choose between their health and their power (Wolf, 1991).

As previously noted, this struggle of balancing both health and power can be observed in women's shift into the professional sphere. Though many women experience success in the workplace, some have simultaneously experienced personal failure for not meeting increasingly restrictive beauty standards. Germov and Williams (1996) stated that often women must meet impossible standards of thinness in order to escape discrimination in Western society, and that pursuit depletes women's energy, leaving them feeling exhausted and worthless. Wolf (1991) describes this cultural shift toward increasingly unattainable appearance ideals as, "a direct solution to the dangers posed by the women's movement and economic and reproductive

freedom. Dieting is the most potent political sedative in women's history; a quietly mad population is a tractable one" (p. 187). Ideals that promote thinness prompt a fruitless process whereby women attempt to gain social status and power through weight loss only to be covertly controlled on the level of one of humanity's most basic needs, food.

The appearance standards demanded by diet-culture also have negative outcomes for women by encouraging social comparison. Studies indicate that engaging in these self and other evaluations consistently predicts negative body image and eating disturbances. This relationship persists even when participants are asked to evaluate images representing unrealistic ideals while considering the negative impact of such images (Engeln-Maddox, 2005; Myers & Crowther, 2009; Richins, 1991; Stormer & Thompson, 1996; Thornton & Moore, 1993). Further, Rancourt, Leahey, LaRose, and Crowther (2015) found that when women compared themselves with their friends, they were more likely to engage in dieting and exercise behaviors. These findings suggest that close relationships, which could otherwise be helpful and validating, may be transformed by diet-culture into a space that breeds competition and exclusion (Garcia, Tor, & Schiff, 2013; White, Langer, Yariv, & Welch, 2006). Women are encouraged to exercise their power and win social approval through the self-denial and suffering required by diet-culture. This model sets women up to "compete with each other as they compare themselves to the ideal— forever falling short" (Lelwica, Hogland, and McNallie, 2009, p. 24).

Performing dieting and weight loss behaviors correctly means that women have a better chance of escaping discrimination based on gender and size (Vartanian & Silverstein, 2013). Considering the implications of women's food choices and body shape, it follows that women may employ social comparison as a protective measure. Unfortunately, this process of comparing and competing with one another may be a serious hindrance to women creating a community that

would support those who desire to reject diet-culture's demands and facilitate political organization that aims to disassemble diet-culture altogether.

**Consequences of moralization of food and bodies.** A culture that moralizes aspects of food and bodies is accompanied by numerous problematic implications. Operating from the theological weight loss framework identified by Contois (2015), if a person is not able to lose weight, is not interested in dieting, or lives in a larger body that is assumed to be a result of a lack of weight loss devotion, they are judged as immoral and unfaithful (Contois, 2015). These types of judgments are likely saturated with guilt and shame, which do not empower people to take care of their bodies and are generally not beneficial to one's relationship to food, oneself, or others (Contois, 2015).

This shame-based, guilt-driven way of approaching food and bodies does not take into account the reality that human beings' body sizes have always existed on a spectrum (Komaroff, 2016). Size diversity is a fact of life, and genetics play a profound role in determining the size of one's body in the same way they influence eye color and height (Bacon, 2010). Being on the heavier end of the weight spectrum has not always been viewed as a social crime the way it is today. Examining print media in the U.S. over the past 40+ years reveals a historical trend, most dramatically shifting during the 1980s and 1990s, toward fashion models becoming increasingly thin and images containing full body portrayals being more common (Sypeck, Gray, & Ahrens, 2004). As noted previously, not only has thinness become the preference determined by societal beauty standards, has also become associated with health and certain dieting behaviors (Davison, Markey, & Birch, 2000; Oakes & Slotterback, 2004; Vartanian, Herman, & Polivy, 2007). This perceived link between thinness and health has been a crucial part of maintaining the moralization of thinness and dieting (Steim & Nemeroff, 1995). It promotes the idea that

individuals earn the bodies they have by choosing to consume and resist types of food and it implies that a person is able to evaluate another's body and thereby obtain information about that person's goodness and worthiness.

**Inadequacy of dieting for health promotion.** Not only does the association between thinness and health reinforce the moralization of food and bodies, it also contributes to health issues. A large, nationally representative sample of U.S. adults revealed that mental and physical health were more closely tied to the discrepancy between a person's current weight and ideal weight, as opposed to one's actual BMI; in other words, feeling fat was a larger health detriment than being fat (Muennig, Jia, Lee, & Lubetkin, 2008). This cultural bias also impacts research, as studies often do not account for other variables that are known to significantly impact health such as genetics, fitness, perceived stigma and weight cycling (Bacon, 2010; Bacon & Aphramor, 2011; Chrisler & Barney, 2017; Garner & Wooley, 1991).

The incomplete, oversimplified framework formed by assuming that fatness is the root cause of (or, at the very least, something that worsens) health conditions compounds stigma toward people in larger bodies within society at large and especially in the medical field (Kasardo & McHugh, 2015; Phelan, Dovidio, Puhl, Burgess, Nelson, Yeazel, ... & Ryn, 2014). Experiencing discrimination is a risk factor in itself for illness, and weight-related stigma impacts the quality of medical treatment people in larger bodies receive within the healthcare system (Chrisler & Barney, 2017). People in larger bodies are less likely to be prescribed empirically validated treatments for the health issues they experience and are instead recommended to pursue dangerous forms of treatment such as bariatric surgery (Chrisler & Barney, 2017). This bias also results in people in larger bodies being regularly fat-shamed by medical professionals, a humiliating experience that can lead to patients putting off doctor's

visits or avoiding the healthcare profession altogether, which will likely result in poorer health outcomes (Amy, Aalborg, Lyons, & Keranen, 2006; Chrisler & Barney, 2017).

Dieting is the typical prescription for improving the health and well-being of individuals in larger bodies, but research reveals that it is not effective (Bacon, Stern, Van Loan, & Keim, 2005; Bacon et al., 2002; Bacon, 2003; Garner & Wooley, 1991; Mann et al., 2007; Mensinger, Calogero, Stranges, & Tylka, 2016). It is estimated that 95% of people who diet gain back the weight they lost while dieting and many individuals gain more weight back than they initially lost (Polivy & Herman, 2002). Even with the abundant amount of evidence that dieting is not necessary for health or an effective intervention for weight loss, funding continues to be funneled into research on dieting and weight loss methods (Bacon, 2010). Considering the many shortcomings of dieting, it is imperative to search out alternative methods for promoting health.

**Non-diet approaches to health.** There are currently two major, often intertwined approaches to health that contrast the weight loss through dieting approach: Health at Every Size and Intuitive Eating. Health at Every Size (HAES) is a weight-neutral approach to health that prioritizes size acceptance (Bacon, 2010). HAES invites people to engage in health promoting behaviors (e.g. movement, eating a wide variety of foods) at the weight they are currently at, without expecting or aiming for weight loss. In the HAES framework, a person's weight does not define nor limit their health (Bacon, 2010). Intuitive Eating is a non-diet approach concentrated on connecting with the body's physiological and satiety cues. It consists of eight principles, the first and most essential being, "reject the diet mentality" (Tribole & Resch, 2012). A randomized controlled clinical trial comparing a dieting and a Health at Every Size intervention found that participants in the dieting group were not able to sustain the food restraint they were encouraged to comply with, did not maintain improvements in health behaviors, initially lost weight and

subsequently gained it back, and experienced a significant decrease in self-esteem. Participants in the Health at Every Size group developed and maintained a connection to internal signals that regulate food intake, displayed improvements in physiological measures (e.g. blood pressure), maintained weight throughout the study, and 100% of them experienced an increase in self-esteem (Bacon et al., 2005). These results display a complicated relationship between health and weight loss, suggesting that individuals seeking to improve their health would be better off avoiding dieting. Similar studies affirm the effectiveness of a non-diet, weight-neutral approach for improving health and well-being (Avalos & Tylka, 2006; Bacon et al., 2002; Mensinger et al., 2016).

Research on non-diet, weight-neutral approaches to health is sparse in comparison to studies on dieting interventions. There is a substantial amount of work to be continued with large-scale, more diverse samples in order to examine the effectiveness of approaches like Health at Every Size for improving health. Even so, it is clear that exploring methods other than dieting to empower people to care for themselves is necessary considering the inadequacy of dieting as a solution to health issues. Prescribing dieting for weight loss has not resulted in a thinner or healthier society (Bacon & Aphramor, 2011). Instead, this perceived association between weight loss, thinness, and health has contributed to demonization of fat and discrimination against individuals in larger bodies. Diet-culture is largely based on prejudice and false health beliefs, which can be extremely harmful, particularly to women and people in larger bodies.

### **Developing a Measure of Diet-Culture Beliefs**

The threads of diet-culture are often unexamined and their effects on the societal and individual level are not fully known. Though the idea of diet-culture is central to important social movements such as Health at Every Size, fat liberation and body positivity, the impact of diet-

culture has not been empirically validated or studied. Since it is evident that the current diet-culture is related to problematic beliefs and maladaptive actions in the realm of food and bodies, it is crucial to have a measure that evaluates the extent to which individuals accept and engage with diet-culture. The current study will attempt to develop a reliable and valid measure of the extent to which an individual holds diet-culture beliefs. Related research focuses on the thin ideal and dieting behavior, but beliefs about thinness and weight loss and their intersection with the attainment of well-being, health, prosperity, and morality have not yet been examined (Lieberman, Gauvin, Bukowski, & White, 2001; Thompson & Stice, 2001). Though there is currently no measure that evaluates diet-culture as conceptualized here, there are measures that evaluate aspects of diet-culture in isolation.

**Measurement of diet-culture subconstructs.** The relationship between weight and status has been evaluated by measures such as the Perceptions of Social Status by Body Weight Measure (Vartanian & Silverstein, 2013), the Thin-Ideal Implicit Association Test (Thin-Ideal IAT; Ahern & Hetherington, 2006), and the Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). The Perceptions of Social Status by Body Weight Measure (Vartanian & Silverstein, 2013) is helpful for evaluating stereotypes associated with obesity but it does not measure types of status outside of the social realm (e.g. professional) and does not examine status as it relates to thinness. Perceived pressure to conform to appearance standards established by athletes and celebrities in the media is measured by the SATAQ-3. Both athletes and celebrities are fairly high-status figures socially, economically, and professionally within society, and it follows that the pressure individuals experience to mimic these figures may be motivated by the desire to gain status. The Thin-Ideal IAT measures respondents' biases related to the thin ideal. These

biases may partially stem from status, but it is also possible that they are rooted in other areas such as health or morality.

Past measures of the moralization of food and bodies include the Body Pride and Shame Scale (BPS; Troop, 2016) and the Body Shape Belief Scale (BSB; Furnham & Greaves, 1994). The BPS asks respondents questions pertaining to their hypothetical reactions to gaining or losing weight. The potential reactions include feelings such as shame, embarrassment, self-consciousness and pride, allowing examination of participants' tendency to assign value to different types of bodies, which is a key element of diet-culture. The degree to which a person believes individuals are in control of their body shape is measured by the BSB and SATAQ-3. This belief connects to morality because if people are in control of their body size, then their weight can be a basis of judgments about their virtues (LeBesco, 2011). Scales that evaluate the moralization of food, apart from measures that focus on ethical convictions and vegetarianism, are largely absent from the literature.

