Motivational Differences in Women's Perceptions, Compensation Strategies, and Intentions to Eat in Response to Body-Related Self-Discrepancies

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ABSTRACT

This thesis examined how women cope with various types of body-related discrepancies, such as those related to their physical appearance, and their effects on eating behavior. The Hierarchical Action-Based Model of Inconsistency Compensation, an integrative model comprising tenets from the action-based model of dissonance (Harmon-Jones et al., 2009) and Self-Determination Theory (Ryan & Deci, 2017), was used as a guiding framework to understand motivational differences in compensation processes and eating behavior following a body-related discrepancy. This objective was achieved through three studies broken down into two articles. The first study (Article 1; N = 398) used a mixed method cross-sectional design and examined the types of body-related discrepancies women face, their contextual elicitors, and motivational differences in the propensity of experiencing them. Following the recollection of such experiences, the associations between women's motivation for eating regulation and eating intentions, and the mediating role of dissonance-based processes in these relationships, were examined. Results revealed that women, in general, experience discrepancies related to the appearance and care toward their body. These experiences were often elicited by body exposure (e.g., reflection in the mirror) and occurred in a non-social-evaluative context. Additionally, women with more controlled eating regulation experienced more discrepancies in eating quality and physical activity. Furthermore, results demonstrated that women with more autonomous eating regulation intended to engage in more healthy eating in response to a body-related discrepancy, whereas women with more controlled eating regulation intended to engage in more disordered eating. These distinct pathways were partly explained by differences in self-compassion, and consequently dissonance arousal, and selection of behavioral (versus cognitive) compensation strategies. The second study (Article 2; N = 107) replicated findings from Study 1 by exposing

women to a mirror while being instructed to talk about their body in a non-social-evaluative (*n* = 52) or a social-evaluative (i.e., presence of two female judges; *n* = 55) context. Dissonance was experimentally manipulated in an additive fashion (i.e., mirror versus mirror and social evaluation) to determine whether motivational differences in dissonance processes and eating behaviors were contingent upon the evaluative nature of the context. Results partly replicated findings in Study 1, such that women with more autonomous eating regulation intended to engage in more healthy eating following mirror exposure (ME), and this relationship was partly explained by engagement in behavior modification strategies, whereas women with more controlled eating regulation intended to engage in more disordered eating following ME. These relationships persisted across ME conditions. Finally, the third study (Article 2; N = 199) used the same paradigm as Study 2 with the additional manipulation of women's self-related body talk during ME, such that women were instructed to engage in positive/compassionate (social-evaluative *n* = 47; non-social-evaluative *n* = 52) or negative (social-evaluative *n* = 48; non-social-evaluative *n* = 52) body talk. This allowed us to observe the effects of positive and negative body talk on women's eating behaviors and the moderating role of motivation following ME. Results demonstrated that women with more controlled eating regulation benefitted from counter-attitudinal (positive/compassionate) body talk during ME as indicated by more intent to engage in healthy eating behavior. Taken together, results suggest that increased salience of body-related discrepancies negatively affects women's ability to regulate their eating if they do so for more controlled reasons. This is partly attributed to low emotion regulation resources and use of avoidant compensation strategies. However, these negative implications on their eating behavior can be alleviated via dissonance by facilitating the restructuring of body-related cognitions in contexts that typically elicit body-related discrepancies.

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CONTRIBUTIONS OF AUTHORS

This thesis comprises four chapters: a general introduction, two manuscripts, and a general discussion. The general introduction (Chapter 1) provides an overview of the theoretical background that guided the research, the two manuscripts present the findings of three studies (Chapters 2 and 3), and the general discussion (Chapter 4) presents an integration of the findings. Chapter 2 has been submitted for publication in Motivation and Emotion and is in revise and re-submit status.

I, Kheana Barbeau-Julien, am responsible for the conceptualization, data collection, data analysis, and writing of this thesis, and I am the primary author on all manuscripts. My thesis supervisor, Dr. Luc Pelletier, provided guidance and feedback at all stages of the thesis and is the third author on all manuscripts. Kayla Boileau also provided feedback on Manuscripts 1 and 2 and is the second author of these manuscripts.

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CHAPTER ONE

General Introduction

In Western society, the idealized body and standards of attractiveness for women, such as being thin/lean, is unachievable for most without the use of extreme weight-controlling tactics (e.g., severe caloric restriction; Vartanian, 2012). As these societal beauty standards are propagated and reinforced by the media and interactions with key socializing agents (e.g., weight-related commentary with family members and peers), internalization of such standards and comparisons between the actual and ideal self are likely to occur (Burke et al., 2021; Shroff & Thompson, 2006; van den Berg et al., 2002), resulting in a discrepancy between their actual and ideal body (Vartanian, 2012). As perceiving a discrepancy between one's ideal and actual bodily state (e.g., size, shape, weight) represents a state of body dissatisfaction (Neighbors & Sobal, 2007; Vartanian, 2012), situational events that enhance their salience induce negative emotional responses and self-regulatory action related to the body (Cash et al., 2005). For instance, cross-sectionally, perceiving a discrepancy between actual and ideal body weight is associated with higher self-conscious emotions, such as shame and guilt (Castonguay et al., 2012). Additionally, an ecological momentary assessment study demonstrated that daily body-related discrepancies are uniquely associated with women's depressed and anxious affect (Heron & Smyth, 2013).

The effects of perceiving body-related discrepancies on eating behaviors are mixed with studies observing increased dieting and restriction (Lantz et al., 2018; Schnettler et al., 2017) and dysregulation, such as binge eating (Anton et al., 2000), emotional eating (Halliwell & Dittmar, 2006), and lapses in healthy eating (Anton et al., 2000). Vartanian (2012) proposed that body-related self-discrepancies are associated with forms of disordered eating, such as restriction,

because experiencing them creates discomfort, and in turn, this discomfort energizes individuals to close the gap between actual and ideal self-states. However, this notion does not consider an individual's capacity to regulate emotions, despite evidence suggesting that negative affect is associated with dysregulated eating among women through deficits in emotion regulation (Ambwani et al., 2014; Cooper & Wade, 2015; Hayaki & Free, 2016; Mikhail & Kring, 2019).

For instance, a daily diary study observed that reduced access to emotion regulation strategies at the trait level on a given day was associated with college women's eating disorder symptoms (Mikhail & Kring, 2019). Additionally, higher daily use of maladaptive strategies and lower daily use of adaptive strategies was associated women's food restriction (Mikhail & Kring, 2019). This finding suggests that the extent to which body-related discrepancies are associated with women's disordered eating may be dependent on their dispositional capacity to cope with discomforting emotions and threatening self-related information in addition to their ability to employ strategies that support adaptive eating behavior. Indeed, Cash and colleagues (2005) identified coping strategies that women use when dealing with challenging and distressing body-related experiences and observed that strategies characterized by avoidance and appearance fixing (i.e., concealing flaws) were associated with disordered eating, whereas strategies characterized by balanced self-awareness and acceptance were not. Furthermore, women report using more avoidance and appearance fixing strategies when imagining themselves in a discomforting body-related situation occurring in a social-evaluative (i.e., modeling a swimsuit around others) versus a non-social-evaluative setting (i.e., modeling a swimsuit alone; Bailey et al., 2014), suggesting that how women cope, and in turn intend to eat, in response to body-related discrepancies may be context dependent.

Although perceiving self-discrepancies can be discomforting and can propagate dysfunctional eating patterns in some women, increasing awareness of self-discrepancies has been shown to be an effective technique to promote health behavior engagement (Freijy & Kothe, 2013), suggesting that there may be individual differences in how women perceive, cope, and intend to eat in response to a body-related discrepancy. Additionally, some eating disorder prevention programs manipulate self-discrepancies as a technique to reduce disordered eating behavior (Stice et al., 2019), illustrating the need to examine potential shared mechanisms underlying the facilitation of more adaptive and less disordered eating through enhanced awareness of body-related discrepancies. In the present thesis, we proposed to use the Hierarchical Action-Based Model of Inconsistency (HABICE; Lavergne & Pelletier, 2015), which is rooted in Cognitive Dissonance Theory (CDT; Festinger, 1957) and Self-Determination Theory (SDT; Ryan & Deci, 2017), to understand individual differences in affective, cognitive, and domain-specific behavioral responses to self-discrepancies (i.e., attitude-behavior incongruencies).

Using this model as a guiding framework, this thesis sought to examine the distinct processes that result in women's healthy and disordered eating behavior following a body-related discrepancy and whether these processes are context dependent. Furthermore, this thesis sought to apply this model to examine whether body-related discrepancies that facilitate adaptive versus maladaptive body-related beliefs are distinctly associated with women's eating behaviors and to identify motivational differences in these relationships. As such, the sections that follow provide an overview of CDT and the incorporation of motivation orientations posited by SDT in a contemporary action-based model of dissonance referred to as the HABICE. As emotion regulation resources play a role in eating behavior, an overview of self-compassion as a personal

resource is discussed in relation to its role in the HABICE. Furthermore, as mirror exposure (ME; i.e., examining the body in the mirror) is a common paradigm used to elicit body-related discrepancies to promote eating behavior change, an overview of these studies in relation to healthy and disordered eating behavior is provided in addition to a reflection on motivational differences that may occur as result of ME according to SDT and the HABICE (see Figure 1.1 for an illustration of the integration of constructs and proposed amended HABICE model). Each model is described in detail in the sections that follow.

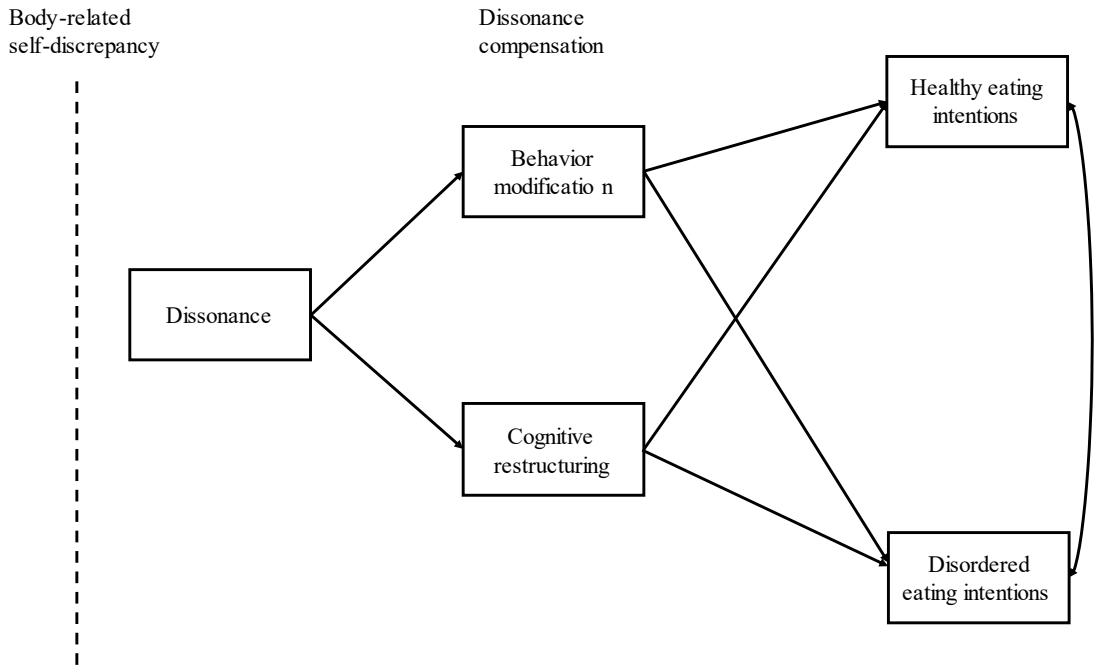
Cognitive Dissonance Theory

According to Festinger (1957), a pair of cognitions, such as attitudes, behaviors, or emotions, that are incongruent with one another are *dissonant* (e.g., eating unhealthy despite striving toward health goals), whereas cognitions that are congruent with one another are *consonant* (e.g., eating healthily while striving toward health goals). The cognitive state representing dissonance is referred to as *cognitive incongruency* or a *cognitive discrepancy* (Harmon-Jones & Mills, 2019). When a cognitive discrepancy is salient, psychological discomfort, referred to as *dissonance*, is aroused and motivates individuals to avoid or reduce dissonance by compensating for the inconsistency. Festinger (1957) proposed that individuals could reduce dissonance by changing their attitudes, such as restructuring cognitions to rationalize or trivialize dissonant behavior, thereby weakening existing attitudes, or by modifying their behavior to increase alignment with attitudes. Considering that behavior modification requires more effort and self-regulation capacity, Festinger (1957) posited that individuals are more likely to change their attitudes rather than their behavior, particularly when the attitude and behavior involved in the discrepancy are resistant to change. However, this pattern is thought to reverse under conditions of high dissonance, although empirical studies testing this proposition

yield inconsistent results (Harmon-Jones, 2000). Based on notions of CDT, dissonance should result following a body-related self-discrepancy, and in turn, initiate compensation strategies to reduce the discomfort. However, it remains unclear which compensation strategies are associated with intent to engage in healthy and disordered eating behaviors (see Figure 1.1).

Figure 1.1

Proposed Pathways According to CDT



Despite this, paradigms based on key tenets of cognitive dissonance, such as the induced hypocrisy and induced compliance paradigm, continue to be popular and have proven useful to promote health behavior engagement (Freijy & Kothe, 2013) and reduce eating disorder symptomology (Stice et al., 2019), respectively. A systematic review by Freijy and Kothe (2013) demonstrated that hypocrisy induction, a paradigm where individuals are made aware of their past failures to engage in a behavior that is congruent with their attitudes, was most reliably associated with changes in non-clinical health attitudes, intentions, and behavior. Within the

eating domain, only one study examined changes in the intent to engage in more healthy lifestyle behaviors, which was a composite measure representing reduced unhealthy eating and increased exercise and sleep (Petersen et al., 2008).

However, induced compliance, a paradigm where individuals take a counter-attitudinal stance through speech, writing exercises, or role play, yielded mixed results for changing health attitudes, intentions, or behaviors, despite being highly effective at reducing eating disorder symptomology (Stice et al., 2019). These mixed findings were attributed to the use of heterogenous techniques and the potential moderating role of perceived choice for the counter-attitudinal behavior (Freijy & Kothe, 2013). For instance, attitude change is more likely to occur under conditions of high versus low choice (Harmon-Jones et al., 2009, 2011; Miklosovic, 2010) because it increases the perception of personal responsibility for the behavioral transgression. Even among dissonance-based eating disorder prevention programs, the efficacy of their ability to improve dieting and disordered eating behavior are small and vary based on methodological design, such as, but not limited to, the number of dissonance activities (e.g., counter-attitudinal stance against the thin ideal, counter-attitudinal [positive] stance toward the body during mirror exposure), the number of sessions, whether activities are completed as a group, and personality traits, such as body dissatisfaction (Stice et al., 2019).

Furthermore, personality traits, such as self-esteem, have been shown to moderate dissonance effects, particularly in the hypocrisy paradigm, whereby those higher in self-esteem were more likely to intend to engage in healthy lifestyle behaviors following the induction (Petersen et al., 2008). Taken together, there is a need to examine individual differences in dissonance-based processes to rectify these findings and determine if dissonance inductions can jointly promote adaptive behavior and reduce maladaptive behavior, especially as it relates to

eating. The HABICE model (Lavergne & Pelletier, 2015, 2016) was created and tested to enhance the predictive power of CDT regarding compensation processes by examining individual differences in domain-specific motivation as proposed by SDT, which in turn, increased the prediction of domain-specific behavior following the activation of a cognitive incongruency (i.e., an attitude-behavior incongruency in the environmental domain).

Self-Determination Theory

SDT is a macrotheory of human motivation, development, and wellness (Deci & Ryan, 2008). Taking an organismic perspective, SDT assumes that humans are inherently proactive, such that they are intrinsically interested in and want to gain mastery over their environment and "have a propensity to assimilate social norms and regulations through active internalization and integration" to formulate a coherent sense of self (Ryan & Deci, 2017, p. 4). As such, humans have natural propensities toward organismic integration, internalizing the regulation of activities that are required to support optimal functioning in the social world, and a sense of self-determination over their actions (Deci et al., 1994). However, features of the social context can either thwart or support these natural inclinations, and thus have implications on human development, flourishing, and self-regulatory capacity.

According to SDT, a nourishing social environment is one that supports essential psychological nutrients for growth and wellbeing, such as the need for autonomy (i.e., a sense of agency over actions), competence (i.e., to feel capable or effective in important life domains), and relatedness (i.e., a sense of belonging and connectedness to others; Ryan & Deci, 2017). As a result of needs being satisfied, individuals in these social contexts orient toward thriving, wellness, and integrity (Ryan & Deci, 2017). However, need-thwarting environments, such as those that thwart or frustrate basic psychological needs by being overly controlling, rejecting,

and critical, can interfere with volitional action. Need-thwarting environments disrupt integration, as experiences of volition are characterized by lack of inner conflict and willing engagement (Ryan & Deci, 2017). As a result, individuals become more self-focused, defensive, and are more likely to use compensatory strategies that substitute for need satisfaction (Ryan & Deci, 2017). As natural propensities toward proactive engagement and integration are contingent upon the conditions of the social context, experiences in a given life domain give rise to distinct motivation orientations varying on their degree of internalization and integration within the self. In turn, an individual's motivation orientation has implications for their wellbeing and domain-specific behavior. For instance, various studies have demonstrated that motivation orientations reflecting higher levels of internalized behavior (i.e., more autonomous) are associated with positive affective, behavioral, and wellbeing outcomes for an individual, such as higher vitality, more effort and persistence toward a task, goal progress, self-esteem, and life satisfaction (see reviews by Koestner et al., 2008; Ntoumanis et al., 2021; Vallerand, 1997).

Motivation for Eating Regulation

In the SDT literature, motives underlying eating regulation are distinguished by the degree to which regulation emanates from and is internalized into the self. Behavioral regulations that are more integrated into the self, and thus are experienced as more volitional, are considered more autonomous (i.e., intrinsic, identified, integrated), whereas behavioral regulations that are only partly integrated into the self, reflecting a more external locus of causality, are considered more controlled (i.e., extrinsic, introjected). For instance, those who regulate their eating behaviors for more autonomous reasons do so out of interest (i.e., intrinsic), perceived importance (i.e., identified), and perceived congruence with other important facets of their lives (i.e., integrated; Pelletier et al., 2004). In contrast, those who regulate their eating behaviors for

more controlled reasons do so out of external pressure (e.g., family, peers, societal ideals), and, therefore, regulation is contingent upon avoiding losses to esteem (e.g., criticism from others) or obtaining esteem-boosting rewards (e.g., recognition; extrinsic). However, as external pressures become internalized, the pressure can stem from more internal sources, such as to avoid guilt/shame, but is still regarded as external to the self (Pelletier et al., 2004). Due to these distinct reasons underlying the regulation of eating behavior, individuals with autonomous and controlled motivation orientations approach eating regulation differently, resulting in unique implications on their habitual and day-to-day eating in terms of quality, quantity, and pattern.

Compared to women with a more autonomous eating regulation, women with a more controlled eating regulation approach the regulation of their eating behavior more rigidly, in part due to their valuation of appearance-oriented (versus health-oriented) weight management goals (Verstuyf et al., 2012). This is characterized by a higher preoccupation with the quantity of food ingested and the use of avoidance food planning strategies to manage their weight (i.e., avoid foods; Otis & Pelletier, 2008; Pelletier et al., 2004). In contrast, those with a more autonomous eating regulation exhibit a more flexible approach toward eating that reflects their valuation of health-oriented weight management goals, such as being more concerned with the quality of their food and using approach food planning strategies to manage their weight (i.e., approach healthy foods; Otis & Pelletier, 2008; Pelletier et al., 2004). Differences in these preoccupations and strategies partly explain why women with an autonomous eating regulation engage in more healthy eating behavior, whereas women with a controlled eating regulation engage in disordered eating (bulimic symptoms; Otis & Pelletier, 2008; Pelletier, 2004).

As proposed by Verstuyf (2012), the vicious cycle of restriction and dysregulation observed in those with controlled eating regulation is partly attributed to perfectionistic goal

strivings in terms of their physique (i.e., thin ideal) that can result in a rigid approach toward eating, and in turn, lead to the depletion of psychological resources (i.e., basic psychological needs) required for effective self-regulation, resulting in dysregulated eating. For instance, cross-sectional studies demonstrate that appearance-oriented (versus health-oriented) weight management goal strivings are associated with a more controlled (versus autonomous) eating regulation in women, and in turn, higher self-regulatory failure as indicated by engagement in unhealthy eating (Guertin et al., 2017, 2018). Additionally, a daily diary study among a sample of adolescent girls demonstrated that controlled eating regulation was associated with drive for thinness and binge eating, whereas autonomous eating regulation was associated with healthy eating behavior (Verstuyf et al., 2012).

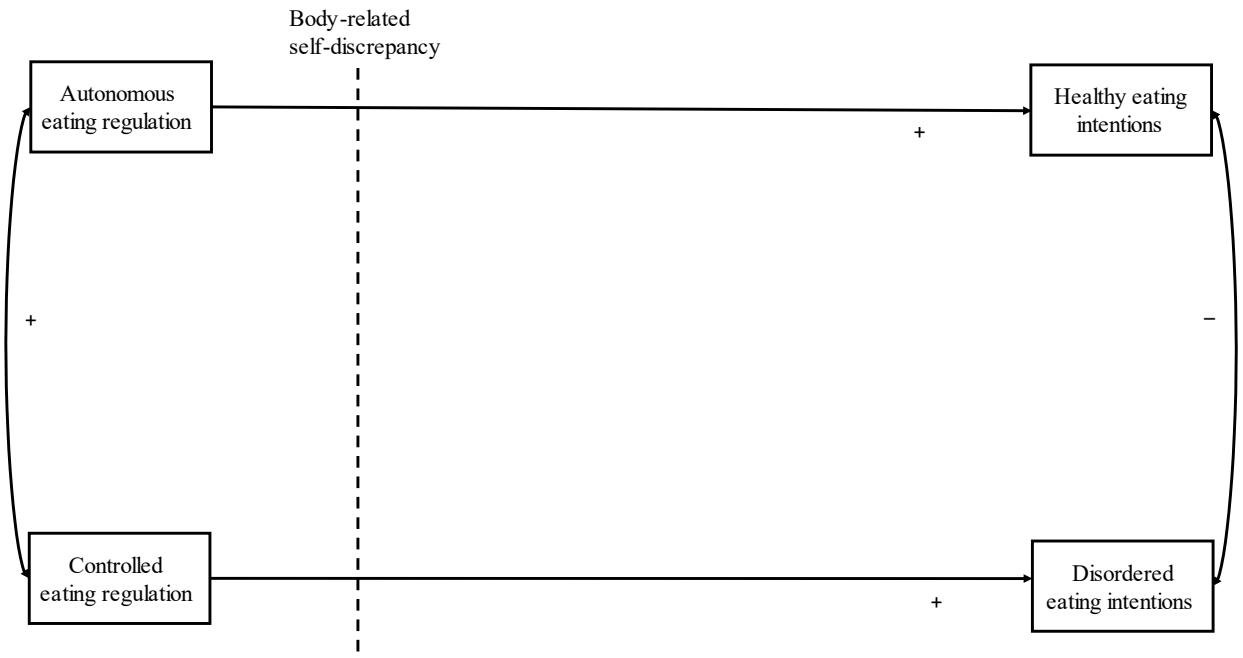
Furthermore, longitudinal studies demonstrate that more autonomous motivation for dieting and healthy eating is associated with more dieting and healthy eating intentions, and in turn, sustained dietary behavior through the facilitation of positive states (i.e., enjoyable) and perceived behavioral control (Girelli et al., 2016; Hagger et al., 2006). These findings suggest that women with more controlled eating regulation may experience dietary lapses in part due to negative affective experiences and low perceived self-control over their eating behavior, which may indicate that feelings of control (i.e., autonomy) and perceived ability to control (i.e., competence) are thwarted during active eating regulation as suggested by Verstuyf (2012).

Taken together, the literature suggests that women with autonomous and controlled eating regulation may experience different types of body-related discrepancies which reflect their preoccupation with their appearance (versus health), the quality (versus quantity) of food ingested, and likelihood to engage in healthy (versus disordered) eating behavior. Beyond body perceptions and eating behaviors, motivation for eating is also associated with engagement in

physical activity behavior, with those with more autonomous eating regulation engaging in more physical activity and those with more controlled eating regulation engaging in less physical activity (Fernandes et al., 2023). This suggests that motivational differences in body-related discrepancies related to physical activity engagement may also be apparent. Additionally, as these motivation orientations represent distinct approaches toward eating regulation (i.e., approaching vs avoiding foods), how women behaviorally respond to body-related discrepancies may be dependent on their motivation orientation. Findings from Mask and Blanchard's (2011) study support this notion. Following exposure to a thin-ideal image, which may enhance awareness of a discrepancy between one's actual and ideal body, women with more autonomous eating regulation intended to engage in more healthy eating, whereas women with a more controlled eating regulation intended to restrict their eating (see Figure 1.2). Furthermore, findings by Hagger et al. (2006) and Girelli et al. (2016) also suggest that individuals with autonomous and controlled eating regulation differ in their perceived ability and resources to enact behaviors (i.e., perceived behavioral control) that align with important self-structures (e.g., attitudes, goals), and in turn, demonstrate varying ability to successfully engage in self-congruent eating behavior.

Figure 1.2

Proposed Pathways According to SDT



Note. + positive association, – negative association

This additionally suggests that there may be motivational differences in how women compensate for body-related discrepancies, as they may differ in the degree of choosing strategies that are more effortful that facilitate behavioral commitments based on psychological resources afforded by their motivational style. Indeed, according to SDT (Ryan & Deci, 2004), individuals with more autonomous and controlled forms of motivation have different tendencies to behave in a manner that supports self-consistency, which is evident by the way in which they compensate for domain-specific self-discrepancies (Lavergne & Pelletier, 2015, 2016). In particular, previous studies testing the HABICE model found that contextual motivation toward the environment was associated with dissonance arousal, compensation, and pro-environmental behavior following the activation of an attitude-behavior discrepancy related to the environment (Lavergne & Pelletier, 2015, 2016). As such, the literature suggests that women's motivation for eating regulation may be activated when perceiving a body-related discrepancy, and in turn, be

predictive of individual differences in dissonance processes (i.e., arousal and compensation) and eating intentions across different social contexts.

Hierarchical Action-Based Model of Inconsistency Compensation

The HABICE model (Lavergne & Pelletier, 2015, 2016) is grounded in key tenets proposed by the action-based model of dissonance (Harmon-Jones et al., 2009) and integrates Self-Determination Theory (SDT; Ryan & Deci, 2017) to conceptualize individual differences in dissonance processes following cognitive discrepancies. Compared to CDT, the action-based model explains *why* cognitive incongruences elicit dissonance, and the integration of SDT, vis-à-vis the HABICE model, further expands on this by elucidating individual differences in these processes.

In contrast to CDT, the action-based model postulates that cognitions are action-oriented, and as such, holding incongruent cognitions arouses dissonance because it interferes with effective action (Harmon-Jones et al., 2009). This suggests that individuals are proximally motivated to compensate to reduce dissonance and distally motivated to compensate in a manner that restores effective and unconflicted action, such as aligning cognitions with behavioral commitments (Harmon-Jones et al., 2009). In the HABICE model, distal motivation represents an individual's dominant action tendency in the domain relevant to the incongruency, which is operationalized as an individual's motivation to regulate behavior in the given domain (Lavergne & Pelletier, 2015, 2016). Although motivation can occur at different levels of generality, such as at the global level (i.e., general orientation toward the social environment; akin to a personality trait), contextual level (i.e., in a specific life domain, such as eating), and situational level (i.e., in the present moment), each level is thought to influence the next proximal level through top-down and bottom-up processes (Vallerand, 1997). Thus, inclinations attributed to motivation

orientation at the most general level can be observed at the contextual level (Lavergne & Pelletier, 2015, 2016). Compared to global motivation, contextual motivation reflects the domain's self-relevance (Deci & Ryan, 2008; Vallerand, 1997) and therefore is likely involved in the perception of, and compensation for, self-discrepant states in the domain. As contextual motivation guides behavioral commitments and goals in a given domain, it plays a pivotal role in the selection of compensation strategies aimed to satisfy domain-specific commitments, and consequently, efforts to restore effective and unconflicted action (Lavergne & Pelletier, 2015, 2016).

Motivation Orientation and Compensation Strategies

According to Deci and Ryan (1985), those with autonomous motivation have an action tendency for organismic integration, such that they act in ways that ensure coherence and consistence with authentic self-structures (e.g., beliefs, goals, attitudes) as it is inherently satisfying to do so. In contrast, those with controlled motivation have an action tendency for ego investment, such that their behaviors are contingent upon possible outcomes for their esteem, including gains for esteem (e.g., social or monetary) or protecting against losses to esteem (e.g., to maintain favorable impressions). As such, they are disposed to act in ways that uphold ego self-structures.

Motivational differences in these action tendencies were observed by Lavergne and Pelletier (2016) following the activation of an attitude-behavior inconsistency in the environmental domain via a hypocrisy recall task, such that, apart from motives to reduce dissonance, those with autonomous motivation are motivated to compensate to restore self-integrity, whereas those with controlled motivation are motivated to compensate to protect ego-invested self-structures. These associations held while considering the effect of dissonance

arousal, which was associated with both self-integrity restoration and ego self-protection motives, although to a lesser degree for ego self-protection.