There are many measures aimed at investigating one's beliefs about the link between thinness, weight loss, and health. The Food-Life Questionnaire—Short Form (FLQ-SF; Sharp, Hutchison, Prichard, & Wilson, 2013) and the Obesity Beliefs Scale (OBS; Swift, Glazebrook, Novak, & Anness, 2007) tap into respondents' perceptions of the effects of dieting and obesity on health outcomes. Other measures such as the Primary Goals for Weight Loss Questionnaire (PGWLQ; Murphy, Brennan, Walkley, Reece, & Little, 2011) and the Beliefs about Personal Weight Survey (BPWS; Pickett, Peters, & Templin, 2017) target individuals' health motivations for pursuing weight loss as well as the level of acceptance and concern people have about being overweight.

While there are existing measures that speak to elements of the subconstructs of diet-culture, these scales were not created to measure these subconstructs as defined by diet-culture research. In most cases, this results in scale items that lack the conciseness and comprehensiveness necessary to evaluate diet-culture. Additionally, some of the previously mentioned scales, such as the BSB and SATAQ-3, appear to be connected to diet-culture subconstructs, but establishing the relationships between them requires greater clarity. This new measure focused on diet-culture beliefs aims to directly address subconstructs that are less explicitly measured through existing scales (e.g., associating dieting and status; the moralization of food and bodies), while also evaluating both food practices and body size within the three subconstructs (as most scales evaluate solely food or body). The subconstruct of dieting and status will examine multiple facets including social and professional to gain a more complete description of status. The proposed scale will also move away from evaluating a perceived link between weight and health in the context of individuals who desire to lose weight and instead will be framed in a way that is applicable to individuals who vary in terms of relationship with their weight.

***Dieting and status measures.*** Vartanian and Silverstein (2013) developed the Perceptions of Social Status by Body Weight Measure, which originally served to investigate the link between obesity stereotypes and social status. Participants were exposed to cards that described an individual (varying in body size according to condition) and subsequently asked to complete six items that signified participants' perceptions of the person's status. This measure was developed using a sample of undergraduate students and yielded a Cronbach's alpha of .93.

Rather than centering on the external evaluations of others, Stice and colleagues developed the Ideal Body Internalization Scale-Revised (IBIS-R) measure, which specifically

evaluates a person's internalization of the thin ideal (Stice, 2001; Stice & Agras, 1998; Stice & Bearman, 2001). The extent to which a person accepts and internalizes the thin ideal has been identified as a risk factor for disordered eating and body dissatisfaction (Thompson & Stice, 2001). Thompson and colleagues recognized the importance of evaluating internalization they felt IBIS-R neglected certain important sociological factors, such as media influence (Thompson et al., 2004). In an attempt to fill this gap, they developed the SATAQ-3—an update to the SATAQ-R. Analyses revealed a general media influence and an athletic influence as two discrete factors for internalization (Thompson et al., 2004).

***Moralization of food and body size measures.*** A common method of measuring food moralization is to give participants descriptions of individuals' food behaviors and subsequently ask participants to make various judgments about those individuals. For example, Stein and Nemeroff (1995) gave participants a profile of a person that consisted of the most common foods the person ate as well as information about the person's fitness habits and body size. Participants were then asked to rate that person on various personality dimensions measured on an 8-point Likert scale. Oakes and Slotterback (2004) took a similar approach by providing participants with a description of two different individual's breakfast choices (either oatmeal or pie, depending on the condition), and subsequently asking participants to attribute adjectives from given adjective list to the oatmeal or pie eaters.

Though the concept of food moralization seems to play a profound role in individuals' relationships with food and bodies, there are no specific scales that measure it. However, there are related scales developed to study other stigmatized behaviors. Rozin and Singh (1999) developed a scale to measure the extent to which a person moralizes cigarette smoking that asks participants about whether they think smoking is unhealthy, immoral, and addictive. In an

attempt to tap into the individual tendency to moralize life in general, Lovett, Jordan, and Wiltermuth (2012) created the Moralization of Everyday Life Scale. This 30-item measure asks participants to rate how likely they are to place moral value on situations that involve deception, harm to members of one's social community, laziness, failure to take opportunities to do good, body violations, and disgusting behaviors. Available scales that more closely approximate food moralization focus on vegetarianism and the ethical issues around eating meat (Rothgerber, 2014; Graca, Calheiros, & Oliveira, 2016). Though these scales are connected to the relationship between morality and dietary choices, food rules born out of diet-culture do not have the same type of ethical conviction observed in the choice to abstain from eating meat.

***Dieting and health measures.*** Two existing scales represent the diet-culture subconstruct of dieting, weight, and health link in diet-culture-- the Food-Life Questionnaire-Short Form (FLQ-SF) and the Obesity Beliefs Scale (OBS). The FLQ-SF is a scale examining attitudes and beliefs pertaining to one's relationship with food comprised of 21 statements to which respondents rate their agreement with on a seven-point Likert scale (Sharp et al., 2013). The scale contains five factors including weight concern, diet-health orientation, diet-health link, food and pleasure, and natural. The questions that are related to diet-health link are the most emblematic of this subconstruct. An example item from this category is, "Diet can have a big effect on obesity" (Sharp et al., 2013).

The OBS offers a similar type of evaluation, asking participants to identify their level of agreement on a 7-point Likert scale with 15 statements related to perceived costs of obesity and benefits of ideal weight (Swift et al., 2007). Some items target individuals' health beliefs (i.e., "losing weight would greatly improve obese people's health") while others inquire about the

perceived costs of achieving and maintaining weight loss (i.e., “maintaining an ideal bodyweight takes a lot of effort”) (Swift et al., 2007).

### **Benefits of Measuring Diet-Culture**

In light of the prevalence of food and body related issues, it is critical that the field makes an effort to understand the impact diet-culture has on individuals’ well-being so that vulnerable groups, such as women in larger bodies and individuals who are genetically predisposed to engage in disordered eating, might be protected and equipped in ways that allow them to thrive. Understanding this phenomenon is a necessary step toward creating a culture that truly empowers individuals to pursue health if they so choose. Thus, the purpose of this study is to develop a scale to measure diet-culture beliefs.

### **Method**

This study was divided into two separate parts. The first stage included conducting focus groups centered on the definition and function of diet-culture, and the second consisted of generating items, formatting the measure, and testing and evaluating the items.

#### **Study 1: Focus Groups**

The lack of empirical research focused specifically on diet-culture called for preliminary exploratory steps to gain greater understanding about how women experience diet-culture. Though the idea of how each component of diet-culture functions is grounded in previous research, investigating how the three subconstructs of diet-culture work together for people influenced by diet-culture would provide rich data to form a grounded theory approach. To accomplish this, I employed focus groups. Focus groups are often utilized to illuminate various influences on behaviors, attitudes and cultures (Krueger & Casey, 2014; Rabiee, 2004). Rabiee

(2004) noted that focus groups are an especially helpful method for exploring how individuals navigate the multifaceted experience of making food and lifestyle choices. Individuals in the focus groups answered questions that targeted the three main aspects of the definition of diet-culture presented in this study. They also expounded on how those aspects of diet-culture function in their lives. Each focus group was audio recorded. Additionally, a psychology doctoral student attended each focus group to note relevant details of the discussion, general impressions, and salient themes. The purpose of the focus groups was to investigate individuals' experiences of the influences and behaviors associated with diet-culture.

**Participants.** Participants were chosen based on their membership in groups for which diet-culture is likely fairly salient, such as members of university sororities, people majoring in design and fashion merchandising, people majoring in dance, and university recreation center employees. Research indicates that disordered eating and drive for thinness is especially prevalent in sororities, suggesting that women in these communities have meaningful information to offer regarding the pressures stemming from diet-culture (Allison & Park, 2004; Basow, Foran, & Bookwala, 2007). Students majoring in design and fashion merchandising were included because the fashion industry is notorious for favoring and promoting the thin ideal in advertising as well as clothing production. These students are nested in the fashion industry's culture and may be exposed to more images highlighting the thin ideal compared to other students. Athletes have unique relationships with their bodies, and studies suggest that female college lean-sport athletes (e.g., gymnastics, dance, cross-country/track and field, swimming, volleyball) are at a heightened risk for disordered eating and exercise (Greenleaf, Petrie, Carter, & Reel, 2009; Reinking & Alexander, 2005). Lastly, individuals employed at the university recreation center were possibly attracted to that line of work because they value movement and

health in some capacity. These individuals also regularly view gym members modeling health behaviors and sending explicit and implicit messages about body size, exercise, and health.

Focus group participants were recruited via email, posters, and in-person invitations during regular gatherings of a variety of organizations (see Appendix B). In order to participate, individuals had to identify as women be 18 years or older. Each participant was awarded \$15 for their participation in the focus groups. Recommendations for the size of focus group size vary across fields and can depend on the level of sensitivity of the information being discussed (Peek & Fothergill, 2009). Krueger and Casey (2014) recommend that a focus group should consist of six-eight individuals, while Peek and Fothergill (2009) argue that smaller groups of three-five participants promote the most fruitful and efficient discussions. An individual's relationship to food and their body can be somewhat of a sensitive topic; consequently, these focus groups adhered to the recommendation of three-five participants in each group. In total, three focus groups contained three participants and one group contained four. The mean age for participants ( $n = 13$ ) was 22.2 years old ( $SD = 3.76$ ). The sample was predominantly White, with one participant who identified as Latina or Hispanic and one participant who identified as Asian American. The average length of the focus groups was 52.19 minutes ( $SD = 6.91$ ).

**Procedure.** Participants were asked to read and sign a consent form (see Appendix C) before taking part in focus groups. They were told that the intent of the project was to develop a scale to measure diet-culture beliefs and that the topics of discussion would include their experiences with food and bodies. The structure of the focus group consisted of presenting a set of questions for discussion that focused on the three factors encompassed by the definition of diet-culture (dieting and status, moralization of food and bodies, and dieting and health), probing for more specific aspects of participants' experiences with diet-culture, and asking participants

for feedback regarding any other information researchers working on this project may want to know (See Appendix D for focus group script). After the discussion, each participant was asked to respond to a survey with questions regarding demographics such as date of birth and race/ethnicity (See Appendix E).

**Evaluation.** I used Krueger's (1994) framework analysis to evaluate focus group data obtained through focus groups. The first step outlined in this process is to examine transcripts of the focus group discussions and systematically organize participants' relevant responses. Then, the categories of data were interpreted utilizing seven headings: words, context, internal consistency, frequency and extensiveness of comments, specificity of comments, intensity of comments, and big ideas (Rabiee, 2004).

**Results.** After listening to each recorded focus group twice in order to familiarize myself with the data, I transcribed the focus groups. Then, I identified relevant responses and sorted those responses into appropriate groups. Responses were deemed relevant based on a variety of factors. One of the most critical factors was if the response was practically helpful to the project at hand. Though the focus groups were facilitated, there were times in which participants drifted into conversation about topics that were not diet-culture (e.g., travel, romantic relationships, education). Data containing these conversations were not utilized. I also took into account the intensity of the responses. Intensity was demonstrated by multiple elements including the volume of a participant's voice, quickened rate of speech, or use of strong language (e.g., "I *hate* seeing myself in photos"). The frequency of responses was also taken into account. Some participants repeated the same phrase numerous times, for example, "It's just *so hard* to lose weight," while other phrases or ideas were repeated by many participants such as, "It's just all about moderation."