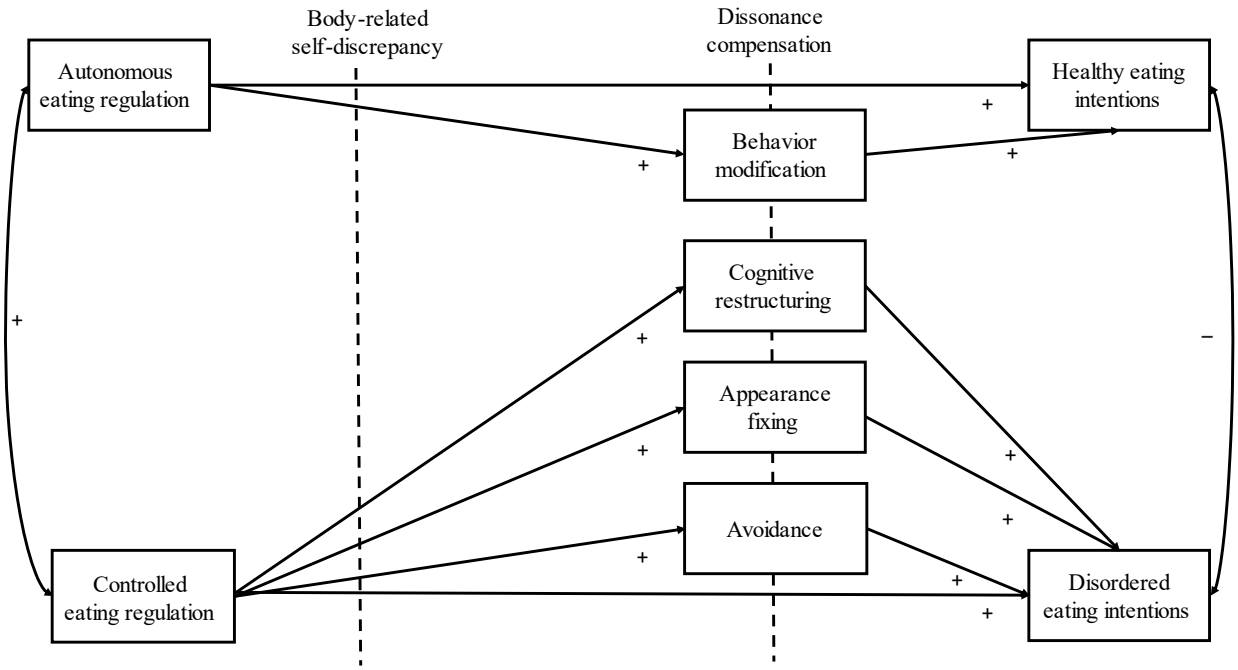
These findings suggest that dissonance arousal created by an inconsistency elicits a generalized threat to self-structures in terms of authentic functioning and impression management. The addition of motivation orientations to models of cognitive dissonance improves the prediction of responses to domain-specific self-discrepancies by distinguishing the personal relevance and action tendency toward authentic functioning versus ego preservation. Furthermore, studies by Lavergne and Pelletier (2015) demonstrated that motivational differences in proximal motives to compensate for a self-discrepancy (i.e., self-integrity restoration versus ego protection) explained why individuals with autonomous motivation and controlled motivation use different dissonance compensation strategies to restore effective and unconflicted action, which, in turn, resulted in distinct domain-specific behavioral outcomes. For instance, autonomous motivation was associated with the use of behavioral modification strategies directly and indirectly through dissonance arousal, which restores self-integrity by changing behavior to be more aligned with attitudes. In turn, the use of this strategy was associated with fewer self-discrepant behaviors in the domain. These findings suggest that autonomously motivated individuals select more effortful strategies irrespective of experiencing dissonance. This illustrates their non-contingent pro-active orientation toward self-consistence, which in turn, restores effective and unconflicted action by maintaining domain-specific behavioral commitments despite facing challenges and obstacles (i.e., self-discrepancies) during active regulation.

Lavergne and Pelletier (2015, 2016) also observed that those with controlled motivation demonstrated either no specific preference for use of a given strategy or contingent use of

behavior modification and cognitive restructuring strategies. For instance, controlled motivation was found to be directly associated with cognitive restructuring strategies and indirectly associated with behavior modification strategies through dissonance arousal. This suggests that only when perceived ego threat is high (i.e., higher dissonance arousal) will individuals with controlled motivation alter their behavior to align with their attitudes for the purpose of minimizing aversive consequences for the self. Furthermore, controlled motivation was associated with more frequent self-discrepant behavior in the domain via use of cognitive restructuring strategies, which facilitates coherence between self-structures by rationalizing or trivializing self-discrepant behavior. Although this technique could help an individual avoid the threat posed by a self-discrepancy temporarily, it can result in more self-discrepant behavior in the domain by weakening attitudes toward the given behavior. This, in turn, could facilitate less internalized forms of motivation in the domain over time (i.e., lack of motivation; Lavergne & Pelletier, 2015). Based on propositions of the HABICE model and findings in the SDT eating regulation literature, the following motivational pathways were posited following a body-related discrepancy (see Figure 1.3).

Figure 1.3

Proposed Pathways According to the HABICE Model



Note. + positive association, – negative association.

Similar to the compensation strategies operationalized by CDT (Festinger, 1957), studies reveal that women use a variety of behavioral and cognitive strategies when coping with challenging or distressing body-related experiences (e.g., when the body is exposed or being evaluated by others; Cash et al., 2005; Lamarche et al., 2012; Smith-Jackson et al., 2011). However, unlike the findings observed by Lavergne and Pelletier (2015), cognitive and behavioral body image coping strategies are equally associated with adaptive and maladaptive behavioral outcomes.

Body Image Coping Strategies and Eating Behaviours. In response to discomforting body-related experiences, some women modify their behavior to approach a desired state in terms of their health, such as setting healthy eating and exercise goals and intentions (Smith-Jackson et al., 2011), or in terms of their appearance, such as altering their appearance to hide or correct flaws (i.e., appearance fixing; Cash et al., 2005; Smith-Jackson et al., 2011). Women also

engage in behavioral forms of self-objectification, viewing oneself as an object to critically evaluate against societal norms, through negative body talk (Barbeau et al., 2022; Lamarche et al., 2012). Negative body talk could represent the body discontentment felt during distressing body-related situations; however, it can also function as a means to manage social impressions. For instance, women could verbally self-degrade to defend against others' opinions out of fear of negative evaluation (i.e., "If I judge myself first, you can't judge me"; Barbeau et al., 2022; Lamarche et al., 2012) or to facilitate social cohesion with other women (Shannon & Mills, 2015). Therefore, it may represent a means to reduce losses to esteem by mitigating negative feedback and rejection by others. Women also engage in various forms of avoidance, which have cognitive and behavioral elements. This includes experiential avoidance, such as removing or distancing oneself from stimuli that increase awareness of body-related self-discrepancies (e.g., avoid looking at the body in the mirror) or nullifying emotions through eating, and cognitive avoidance, such as ignoring dissonant body-related cognitions (e.g., tuning out thoughts and feelings; Cash et al., 2005).

Finally, women engage in cognitive strategies that reframe the threatening situation as less distressing by exuding self-acceptance, being patient and understanding with the self, and minimalizing the importance of the situation (i.e., positive rational acceptance; Cash et al., 2005). This cognitive strategy can also manifest itself behaviorally through positive self-related body talk (Lamarche et al., 2012). Cash and colleagues (2005) observed that higher use of appearance fixing and avoidance strategies and lower positive rational acceptance was associated with greater eating disorder symptomology among college women.

Furthermore, a meta-analysis revealed that negative self-related body talk is associated with many affective (e.g., dissatisfaction, shame), cognitive (i.e., thin-ideal internalization), and

behavioral (e.g., body checking/surveillance) facets of body image (Mills & Fuller-Tyszkiewicz, 2017). Self-related negative body talk is also directly and indirectly associated with increased unhealthy eating behavior (Guertin et al., 2017, 2018) and dysfunctional eating intentions (Cruwys et al., 2016) and behavior among women (Barbeau et al., 2022; Chow & Tan, 2018; Macdonald et al., 2015). In contrast, self-related positive body talk is not associated with dysfunctional eating attitudes and behavior among women (Barbeau et al., 2022; Rudiger & Winstead, 2013). However, it remains unclear what role it may play in facilitating healthy eating behaviors.

Currently, no study to date has examined how women's motivation for eating regulation is related to many of these aforementioned body image coping strategies. Based on the SDT literature, it is plausible that women with a more autonomous eating regulation would use behavior modification strategies that support alignment with their health-oriented goals by modifying behavior to approach healthy foods as observed by Otis and Pelletier (2008). In contrast, women with a more controlled eating regulation may use behavior modification strategies that protect ego-invested self-structures (i.e., appearance, self-worth, favorable impressions), such as engaging in appearance fixing and avoidance.

Furthermore, a study by Guertin and colleagues (2018) observed that self-compassionate (versus self-critical) attitudes were associated with a more autonomous (versus more controlled) eating regulation, and in turn, healthy (versus unhealthy) eating behavior. Self-compassion shares many characteristics with Cash and colleagues' (2005) conceptualization of positive rational acceptance, such that it represents a positive attitude toward the self when one is dealing with personal setbacks, challenges, or difficult emotions in response to perceived inadequacies (Neff, 2003), including toward the body and dietary lapses (Thøgersen-Ntoumani et al., 2020; Turk &

Waller, 2020). As it reflects a positive self-perception, those who exhibit higher levels of self-compassion also engage in more positive self-related body talk (Barbeau et al., 2022). In contrast to positive rational acceptance, self-compassion is more commonly conceptualized as a personal resource rather than a compensation strategy as it facilitates the re-appraisal of stressful events in a manner that promotes positive states, and in doing so, frees up self-regulatory resources to remove or circumvent a stressor (Ewert et al., 2021).

In sum, these findings suggest that motivational differences in the selection of compensation strategies in response to the salience of a body-related discrepancy could also be partly attributed to women's degree of perceived personal resources, such as self-compassion. Aligned with this notion, previous research has found that individuals with more autonomous and controlled forms of motivation process self-threatening information differently, which, in turn, affects their personal resources to cope with stressors and their performance (Weinstein & Ryan, 2011).

Motivational Differences in Self-Referential Processing of Threatening Information

A review by Weinstein and Ryan (2011) suggests that an autonomous motivation orientation, as a dispositional trait or primed state, increases an individual's resilience to stress by facilitating adaptive appraisals of stressors that mitigate defensive responding. These adaptive appraisals allow the integration of new and discrepant self-relevant information and enhances the cognitive processing of emotions. As individuals with more autonomous motivation possess a more integrated, secure self, they have a higher threshold for threat, whereas individuals with more controlled motivation have a lower threshold for threat due to their fragile (contingent) self-worth (Hodgins & Knee, 2002).

As such, individuals with autonomous motivation do not perceive stressors as exceeding their personal resources to cope and therefore appraise stressors as a challenge versus as a threat. However, as individuals with controlled motivation are preoccupied by protecting ego self-structures due to their self-worth being contingent upon them, they perceive stressors as a threat because stressors may incur losses to their esteem. Differences in cognitive appraisals of stress explain why individuals with autonomous motivation exhibit lower arousal (i.e., lower cardiovascular stress responses) and individuals with more controlled motivation exhibit higher arousal (i.e., higher cardiovascular stress responses) during and following a social-evaluative stress task (Hodgins et al., 2010).

Appraising stressors as a threat (versus as a challenge) is also associated with the use of defensive coping strategies characterized by cognitive and behavioral avoidance (i.e., denial, behavioral and mental disengagement; Weinstein & Ryan, 2011) that aim to protect ego-invested self-structures. The use of defensive strategies thwarts the integration of self-relevant information, which has implications on performance, wellbeing, and the cultivation of a coherent self. For instance, following negative feedback, those with more autonomous motivation exhibited sustained persistence and performance, whereas those with more controlled motivation performed more poorly on a puzzle task (Koestner & Zuckerman, 1994). Additionally, following a distressing film, compared to individuals with more controlled motivation, individuals with more autonomous motivation demonstrated higher cognitive processing of negative emotional stimuli, such as using words that infer more sense-making and self-referencing during a written reflection (Weinstein & Hodgins, 2009). In turn, affective and non-defensive emotional processing sustained their affective wellbeing and energy following a stressor.

Furthermore, a series of studies conducted by Weinstein and Ryan (2011) observed that those with more autonomous motivation felt closer to and were more accepting of positive and negative self-related information (i.e., past characteristics and life events), whereas those with more controlled motivation only felt closer to and were more accepting of positive self-related information. Upon reflecting on these experiences, those with more controlled motivation exhibited more defensive responding characterized by dissociation (i.e., nonpersonal pronouns during reflection) and avoidance (i.e., desire to escape), illustrating their low tolerability for processing negative self-related information and tendency to reject (versus integrate) negative facets of the self. In turn, lower integration of negative past identities resulted in lower wellbeing. In contrast, those with more autonomous motivation experienced higher wellbeing due to higher integration of negative past identities.

Taken together, these findings suggest that women with more autonomous and controlled eating regulation may experience differing levels of dissonance arousal when a body-related discrepancy is salient due to appraising discrepant self-related information as a challenge versus as a threat. They also suggest that women with more controlled eating regulation may exhibit more defensive coping, such as cognitive and behavioral avoidance, as a compensation strategy in response to perceiving a body-related discrepancy. This, in turn, may increase intent to engage in disordered eating as defensive responding depletes energy required for self-regulation via sustained negative affect and/or may facilitate the use of other strategies (i.e., restriction or binge eating) to alleviate residual affect. In contrast, women with a more autonomous eating regulation may be more likely to objectively process self-discrepant information due to their ability to accept and embrace negative aspects of the self, which allows the integration of self-relevant information for the purpose of monitoring self-concordance. In turn, this may facilitate the use of

more approach-focused compensation strategies that aim to reduce self-discrepant behavior in the future, such as behavior modification, which supports goal-congruent intentional action in the domain (i.e., healthy eating behavior). As objective processing of self-relevant information is characterized by the acceptance of negative facets of the self, and plays a role in the appraisal of stressors, and in turn, affective states elicited by a stressor, it is plausible that motivational differences in dissonance arousal in response to a body-related discrepancy is partly attributed to women's degree of self-compassion.

Self-Compassion

Self-compassion reflects a way of relating to the self in a soothing manner in response to personal difficulties and is characterized by three interacting components: unconditional acceptance (versus critical judgment) of personal flaws and shortcomings (i.e., self-kindness), mindful awareness and curious exploration (versus overidentification and avoidance) of emotions (i.e., mindfulness), and a sense of connection (versus isolation) in relation to others when perceiving inadequacies (i.e., common humanity; Neff, 2003). As a result, self-compassion is associated with various indicators of psychological (i.e., adjustment), cognitive (i.e., self-evaluations), and affective (i.e., pleasant intrapsychic states) wellbeing (Zessin et al., 2015). Some underlying mechanisms include the facilitation of adaptive stress appraisals, such as viewing stressors as less threatening and more controllable (Chishima et al., 2018), the use of adaptive coping strategies (Ewert et al., 2021), and improved emotion regulation (Inwood et al., 2018).

According to Lazarus' transaction model of stress and coping (1966), stress is a bidirectional process, whereby appraisals influence coping efforts, and in turn, the effectiveness of the selected coping strategy impacts how individuals perceive the situation (i.e., as a challenge

or a threat) based on their ability and resources to cope with associated demands. From this perspective, all posited underlying mechanisms explaining the association between self-compassion and improved wellbeing may operate in a cyclical manner, whereby adaptive stress appraisals are facilitated by self-compassionate individuals' tendency to use adaptive coping strategies that facilitate emotion regulation, and in turn, improved emotion regulation increases individuals' perception of personal resources to face stressors.

A meta-analysis by Ewert and colleagues (2021) observed that self-compassion was associated with adaptive emotion-focused coping strategies, such as acceptance and cognitive reframing, and negatively associated with maladaptive emotion-focused coping, such as denial, behavioral disengagement, experiential avoidance, rumination, and self-blame. Thus, self-compassion may enable individuals to approach (versus avoid) negative experiences, such as body-related self-discrepancies, in a manner that supports affective balance, such as openly observing negative states in a balanced nonjudgmental manner, and reappraise events as less self-threatening by being patient and understanding with the self by acknowledging that failure and imperfection are shared (versus unique) human experiences (Ewert et al., 2021). Supporting this notion, Pila et al. (2022) observed that increased between- and within-person self-compassion was associated with less body- and appearance-related self-conscious emotions, such as shame, guilt, embarrassment, and envy, among adolescent girls in sport. Favorable results on daily stress reactivity (i.e., sustained positive affect and lower negative affect) in response to daily hassles have also been found when individuals exhibit higher within-person levels of self-compassion (Mey et al., 2023).

Furthermore, as self-compassion facilitates emotion regulation and sustains positive self-perceptions without contingencies, it functions as a protective factor for women's body image

and disordered eating, further suggesting that it will facilitate adaptive affective and behavioral responses to body-related discrepancies (Turk & Waller, 2020). For instance, a daily diary study in college women observed that increased self-compassion at the between (i.e., weekly) and within-person (i.e., daily) level was associated with increased intuitive and decreased restrained eating and more appreciation and satisfaction toward the body (Kelly & Stephen, 2016).

In sum, these findings may suggest that those who exhibit higher self-compassion may perceive less body-related discrepancies as their daily perceptions toward their body are more positive and stable, which in turn, facilitates more adaptive eating behavior. As such, the link between self-compassion and adaptive eating behavior may be due to enhanced emotion regulation when self-threatening information is perceived (e.g., a body-related discrepancy). For instance, a daily diary study among overweight and obese adults demonstrated that increased within-person levels of self-compassion in response to dietary lapses was associated with attenuated negative reactions following lapses and increased self-efficacy for healthy eating and intent to diet (Thøgersen-Ntoumani et al., 2021). These favorable effects were mediated by lower feelings of guilt. This finding supports previous notions that self-compassion is a powerful personal resource that bolsters self-regulation and sustains behavioral commitments to health-promoting eating behavior via increased and decreased positive and negative affect states, respectively (Sirois et al., 2015). Alternatively, the link between self-compassion and adaptive eating may be explained by sustained positive self-perceptions when cues in the environment facilitate self-objectification processes that enhance self-comparisons that would typically elicit a body-related discrepancy. For instance, self-compassion has shown to weaken the relationships between self-objectification (i.e., body surveillance) and body shame and negative eating attitudes (Liss & Erchull, 2015) and facilitate adaptive affective and stress responses to stimuli,

such as a mirror (Petrocchi et al., 2016), that typically elicit negative body-related experiences (Lamarche et al., 2012).

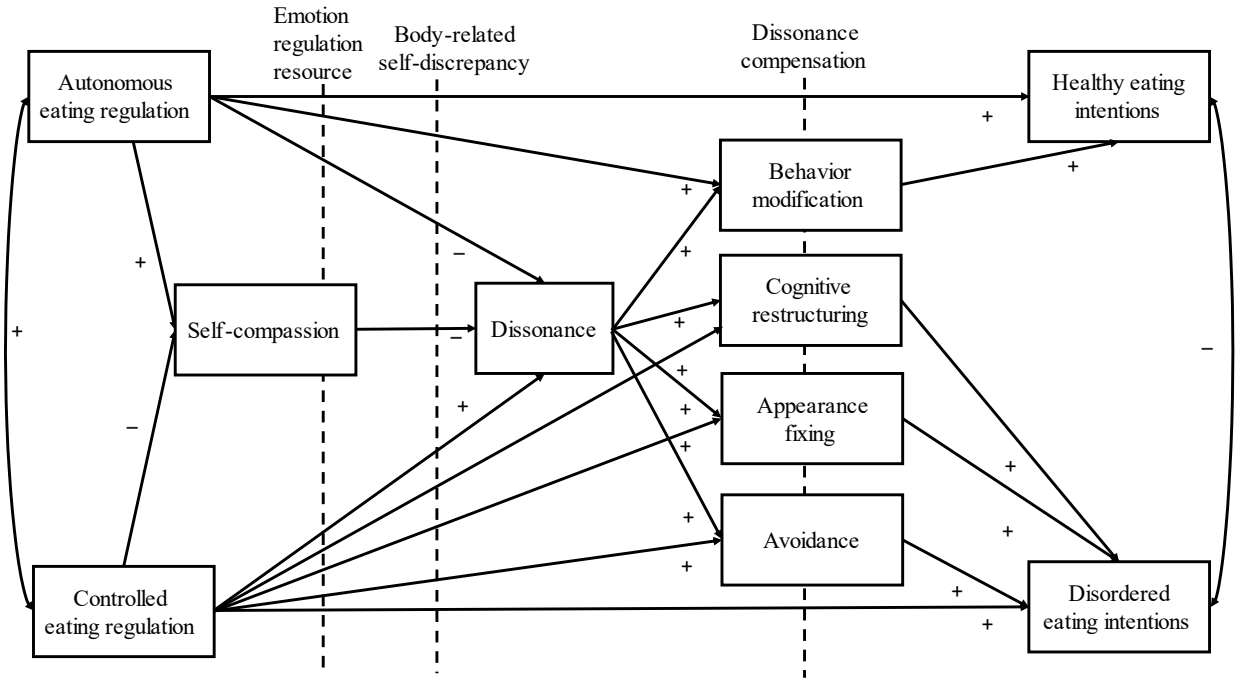
New Integrated HABICE Model with Self-Compassion. The literature reviewed above supports the notion that self-compassion attenuates negative affective responses to stress through adaptive stress appraisals (i.e., low threat, high controllability) and approach-focused coping, thereby facilitating emotion regulation. These mechanisms are applicable to the appraisal of, affective responses to, and coping with negative body-related experiences, such as body-related discrepancies (i.e., negative body perceptions and dietary lapses).

As the positive and negative association between self-compassion and more autonomous and controlled eating regulation, respectively, in women has been previously established (Guertin et al., 2018), it is plausible that self-compassion plays a mediating role in the relationships between motivation and dissonance arousal and compensation. For instance, as illustrated in Figure 1.4, self-compassion may help women maintain positive self-perceptions and facilitate emotion regulation following a perceived body-related discrepancy. As a result, women with more autonomous eating regulation may experience lower dissonance arousal, and in turn, have adequate self-regulatory resources to maintain domain-specific behavioral commitments by using more effortful strategies (i.e., behavioral modification) that promotes intentional action toward effective and unconflicted action (i.e., healthy eating). In contrast, women with more controlled eating regulation may experience higher dissonance arousal through lower self-compassion, as self-criticism can sustain and amplify threat appraisals (Castilho et al., 2017). As such, sustained negative affect and use of maladaptive coping strategies that aim to supress cognitive processing of painful emotional experiences (i.e., avoidance) related to the body may result in future conflicted action, such as intent to engage in

disordered eating, as individuals lack personal resources to maintain domain-specific behavioral commitments.

Figure 1.4

New Integrated HABICE Model with Self-Compassion



Note. + positive association, – negative association.

The literature also supports the notion that within-person levels of self-compassion (i.e., state self-compassion), irrespective of individuals' between-levels (i.e., trait) of self-compassion, is associated with favorable effects on affect and eating behavior. This suggests that social conditions that facilitate women's self-compassionate responding when perceiving a body-related discrepancy will promote more adaptive affective and behavioral responses in women, irrespective of their eating regulation style. The literature also suggests that social conditions that thwart self-compassionate responding, thereby disrupting more autonomous women's authentic self-referential processing style, may impair their ability to act in accordance with their

dispositional action tendencies. Thus, motivational differences in dissonance-related processes and eating behavior in response to the salience of body-related discrepancies are likely dependent on the social context in which it occurs.

Interplay Between Motivation and the Social Context on Eating Behavior

According to SDT, the experienced intrapersonal state of autonomous and controlled motivation is influenced by external factors in an individual's social environment (Ryan & Deci, 2017). As such, cues in the environment can prime dispositional motivation orientations and their "underlying self-structures to become temporarily salient and operative" (Hodgins et al., 2010). However, they can also influence the degree to which an individual feels more autonomous or controlled in a given situation depending on whether the climate is need-supporting or need-thwarting (Ryan & Deci, 2017). In particular, contextual cues that enhance ego involvement, such as those that increase the salience of public aspects of the self (i.e., one's physical or social image), are experienced as more controlling and hinder intrinsic motivation (Beaudry et al., 2010; Ryan & Deci, 2017). Thus, stimuli that enhances awareness of the self in a given domain may activate individuals' domain-specific motives; however, motivational differences in domain-specific outcomes may be dependent on the features of the social environment as they may facilitate or diminish individuals' autonomous motivation. These person-environment interactions were observed by Beaudry (2010) following manipulations of private (i.e., internal standards and attitudes) and public self-awareness (i.e., social image) through ME. Beaudry (2010) observed that women with a more global autonomous motivation exhibited more eating restraint of unhealthy food following partial ME in a social-evaluative context (i.e., facial exposure while being recorded for evaluative purposes) but not in a non-social-evaluative

context (i.e., facial exposure alone), whereas women with a more global controlled motivation orientation demonstrated higher eating restraint following ME in either condition.

In accordance with SDT (Ryan & Deci, 2017), environments that increase public self-awareness, such as conditions where one is being evaluated by others, are experienced as controlling, and as such, elicit eating behavioral responses in women that are more aligned with a controlled regulatory style (i.e., in accordance with social standards). Beaudry's (2010) findings suggest that priming a controlled motivation orientation via public self-awareness may increase self-discrepant eating behavior (i.e., avoiding vs approaching food) among women with an autonomous orientation because the context facilitates an incongruent regulatory style (i.e., external versus internal standards). In contrast, public self-awareness would elicit self-congruent behavior for individuals with a more controlled eating regulatory style, such as avoiding foods to manage their weight (Otis & Pelletier, 2008), because the context facilitates a congruent regulatory style.

The observation that those with a more controlled motivation exhibited eating restraint following partial ME in either condition illustrates the notion that mirrors can enhance awareness of private as well as public aspects of the self (Carver & Scheier, 1978), and this is largely attributed to individuals' predisposition to attend to private (i.e., internal standards, attitudes) versus public (i.e., appearance, social image) aspects of the self (Beaudry et al., 2010). Thus, ME should increase engagement in behavior that is congruent with an individual's dispositional motivation style as it increases the accessibility of one's self-regulatory style through enhanced self-awareness. Supporting this notion, Beaudry (2010) observed that restrained eaters (i.e., those preoccupied with dieting and thinness) subjected to partial mirror exposure (i.e., face) while watching a TV show exhibited more eating restraint when offered popcorn compared to those in

a control condition. This effect was primarily driven by women with a more controlled motivation, illustrating that ME alone facilitates eating behavior that is congruent with an individual's self-structures (i.e., dieting).

The priming of a more controlled motivation orientation through contextual cues can also influence individuals' appraisal of and coping with stressors (Hodgins et al., 2006; Knee & Zuckerman, 1996, 1998). For instance, priming a more controlled orientation elicits greater defensive responding, such as avoidance and self-serving biases (Hodgins et al., 2006; Knee & Zuckerman, 1996, 1998) and higher physiological arousal (Hodgins et al., 2010). These findings suggest that individual motivational differences in dissonance-based processes, such as dissonance arousal and compensation, and eating behavior may be dependent on the context in which a body-related discrepancy occurs.

For instance, contexts that facilitate congruent self-regulatory styles for a given individual should elicit a typical arousal profile, compensation strategy, and eating behavior that is aligned with their dispositional motivation orientation (i.e., autonomous or controlled). In contrast, contexts that are incongruent with a given individual's self-regulatory style (because it is more controlling) should elicit a typical arousal profile, compensation strategy, and eating behavior that is more aligned with a controlled orientation. This effect could be observed through women's recollection of experienced body-related discrepancies in everyday life in different social contexts or by manipulating the salience of body-related discrepancies via ME in a social and non-social-evaluative context.

As individuals' eating behavior in response to ME is influenced by complex motivation-environment interactions, it further sheds light on the diverging effects of mirrors on individuals' eating behaviors. For instance, some studies have found that ME reduces individuals' intake of

unhealthy food items (i.e., pizza, high fat sauces; Alawad et al., 2015; Guéguen & Charles-Sire, 2011) and its hedonic value (Jami, 2016), while others find that ME enhances the desire to binge eat in those with binge eating disorder (Naumann, 2013). Using the HABICE model as a framework to understand the underlying mechanisms of ME on eating behavior also has applications for the use of ME as a therapeutic tool for inducing positive behavioral changes in women's eating behavior.

Dissonance-Based ME to Induce Positive Changes in Eating Behaviors

As mirrors increase the salience of the body, and in turn, cognitions relevant to the body (e.g., thoughts, attitudes, behavior), clinicians and researchers have used ME to enhance the efficacy of dissonance techniques that aim to improve body image and reduce disordered eating among individuals with body image disturbances; however, this technique is also used in non-clinical samples (Griffen et al., 2018; Stice et al., 2019). Some studies elicit dissonance in individuals by instructing them to engage in incongruent forms of body-related verbalizations during full body ME. This includes describing the body neutrally, nonjudgmentally (Delinsky & Wilson, 2006; Luethcke et al., 2011), or positively (Luethcke et al., 2011; Stice & Presnell, 2007; Tanck et al., 2021). In a non-clinical sample of women, engaging in neutral/nonjudgmental or positive verbalizations during ME improved body checking, avoidance, and eating disorder pathology following ME (Luethcke et al., 2011). Others, however, elicit dissonance by interfering with individuals' attentional biases toward negatively valenced body parts by instructing them to attend to positively valenced body parts during ME (Jansen et al., 2016).

Similar to Luethcke et al. (2011), Jansen and colleagues (2016) found favorable effects on facets of body image in addition to sustained positive feelings during ME among women high in trait body dissatisfaction following enhanced attentional focus on positively valenced body

parts. However, favorable effects on eating behavior are not consistently found. For instance, Tanck and colleagues (2021) observed no changes in disordered eating or positive affect in women allocated to a positive body talk mirror condition. Some studies have used ME to intentionally evoke appearance self-discrepancies by instructing women to engage in negative body talk during ME (Jansen et al., 2016; Tanck et al., 2021). It is proposed that changes in cognitive-affective responses to the body requires a state of arousal followed by habituation to negative emotions elicited by body exposure (Tanck et al., 2021). However, these manipulations did not improve body image outcomes (i.e., body checking, avoidance) or disordered eating, but instead, worsened negative affect and body dissatisfaction (Jansen et al., 2016; Tanck et al., 2021). This corroborates with studies demonstrating the negative implications of self-related negative body talk on women's affect, body image, and disordered eating (Jones et al., 2014; Mills & Fuller-Tyszkiewicz, 2017 for a review).

The mixed findings of the effect of dissonance-based ME on women's eating behavior may be explained by individual differences in women's motivation for eating regulation. More specifically, in order for counter-attitudinal talk to elicit dissonance and subsequent changes in eating behavior, it would have to be incongruent with women's tendency to engage in positive or negative body talk. For instance, women with a more autonomous eating regulation exhibit higher levels of self-compassion, which is associated with engaging in more self-related positive body talk (Barbeau et al., 2022), whereas women with a more controlled eating regulation exhibit less self-compassion and engage in more negative body talk (Guertin et al., 2018).

Overall, this suggests that manipulations that increase positive body talk during ME may not yield changes in more autonomous women's intended eating behavior because it is concordant with their self-structures. However, it may benefit women with a more controlled

eating regulation as it is incongruent with their self-structures in a manner that promotes adaptive affective and behavioral responses to body-related discrepancies. For instance, the mitigation of arousal through sustained positive affect may increase self-regulatory capacity, and in turn, effective and unconflicted action in the eating domain (i.e., more intent to engage in healthy eating behavior). These improvements should also be apparent in social-evaluative contexts given that self-compassion has shown to buffer the effect of perceived social rejection on negative affect and restrictive eating (Beekman et al., 2017). Self-compassionate training also modulates physiological and subjective stress responses during a social-evaluative stressor (Arch et al., 2014). These favorable effects may be explained by the ability of self-compassionate responding to enhance focus on non-contingent forms of esteem, which mitigates awareness of and preoccupations with public facets of the self (Neff & Vonk, 2009).