Responses were also categorized as relevant if there was strong agreement or disagreement between participants on their diet-culture experiences. For instance, while some participants reported being more distressed by the possibility of other people judging their body size and shape, one participant expressed that her own opinion of her body carries the most meaning. I also noted when responses aligned or did not align with the literature. A common response from participants was that the more they viewed a food as “off-limits,” the more difficult it was to resist that food, which fits with much of the research on intuitive eating (Avalos & Tylka, 2006). In contrast, a couple participants described using shame as a helpful motivator for changing behavior, which research indicates is not conducive to long-term behavior change (Carpenter, Tignor, Tsang, & Willett, 2016).

Morality related to food and body behaviors was one of the strongest themes identified in the data. Many participants categorized food as good or bad (“I shouldn’t have a doughnut—they’re bad”) and described the process of consuming “bad” food and feeling pressure to engage in “good” behaviors to compensate. One response that demonstrates this is, “Me and my suitemate are kind of both in the same mentality like, ‘we gotta work out every day and we gotta eat good’ and then we’ll go get ice cream...and we’re like, ‘we are bad.’ Then we’re like okay we’re getting up at six tomorrow and doing cardio for an hour.” This response also shows the tendency for people to view themselves and others as “good” or “bad” based on the types of food they eat.

These harsh judgments also appeared in participants’ conversations about social consequences of weight changes. Multiple participants discussed isolation as a likely result of gaining a significant amount of weight. One predicted the outcome of her gaining weight being, “I would just be like devastated and just like feel really insecure and self-conscious and feel like

I need to hide in the world and cover up and disappear until I could lose the weight again.” This suggests that this participant may view losing weight as a prerequisite for experiencing social connection. Another participant explained, “If I were to gain an extreme amount of weight, I think I’d be ostracized.” Both of these responses indicate a perceived, strong connection between a person’s weight and experiences in relationships.

Participants’ association between weight gain and negative social consequences is likely impacted by the judgments made by self and others based on food and bodies. One participant detailed the experience of going to a restaurant with family members who live in larger bodies, “I feel...worried about what other people will assume...I didn’t want other people to think that I was going to be disgusting. Like that was just a label that I think I probably put on myself.” This response highlights the interplay of self-judgment and perceived judgment from others based on body size. Further, participants often spoke of caregivers making negative comments in response to participants “taking seconds” at meals or consuming calorie dense foods. This was an experience shared by participants whose bodies fell in different places on the size spectrum, not just participants in larger bodies.

Participants highlighted that expectations for bodies seem to be influenced by gender. For instance, one participant recalled, “I still remember one time I was like eating a cookie, like I legit was only eating one...but my dad like made the comment, ‘You need to stop eating cookies or you’ll lose your womanly figure.’” This implies that there is a specific way that a woman ought to look and attaining this appearance may be hindered by eating certain foods. Another participant voiced the potential impact of gender on women’s relationships with food, “As women, I think it’s engrained in us that food is not a source of sustenance, but rather...something

that affects how you look.” These examples illustrate the societal beliefs about food impacts women’s bodies specifically.

Participants also expressed comparing their bodies to the women in their lives. One participant elaborated on her experiences of sharing a locker room with other women who compared themselves in the mirror, “that was always...soul-crushing for the people who, you know, did that in front of everyone else and couldn’t compete with them.” Conversation about participants comparing themselves with their moms occurred in every focus group. For example, one participant shared an experience of shopping with her mom, “I just remember I said..., ‘let’s go get you a pair of yoga pants!’ and she was like, ‘No, I’m too fat to wear those.’ Hearing my mom say, ‘I’m too fat’ made me think...well what about me?” This example identifies increased self-doubt as one potential outcome of comparison.

Another theme that spanned all four focus groups was a perceived link between weight and health. In reference to their sibling, one participant reported, “She lost a ton of weight...she’s so healthy!” While another shared, “I’m trying to cut weight, so I’ve been trying to eat healthier.” Though this second example is less explicit, it contains the assumption that weight loss is an outcome of health-promoting behaviors. The theme of moderation was interwoven in participants’ conversations about health. Many participants expressed that a person could theoretically eat all types of food and be healthy, as long as the person does not eat “too much” of certain types of food. One participant explained that she makes rules for herself each week, “Maybe try to only have one unhealthy/sugary thing a day or only give into like your weird cravings once every three days.” Another participant described moderation being enforced during childhood, “I had to have been like five or six and I was eating a Fun Dip...and my mom was making me eat it in sections... she wouldn’t let me eat it all at once.” This response suggests

that the caregiver relationship may be one area in which individuals learn about the concept of moderation.

A theme that was not previously identified as being part of diet-culture was the need to justify weight gain. Almost every single instance a participant mentioned gaining weight, they included an explanation of why weight gain occurred. Some justifications included, “life changes happen with feelings of loneliness or being in a new place and then you rely on food,” and “So like birth control, I gained a substantial amount of weight with that,” and “Going to the gym was intimidating and the food at the dorms wasn’t as healthy as what my mom would be making us at home and plus like being out of state like that’s a huge adjustment, so all of that led to like the freshman 15.” It seemed like participants felt the need to explain why their bodies had changed, rather than viewing body size as dynamic and something that naturally fluctuates throughout the lifespan.

Many participants expressed that they use their body as a communicator. Some participants explained that it is important that others know that she is an athlete by looking at her body. Others noted that they want to be thin and look fit to give the impression that they have accomplished something and that they are better than other people. The concept of food “sensitivities” came up in focus group conversations, mostly focused on dairy and gluten. For instance, one participant stated, “I’m not gluten intolerant but like my body just doesn’t handle it well.” And another, “Gluten and dairy. It just makes my body very unhappy so those are the things that I stay away from.” Only one participant mentioned being diagnosed as lactose intolerant. Others described low levels of “sensitivity,” experiencing mild discomfort and a range of symptoms (e.g. brain fog, sluggishness, digestion issues) after eating certain food groups.

Examination of the responses confirmed many of the previously proposed aspects of diet-culture including morality, social consequences of weight changes, judgment of body and food habits, gender expectations, weight being an indicator of health, and body and food comparison. Themes that emerged across focus groups that were not originally recognized as being under the three proposed dimensions of diet-culture were the need to justify weight gain, using the body as a communicator, and food “sensitivities.”

**Discussion.** The research in Study 1 described how women connected with the fashion industry, university sorority culture, competitive dance culture, or the fitness industry experience diet-culture. The way participants discussed morality aligned with research conducted by Oakes and Slotterback (2004), as participants indicated that when they ate “good” or “bad” foods, they absorbed that same judgment as a personal descriptor of themselves. Further, participants described feeling the need to “repent” after eating something “bad” by exercising, reducing food intake, or only eating “good” foods. This reflected the spiritual and moral elements of eating practices outlined by Lelwica (1999) and Levinovitz (2015).

In addition to being viewed as a representation of moral worth, it seems that participants viewed their bodies as a way to communicate messages to others. They felt that their bodies had the power to send messages about their identities, values, and worth to those around them. This is especially interesting in light of women’s voices being historically devalued, ignored, and silenced in society. Though there have been improvements in gender equity and representation of women’s voices, some women may continue to view their appearance as the most significant source of power they hold.

The data revealed that participants perceived diet-culture as being highly gendered. Though participants were able to critique diet-culture in this way, critiquing diet-culture did not

result in participants being free from diet-culture's pressures and expectations. This may mean that educational approaches such as teaching critical media literacy is not sufficient for shielding individuals from diet-culture's harmful effects.

Participants outlined a multitude of ways they believed gaining weight or being in a larger body would negatively impact their life. They listed losing social connections, respect from others, and self-confidence as likely by-products of weight gain. Each of these potential consequences reflect incredibly high stakes. Knowing this, it makes sense that individuals would struggle to reject diet-culture, as it proposes solutions to avoiding these negative consequences.

The major themes that emerged from focus group data provided insight into aspects of diet-culture that were significant for people and how those aspects manifest in women's lives. Phrases and words that were commonly used by participants guided the creation of scale items.

## **Study 2: Scale Construction**

The focus groups in Study 1 offered valuable information that supported the overall goal of creating a scale to evaluate a person's diet-culture beliefs. The first step in developing the scale consisted of generating potential items that were options for items on the final scale (for the complete list of generated items, see Appendix F). During this stage, I drew from focus group discussions, as well as relevant literature and past measurements that relate to aspects of diet-culture. For example, many focus group participants expressed that they would "hate themselves" if they were to gain a "significant" amount of weight. This phrasing was used to construct the item, "I'd hate myself if I gained a significant amount of weight." Another scale item informed by focus group data was, "My day is ruined when I eat something that I shouldn't have eaten," as participants described carrying guilt and shame for hours after eating foods they considered "bad." To provide additional guidance, I recruited subject matter experts (SMEs)

university faculty members, doctoral students with knowledge pertaining diet-culture, registered dietitians, and therapists who work with individuals with eating disorders. I sent a survey through Qualtrics that included the initial items I generated to each of these experts. The survey asked the SMEs to rate every item on clarity (1-10, with 1 being “not clear” and 10 being “clear”) and representativeness (1-10, with 1 being “not representative” and 10 being “representative”). Additionally, item reviewers were given space to answer the question, “What edits, changes, or comments would you like to make?” for each item. This feedback was then used to edit or eliminate weaker items. I eliminated 27 items based on SME feedback and the remaining 37 items were then used for additional steps in constructing the scale with a larger sample.

**Participants.** Two samples were obtained from Colorado State University’s undergraduate psychology research pool. Only individuals who identified as women were eligible to participate. One sample was used to conduct an exploratory factor analysis (EFA), and the other was used to run a confirmatory factor analysis (CFA). There are a number of different opinions regarding ideal sample size for factor analysis. Tinsley & Tinsley (1987) recommend a ratio of five to 10 participants for every item, but once the sample is above 300 the participant-to-item ratio can be more flexible. Others claim that a sample of 200 participants is generally sufficient when the scale contains less than 40 items (Comrey, 1988). I intended to meet both of these standards with a targeted sample size of 500 individuals split into two separate groups of 250 each for the EFA and CFA. Participant data were removed if they took the survey more than once ( $n = 0$ ) or if they left three or more items unanswered ( $n = 7$ ) (Huang, Curran, Keeney, Poposki, & DeShon, 2012). The mean age for participants in these groups ( $n = 517$ ) was 19.16 years old ( $SD = 2.32$ ). Additionally, 73% of participants identified as White, 13% as Latino or Hispanic, 5% as Asian American, 3% as Black or African American, 3% as American

Indian/Native American, 1% as Hawaiian or Pacific Islander, and 2% as other. Using random assignment, I placed 258 participants in the EFA group and 259 participants in the CFA group.

**Procedure.**

***Purpose of the scale.*** DeVellis (2012) noted that it is important to consider time frame in connection with a scale's purpose. This scale is meant to measure a person's current diet-culture beliefs, not taking past beliefs into account. Framing questions in terms of participants' present experience rather than their previous involvement with diet-culture may reduce the errors that can occur when relying on memory (Eisenhower, Mathiowetz, & Morganstein, 2011).

***Generate the item pool.*** It is important to generate as many items as it takes to fully capture the variable a scale is meant to assess (DeVellis, 2012; Murphy & Davidshofer, 1991). Though there is not an exact rule indicating how many items one should generate, having many items to choose from in the initial pool can be useful in the case of poor internal consistency (DeVellis, 2012). Further, some researchers assert that a scale must have at least three items per factor in order to determine reliability coefficients (Raykov & Marcoulides, 2011).

I hypothesized that this scale would measure the full content domain of diet-culture. If this was the case, I predicted that three subscales would emerge: dieting and status, moralization of food and bodies, and dieting and health. For each of these dimensions, I generated more than three times the number of items necessary to calculate reliability coefficients, which aligns with recommendations from the literature (DeVellis, 2012; Raykov & Marcoulides, 2011). Specifically, I generated 11 items evaluating *dieting and status*, 13 items targeting *moralization of food and bodies*, and 12 items assessing *dieting and health* (see Appendix G).

***Determine the format of the measurement.*** The format of a scale measure highly influences the types of items that are constructed. For this scale, a Likert-type format seemed

most appropriate because it permits participants to express the degree to which they endorse beliefs related to diet-culture. This is a common format used to measure attitudes and behaviors related to food and will allow for responses that represent the spectrum of diet-culture beliefs (Sharp et al., 2013; Thompson et al., 2004; Tylka, & Van Diest Kroon, 2013). Attitudinal scale research suggests that it is common for participants to have varied interpretations of the midpoint of Likert-type scales including “no opinion,” “neither,” and “neutral” (Nadler, Weston, & Voyles, 2015). In an effort to eliminate error stemming from this confusion, as well as to reduce social desirability bias, this scale will not include a midpoint (Garland, 1991). Some researchers argue that the psychometrically optimal number of response items is six (Simms, Zelazny, Williams, & Bernstein, 2019). When participants are asked to respond to scales with greater than six options, it is more difficult for them to make distinctions about psychological concepts. Alternatively, presenting participants with less than six options can lead to decreased psychometric precision (Simms et al., 2019).

In determining labels for each of the points on the Likert scale, I consulted undergraduate students with knowledge of psychological measurement through informal surveys. This was an ideal population from whom to solicit this type of feedback from because the majority of these students had personal experience participating in numerous psychological research studies as well as knowledge of elements that contribute to a strong survey. Feedback from these surveys helped determine that the scale should consist of statements that represent diet-culture beliefs for which participants will be asked to rate their level of agreement with on a one-six Likert-type scale with anchors of “I never (think, feel, or act, depending on the item) this way” to “I always (think, feel, or act, depending on the item) this way.”

*Consider inclusion of validation items.* Although the bulk of content validity was determined during the creation of questions included in scale, including previously tested items in the questionnaire administered to developmental samples can demonstrate criterion validity of the scale (DeVellis, 2012; Standards for Educational and Psychological Testing, 1999). Evidence for the validity of this scale was based in the internal structure of the measure, test content, and scores on the Food Life Questionnaire-Short Form (FLQ-SF; Sharp et al., 2013), the Three-Factor Eating Questionnaire-R18V2 (TFEQ-R18V2; Cappelleri et. al, 2009) and the Measure of Social Desirability (Shultz & Chávez, 1994) I measured convergent validity with the FLQ-SF and TFEQ-R18V2. The FLQ-SF contains items that assess the degree to which a person believes diet can impact health as well as an individual's concern about their weight. Considering that health and weight management are two main motivations underlying dieting, I expected individuals who have high scores on the FLQ-SF to also have high scores on the diet-culture beliefs scale. The TFEQ-R18V2 asks respondents to rate their level of cognitive restraint related to food. Cognitive restraint represents the occurrence of factors outside of one's physical needs influencing the desire to control one's food choices. I expected this measure to positively correlate with diet-culture because diet-culture presents numerous rules and regulations that individuals are encouraged to trust more than their own bodily cues. To measure discriminant validity, I administered the Measure of Social Desirability. Social desirability is the tendency for individuals to respond in ways that may be deemed more socially acceptable, rather than reporting responses that more closely resemble the truth. Since dieting is often associated with rigid rules, women may be motivated to present as if they adhere to those guidelines. Thus, a lack of relationship between diet-culture beliefs and social desirability would support discriminant validity.

***Test items with a developmental sample.*** I administered a survey including a consent form (see Appendix H) demographic questions (see Appendix I), the Diet-Culture Beliefs Scale (DCBS, see Appendix G), the TFEQ-R18V2 (see Appendix J), the FLQ-SF (see Appendix K), and Measure of Social Desirability (see Appendix L) to Colorado State University's psychology research pool through Qualtrics. Participants were asked to respond to the diet-culture items, the validation items mentioned above, and demographic information such as age and race/ethnicity that served to describe sample characteristics.

Participants were told that the purpose of this study was to explore attitudes and beliefs about food and bodies but were not told that the study's purpose was to develop a scale evaluating diet-culture beliefs. Cover stories such as these serve to establish a level of psychological distance from the specific variables being assessed and make the construct less salient to respondents as well as to reduce demand characteristics (Kimmel, 2017). To address social desirability, I examined focus group data to consider how socially acceptable it would be for a person to fully endorse each scale item. If individuals were willing to voice a belief with their peers, it is likely that they would feel comfortable reporting a similar belief in a confidential survey. Employing these strategies likely reduced the probability of common method bias shaping participants' responses to a minimum (Lindell & Whitney, 2001).

***Evaluate the items.*** Once all survey data was collected, item responses were evaluated. I used the data from the first sample to conduct an EFA, which indicated the initial structure of the scale. Next, I considered items characteristics such as factor loadings in order to establish the final set of items in the scale. Results from the EFA were used to revise the scale, and this revised scale was tested with the CFA sample (see Appendix M). I used data from the second

developmental sample to conduct a CFA to examine reliability estimates for the scale dimensions and confirm the factor structure of the scale.

*EFA sample analysis.* EFA is a common method used when little is known about a construct (Floyd & Widaman, 1995). Though the development of this scale was informed by theory, conducting an EFA indicated if the factor structure aligned with the expectations set by theory. Due to the paucity of research on diet-culture, this approach was utilized.

According to DeVellis (2012), factor analysis serves four main purposes. The first is to identify the number of latent variables (factors) underlying a set of items. Secondly, factor analysis allows for effective measurement of the construct of interest with fewer, more precise items compared to an initially generated list of items. Thirdly, factor analysis illuminates the meaning of factors when covariance of items is combined with theoretical justification. Lastly, factor analysis reveals how well or poorly items are performing in the scale dimensions.

The EFA revealed the number of factors within the scale. Interpreting the number of factors required evaluating the amount of additional variance each factor contributes. Factors that do not account for additional variance should not be retained (Ford, MacCallum & Tait, 1986). Eigenvalues, parallel analysis, and a scree test are all methods that have been used to determine which factors should be included in the final scale (DeVellis, 2012)). Eigenvalues are commonly used to evaluate the amount of variance a factor is contributing, following the rule that all factors with an eigenvalue less than one should be removed (Guttman, 1954; Kaiser, 1960). This approach is common, but many researchers argue against using it, as it is unreliable. Parallel analysis and a scree test demonstrate better reliability (Ford et al., 1986). I conducted a scree test and parallel analysis in order to obtain the most accurate and meaningful information for interpretation. A scree test will produce a graph based on the eigenvalues of each factor. The

graph levels off once a factor contributes much less variance than the previous factor, and factors should not be retained past that point (Devellis, 2012).

Parallel analysis involves a comparison between results of an EFA conducted with randomly generated data and the results of an EFA conducted with actual data. If a factor has an eigenvalue greater than that of the randomly generated data, that factor should be retained (Humphreys & Montanelli, 1975). Further, some researchers argue that flexibility is necessary when using a parallel analysis to determine the number of scale dimensions. Lim and Jahng (2019) recommend viewing the number of potential factors as a range from one below what parallel analysis suggests to one above what parallel analysis suggests. This approach allows for theory to inform factor structure to a greater degree than the traditional, more rigid parallel analysis rules.

The next stage of evaluation consisted of examining the factor loadings associated with each item to identify the items that most strongly loaded onto each factor. I anticipated that the factors within diet-culture would correlate with each other, and therefore used an oblique rotation method (varimax). Ford et al. (1986) suggests that an item loading greater than .30 or .40 represents good item fit, and factor loadings below these values are poor performing items that must be either revised or dropped. Additionally, cross-loaded items were cut from the scale. Items were considered cross-loaded if they had factor loadings of .32 or higher on two or more factors (Costello & Osborne, 2005; Tabachnick & Fidell, 2001). It is possible that the factor structure was altered due to the removal of items, thus I re-ran the EFA after any items were removed. Decisions concerning the final items in a scale will be most sound if based on both theory and recommended interpretation of the data.

In summary, items were retained or dropped based on the EFA. Items were cut if the factor loadings did not meet the standards identified above or there were meaningful factor cross loadings. The scale resulting from these revisions was then tested with the CFA group.

*CFA sample analysis.* The purpose of confirmatory factor analysis is to provide evidence to confirm a factor structure predicted by theory and previous research (DeVellis, 2012). Conducting a CFA with the data from the CFA group aided in determining if the dimensions of diet-culture were related in ways that align with expectations set by existing theory.

I used the maximum likelihood (ML) method to extract underlying dimensions for comparison with the proposed factors. This method is preferred because it permits calculation of goodness of fit and tests significance of factor loadings and inter-factor correlations (Fabrigar, Wegener, MacCallum, & Straham, 1999). I specified a three-factor model with specific items constrained to load on their expected factors. Then, I examined goodness of fit to determine how well a three-factor model represents the data. I used the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), and the chi-squared ( $\chi^2$ ) statistic to evaluate fit. A common cut-off rule used for evaluating RMSEA is values less than .10 are acceptable, and CFI values greater than .90 are acceptable (Hu & Bentler, 1999). Since the  $\chi^2$  statistic is influenced by large sample sizes, it is important to have additional measures of fit (e.g. RMSEA, CFI) that correct for sample size.

I conducted internal consistency reliability tests using the CFA sample to assess the degree to which all scale items correlate with one another and measure the same construct (DeVellis, 2012). One of the methods I used to measure internal consistency was the alpha coefficient, which is a widely used measure of reliability that evaluates how interrelated items are. According to Nunnally and Bernstein (1994), values of alpha above .90 suggest a strong

correlation between items, but a value of .70 is minimally acceptable. The second measure of internal consistency used is omega, which assesses the unidimensionality of a scale (McDonald, 1999). Values that fall within the range of .80 to .90 indicate reliability of scores (Raykov & Marcoulides, 2011). There are other methods of evaluating reliability that are not applicable to this project. For instance, I did not calculate test-retest reliability because there is no evidence to suggest that diet-culture beliefs are consistent over time, though this may be of interest in the future. Additionally, interrater reliability was not relevant because this current study is not using multiple raters to obtain scores. These values served to confirm or disconfirm results from the CFA model.