As women with more controlled eating regulation engage in more negative body talk, manipulations that seek to induce a cognitive discrepancy through negative body talk during ME may not yield any changes on their eating behavior as they already exhibit a tendency to engage in more disordered eating behavior (Otis & Pelletier, 2008; Pelletier, 2004; Verstuyf et al., 2012, 2016). However, as being overly critical of personal flaws versus accepting and compassionate toward them is incongruent with more autonomous motivated women's method of responding to personal inadequacies, this manipulation may interfere with their authentic functioning, resulting in increased arousal and self-discrepant eating intentions that are more aligned with a controlled eating regulatory style. Furthermore, these negative effects may be magnified in a social-evaluative context as it will increase the likelihood of priming a controlled orientation.

Addressing Limitations of the Literature and Contribution of the Thesis

The aims of this thesis address many theoretical and knowledge gaps. First, much of our knowledge surrounding motivational differences in self-discrepancies in the eating and body image domain is inferred by differences in tendencies to exhibit higher positive or negative trait body image and habitual adaptive and maladaptive eating behavior. As self-discrepancies are often spontaneous occurrences, and their salience is both a product of personal dispositions and the social environment, the frequency of their occurrence may not always reflect an individual's dispositional tendencies (i.e., motivation orientation), perhaps due to specific contextual elicitors. Furthermore, there may be other self-discrepancies related to the body that influence eating behavior beyond what has been observed in the literature (i.e., appearance-related), which help us further understand the robust relationship between more autonomous eating regulation and adaptive eating behavior and controlled eating regulation and disordered eating behavior.

Second, the notion that those with a more autonomous orientation experience less dissonance arousal in response to a self-discrepancy relies heavily upon existing ideas regarding objective processing of self-relevant information for the purposes of facilitating organismic integration and monitoring self-concordance. However, this idea has yet to be empirically tested; therefore, this thesis sought to integrate self-compassion into the HABICE model to test these notions. These gaps are addressed in the first study.

Third, paradigms based in CDT, such as dissonance-based ME, elicit cognitive incongruencies as a technique to reduce disordered eating and promote adaptive eating; however, these fields of study do so by using different techniques. This limits our understanding of potential shared underlying mechanisms for inducing favorable changes in both dimensions of eating behavior via dissonance-based ME. Furthermore, many of these studies do not examine the effects of individual differences on its efficacy nor do they consider the effects of the social

context, despite their known influence on dissonance compensation and domain-specific behavior. The current thesis addresses these knowledge gaps by employing techniques from both fields of study (i.e., health promotion and eating disorder prevention), while using the HABICE model to predict motivational differences in dissonance-based processes and eating intentions following these inductions across various social contexts. This knowledge gap is addressed in the second and third study.

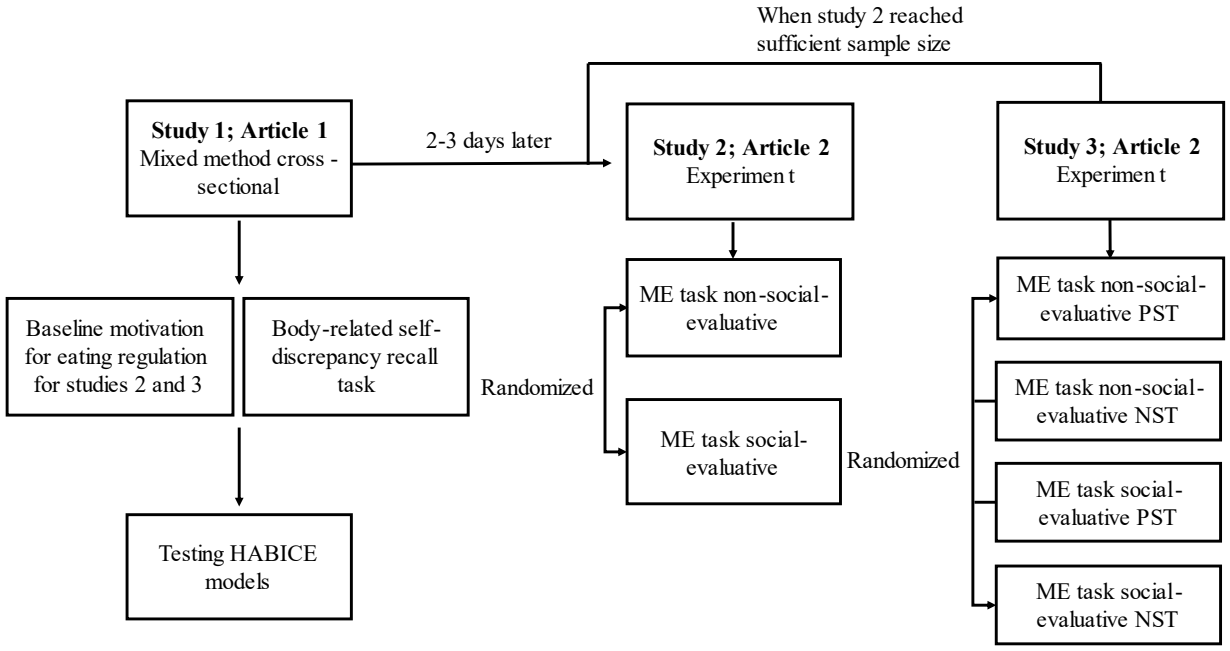
Current Research and Phases of the Research

The goal of the current thesis was to examine motivational differences in how women experience, cope with, and intend to eat in response to various types of body-related discrepancies. The HABICE model (Lavergne & Pelletier, 2015, 2016) was used to conceptualize and formulate predictions related to motivational differences in dissonance processes associated with women's intent to engage in healthy and disordered eating behavior following the salience of a body-related discrepancy across social-evaluative and non-social-evaluative contexts. The achieve this goal, three interrelated studies, divided into two articles, were conducted. As the first study served as the baseline for studies 2 and 3, this program of research can be conceptualized as occurring in two major phases. These two phases are described in Figure 1.5 below. The first phase (Study 1; Article 1) established women's autonomous and controlled motivation for eating regulation, which were used in the second phase (i.e., Studies 2 and 3; Article 2) to predict motivational differences in dissonance arousal, compensation, and intended eating behavior following various body-related discrepancy manipulations created through or during ME in social-evaluative and non-social-evaluative contexts. These manipulations included self-focused attention on the body via ME (Study 2; Article 2) and incongruent self-related body talk during ME (Study 3; Article 2).

Additionally, phase 1 (Study 1; Article 1) comprised a hypocrisy recall task to elicit the salience of a body-related discrepancy, and in turn, contributed to our understanding of the types of body-related discrepancies that women face, their relevant contextual elicitors, and motivational differences in the propensity of experiencing them. Furthermore, it allowed the cross-sectional exploration of motivational differences in dissonance processes that are associated with women's intent to engage in healthy and disordered eating following a body-related discrepancy and the moderating role of the social context. However, it should be noted that some subjects participated in the first phase (i.e., Study 1; Article 1) but did not partake in the second phase of the research (i.e., Study 2 or 3; Article 2). See Figure 1.5 for phases of the program of research.

Figure 1.5

Phases of Studies



Note. ME = guided mirror exposure; PST = positive self-related body talk; NST = negative self-related body talk; randomized = subjects were randomly allocated to one of the mirror conditions.

Specific Objectives of the Two Articles

Article 1— Barbeau, K., Boileau, K., & Pelletier, L. (In Review in Motivation and Emotion). Women's Motivation for Eating Regulation is Associated with Intentions to Engage in Healthy and Disordered Eating Behavior Following a Body-Related Discrepancy Through Distinct Affect and Compensation Processes.

Article 1 had two main objectives which were achieved through one study using a mixed method cross-sectional design that equally weights qualitative and quantitative approaches (QUAL + QUANT; Creswell & Plano Clark, 2011). The first objective was to explore the types of body-related discrepancies that women face on a daily basis, contextual elicitors associated with their occurrence, and to examine whether women's autonomous and controlled eating regulation are associated with the frequency of experiencing particular body-related discrepancies. To examine this, women recalled a recent body-related discrepancy (i.e., induced hypocrisy recall task) and their responses were thematically coded and were categorized by type and context. Multiple regression was used to examine the associations between women's motivation for eating regulation and frequency of experiencing a given type of body-related discrepancy. The second objective was to examine motivational differences in women's intent to engage in healthy or disordered eating following a body-related discrepancy and whether distinct pathways emerge as a result of differences in affect regulation (i.e., self-compassion) and dissonance compensation strategies (i.e., behavior modification, cognitive restructuring, appearance fixing, and avoidance). Furthermore, the moderating role of the social context on

these processes was also explored. To examine this, path analysis was used to test predictions formulated by SDT, the HABICE model, and a newly integrated HABICE model with self-compassion as an affect regulation strategy, while considering the moderating role of the social context on tested pathways using an invariance testing approach (see Figures 1.2, 1.3, and 1.4).

Article 2— Barbeau, K., Boileau, K., & Pelletier, L. Women's Motivation for Eating Regulation Predicts Healthy and Disordered Eating Intentions Following Cognitive Dissonance Manipulations Through Mirror Exposure.

The overarching purpose of Article 2 was to examine motivational differences in women's healthy and disordered eating intentions following various types of dissonance manipulations through ME. These techniques included guided full body ME (i.e., guided instructional attention toward the body) in social-evaluative (i.e., presence of two mock jurors) and non-social-evaluative contexts in Study 1 and counter-attitudinal self-related body talk ME (i.e., positive/self-compassionate and negative) across social-evaluative and non-social-evaluative contexts in Study 2. The objective of Study 1 was to examine the independent effects of and interactions between motivation for eating regulation and the social context of ME (i.e., social-evaluative or non-social-evaluative) on women's use of dissonance compensation strategies and eating intentions. Considering that women may engage in certain forms of body talk to manage social impressions, it may function as a compensation strategy (Barbeau et al., 2022; Lamarche et al., 2015; Shannon & Mills, 2015). Furthermore, instructing counter-attitudinal positive body talk during ME is thought to facilitate cognitive restructuring of dysfunctional body-related attitudes (Griffen et al., 2018; Stice et al., 2019); therefore, Study 2 aimed to manipulate self-related body talk, a specific type of body-related discrepancy, during ME as it may play a role in women's eating intentions via the facilitation of these strategies. As

such, the objective of Study 2 was to examine the independent effects of and interactions between motivation for eating regulation and valence of self-related body talk (positive/self-compassionate and negative) during ME on women's dissonance arousal and eating intentions. The tenability of the HABICE model was tested by formulating predictions of motivation-dependent dissonance processes and eating behavior following the manipulation of body-related discrepancies via ME techniques. More importantly, person-situation interactions between women's motivational style for eating and the social context in relation to dissonance processes and eating behavior were explored as shifts in attentional focus from private to public aspects of the self via social-evaluation has potential to elicit a cognitive discrepancy in some individuals. A series of moderated regressions was carried out to examine the associations between women's motivation and dissonance processes (i.e., arousal, compensation strategies) and eating intentions (i.e., healthy and disordered behavior) and interactions with the context of ME (i.e., social-evaluative versus non-social-evaluative).

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CHAPTER TWO

Barbeau, K., Boileau, K., & Pelletier, L. (In review). Women's Motivation for Eating Regulation is Associated with Intentions to Engage in Healthy and Disordered Eating Behavior Following a Body-related Discrepancy Through Distinct Affect and Compensation Processes

Abstract

The current mixed method study examined the types of body-related discrepancies women face, their contextual elicitors, and motivational differences in the propensity of experiencing specific types. We also examined the association between women's motivation for eating regulation and intentions to engage in healthy and disordered eating behavior following the recollection of such experiences and the mediating role of affect and compensation strategies in these relationships. Thematic analysis of women's narratives derived from a body-related discrepancy recall task revealed that college-aged women (N = 398) experience discrepancies related to the appearance and care of their bodies. Important contextual elicitors of these experiences were body exposure and lack of work-life-balance. Multiple regression revealed that women with more controlled eating regulation experienced more frequent eating quality and physical activity discrepancies. Finally, a path analysis revealed that autonomous eating regulation was associated with healthy eating intentions, whereas controlled eating regulation was associated with disordered eating intentions following a recalled body-related discrepancy. These distinct pathways were partly explained by self-compassion and selection of behavioral and cognitive compensation strategies.

Introduction

Perceiving discrepancies between actual and ideal bodily states (e.g., size, shape, weight) can elicit discomforting emotions, such as body-related negative affect (Dittmar et al., 2009), anxiety and depression (Heron & Smyth, 2013), and are associated with the use of unhealthy weight-controlling behaviors (e.g., dietary restraint; Lantz et al., 2018; Schnettler et al., 2017). These discomforting body-related experiences are more likely to occur in social-evaluative contexts where women's bodies are on display and can be evaluated by others (Lamarche et al., 2012). However, the process by which emotional and cognitive states resulting from body-related discrepancies are associated with eating behaviors is somewhat inconclusive and existing studies do not explore the role of the social context. For instance, some studies demonstrate that body-related discrepancies are associated with lower engagement in healthy eating (Anton et al., 2000) and higher dysregulated eating, such as emotional eating (Halliwell & Dittmar, 2006), binge eating (Anton et al., 2000) and overall eating disorder psychopathology (Mason et al., 2019), while others demonstrate that self-awareness of discrepancies can help facilitate health-promotion and reduce disordered eating (Freijy & Kothe, 2013).

A promising model that can shed light on these potentially distinct behavioral processes following a body-related discrepancy is the Hierarchical Action-Based Model of Inconsistency Compensation (HABICE; Lavergne & Pelletier, 2015). This recent model combines tenants of Cognitive Dissonance Theory (CDT; Festinger, 1957) and Self-Determination Theory (Ryan & Deci, 2017) to understand motivational differences in dissonance arousal and compensation following attitude-behavior inconsistencies and their respective implications on domain-specific behavior (Lavergne & Pelletier, 2015, 2016). This cross-sectional mixed method study, where qualitative and quantitative approaches were equally weighted (Cresswell & Plano Clark, 2011),

sought to fill key knowledge gaps in the literature. We sought to examine how body-related discrepancies relate to women's adaptive and disordered eating behavior through affective and cognitive processes by applying the HABICE model and examining the moderating role of the social context. This study also aimed to provide an expansive and nuanced understanding of the types, contextual characteristics, and frequency of body-related discrepancies that women experience. An expansive conceptualization of body-related discrepancies is important to investigate considering that women could experience discrepancies related to their appearance as well as behavioral discrepancies related to the maintenance of body shape, size or weight, such as eating and physical activity. With this in mind, we sought to explore if women's motivation for eating regulation was associated with the frequency of experiencing a given type of body-related discrepancy (e.g., body image, eating and exercise) given the existing associations between motivation for eating regulation and body image and health behavior engagement (Guertin et al., 2017, 2018; see Verstuyf et al., 2012 for a review).