**Measures.** Participants were provided with a consent form (see Appendix H) as well as a demographic sheet (see Appendix I) with questions pertaining to their date of birth, race/ethnicity, year in school, and major(s) in school.

Diet-culture beliefs were assessed by the items developed in the current study. Appendix G displays the scale items that were reviewed by experts and subsequently administered to the EFA and Appendix M includes the items administered to the CFA sample.

I assessed convergent validity using the cognitive restraint subscale in Three-Factor Eating Questionnaire-R18V2 (Cappelleri et. al, 2009) and the Food-Life Questionnaire-Short Form (Sharp et al., 2013). Cognitive restraint in the TFEQ-R18V2 is measured by three items that are coded on a four-point scale, with higher scores indicating more frequent behavior. Reliability of this subscale has been shown to be good, as indicated by an alpha above .78 replicated in multiple studies (Cappelleri et. al, 2009, Swartz et al., 2016). This subscale is presented in Appendix I. I utilized two subscales from the FLQ-SF: weight concern and diet-health link. The weight concern subscale consists of six items and the diet-health link subscale

consists of four items, and all items are scored on a seven-point Likert scale. Both the weight-concern and diet-health link subscales demonstrate good reliability, with alphas of .83 and .75 respectively. These subscales are presented in Appendix J.

I will assess discriminant validity using the Measure of Social Desirability (Shultz & Chávez, 1994). There are 11 items in the measure, with each item scored on a 5-point scale. This Measure of Social Desirability has shown good internal reliability ( $\alpha = .80$ ). The full scale is presented in Appendix K.

## **Results.**

*Initial item and response format review.* Recommendations from subject matter experts and several psychology doctoral students were consulted to make improvements to the DCBS. This initial review process served to identify items that were unclear, not representative of the construct, or poorly worded. I also incorporated feedback from psychology students regarding the most effective response scale labels. The resulting scale was administered to the EFA sample.

*EFA sample results.* I conducted the EFA and descriptive analyses on data collected on 37 DCBS (see Appendix G) items using Mplus software (Muthén & Muthén, 2017). Participants who lacked sufficient data to calculate scale scores ( $n = 7$ ) were not retained for a final total sample size of 517. Item means and standard deviations are presented in Table 1. Descriptive analyses revealed that most response choices were roughly normally distributed. Items 9 and 27 had skew/kurtosis values greater than 2.0, and therefore were not retained (Curran, West, & Finch, 1996). Kaiser's eigenvalue-greater-than-one rule suggested that there were six factors in the DCBS (Kaiser, 1960). Parallel analysis results indicated that the DCBS included three separate dimensions. This means that the three eigenvalues associated with the first three factors were larger than eigenvalues one would expect to emerge from random data (Humphreys &

Montanelli, 1975). Additionally, I obtained a scree plot, which indicated that there were likely two-five factors (Lim & Jahng 2019).

Using Mplus software, I used maximum likelihood (ML) with an oblique rotation (varimax) to determine the factor loadings for items loading onto one-six factors. I did not retain factors with loadings below .3 or items with cross-loadings greater than .32. These analyses functioned to trim weaker items from the DCBS, ultimately resulting in 29 items (Table 2) being retained for testing with the CFA group.

*CFA sample results.* Using the revised scale, I conducted a CFA with ML estimation using Mplus software (Muthén & Muthén, 2017). Descriptive analyses indicated skew and kurtosis values were all less than an absolute value of 1.50, and all response choices were roughly normally distributed. Factor loadings for the three predicted factors are presented in Table 2. CFA results suggested a model fit approaching acceptability after modifications,  $\chi^2(24) = 48.64, p < .002, RMSEA = .06, CFI = 0.96$ .

Model modifications were necessary to obtain a satisfactory model fit. The discrepancy matrix indicated that the observed correlations between various items were different from what the specified model predicted. Items 13, 23, 35 each had observed correlations that did not match the predicted correlations and therefore were not retained. After trimming these items, I chose the three items in each subscale with the highest factor loadings to retain for the final DCBS (see Appendix N). Each item loaded strongly on its specified dimension, indicating initial support for a three-factor measure of diet-culture.

*CFA sample reliability.* I calculated Cronbach's alpha using R and Omega using Mplus for the full scale and each subscale (see Table 3). Each of these values is indicative of the reliability and internal consistency of the subscales (McDonald, 1999; Nunnally and Bernstein,

1994). The full DCBS demonstrated an acceptable alpha value,  $\alpha = .83$ . Two of the subscales, *dieting and status* and *moralizing food and bodies* showed acceptable alpha values,  $\alpha = .78$  and  $\alpha = .71$ , respectively. The *dieting and health* subscale did not demonstrate an acceptable alpha value ( $\alpha = .67$ ). With regards to omega, the full DCBS was acceptable ( $\Omega = .89$ ) the *dieting and status* subscale ( $\Omega = .78$ ) and *moralizing food and bodies* subscale ( $\Omega = .72$ ) were minimally acceptable. The *dieting and health* subscale ( $\Omega = .68$ ) produced an unsatisfactory omega value. I also calculated alpha for validity scales included in the study, FLQ-SF = .76, TFEQ-R18V2 = .86, SD = .58.

**Construct validity evidence.** I combined data from the EFA and CFA samples and assessed the DCBS' association (using Pearson-product correlations) with the TFEQ-R18V2 and FLQ-SF to assess convergent validity, and the Measure of Social Desirability to assess discriminant validity (see Table 4). I calculated total scale scores for the DCBS, TFEQ-R18V2, FLQ-SF, and Measure of Social Desirability in order to obtain correlations between scales using R. There was a large, significant correlation between the DCBS and TFEQ-R18V2 ( $r = .72, p < .001$ ), as well as between the DCBS and FLQ-SF ( $r = .75, p < .001$ ). These correlations aligned with my hypothesis that the TFEQ-R18V2 and FLQ-SF would be significantly positively related to the DCBS as they each measure constructs that theory suggests are related. The DCBS and Measure of Social Desirability were weakly negatively correlated ( $r = -.14, p < .01$ ). This relationship was significant, though fairly weak.

**Discussion.** Through consulting relevant literature, conducting focus groups, and receiving feedback from experts, I created scale items intended to measure a person's diet-culture beliefs. Factor analyses revealed a three-factor structure within the scale. Each scale item had a factor loading above .30 on its specified factor and none of the final items were cross

loaded. Further, inter-item correlations and the discrepancy matrix identified problematic items that were removed in the final version of the scale.

Results from the EFA supported a three-factor structure for the DCBS. These three dimensions aligned with the hypothesized subscales. Modifications were necessary in order to improve model fit. These changes included removing items that had factor loadings greater than .32 on two or more factors, as well as items with factor loadings less than .30. The next step was testing the remaining 29 items with the CFA sample.

CFA results confirmed the three-factor structure identified in the EFA. I proceeded to make modifications in order to obtain the most parsimonious and well-fitting model. I began by using the discrepancy matrix to identify items that did not correlate with others as much as the model predicted. Then, three items from each dimension were retained based on their high factor loadings in order to create a final scale brief enough to be useful in a multitude of settings.

The scale resulting from these modifications demonstrated good model fit. Moreover, none of the items were cross-loaded and each item loaded significantly on its specified factor. All three subscales indicated issues with internal consistency, particularly unidimensionality as measured by omega. In terms of validity, the TFEQ-R18V2 and FLQ-SF each had a strong, positive correlation with the DCBS as theory would suggest. Also, the Measure of Social Desirability had a significant, weak negative correlation with the DCBS. It is possible that individuals who endorsed lower levels of diet-culture beliefs were underreporting based on what they perceived the study to be about, while participants who endorsed higher levels of diet-culture beliefs were reporting most honestly. Most people are aware that issues surrounding food and bodies are most prevalent among women, which may have led to participants presenting as if they do not struggle with food and their bodies. Participants may have felt that disclosing these

issues may represent a failure to resist societal messaging and pressure. These relationships offer initial support for the construct validity of diet-culture beliefs and provides early insight into how diet-culture beliefs may relate to other relevant constructs.

The three subscales that emerged in the DCBS were 1) *dieting and status*, 2) *moralization of food and bodies*, and 3) *dieting and health*. The items in the dieting and status dimension reflect a desire and pattern to distance oneself from fatness and increase proximity to thinness. Importantly the motivation behind these behaviors is to gain acceptance from others and gain social power. Items in the *moralization of food and bodies* subscale display a rigid view of which types of food are “good” or “bad” and contain themes of guilt and shame. The *dieting and health* dimension reflects the perspective that dieting and being in a smaller body is necessary for health.

Diet-culture is often referenced in fat activism spaces and is used in case conceptualizations of clients who are seeking treatment for disordered eating. It also functions as a descriptor of current Western society in non-academic settings (e.g. social media, intuitive eating coaching materials) in an attempt to emphasize the pervasiveness of dieting and fatphobia. Though diet-culture is part of the cultural narrative about issues regarding food and bodies, it has yet to be studied or measured empirically. The diet-culture beliefs scale (DCBS) is a tool that researchers, clinicians, and other professionals can employ to measure diet-culture beliefs, which have been unofficially recognized as impactful for individual’s relationships with food and their bodies.

It is important to note participants in this research were not recruited from a clinical eating disorder population. Based on the means and standard deviations of the DCBS items, diet-culture beliefs are common enough to be widely endorsed by many individuals that likely would

not qualify for a DSM-5 eating disorder diagnosis. Typically, individuals are not viewed as needing any type of mental health treatment for struggles with food and body image unless they have a diagnosable eating disorder. This practice ignores the needs of women who experience subclinical levels of disordered eating that significantly impact on their well-being. Targeting women's diet-culture beliefs may be one way to begin serving women who have fraught relationships with food and their bodies.

Due to diet-culture beliefs often representing a societal norm, diet-culture often goes uncontested. This could partially be due to the lack of empirical studies examining diet-culture. While there are numerous blogs, Instagram accounts, and memoirs focused on diet-culture and its impact, specific research-based evidence is scarce. Research focused on diet-culture and the impact of diet-culture beliefs may provide evidence for individuals to use when combatting diet-culture beliefs that do not align with their values or fail at promoting their health. Possessing this information could further empower individuals to make choices that truly honor their well-being.

Practitioners (e.g. therapists, dietitians) commonly serve as guides for individuals seeking to improve their well-being. With this shared aim, it could be beneficial for practitioners to view clients as being situated in diet-culture. This could provide clarity regarding the functionality of disordered behaviors, resistance to change, the source of maladaptive beliefs etc. Further, considering the normalcy of diet-culture, many clients may not even report diet-culture beliefs and associated distress. Since client's may not bring diet-culture issues to a practitioner's attention, it could be valuable for practitioners to ask open questions about a client's relationship with food and their body early on treatment. In addition to these types of conversations, clinicians could use the DCBS to track any changes in client's diet-culture beliefs.

In order to effectively measure outcomes of interventions targeting diet-culture beliefs, researchers must have a reliable and valid tool. The DCBS represents one step toward the field possessing this type of tool. The DCBS could be an asset for a variety of different interventions. For instance, as medical providers often have anti-fat biases, a researcher could develop an intervention to target providers' diet-culture beliefs, using the DCBS to measure diet-culture beliefs before and after the intervention (Amy, Aalborg, Lyons, & Keranen, 2006; Chrisler & Barney, 2017).