Hierarchical Action-Based Model of Inconsistency Compensation (HABICE)

Contemporary models of cognitive dissonance, such as the action-based model of dissonance, have sought to improve the predictive power of the theory by distinguishing between proximal and distal motivational processes involved in dissonance compensation (Harmon-Jones et al., 2009). Proximal motivation refers to the state of psychological discomfort, also referred to as *dissonance*, aroused by discrepancies between self-states (e.g., attitudes and behavior) that threaten effective action in a given domain. In agreement with Cognitive Dissonance Theory (Festinger, 1957), the action-based model suggests that this proximal motivation drives individuals to avoid or reduce dissonance by employing compensation strategies. These strategies include attitude change (e.g., cognitive restructuring), such as aligning one's attitudes

with the dissonant action, and behavior change (e.g., behavior modification), such as correcting one's behavior to align with existing attitudes. The action-based model suggests that strategy selection is dependent on distal rather than proximal motivation (Harmon-Jones et al., 2009). Distal motivation refers to the activation of dominant action tendencies, such as beliefs, knowledge, or goals, that are primed by the self-discrepant state (e.g., setting a goal to eat healthily but engaging in unhealthy eating), and its capacity to drive individuals to engage in compensatory strategies that have potential to fulfil salient domain-specific commitments and goals to restore effective action (e.g., making a healthy food choice to align with health goals; Harmon-Jones et al., 2009).

Lavergne and Pelletier (2015) built on the action-based model of cognitive dissonance by using Self-Determination Theory (SDT; Ryan & Deci, 2017), a theory of human motivation, to operationalize individual differences in distal motives. This amended action-based model of cognitive dissonance was tested in the environmental domain and is therefore referred to as the Hierarchical Action-Based Model of Inconsistency Compensation in the Environmental Domain (HABICE; Lavergne & Pelletier, 2015). It is proposed that motivation underlying the regulation of domain-specific behavior is activated when inconsistent self-states threaten effective action or goal attainment in the domain (Lavergne & Pelletier, 2016). In turn, the activation of individuals' motivation orientation orients them toward specific compensation strategies due to dispositional differences in action tendencies for organismic integration via authentic regulation or ego-protection. In SDT literature, women's motivation orientation toward the regulation of eating behavior is associated with different perceptual, affective, and behavioral responses to stimuli that has potential to elicit awareness of body-related discrepancies, such as exposure to thin-ideal images (Mask & Blanchard, 2011). It follows that women's eating regulatory style would be

implicated in their dissonance arousal, selection of compensation strategies, and eating behavior once a body-related discrepancy is brought into awareness.

Motivation for Eating Regulation

According to Pelletier and colleagues (2004), the regulation of eating behavior can be approached in a controlled or autonomous fashion. For instance, those who regulate their eating behaviors for more autonomous reasons do so out of interest and perceived importance (e.g., importance of eating healthily), thus the regulation is perceived to emanate from the self and is experienced as authentic. In contrast, those who regulate their eating behaviors for more controlled reasons do so out of obligation or to avoid external criticism and losses to esteem (e.g., feeling guilty or ashamed), thus the regulation is perceived to emanate from external sources and is experienced as coercive.

Due to these qualitatively different reasons for regulating eating behaviors, autonomous and controlled motivation toward eating regulation is associated with distinct health-related processes and outcomes. For instance, more autonomous eating regulation is associated with the valuation of health goals for weight management (Guertin et al., 2017, 2018), and consequently, higher preoccupations with the quality of food consumed (Pelletier et al., 2004) and more healthy eating (Carbonneau et al., 2021; Guertin et al., 2017, 2018; Pelletier et al., 2004). Additionally, autonomous eating regulation is also associated with higher engagement in physical activity (Carraca et al., 2020). In contrast, more controlled eating regulation is associated with the valuation of appearance goals for weight management (Guertin et al., 2017, 2018), and consequently, higher preoccupations with the quantity of food consumed (Pelletier et al., 2004), avoidance planning strategies (e.g., avoidance of certain foods; Otis & Pelletier, 2008), and disordered eating (Verstuyf et al., 2012).

Compared to autonomous eating regulation, controlled eating regulation is approached more rigidly, which can result in burnout and a soliloquy of strategies to restore feelings of autonomy and effectiveness. These include adopting more extreme and socially prescribed forms of physical attractiveness, such as the thin-ideal, and engaging in compensatory eating behaviors characterized by more stringent control (i.e., restriction) or loss of control (i.e., binge eating; Verstuyf et al., 2012). For instance, over a 7-day period, controlled eating regulation was associated with higher drive for thinness and binge eating symptoms, whereas autonomous eating regulation was associated with healthy eating among women (Verstuyf et al., 2016).

Taken together, these findings suggest that women with autonomous and controlled eating regulation may experience different types of body-related discrepancies due to different dispositional preoccupations with their appearance (vs. health) and the quality (vs quantity) of food ingested, in addition to the likelihood of engaging in healthy (vs disordered) eating behavior. Aligned with this notion, Mask and Blanchard (2011) found that, following the exposure to a thin-ideal image, women with autonomous eating regulation experienced less size dissatisfaction, whereas women with controlled eating regulation experience more negative affect. Furthermore, autonomous eating regulation was associated with intentions to eat more healthily, whereas controlled eating regulation was associated with intentions to restrict eating. According to the HABICE model (Lavergne & Pelletier, 2015), compensation strategies play a mediating role between motivation and domain-relevant behavior and thus offers an explanatory mechanism by which autonomous and controlled eating regulation is associated with intentions to engage in healthy or disordered eating following the activation of a body-related discrepancy.

Motivational Orientations and Compensation Strategies

According to Deci and Ryan (1985), those with autonomous motivation have an action tendency for organismic integration, such that they act in ways that ensure coherence and consistence with authentic self-structures (e.g., beliefs, goals), whereas those with controlled motivation have an action tendency for ego-investment, such that their behaviors are contingent upon obtaining extrinsic rewards, such as admiration or avoiding losses to esteem. These motivational differences in action tendencies were observed in Lavergne and Pelletier's study (2016) among participants who recalled an attitude-behavior inconsistency in the environmental domain: apart from dissonance minimization, autonomous motivation was positively associated with self-integrity restoration motives, whereas controlled motivation was positively associated with ego-invested self-protection motives. Furthermore, in Lavergne and Pelletier (2015), autonomous motivation was found to be consistently associated with behavior modification strategies, which increased the coherence between behaviors and beliefs. In contrast, controlled motivation was contingently associated with behavior modification, particularly when perceived ego threat was high (i.e., indicated by high dissonance), and cognitive restructuring, which resulted in more incongruency by weakening attitudes as a means to reduce threats to self-structures. Dispositional tendencies toward self-consistence are also found in the eating regulation literature, such that autonomous eating regulation is robustly associated with healthy eating (Carbonneau et al., 2021; Guertin et al., 2017, 2018; Pelletier et al., 2004; Verstuyf et al., 2016), whereas controlled eating regulation is not, and in contrast, is associated with indicators of self-regulatory failure (i.e., dysregulated eating patterns; Pelletier et al., 2004; Verstuyf et al., 2012, 2016) and unhealthy eating (Guertin et al., 2017, 2018).

In the body image domain, Cash and colleagues (2005) identified strategies that college women employ when coping with stressful body image experiences which, like CDT, are

characterized by behavior modification and cognitive restructuring/disengagement. For instance, appearance fixing (e.g., altering appearance to hide or correct flaws) is an ego-invested behavior modification strategy that women employ to be viewed more favourably by others. In contrast, avoidance is a cognitive and behavioral strategy that is used for ego-protection; discomfort is reduced by avoiding (e.g., deflecting attention) or escaping from stressful body image stimuli. Given that appearance fixing and avoidance are employed to reduce body discomfort and are associated with higher disordered eating (Cash et al., 2005), they may function as compensation strategies and mediate the relationship between controlled eating regulating and disordered eating and exercise behaviors. Furthermore, the association between controlled eating regulation and the use of avoidance and appearance fixing, and in turn, disordered eating, may be strengthen if a body-related discrepancy occurs in a social-evaluative context. For instance, a study by Bailey and colleagues (2014) demonstrated that women allocated to an imagined high-social-evaluative body image threat condition (modeling a swimsuit in front of friends) compared to a low-social-evaluative body image threat condition (modeling a swimsuit alone) were more likely to report using appearance fixing and avoidance as their primary coping strategy (Bailey et al., 2014).

Self-compassion is acknowledged as another strategy that individuals employ to cope with feelings of failure or inadequacy as it relates to one's appearance and health behavior (Sirois, 2015; Turk & Waller, 2020) and is useful at reducing arousal when exposed to threats in social and non-socially evaluative contexts (Arch et al., 2014; Petrocchi et al., 2016). However, self-compassion is conceptualized as an emotion regulation strategy rather than a compensation strategy because it reduces or mitigates negative emotions (Inwood & Ferrari, 2018), suggesting

it may play a role in the magnitude of dissonance aroused when individuals become self-aware of body-related discrepancies.

Self-Compassion and Affect Regulation

Self-compassion is conceptualized as being kind and patient toward the self rather than critical and judgemental, recognizing that mistakes and imperfections are shared rather than a unique character flaw, and being mindful of emotions without overidentifying with them (i.e., ruminate). When dealing with personal shortcomings, being understanding and viewing failure as part of the human experience rather than as a character flaw can help offset self-conscious (e.g., guilt, shame) and dejection-related emotions (e.g., disappointment). A longitudinal study found that both trait and state self-compassion were associated with lower levels of body-related self-conscious emotions among adolescent girls playing sports (Pila et al., 2022). Moreover, accepting one's failure or flaws rather than denying them facilitates action-oriented coping. A series of experiments conducted by Breines and Chen (2012) demonstrated that after recalling a personal weakness, transgression, or failure, individuals instructed to re-appraise these events using self-compassion viewed their weakness as more malleable, reported greater motivation to avoid repeating a transgression, and more effort to improve (Breines & Chen, 2012). Furthermore, mindfulness allows individuals to build tolerance to negative emotional states, which frees up self-regulatory resources through the mitigation of rumination (Sirois, 2015). Several studies have shown that improved affective balance partly explains the relationship between self-compassion and increased engagement in health-promoting behaviors and reduced disordered eating (Biber & Ellis, 2019; Sirois, 2015; Turk & Waller, 2020).

Taken together, these results suggest that self-compassion enhances positive cognitive restructuring of negative events, which restores affective balance and self-regulatory capacity,

and facilitates self-improvement behavioral responses. Supporting this notion, self-compassion has been found to mediate the relationship between health goals and more self-determined (autonomous) motivation for eating regulation (Guertin et al., 2018). In turn, self-determined motivation for eating regulation was associated with more healthy eating (Guertin et al., 2018). These findings support that self-compassion facilitates optimal self-regulation and fosters action tendencies that are conducive to health-promotion.

Current Study

The objectives of the current study were threefold. First, to explore the types of body-related discrepancies that women face daily and their contextual elicitors. An inductive-deductive qualitative approach was used to identify, code, and report on themes interpreted from women's responses to the self-discrepancy recall task. Similar to Lamarche et al. (2012), coding was focused on the types of body-related experiences that women endure and their contextual elicitors. Codes were partly deduced based on the SDT eating regulation literature and on previous studies examining body image threats (Lamarche et al., 2012) and physical self-discrepancies (Brunet et al., 2012), which is a more rigorous approach to thematic analysis (Braun & Clarke, 2006). However, given that no study to date has examined all possible types of self-discrepancies in the weight management domain, there was flexibility for new themes to emerge (inductive approach). Second, to examine the association between women's motivation for eating regulation and the frequency of experiencing a particular body-related discrepancy. This was achieved through a series of hierarchical regression analyses. Third, to examine if women's autonomous and controlled motivation for eating regulation are associated with healthy or disordered eating intentions following a body-related discrepancy and whether these relationships are mediated by distinct affect regulation and dissonance compensation strategies.

We used a model building approach in which different models were tested and compared to understand the contribution of motivation, compensation strategies, and affect regulation strategies on women's eating intentions following the recollection of a body-related discrepancy. The first model reflects motivational differences for eating regulation as postulated by SDT, the second model represents the addition of compensation strategies in the HABICE model, and the third model represents the addition of self-compassion, as a form of introspective self-talk that individuals may use to respond or reflect on the discomfort created by body-related discrepancies.

This study fills key knowledge gaps in the self-discrepancy literature by broadening our understanding of body-related discrepancies implicated in the weight management domain and exploring important precursors to these experiences, which could be targeted by interventions. Additionally, our mixed method approach allows the quantification of relationships between constructs to be contextualized and grounded by women's narratives surrounding their body, thereby giving us insight on the generalizability of these relationships to various life experiences involving the body. Furthermore, by applying the HABICE model in the context of body-related discrepancies, we can elucidate distinct processes involved in women's use of adaptive and maladaptive weight-managing behaviors, which rectifies the paradoxical findings found in the self-discrepancy and cognitive dissonance literature. We believe that the HABICE model may not fully capture these nuances in the dissonance compensation process, thus the addition of self-compassion may further explain why people with different motivational orientations adopt different compensation strategies in response to cognitive discrepancies.

Research Questions and Hypotheses

As qualitative analyses are descriptive in nature, our research questions pertaining to our analyses were 1) apart from appearance self-discrepancies, which other types of self-discrepancies do women face related to their bodies? 2) do all body-related discrepancies share the same contextual elicitors or are there unique contextual primers? and 3) do these experiences typically occur in a social-evaluative or a non-social evaluative context?

Hypotheses regarding motivational differences in daily frequency of a given type of body-related discrepancy were based on the SDT eating regulation literature. It was hypothesized that autonomous eating regulation would be negatively associated with the frequency of appearance (H1) and health-related body discrepancies (H2), whereas controlled eating regulation would be positively associated with the frequency of appearance (H3) and health-related body discrepancies (H4). All hypotheses were proposed to hold while controlling for women's eating disorder attitudes.

Hypotheses regarding motivational differences in compensation and eating intentions in response to a body-related discrepancy were based on the HABICE model and SDT eating regulation literature. It was hypothesized that autonomous eating regulation would be positively associated with intentions to engage in healthy eating directly and indirectly through behavior modification strategies (H5), whereas controlled eating regulation would be positively associated with intentions to engage in disordered eating behaviors directly and indirectly through cognitive restructuring, appearance fixing, and avoidance strategies (H6).

Furthermore, it was hypothesized that self-compassion, as an emotion regulation strategy, would be negatively associated with dissonance (H7). Additionally, it was hypothesized that autonomous eating regulation would be negatively associated with dissonance directly and indirectly through higher self-compassion (H8) and indirectly associated with behavior

modification through higher self-compassion and lower dissonance (H9), whereas controlled eating regulation was hypothesized to be positively associated with dissonance directly and indirectly through its negative association with self-compassion (H10) and indirectly associated with avoidance, cognitive restructuring, and appearance fixing through lower self-compassion and higher dissonance (H11). Finally, it was hypothesized that context of the body-related discrepancy (private vs public) would moderate the aforementioned relationships (H12) given that women report experiencing higher self-conscious emotions and using more avoidant and appearance-fixing strategies in high social-evaluative contexts compared to low social-evaluative contexts (Bailey et al., 2014). All hypothesized relations in the path analysis model were proposed to hold while controlling for women's eating disorder attitudes.

Method

Design

A mixed method cross-sectional design was employed where qualitative and quantitative approaches were equally weighted (QUAL + QUANT; Cresswell & Plano Clark, 2011). Women's narratives surrounding their experienced body-related self-discrepancies were captured via a body-related discrepancy recall task (qualitative component) administered through an online survey. The online survey also assessed women's self-reported motivation for eating regulation, eating disorder attitudes, levels of dissonance following the task, compensation strategies they typically employ to deal with similar experiences, and their intentions to engage in healthy and disordered eating (quantitative component). The data were not triangulated; results are considered separate; however, the qualitative component provides some context for understanding patterns in the quantitative data as some of the self-report measures refer to the experience women reported on.