This tool could be useful in a variety of research and clinical settings. Since little is empirically known about diet-culture, it is crucial to conduct research evaluating how diet-culture relates to other constructs in the disordered eating field such as body image, exercise behaviors, and weight bias. It is possible that diet-culture beliefs predispose individuals to develop disordered eating behaviors and negative biases toward larger bodies, as research has consistently demonstrated how influential thoughts and beliefs can be on a person's feelings and actions (Beck, 2011). Understanding the impact of diet-culture beliefs could potentially lead to the development of interventions targeting these beliefs, thus reducing negative outcomes related to associated feelings and actions.

***Limitations.*** Possibly the largest limitation of this study is the lack of internal consistency in some of the DCBS subscales. This indicates that some items in subscales may not be as interrelated as theory would suggest. It also brings into question whether the items in each subscale are measuring a single dimension.

Discriminant validity for the DCBS was an issue in this study. Due to the unsatisfactory internal consistency of the Measure of Social Desirability Scale, it may not be an accurate source to use in determining discriminant validity evidence for the DCBS.

Though the fit of the model was fairly good, it is unclear whether or not the model would be satisfactory when tested with more diverse samples. This sample was primarily comprised of White, young women. Additionally, all participants were college students, which is a status that represents an aspect of privilege. It is entirely possible that diet-culture beliefs manifest differently in different cultures and across various identities. For example, though research focused on transgender women with eating disorders is sparse, it is clear that disordered eating is an extremely common for transgender individuals (Diemer et al., 2018). This study did not differentiate between cisgender and transgender women, making it impossible to know the percentage of participants who were trans women. Further, the absence of this knowledge does not allow for interrogation of differences in diet-culture experiences in light of those identities. The fact that this sample was predominantly White is another drawback and necessitates extreme caution when interpreting results. Beliefs are created and reinforced by an individual's culture and subcultures and it would not be appropriate to assume that diet-culture beliefs are uniform across ethnicities and numerous other identities (e.g. sexual orientation, ability, age).

Another shortcoming of this study was its inclusion of self-report data collected at a single time point. Though steps were taken during the item generation stage to prevent participants from responding in socially desirable ways, it is possible that participants still struggled to answer all questions honestly. This is most likely to be an issue with items for which participants would be endorsing explicitly fatphobic sentiments if they expressed agreement with the item. For example, participants may have been uncomfortable agreeing with the item, "I prefer to surround myself with thin people rather than fat people" as it explicitly states anti-fat attitude. Also, due to the lack of research on diet-culture, it is unclear how diet-culture beliefs change over time as well as how they are impacted by daily experiences.

***Future steps and directions.*** A critical next step for this scale is to evaluate factor structures of data gained from a more diverse set of participants. This would aid in building understanding regarding how similarly or differently individuals with varied identities experience diet-culture. Future studies should also conduct CFAs with multiple samples of participants in order to validate or provide evidence against the presence of a three-factor structure.

As previously mentioned, it could be beneficial for future research to evaluate how diet-culture beliefs relate to other relevant constructs such as disordered eating behaviors, body image, and fatphobia. Studies could also investigate who among the population is most at risk for developing diet-culture beliefs to inform potential points of intervention. As previously mentioned, transgender women are likely uniquely impacted by diet-culture and may benefit from interventions targeting diet-culture beliefs and associated behaviors (Diemer et al., 2018). It is also possible that there is an age range in which diet-culture interventions would be particularly effective. If that is the case, it could be helpful to develop curriculum catered to individuals in that age range. These interventions may protect individuals from experiencing negative health outcomes as a result of diet-culture beliefs.

Gaining knowledge regarding the outcomes for an individual holding diet-culture beliefs will also be an important area of research focus. Understanding the specific impact of diet-culture beliefs is important for creating effective resources for individuals who are impacted. Moreover, evidence pointing to the risks associated with diet-culture could help create buy-in from practitioners, clients, parents, teachers, and policy makers that eradicating diet-culture is worth investing time and money into.

The research detailed in Study 2 outlines the development of a scale to measure diet-culture beliefs. Using data from Study 1 and feedback from SMEs, I created a scale that was subsequently administered to undergraduates who identified as women. I conducted an EFA and CFA to determine the scale's factor structure and identify the strongest scale items. Results and theory suggested that the Diet-Culture Beliefs Scale (DCBS) included three dimensions. Reliability and validity measures offered initial support for the DCBS. As there is a lack of research on diet-culture, this measure may prove to be a helpful tool for future research. With this new measure of diet-culture beliefs come intriguing new research directions and potential clinical applications. This measure is a first step toward gaining a deeper empirical understanding of the nature of diet-culture and how it impacts women.

Table 1

*Item means and standard deviations for all 37 items.*

Item	M	SD
1. I try to avoid gaining weight as a way of staying healthy.	4.31	1.29
2. Some foods are temptations to be resisted.	3.95	1.10
3. I'd be worthy of less respect if I gained a significant amount of weight.	3.13	1.44
4. I try to control my weight so that others will have a positive opinion of me.	3.77	1.56
5. Fat people are unhealthy.	3.42	1.25
6. Most health issues are caused by an excess of body fat.	3.20	1.17
7. I prefer to surround myself with thin people rather than fat people.	2.11	1.24
8. People who are thin have strong self-discipline.	2.76	1.45
9. A thin person is more deserving of a promotion than a fat person.	1.33	0.76
10. I put a lot of effort into resisting bad foods.	3.52	1.33
11. My main motivation for exercising is to control my appearance.	4.11	1.45
12. A person's weight is largely determined by the amount food they eat.	3.36	1.27
13. I'd be happy if I lost weight, even if it was a result of being sick.	3.13	1.76
14. Being thinner would make me more popular.	2.84	1.60
15. There are some foods that I should never eat.	3.35	1.57
16. I only exercise to have a body that others find acceptable.	2.94	1.47
17. It's acceptable to be at a higher weight if you exercise a lot.	3.53	1.31
18. I think weight gain is a result of laziness.	3.19	1.27
19. My day is ruined when I eat something that I shouldn't have eaten.	2.63	1.50
20. Eating because you're stressed is bad.	4.17	1.24

21. It's only okay to gain weight if it's muscle.	3.82	1.42
22. After eating something unhealthy, I only allow myself to eat healthy foods.	3.29	1.48
23. I'd deserve to have more friends if I were thinner.	1.87	1.30
24. Eliminating certain types of food is a healthy practice.	4.08	1.32
25. I'd hate myself if I gained a significant amount of weight.	4.08	1.55
26. If I am thin, I will live longer.	3.04	1.40
27. Thinner people have earned the right to have more influence in the workplace.	1.48	0.90
28. I will only wear clothes that make me look thin.	3.36	1.56
29. You are what you eat.	3.11	1.55
30. If I eat healthily for a while, I deserve to eat something unhealthy.	4.13	1.23
31. I feel shame when I eat past the feeling of fullness.	3.90	1.62
32. People would weigh less if they ate less.	3.22	1.46
33. A person's health is largely determined by the types of food they eat.	4.17	1.21
34. I choose outfits based on how thin they make me look.	3.64	1.51
35. Fat people have more illnesses.	3.26	1.30
36. Consciously limiting food consumption is important for health.	3.44	1.42
37. I feel bad if I keep eating even though I'm full.	4.10	1.57

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*Note.* M = Mean, SD = Standard Deviation

Table 2

*EFA and CFA Factor Loadings*

Variable	EFA	CFA
<i>Dieting and status</i>		
I prefer to surround myself with thin people rather than fat people.	0.137	
I'd be worthy of less respect if I gained a significant amount of weight.	0.569	
Thinner people have earned the right to have more influence in the workplace.	0.267	
I'd deserve to have more friends if I were thinner.	0.695	
I try to control my weight so that others will have a positive opinion of me.	0.749	0.783
I'd be happy if I lost weight, even if it was a result of being sick.	0.845	
I only exercise to have a body that others find acceptable.	0.833	0.749
My main motivation for exercising is to control my appearance.	0.622	
A thin person is more deserving of a promotion than a fat person.	0.189	
I choose outfits based on how thin they make me look.	0.757	
I will only wear clothes that make me look thin.	0.672	0.766
Being thinner would make me more popular.	0.794	
<i>Moralization of food and bodies</i>		
Some foods are temptations to be resisted.	0.735	0.658
I put a lot of effort into resisting bad foods.	0.920	0.813
I feel shame when I eat past the feeling of fullness.	0.378	
I feel bad if I keep eating even though I'm full.	0.427	
People who are thin have strong self-discipline.	0.167	
I'd hate myself if I gained a significant amount of weight.	0.243	

You are what you eat.	0.165	
I think weight gain is a result of laziness.	0.005	
A person's weight is largely determined by the amount of food they eat.	0.005	
People would weigh less if they ate less.	0.033	
My day is ruined when I eat something that I shouldn't have eaten.	0.606	
There are some foods that I should never eat.	0.703	0.616
Eating because you're stressed is bad.	0.361	
<i>Dieting and health</i>		
I try to avoid gaining weight as a way of staying healthy.	-0.033	
Fat people are unhealthy.	0.771	0.660
Consciously limiting food consumption is important for health.	0.245	
Most health issues are caused by an excess of body fat.	0.664	
Eliminating certain types of food is a healthy practice.	0.279	
It's only okay to gain weight if it's muscle.	0.170	
It's acceptable to be at a higher weight if you exercise a lot.	0.182	
After eating something unhealthy, I only allow myself to eat healthy foods.	0.003	
A person's health is largely determined by the types of food they eat.	0.517	0.568
If I am thin, I will live longer.	0.581	0.601
Fat people have more illnesses.	0.778	
If I eat healthily for a while, I deserve to eat something unhealthy.	0.156	

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Table 3

*Alpha and Omega values for each scale*

Scale	Alpha	Omega
DCBS- Dieting and status	0.78	0.78
DCBS- Moralization of food and bodies	0.71	0.72
DCBS- Dieting and health	0.67	0.68
FLQ-SF	0.76	
TFEQ- R18V2	0.86	
Measure of Social Desirability	0.58	

Table 4

*Means, standard deviations, and correlations with confidence intervals*

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Social desirability	22.91	5.02			
2. DCBS	124.64	31.55	-.15** [-.24, -.06]		
3. FLQ	44.70	11.32	-.11* [-.20, -.02]	.79** [.75, .82]	
4. FEQ	7.02	2.64	-.13** [-.21, -.04]	.73** [.69, .77]	.76** [.72, .79]

*Note.* *M* and *SD* are used to represent mean and standard deviation,

respectively. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ .

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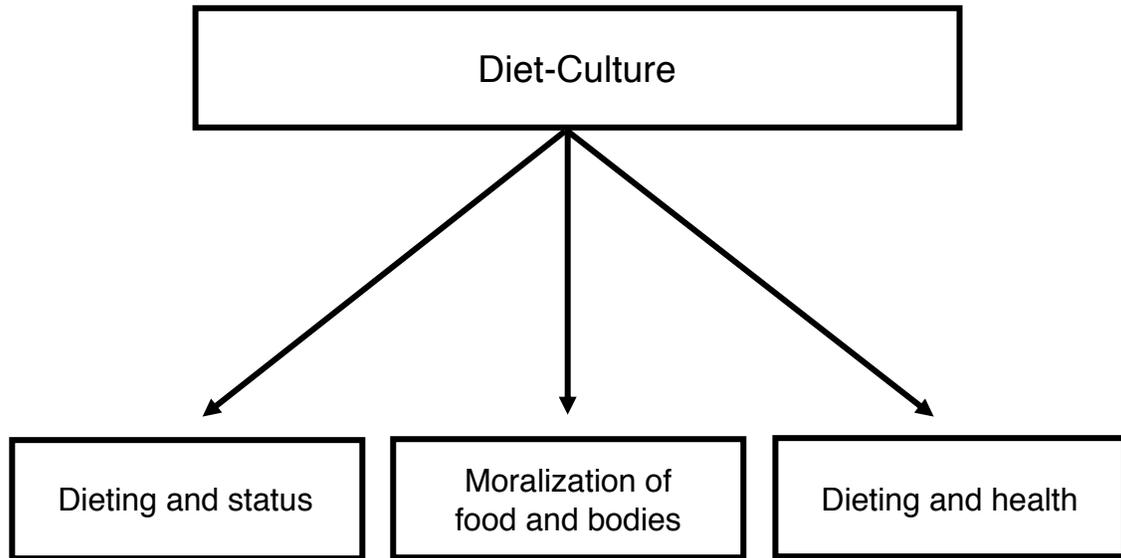
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## Appendix A

### Diet-Culture Definition



Appendix B  
Recruitment Materials

Hello all,

My name is Kenzie Davidson and I'm a counseling psychology PhD student here at CSU. I do research on diet-culture, body image, and social support.

[I'm reaching out to you all because I believe that sororities offer a unique, incredible environment in which women can empower and encourage each other. Secondly, research shows that there are significant barriers stemming from society that make it difficult for women to experience peace around food and exercise, as well as confidence related to their physical appearance.]

OR

[I'm reaching out to you all because I believe that the dance department offers a unique, incredible environment in which women can empower and encourage each other. Secondly, research shows that there are significant barriers stemming from society that make it difficult for women to experience peace around movement and food, as well as confidence related to their physical appearance.]

With these two pieces in mind, I would like to conduct focus groups with a few of you in order to understand your experiences with food, exercise, body image, and community. The groups would look like a single one-hour discussion about these topics. They will take place on campus, and each participant will receive \$10 as compensation.

Your voices are valuable and my hope is that the results of this work will illuminate strengths and areas for growth within your community.

If you are interested in participating or have any questions, please email me at [kenzie.davidson@colostate.edu](mailto:kenzie.davidson@colostate.edu) by October 12th.

Thanks for considering this!

Best,  
Kenzie

# We want to hear about your experiences with exercise, food, and body image

## REQUEST FOR RESEARCH PARTICIPANTS

Who is conducting the study and what is this study about?

Researchers from the Psychology department at Colorado State University are recruiting participants for a study to explore women’s experiences of food and their bodies.

Who can join this study?

You can participate in this study if you are an adult (aged 18+) and identify as a woman.

What will I be asked to do?

Have a discussion in a group of 3-5 women about your experiences related to food and bodies. The discussion will be 60 minutes long and will take place at Colorado State University. Each participant will receive a \$10 compensation.

Why should I join this study?

This topic is particularly relevant to women’s everyday experiences, and participating in this discussion may lead to insight about your relationship with food and your body.

How do I join this study?

If you want to join this study, contact the Study Coordinator/PI or Co-PI listed below by **DATE**.

PLEASE CONTACT US FOR MORE INFORMATION	
Kenzie Davidson 509-947-8327 kenzie.davidson@colostate.edu	Dr. Rickard kathryn.rickard@colostate.edu

Appendix C

Focus Group Consent Form

Dear Participant,

You are being invited to participate in a focus group research study. You were selected as a possible participant because you {are a member of a sorority, are an employee at CSU's rec center, are a dance major, are a fashion design and merchandising major}. You must be 18 years or older to participate. We ask that you read this form and ask any questions you may have before agreeing to participate in the study. This study is being conducted by a faculty member, Dr. Kathryn Rickard and a graduate student, Kenzie Davidson. This study has been approved by the Institutional Review Board of Colorado State University.

Your participation is entirely voluntary, which means you can choose whether or not you want to participate. You may withdraw at any time without penalty.

The study for which you are being asked to participate is designed to examine attitudes, beliefs, and experiences pertaining to food and bodies. If you participate in this study, you will be in a group of approximately 3-5 individuals. There will be a facilitator who will ask questions and facilitate discussion. The study will be approximately one hour from start to finish.

It is expected that participation in this study will provide you with no more than minimal risk, which means you should not experience any more stress than your normal daily experiences. If you do experience distress related to the research, you might consider utilizing counseling resources through the Psychological Services Center (PSC: 970-491-5212). There may be no direct benefit to you associated with this research. Your participation will help us to better understand the research topic, and

perhaps will provide insight into your own attitudes and beliefs. For this focus group, you will receive compensation of \$15.

Data from this study may be reported in subsequent research articles, but no individual participant will be identified or linked to the results. All responses in the focus group are confidential. We will ask that all participants respect the privacy of the other group members. Everyone will be asked not to disclose anything said within the context of the discussion, but it is important to understand that there is no guarantee that other participants in the group with you will keep all information private and confidential. All audio and video recordings will be stored in a secure location that is separate from all other materials. Access to these materials will be restricted to investigators.

These recordings will be used for analysis and shared only with the research team and/or the Colorado State University Institutional Review Board, except as may be required by law. The recording will not require the disclosure of any personally-identifying information. If you say anything that you believe at a later point may be hurtful and/or damage your reputation, then you can ask that certain text be removed from the dataset/transcripts.

Audio files will be stored on a password-protected computer. All audio materials will be stored in separate locations from any participant contact information. Digital recordings will be kept indefinitely for future studies. Government or university staff sometimes review studies such as this one to make sure they are being done safely and legally. If a review of this study takes place, your records may be examined. The

reviewers will protect your privacy. The study records will not be used to put you at legal risk of harm.

I ask for contact information so that I may schedule the interview appointment, but that information will not be linked to any other information I collect and will be destroyed within 48 hours of the end of the interview appointment. Concerning your rights or treatment as a research subject, you may contact the CSU IRB at: [RICRO\\_IRB@mail.colostate.edu](mailto:RICRO_IRB@mail.colostate.edu); 970-491-1553.

I understand that my participation in this study is entirely voluntary and that I may refuse to participate or may withdraw from the study at any time without penalty. I have read this entire form and I understand it completely. By signing below, I am giving my consent to participate in this study.

Participant Name (Print) \_\_\_\_\_

Participant Signature \_\_\_\_\_ Date \_\_\_\_\_

Investigator Signature \_\_\_\_\_ Date \_\_\_\_\_

If you have questions or concerns regarding your participation in the study, please contact the principal investigator Dr. Kathryn Rickard at [kathryn.rickard@colostate.edu](mailto:kathryn.rickard@colostate.edu), or Kenzie Davidson at 509-947-8327 or [kenzie.davidson@colostate.edu](mailto:kenzie.davidson@colostate.edu).

Appendix D  
Focus Group Script

**Introduction:**

Hello, everyone!

Thank you for being here today, we really appreciate you taking time out of your busy schedules to be a part of this project. Each of you has been asked to participate in this group because we believe you have unique and important contributions to make and we are eager to learn from you all today.

My name is Kenzie Davidson and \*insert intro of co-facilitator\* and we are graduate students at CSU. I do research focused on peoples' relationships with food and their bodies.

**Purpose:**

The purpose of this time together is to explore the experiences you all have had in the areas of food, weight loss, dieting, and body image. This focus group will serve as one piece of a larger project that involves creating a scale to measure how people engage with societal influences around dieting and body size. In the future, we want to use this scale in studies that examine how people can best support loved one's who struggle with food and body image.

**Timeframe and Confidentiality**

This group should last approximately one hour. Our discussion today will be audio recorded for transcription purposes, and all of your names will be kept confidential. Additionally, we ask that you all do not disclose anything said in this group.

**Ground Rules:**

The structure of the group will look like me asking a question to the entire group, and then you all having a conversation with each other answering the question. There is a specific number of questions we want to address, so I will let you all know when it is time to wrap up one conversation and move on to a new question. If I interject at other points to move the conversation in a specific direction, please know that it is in the interest of time.

There are no right or wrong answers here, and your experiences, beliefs and opinions are all valid. You might find that you resonate with much of what other group members share, or your experience might be quite different. We want to get a sense of both shared and not shared experiences and opinions. It may feel uncomfortable at first to share a thought that does not match with what others have shared, but those types of contributions are incredibly important and we encourage you to give voice to them. That being said, please share within the bounds of what feels safe to you. Our hope is that this group can be a space of respectful and honest conversation.

On a practical note, it is ideal for discussion and transcription if all members of the group are allowed to participate equally with one person speaking at any given time.

Does anyone have questions about what I've said so far?

**Warm-up Question:**

\*General question about what the group of individuals have in common\*

**Questions:**

Can you remember the first time you were introduced to the idea of dieting? How old were you?  
What did that look like?

-probe for the retained messages

What are some of the factors that influence your food choices?

What are the rules or guidelines you have for themselves regarding food choices and eating habits?

-probe for health, weight, status, satisfaction

-probe for both consumption and avoidance

How in control of your appearance do you feel? What things do you do to try to manage your appearance?

Does your experience of eating change when other women are around? What about your experiences of your body?

-probe for status and self-comparison

What are some foods that society labels as “bad”? Why do you think they are labeled that way?

-How have messages that moralize food affected you?

What do you think and feel when you eat foods that society would say are bad?

How do you think gaining a significant amount of weight would affect you?

-probe for relationship to self and others

-examples of people either gaining or losing something of importance because of their weight

How do you think losing a significant amount of weight would affect you?

-probe for relationship to self and others

What types of conversations do you have with other female friends about food, dieting, or weight issues?

What else do you want someone working on this project to know?

Appendix E  
Demographic Sheet for Focus Groups

Date of birth (mm/dd/yyyy): \_\_\_\_\_

Are you... (mark all that apply)

\_\_\_\_ White

\_\_\_\_ Black or African American

\_\_\_\_ American Indian/Native American

\_\_\_\_ Latino or Hispanic

\_\_\_\_ Alaska Native

\_\_\_\_ Hawaiian or Pacific Islander

\_\_\_\_ Asian American

\_\_\_\_ Other

Anything we missed or you wanted to add to the discussion:

## Appendix F

### Items Administered to SMEs

## **Dieting and status**

If I was thin, I would deserve to possess a high level of prominence.

I would rather surround myself with thin people than fat people.

I would deserve to have more friends if I was thinner.

Thin people earn respect that fat people don't.

I would deserve less respect if I gained a significant amount of weight.

People who are thin deserve an advantage in the workplace.

Thinner people have earned the right to have more influence in the workplace.

A coworker who is thinner than me is more deserving of a promotion.

Thin people are usually wealthy.

People with less money tend to be overweight.

I find it easier to respect fat people who are trying to lose weight than fat people who are not trying to lose weight.