Participants

Four-hundred eight undergraduate women (mean age = 19.6, *SD* = 4.6; mean Body Mass Index = 23.3, *SD* = 5.1) from a Canadian university research participation pool were recruited (between October 2020 and February 2022) for an online multi-phase study. The study was advertised as examining the relationship between personality and contextual characteristics in relation to coping with threats to the self and the potential impacts of these threats on the ability to regulate health behaviors. Inclusion criteria included identifying as a woman and having access to a device with a camera (relevant to other phases of the study). Participants were allocated a credit toward a course (psychology, criminology, linguistics, and administration) for their participation in this phase of the study. Ethics were obtained by the University of Ottawa's ethics review committee before the commencement of the study. The number of participants recruited for this study was based on a priori power analysis for the path analysis model (see data analytical plan). Data were only analyzed once recruitment terminated.

Most participants identified as White (*n* = 223), South Asian or Indian Canadian (*n* = 42), or Black, Afro-Caribbean, or Afro-Canadian (*n* = 42). Most of the participants also identified as heterosexual (*n* = 320). When asked whether they currently have a psychiatric disorder, most indicated that they did not (*n* = 289), 106 participants indicated that they did (8 identified as having an eating disorder), and 12 participants preferred not to answer. Using Tatham et al.'s (2015) Eating Disorder-15 weight, shape, and eating concerns subscale and Rodrigues et al.'s (2019) suggested cut-off of 2.8 (using the Youden index, which maximizes specificity and minimizes sensitivity), 183 (45%) women's scores were in the clinical range and 225 (55%) women's scores were in the non-clinical range.

Measures

Sociodemographic Information

Women self-reported their age, height, weight, ethnicity, sexual orientation, and whether they are currently suffering from a psychiatric disorder(s).

Eating Disorder Attitudes

The Eating Disorder-15 (ED-15; Tatham et al., 2015) shape, weight, and eating concerns subscale was used to measure women's eating disorder attitudes. The attitudinal subscale comprises 10 items: 4 items measure eating concerns (e.g., I follow strict rules about my eating) and 6 items measure weight and shape concerns (e.g., I avoid activities or people because of the way I look). Women were asked to rate the extent to which each statement reflected their eating attitudes and behaviors over the past week on a 7-point Likert scale from 0 (*not applicable*) to 6 (*all the time*). A total score was created by averaging all items from the attitudinal subscale (Tatham et al., 2015). Evidence of the validity of the ED-15 was established in a sample of clinical and non-clinical adult women, and scores on the ED-15 are highly correlated with a gold standard measure of eating disorder cognitions and behaviors (i.e., EDE-Q) in both samples. Both attitudinal subscales also demonstrate high internal consistency using Cronbach's alpha (weight and shape concerns subscale = .94; eating concerns subscale = .80; Tatham et al., 2015). In the current sample, the average inter-item correlation for this scale was .54, which is above the minimum suggested value of .20 (Piedmont, 2014).

Autonomous and Controlled Motivation for Eating Regulation

The Regulation of Eating Behaviors Scale (REBS; Pelletier et al., 2004) was used to assess women's motivation for regulating their eating behavior. The REBS comprises 24 items with six subscales (4 items each) representing different types of behavioral regulation styles: three subscales represent more autonomous forms of regulation (intrinsic, integrated, and

identified), two subscales represent more controlled forms of regulation (introjected and extrinsic), and one subscale represents a lack of intent to act or to self-regulate (amotivation). On a scale from 1 (*does not correspond at all*) to 7 (*corresponds exactly*), women indicated the extent to which each statement represented their reasons for regulating their eating behavior (e.g., because I take pleasure in fixing healthy meals; because I don't want to be ashamed of how I look). Composite scores were created for autonomous and controlled motivation by averaging items related to autonomous and controlled forms of regulation, respectively. Structural validity of the REBS was supported via exploratory and confirmatory factor analysis conducted in a sample of college women (Pelletier et al., 2004). Construct validity was also supported by examining the associations between autonomous and controlled motivation and wellbeing, healthy eating behaviors, and bulimic symptoms (Pelletier et al., 2004). Cronbach's alpha for behavioral regulatory subscales range between .79 and .91 (Pelletier et al., 2004). In the current sample, inter-item correlations for autonomous eating regulatory style scores was .60, and was .37 for controlled eating regulatory style scores.

Self-Compassion

The 26-item Self-Compassion Scale (SCS; Neff, 2003) was used to measure women's degree of self-compassion (e.g., I'm tolerant of my own flaws and inadequacies). Women indicated on a scale from 1 (*almost never*) to 7 (*almost always*) the extent to which they typically engaged in compassionate coping (altered Likert scale used in Barbeau et al., 2022; Guertin et al., 2018). A global score of self-compassion was created by averaging all six subscale scores after reverse-scoring negatively worded subscales (i.e., self-judgment, isolation, over-identification). Structural validity of the SCS was supported via exploratory and confirmatory factor analyses in a sample of men and women (Neff, 2003). In addition, the SCS demonstrates

discriminant validity from other positive self-attitudes, such as self-esteem, when predicting mental health outcomes (Neff, 2003). Reported internal consistency of the scores on the SCS was .92 using Cronbach's alpha (Neff, 2003). In the current study, the average inter-item correlation between subscale scores of the SCS was .69.

Dissonance

The 18-item Inconsistency Induced Affect Scale (IIAS; Lavergne & Pelletier, 2015) was used to measure women's levels of psychological discomfort following the body-related discrepancy recall task. Women were asked the extent to which they were feeling the following emotions after the task on a scale from 1 (*not at all*) to 7 (*very much*). A composite score was created by averaging nine items that represent general discomfort (3 items; e.g., uncomfortable), negative self-conscious emotions (3 items; e.g., guilty), and dejection-related emotions (3 items; e.g., disappointed). Previous studies eliciting dissonance through a recall task used this score to represent psychological discomfort (Lavergne & Pelletier, 2015, 2016). Construct validity of this score was supported by examining associations between this score and cognitive and behavioral dissonance compensation strategies and motivation orientation in the environmental domain (Lavergne & Pelletier, 2015). In the current sample, the average inter-item correlation for this score was .59.

Dissonance Compensation Strategies

An adapted version of the Abbreviated Inconsistency Compensation Strategies Scale (AICSS; Lavergne & Pelletier, 2015) was used to assess women's use of compensation strategies in response to the body-related discrepancy they described in the recall task. The AICSS comprises two subscales: a subscale with items measuring behavioral compensation strategies, such as enacting behavior change (4 items; e.g., immediately thinking of ways to correct myself

through actions) and a subscale measuring cognitive restructuring strategies (5 items), such as weakening attitudes by trivializing (e.g., concluded that my thoughts or behaviors are indicative of my true attitudes) or rationalizing (e.g., thinking that the action I just did, despite being inconsistent, was consistent with other values and goals I consider important). Women rated on a scale from 1 (*never*) to 7 (*all of the time*) the extent to which they use these strategies during a situation similar to the one reported in the recall task. Since the subscale items were adapted from the original scale, an exploratory factor analysis was conducted using Principal Axis Factoring based on eigenvalues with an oblique promax rotation due to previous correlations found between behavior and cognitive restructuring strategies (Lavergne & Pelletier, 2015). The analysis revealed that the scale comprised two factors, which explained 45% of the variance. Items that did not have a loading ≥.40 were removed (Matsunaga, 2010). Remaining items in each factor were averaged to create a composite score for behavioral (3 items) and cognitive (4 items) restructuring strategies. The average inter-item correlation for scores on the behavior modification and cognitive restructuring subscales were 0.34 and 0.29, respectively.

Appearance Fixing and Avoidance Coping Strategies

The appearance fixing (10 items; e.g., I spend extra time trying to fix what I don't like about my looks) and avoidance (8 items; I try to ignore the situation and my feelings) subscales from the Body Image Coping Strategies Inventory (BICSI; Cash et al., 2005) were used and assessed the extent to which women used appearance fixing and avoidance strategies when they experience the body-related discrepancy reported in the recall task. Women rated on a scale from 1 (*definitely not like me*) to 4 (*definitely like me*) the extent to which they use these strategies when similar situations occur. Items belonging to each subscale were averaged. Structural validity of the BICSI was supported via exploratory factor analysis in a sample of college men

and women (Cash et al., 2005). Convergent validity of the scale was also supported in the same sample through correlations with other body image and eating disorder inventories (Cash et al., 2005). The internal reliability of the appearance fixing and avoidance subscales in women were .90 and .74, respectively, using Cronbach's alpha. In the current sample, average inter-item correlations were .22 for scores on avoidance and .50 for scores on appearance fixing.

Healthy Eating Behavior Intentions

To measure intentions to engage in health eating, items from the Healthy and Unhealthy Eating Behavior Scale (HUEBS; Guertin et al., 2019) were adapted to reflect approaching healthy foods (2 items; e.g., eat more fruits) and limiting/decreasing ingestion of unhealthy foods (4 items; e.g., limit/decrease intake of deep-fried foods). An additional item was added to reflect eating a variety of foods (1 item; e.g., increase variety in my diet, such as eating green, orange, and red fruits and vegetables). On a scale from 1 (*not at all likely*) to 7 (*very likely*) women rated the extent to which they plan to engage in these activities in the following 7 days. Structural validity of the HUEBS was supported via an exploratory factor analysis in a sample of college-aged women and has been replicated in other samples of adult women (Guertin et al., 2019). Construct validity was demonstrated through associations with different motivational styles underlying the regulation of eating behaviors (Guertin et al., 2019). Due to our adaptations of the HUEBS, an exploratory factor analysis was conducted using Principal Component Analysis with a varimax rotation. Similar to the HUEBS (Guertin et al., 2019) two factors emerged (76% of the variance explained) with all items loading ≥.40. A composite score was created by averaging scores on both subscales. In the current study, the average inter-item correlation for this score was .54.

Disordered Eating Behavior Intentions

To measure intentions to engage in disordered eating, the 5-item behavioral subscale from the ED-15 was used (Tatham et al., 2015; e.g., binge on food). The ED-15 was created to measure short-term changes in eating disorder attitudes and behaviors (Tatham et al., 2015) and therefore was suitable to be adapted to measure short-term changes in behavioral intentions. To be comparable to our intention to engage in health-promoting behavior measure, the ED-15 behavioral subscale used the same 7-point Likert scale from 1 (*not at all likely*) to 7 (*very likely*) and asked women the extent to which they plan to engage in these activities in the following 7 days. A total score was created by averaging the items. Concurrent validity of this subscale was demonstrated in a sample of non-clinical women through correlations with behavioral items from the EDE-Q (Tatham et al., 2015). In the current study, the average inter-item correlation for this score was .35.

Procedure

Participants signed up for this online multi-phase study through a research participation pool. The measures and recall task used in the current study functioned as a baseline questionnaire for the second phase of the study. For this phase of the study, women self-reported their socio-demographics, eating disorder attitudes, motivation for eating regulation, and their degree of self-compassion. Following these questionnaires, women completed the body-related discrepancy recall task, which instructed them to briefly describe a recent scenario where they felt or behaved in a manner that was incongruent with their attitudes in regard to their health behaviors and/or appearance (qualitative data). Next, women were asked how often similar situations occur daily and whether this scenario occurred in a private or public setting. Following this, women completed questionnaires that assessed the dissonance aroused by the body-related discrepancy recall task, the compensation strategies they use to cope with similar experiences,

and their intentions to engage in health-promoting or disordered eating and exercise behaviors over the next 7 days (quantitative data).

Body-Related Discrepancy Recall Task

Women were asked to briefly describe a recent situation where they either behaved or felt counter to their attitudes/beliefs about their body. Examples were provided to participants, which included attitudes or behaviors related to caring for their body (e.g., believe that taking care of [your] body by engaging in healthy behaviors is important, but [you] ate unhealthily) or attitudes or behaviors related to the evaluation or affective components of their body image (e.g., [you] are usually very positive about your body, but [you] engaged in negative body talk or were highly self-critical or vice versa). This form of recall increases individuals' awareness of a discrepancy between their attitudes and behaviors, which is a commonly used technique to induce cognitive dissonance and examine the implications of dissonance on health behavior change (Freijy & Kothe, 2013) and intentions (Cooper & Feldman, 2020).

Context and Frequency of Body-Related Discrepancies

Following the recall task, women were asked how often this experience occurred on a daily basis (open-ended question) and if the situation they described occurred in a private or in a public context (close-ended question). When women stated that similar situations do not occur daily, but occur on a weekly (e.g., 2 times a week) or monthly basis (e.g., 2 times a month), calculations were conducted to represent a daily frequency (i.e., twice a week = 2 divided by 7). When women reported never experiencing a body-related discrepancy (i.e., participants wrote "not applicable" or "I workout and eat healthy everyday"), their daily frequency was set to 0. A similar scale was used to measure frequency of attitude-behavior discrepancies across different life domains, including weight management, in a student sample (Lavergne & Pelletier, 2016).

Data Analysis

Thematic and Content Analysis of Body-Related Discrepancies

Women's written responses in the body-related discrepancy recall task were thematically analyzed using a hybrid deductive-inductive approach. This approach was used to situate the synthesis of data in existing theoretical frameworks that are applicable to the conceptualization and understanding of body-related self-discrepancies, such as the eating regulation literature within SDT (e.g., preoccupations with eating quality, quantity, and differential patterns of eating (Guertin et al., 2017; 2018; Pelletier et al., 2004; Verstuyf et al., 2012) and other frameworks focused on social stress (Lamarche et al., 2012). The flexibility afforded by the hybrid inductive-deductive approach allows new themes to emerge to provide a nuanced and expansive understanding of women's experiences related to their bodies which may not be captured by existing theory. As proposed by Proudfoot (2022), a hybrid inductive-deductive approach to thematic analysis may be used to apply "existing theoretical frameworks… in a theory-generative, rather than confirmatory fashion, or where existing theory might offer a helpful but incomplete fit for a given research problem."

First, a priori themes based on the aforementioned literature were defined and added to the codebook by the first author. Themes related to the contextual characteristics of women's discrepant experiences were coded separately under "elicitors", while women's descriptions of their discrepant attitudes, cognitions, or behaviors were coded under "body-related discrepancies". Following this, the first author read through each woman's written responses and added new themes to the codebook. Ten other reviewers were trained on the codebook and coded five practice entries, which were then compared to the coding scheme conducted by the first author. When inconsistencies in coding occurred, the first author and a second reviewer engaged

in discussion until consensus was reached. Following this training, the first author and other reviewers independently coded women's written responses. After all written entries were coded, the first author functioned as the second coder for all entries coded by other reviewers and vice versa. When discrepancies between coding occurred, reviewers engaged in discussion until consensus was reached. Inter-rater agreement in coding using Cohen's kappa was considered strong (.87).

Main analyses

A content analysis was conducted to explore the frequency of themes that emerged in terms of elicitors and self-discrepancies. Content analysis was used to 1) explore patterns between contextual characteristics (i.e., elicitors) and reporting a given body-related discrepancy and to 2) examine whether the daily frequency of a given type of self-discrepancy was associated with women's autonomous or controlled motivation for eating regulation. To explore the patterns between contextual characteristics (i.e., elicitors, private or public context) and reporting a given type of self-discrepancy, themes interpreted as an elicitor of a given type were counted and ranked from most to least frequently reported. Sample quotes from participants' written entries were deidentified and were used to exemplify the most common elicitor for each body-related discrepancy in Figure 2.1. Frequencies of body-related discrepancies stratified by private or public context appear in Table 1.1.