People who have lost a significant amount of weight earn the right to have more social connections.

If I gained a significant amount of weight, I would be less deserving of good quality relationships.

Losing weight would make me more worthy of career success.

Losing weight would make me more worthy of being promoted.

If I lost weight, I would be more deserving of a respected position in the workplace.

If I lost weight, I would be more deserving of my voice being heard.

Weight loss would make me worthy me more prestige.

## **Moralization of food and bodies**

The majority of my food choices are based on whether a food is good or bad.

I feel proud of myself when I choose to eat a salad.

I feel bad about myself when I choose to eat an ice cream sundae.

I feel proud of myself when I eat good foods.

Eating bad foods makes me feel extremely guilty.

I feel unclean when I eat foods I consider bad.

I am disgusted with myself when I eat foods I consider bad.

Bad people make bad food choices

What I choose to eat has the potential to make me a better or worse person.

Some foods are temptations to be resisted.

I feel large amounts of shame when I eat past the feeling of fullness.

I have the urge to do something, such as exercise or reduce food intake, to make up for overeating.

When I eat fast food, I feel like I've done something morally wrong.

Eating good foods is an important part of my moral code.

Being thin would make me a better person.

Weight gain is a result of people not controlling their desires.

I would feel ashamed if I gained weight.

I'd hate myself if I gained a significant amount of weight.

My day is ruined when I eat something that I shouldn't have eaten

People who are thin have strong self-discipline.

I feel morally obligated to avoiding being overweight.

People who are thinner than me are better than me.

Weight gain is a result of people not resisting their temptations.

Being fat would make me a worse person.

When I see an extremely fat person, I can't help but be disgusted.

Losing weight shows that someone has moral virtue.

### **Dieting and health**

Weight is a good indicator of health.

Fat people are unhealthy.

To be healthy, you have to be thin.

Being fat is dangerous for peoples' health.

If I was thinner, then I would be healthier.

You can tell how healthy a person is by looking at their body size.

If people were not fat, then they would not have health issues.

An excess of body fat is the cause of most health issues.

When I see a fat person, I assume they have many health issues.

You can't be healthy if you are fat.

Weight loss would solve the majority of health problems.

Losing weight offers numerous health benefits.

If I wanted to improve my health, I would try to lose weight.

Eliminating certain types of foods is a healthy practice.

Consciously limiting the amount of food one eats is important for being healthy.

If you want to be healthy, then you have to limit the amount of food you eat.

Dieting is a great way to maintain good health.

If I gained weight, I would likely have health issues.

If you want to be healthy, then you have to restrict the type of food you eat.

I try to avoid gaining weight as a way of staying healthy.

## Appendix G

### Scale Items Administered to EFA Sample

### **Dieting and status**

I prefer to surround myself with thin people rather than fat people.

I'd be worthy of less respect if I gained a significant amount of weight.

Thinner people have earned the right to have more influence in the workplace.

I'd deserve to have more friends if I were thinner.

I try to control my weight so that others will have a positive opinion of me.

I'd be happy if I lost weight, even if it was a result of being sick.

I only exercise to have a body that others find acceptable.

My main motivation for exercising is to control my appearance.

I choose outfits based on how thin they make me look.

I will only wear clothes that make me look thin.

Being thinner would make me more popular.

### **Moralization of food and bodies**

Some foods are temptations to be resisted.

I put a lot of effort into resisting bad foods.

I feel shame when I eat past the feeling of fullness.

I feel bad if I keep eating even though I'm full.

People who are thin have strong self-discipline.

I'd hate myself if I gained a significant amount of weight.

You are what you eat.

I think weight gain is a result of laziness.

A person's weight is largely determined by the amount of food they eat.

People would weigh less if they ate less.

My day is ruined when I eat something that I shouldn't have eaten.

There are some foods that I should never eat.

Eating because you're stressed is bad.

### **Dieting and health**

I try to avoid gaining weight as a way of staying healthy.

Fat people are unhealthy.

Consciously limiting food consumption is important for health.

Most health issues are caused by an excess of body fat.

Eliminating certain types of food is a healthy practice.

It's only okay to gain weight if it's muscle.

It's acceptable to be at a higher weight if you exercise a lot.

After eating something unhealthy, I only allow myself to eat healthy foods.

If I eat healthily for a while, I deserve to eat something unhealthy.

A person's health is largely determined by the types of food they eat.

If I am thin, I will live longer.

Fat people have more illnesses.

Appendix H  
Survey Consent Form

Dear Participant,

You are being invited to participate in a survey research study. You were selected as a possible participant because you are an undergraduate in a Psychology class at Colorado State University. You must be 18 years or older to participate. We ask that you read this form and ask any questions you may have before agreeing to participate in the study. This study is being conducted by a faculty member, Dr. Kathryn Rickard and a graduate student, Kenzie Davidson. This study has been approved by the Institutional Review Board of Colorado State University.

Your participation is entirely voluntary, which means you can choose whether or not you want to participate. You may withdraw at any time without penalty.

The study for which you are being asked to participate is designed to examine attitudes and beliefs about food and bodies. The survey takes most people under 30 minutes to complete.

It is expected that participation in this study will provide you with no more than minimal risk, which means you should not experience it as any more troubling than your normal daily experiences. Counseling Services (CSU: 970-491-6053) are available to anyone who experiences distress related to the research. For this survey, direct benefit for participating consists of research credit (for students enrolled in PSY100) and entry into a drawing for a \$50 gift card. Your responses will help us to better understand the research topic, and perhaps will give you insight into your own beliefs.

All responses to this survey are confidential. Concerning your rights or treatment as a research subject, you may contact the CSU IRB at:

RICRO\_IRB@mail.colostate.edu; 970-491-1553.

I understand that my participation in this study is entirely voluntary and that I may refuse to participate or may withdraw from the study at any time without penalty. I have read this entire form and I understand it completely. By clicking below and completing the online assessments that follow I am giving my consent to participate in this study.

If I have questions or concerns regarding my participation in the study, I can contact the principle investigator Dr. Kathryn Rickard at [kathryn.rickard@colostate.edu](mailto:kathryn.rickard@colostate.edu), or Kenzie Davidson at 509-947-8327 ([kenzie.davidson@colostate.edu](mailto:kenzie.davidson@colostate.edu)).

Appendix I  
Survey Demographic Sheet

1. What is your birthdate (mm/dd/yyyy)? \_\_\_\_\_

2. Are you... (Mark all that apply)

\_\_\_\_\_ White

\_\_\_\_\_ Black or African American

\_\_\_\_\_ Latino or Hispanic

\_\_\_\_\_ Asian American

\_\_\_\_\_ American Indian/Native American

\_\_\_\_\_ Alaska Native

\_\_\_\_\_ Hawaiian or Pacific Islander

\_\_\_\_\_ Other

3. What year are you in school?

\_\_\_\_\_ First Year

\_\_\_\_\_ Sophomore

\_\_\_\_\_ Junior

\_\_\_\_\_ Senior

\_\_\_\_\_ Other

Appendix J

Three-Factor Eating Questionnaire-R18V2, Cognitive Restraint

Instructions: Please mark the answer that is correct for you.

1. I consciously hold back at meals in order to not gain weight.

Never            Seldom            Some of the time            Most of the time

2. I deliberately take small helpings to control my weight.

Never            Seldom            Some of the time            Most of the time

3. I do not eat some foods because they make me fat.

Never            Seldom            Some of the time            Most of the time

Appendix K

Food Life Questionnaire—Short Form, Weight Concern and Diet-health Link

Instructions: Please mark the answer that is correct for you.

1. I am concerned about being overweight.

Strongly	Disagree	Somewhat	Neither	Somewhat	Agree	Strongly
disagree		disagree	agree nor	agree		agree
			disagree			

2. I feel guilty when I overeat.

Strongly	Disagree	Somewhat	Neither	Somewhat	Agree	Strongly
disagree		disagree	agree nor	agree		agree
			disagree			

3. My thighs are too fat.

Strongly	Disagree	Somewhat	Neither	Somewhat	Agree	Strongly
disagree		disagree	agree nor	agree		agree
			disagree			

4. I consciously hold back at meal time, so as to not gain weight.

Strongly	Disagree	Somewhat	Neither	Somewhat	Agree	Strongly
disagree		disagree	agree nor	agree		agree
			disagree			

5. I am currently on a diet.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
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6. I control my caloric intake.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
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7. Diet can have a big effect on good health.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
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8. Diet can have a big effect on heart disease.

Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
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9. Diet can have a big effect on obesity.

Strongly	Disagree	Somewhat	Neither	Somewhat	Agree	Strongly
disagree		disagree	agree nor	agree		agree
			disagree			

10. Diet can have a big effect on cancer.

Strongly	Disagree	Somewhat	Neither	Somewhat	Agree	Strongly
disagree		disagree	agree nor	agree		agree
			disagree			

## Appendix L

### Measure of Social Desirability

Instructions: Please mark the answer that is correct for you.

1. I never jaywalk.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

2. I've never envied anyone.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

3. Nothing embarrasses me.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

4. I've never hated anyone.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

5. I never daydream.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

6. I've never made up an excuse for anything.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

7. I sometimes drive above the speed limit.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

8. I like everyone I meet.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

9. I always return money when I find it.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

10. I always cross at the crosswalk.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

11. Some days I would rather stay in bed.

Strongly disagree    Disagree    Undecided    Agree    Strongly agree

Appendix M

DCBS Items Administered to CFA Sample

## **Dieting and Status**

I prefer to surround myself with thin people rather than fat people.

I'd be worthy of less respect if I gained a significant amount of weight.

Thinner people have earned the right to have more influence in the workplace.

I'd deserve to have more friends if I were thinner.

I try to control my weight so that others will have a positive opinion of me.

I'd be happy if I lost weight, even if it was a result of being sick.

I only exercise to have a body that others find acceptable.

My main motivation for exercising is to control my appearance.

I choose outfits based on how thin they make me look.

I will only wear clothes that make me look thin.

Being thinner would make me more popular.

## **Moralization of Food and Bodies**

Some foods are temptations to be resisted.

I put a lot of effort into resisting bad foods.

I feel shame when I eat past the feeling of fullness.

People who are thin have strong self-discipline.

I'd hate myself if I gained a significant amount of weight.

You are what you eat.

I think weight gain is a result of laziness.

A person's weight is largely determined by the amount of food they eat.

People would weigh less if they ate less.

There are some foods that I should never eat.

### **Dieting and Health**

I try to avoid gaining weight as a way of staying healthy.

Fat people are unhealthy.

Most health issues are caused by an excess of body fat.

After eating something unhealthy, I only allow myself to eat healthy foods.

A person's health is largely determined by the types of food they eat.

If I am thin, I will live longer.

Fat people have more illnesses.

Appendix N

Final DCBS

### **Dieting and status**

I try to control my weight so that others will have a positive opinion of me.

I only exercise to have a body that others find acceptable.

I will only wear clothes that make me look thin.

### **Moralization of food and bodies**

Some foods are temptations to be resisted.

I put a lot of effort into resisting bad foods.

There are some foods that I should never eat.

### **Dieting and health**

Fat people are unhealthy.

If I am thin, I will live longer.

A person's health is largely determined by the types of food they eat.