To examine if the daily frequency of a given type of body-related discrepancies was associated with women's autonomous and controlled eating regulation, a series of hierarchical regressions were conducted. In block 1, women's eating disorder attitudes were entered as a control variable as these attitudes reflect preoccupations with appearance and eating. In block 2, women's autonomous and controlled eating regulation were entered. No corrections were made

on the omnibus tests of the regression analyses as the analyses were considered orthogonal due to most women reporting only one type of self-discrepancy. A priori power analysis using G*Power (Faul et al., 2007) suggested a sample size for a multiple regression with 3 predictors at an alpha of .05 and 80% power to be 77; therefore, tests were carried out if they achieved this sample size.

To examine the motivational differences in dissonance compensation strategies and their respective implications on adaptive and disordered eating intentions, a phased path analysis modelling approach was used in Mplus Version 7 while controlling for women's eating disorder attitudes. Three models were tested. Each model tested the contribution of variance explained in eating behavior intentions following the recall of a body-related discrepancy. Model 1 reflected the contribution of women's autonomous and controlled eating regulation on their adaptive and disordered eating behavior intentions. Model 2 reflected the addition of dissonance compensation strategies outlined in the HABICE model (Lavergne & Pelletier, 2015) and avoidant and appearance fixing body image coping strategies. Model 3 reflected the addition of self-compassion as an affect regulation strategy that may further explain individual differences in dissonance arousal. Means, standard deviations, and correlations between the variables in models 1-3 are presented in Table 1.2.

To examine if the social context played a moderating role on the models, each model was tested under two conditions: constrained (parameters constrained to be equivalent across contexts) or unconstrained (parameters are free to vary across contexts). The constrained and unconstrained models were then compared using a chi-square difference (χ^2diff) test to determine whether context played a moderating role on each path model ($p > .05$ = equivalency of relationships across context). For all models generated in the study (e.g., constrained,

unconstrained, final accepted model), model fit was considered good if the $\chi 2$ value was nonsignificant (Barbeau et al., 2019), the comparative fit index (CFI) and Tucker-Lewis index were ≥ .90 (Hair et al, 2010; Forza & Filippini, 1998), the root mean square error of approximation (RMSEA) was ≤. 06 (Barbeau et al., 2019), and the standardized root mean square residual (SRMR) index was ≤ .08 (Hu & Bentler, 1999). Only women who self-reported a self-discrepancy in the recall task were included in the path analysis (*n* = 398 included; *n* = 10 removed). Data were screened for univariate and multivariate outliers; univariate outliers were winsorized and multivariate outliers were removed (*n* = 2). An a priori power analysis suggested that an adequate sample size for a path analysis model with 11 variables is 330 participants (Streiner, 2005).

Results

Body-Related Discrepancies and Elicitors

Six themes under body-related discrepancies were interpreted: 1) appearance, such as body shape/size, weight, or facial features (*n* = 181), with most experiences being negative (*n* = 160, 88%); 2) quality of foods ingested (*n* = 103; e.g., perceived healthiness of food ingested), with most women reporting reduced diet quality (*n* = 100, 97%) as indicated by eating more "junk foods"; 3) physical activity levels (*n* = 100), with most women reporting reduced levels of physical activity (*n* = 95, 95%; e.g., not going to the gym); 4) body talk (*n* = 60), with most women reporting more negative self-focused body talk (*n* = 52, 87%; e.g., negative self-appraisals, becoming more self-critical); 5) quantity of food ingested (*n* = 45), with more women reporting increased food intake (*n* = 29, 64%; e.g., eating more than usual) and some reporting decreased food intake (*n* = 16, 36%; e.g., unintentionally eating less than usual); and 6)

engagement in dysfunctional eating patterns (*n* = 38), such as binging/emotional overeating, restricting, and purging.

Nine themes under elicitors were interpreted. Body exposure (e.g., examining one's body in the mirror or in the shower) was one of the most common elicitors of body-related discrepancies. Other life factors, such as "taking on too much" or "being busy", "feeling [or looking] bloated after a meal", "being stressed," "depression," and "negative affect," were also among the most commonly cited elicitors. Body exposure was more commonly cited as an elicitor of appearance and body talk discrepancies, whereas other life factors was more commonly cited as an elicitor of discrepancies related to physical activity levels, quality and quantity of food ingested, and engagement in dysfunctional eating patterns. Trying on unflattering clothing, social comparisons (e.g., self, peer, family or social media), social evaluation (e.g., perception of evaluation while in the presence of others), and COVID-19-related factors (e.g., quarantining, gym closures, changes to work schedule) were also cited as elicitors, although not as frequently. Other contextual elicitors of body-related discrepancies that were interpreted from the narratives were school stress, such as "workload" and "studying for exams," negative interpersonal events, such as the dissolution of a romantic relationship and maternal criticism of [daughters'] appearance, and body weight scales (e.g., self-weighing). Elicitors ranked by their prevalence for each body-related discrepancy theme with sample excerpts from participants' written responses from the recall task appear in Figure 2.1.

Body-Related Discrepancies by Context

Women reported experiencing body-related discrepancies more in a private (*n* = 453 discrepancies) compared to a public (*n* = 102 discrepancies) setting. Considering this, women were more likely to experience body-related discrepancies in any given direction (e.g., negative

to positive, increased to decreased) more in a private compared to a public setting. Counts of body-related discrepancies by context are displayed in Table 1.1.

Motivational Differences in Daily Frequency of Body-Related Discrepancies

Given the sample size requirements for multiple regression, only types of body-related discrepancies reported by at least 77 participants were examined; this included appearance dissatisfaction (n = 161), decreased eating quality (n = 100), and decreased physical activity (n = 95).

Significant variance was explained in the frequency of negative appearance self-discrepancies; however, block 2 (motivation for eating regulation) did not yield a significant R^2 change, suggesting that motivation for eating regulation explained no additional variance above and beyond women's eating disorder attitudes, which was contrary to the hypotheses (H1 and H3). Therefore, model 1 was retained (n = 161; F(1, 158), = 11.17, $p < .001$, $R^2 = .07$), and women's eating disorder attitudes were found to be associated with higher frequency of negative appearance self-discrepancies (β = .26, $p < .001$, partial r = .26).

Significant variance was explained in the frequency of eating quality discrepancies with block 2 (motivation for eating regulation) yielding a significant R^2 change (.09 to .21). Therefore, this model was retained (n = 100; F(3,95) = 8.33, $p < .001$). Aligned with the hypotheses (H2 and H4), autonomous eating regulation was associated with a lower frequency of eating quality discrepancies (β = -.22, p = .020, partial r = -.24), whereas controlled eating regulation was associated with a higher frequency of eating quality discrepancies (β = .39, p = .002, partial r = .31).

Significant variance was explained in the frequency of physical activity self-discrepancies with block 2 (motivation for eating regulation) yielding a significant R^2 change

(.12 to .20); therefore, this model was retained (n = 95; $F(3,90) = 7.51$, $p < .001$). As hypothesized (H4), controlled eating regulation was associated with a higher frequency of physical activity discrepancies (β = .34, p = .007, partial r = .28), whereas autonomous eating regulation was non-significantly associated with physical activity discrepancies (H2; β = -.13, p = .164, partial r = -.15).

Motivational Differences in Compensation Strategies and Eating Intentions Following the Body-Related Discrepancy Recall Task

The results of the path analysis (N = 397; n = 320 private, n = 77 public) revealed no moderating effect of context on all three models (χ^2 diff $p > .05$ between the constrained and unconstrained model for the 3 models); therefore, the constrained model was retained and there was no support for H12. The hypothesized model with constrained parameters fit the data well for each model tested (model 1: χ^2 (12) = 17.51, p = .131, CFI = 0.99, TLI = 0.98, RMSEA = .05 [90% CI = .000-.094, p = .476], SRMR = .07; model 2: χ^2 (41) = 49.95, p = .159, CFI = 0.99, TLI = 0.99, RMSEA = .03 [90% CI = .000-.062, p = .810], SRMR = .06; model 3: χ^2 (63) = 73.84, p = .178, CFI = 0.99, TLI = 0.99, RMSEA = .029 [90% CI = .000-.053, p = .990], SRMR = .06). Model 3 best fit the observations in the data and explained additional variance in compensation and body image coping strategies (see Figure 2.2 for R^2 values). Direct and indirect effects for the best fitting model (model 3, Figure 2.2C) were discussed considering that many of the relationships observed across each model remained unchanged in terms of significance and directionality.

Dissonance Compensation Pathways

As hypothesized (H5 and H6), autonomous eating regulation was associated with higher levels of healthy eating behavior intentions, whereas controlled eating regulation was associated

with higher levels of disordered eating intentions following the body-related discrepancy recall task. Furthermore, we observed distinct dissonance compensation pathways associated with setting these behavioral intentions across women with more autonomous and controlled eating regulation and thus results were described separately.

Autonomous Motivation for Eating. Autonomous eating regulation was directly associated with higher use of behavior modification strategies and non-significantly associated with the use of cognitive restructuring, avoidance, and appearance fixing strategies, supporting the hypotheses (H5). Furthermore, engagement in behavior modification was associated with higher levels of healthy eating intentions. Behavior modification partly mediated the relationship between autonomous eating regulation and higher healthy eating behavior intentions (β = .04, *p* = .018, 95% CI [.012 to .093]), which also supported the hypotheses (H5). As hypothesized (H7), autonomous eating regulation was directly associated with higher levels of self-compassion and non-significantly associated with dissonance. The non-significant relationship between autonomous eating regulation and dissonance was fully explained by higher levels of self-compassion (β = -.05, *p* = .002, 95% CI [-.086 to -.020]), which is aligned with the hypotheses (H7 and H8). Furthermore, aligned with hypotheses (H8), both self-compassion and dissonance serially partially mediated the relationship between autonomous eating regulation and higher use of behavior modification strategies (β = -.01, *p* = .012, 95% CI [-.023 to -.003]). Incongruent with the hypotheses (H5). In model 2, autonomous eating regulation was directly positively associated with cognitive restructuring strategies; however, this relationship became non-significant following the addition of self-compassion in model 3. Post-hoc, exploratory mediation analyses revealed that self-compassion functioned as a full mediator between autonomous eating regulation and cognitive restructuring (β = .08, *p* = < .001, 95% CI [.038 to

.123]). This suggests that autonomous eating regulation is associated with the deployment of cognitive restructuring strategies through higher levels of self-compassion.

Controlled Motivation for Eating. Controlled eating regulation was directly associated with higher levels of appearance fixing and avoidance strategies and non-significantly associated with behavior modification, which was aligned with the hypotheses (H6). However, counter to this hypothesis (H6), controlled eating regulation was not directly associated with higher use of cognitive restructuring. Furthermore, only engagement in avoidance strategies partially mediated the relationship between controlled eating regulation and intentions to engage in disordered eating behavior (β = .03, p = .011, 95% CI [.007 to .055]) given the non-significant direct associations between cognitive restructuring and appearance fixing on intentions to engage in disordered eating. This suggests that controlled eating regulation is associated with higher intentions to engage in disordered eating through higher levels of avoidance, which partially supports the hypotheses (H6). As hypothesized (H10), controlled eating regulation was directly associated with lower levels of self-compassion and higher levels of dissonance.

In addition, the positive relationship between controlled eating regulation and dissonance was partially explained by lower levels of self-compassion (β = .06, p = .002, 95% CI [.020 to .093]), supporting the hypotheses (H10). Finally, both self-compassion and dissonance independently partially mediated the relationship between controlled eating regulation and avoidance (β self-compassion = .07, p = .002, 95% CI [.024 to .105], β dissonance = .04, p = .029, 95% CI [.004 to .070]) and fully mediated the relationship between controlled eating regulation and cognitive restructuring (β self-compassion = -.09, p < .001, 95% CI [- .134 to -.038], β dissonance = .03, p = .042, 95% CI [.001 to .066]). However, only self-compassion functioned as a partial mediator between controlled eating regulation and appearance fixing (β

self-compassion = .04, p = .019, 95% CI [.007 to 078], β dissonance = .03, p = .05, 95% CI [.000 to .056]), which lends partial support to the hypotheses (H11).

Discussion

The current study sought to explore the types of body-related discrepancies that women face, their contextual characteristics and elicitors, and motivational differences in the propensity of experiencing them daily. Furthermore, this study sought to test an amended hierarchical action-based model of inconsistency compensation in the eating behavior domain (HABICE) to elucidate distinct affective and cognitive mechanisms involved in setting adaptive and dysfunctional (i.e., disordered) eating behavior intentions in response to a body-related discrepancy among young adult women. Consistent with previous research, women experience self-discrepancies related to the appearance and care of their bodies, including the quantity and quality of the food they eat, their relationship with food (i.e., binging, purging, restricting), and physical activity levels. Our study highlights the variety of experiences that women face and paves a way for the self-discrepancy literature to expand, particularly beyond experiences related to one's physical appearance.

Contextual elicitors of these experiences were somewhat unique, suggesting that they are partly contextually dependent. Additionally, most women reported experiencing a body-related discrepancy in a private, non-social-evaluative setting. Moreover, women who regulate their eating behaviour for more self-endorsed reasons (autonomous motivation) experience fewer health-related discrepancies daily, whereas women who regulate their eating behaviour out of coercion or self-induced pressure (controlled motivation) experience more health-related discrepancies daily.

Our results also suggest that women's intentions to engage in eating behavior in a manner that promotes health or ill-being following the awareness of a body-related discrepancy can be distinguished by their motivation for regulating their eating behaviour. These distinct motivational pathways are partly explained by differences in emotion regulation and selection of cognitive and behavioral compensation strategies.

Types of Body-Related Discrepancies, Elicitors, and Motivational Differences

Thematic analysis of women's narratives from the body-related discrepancy recall task revealed that appearance discrepancies, particularly dissatisfaction with facial features or skin (e.g., acne, skin tone), body shape, size, and/or weight, were the most reported type of self-discrepancy. In contrast, dysfunctional eating discrepancies (e.g., binging, purging, restricting) were the least common form. Although these findings may seem paradoxical due to the robust positive association between body dissatisfaction and disordered eating (Menzel et al., 2010), our findings could suggest that appearance dissatisfaction is normative among young adult college women and does not always necessitate disordered eating. This corroborates with the findings in Smith-Jackson et al.'s (2011) study where college-aged women reported using other strategies, such as self-improvement (i.e., exercise, healthy eating, appearance fixing), to cope with body dissatisfaction. Furthermore, our sample comprised a large percent of women with clinical levels of eating disorder attitudes (45%), suggesting that our findings may reflect their tendency to perceive discrepancies between their current and ideal appearance, while engaging in self-congruent disordered eating behaviour.

Our findings also broaden the definition of body-related discrepancies to encompass behavioural discrepancies related to eating and physical activity. Themes related to eating quantity and quality discrepancies complement previous research demonstrating that women use

quality (i.e., nutrient-based) and quantity-focused (i.e., portion size, calories) food planning strategies to regulate their eating behaviour (Guertin & Pelletier, 2021). These distinct eating discrepancies may reflect women's tendency to behave incongruently with their chosen strategy.

Although nine contextual elicitors of women's body-related discrepancies were revealed, demonstrating how unique and contextually specific individuals' experiences are, a pattern emerged: all appearance-related discrepancies (i.e., appearance and self-related body talk) were elicited by body exposure (e.g., mirror exposure) and social comparisons and all eating and physical activity discrepancies (i.e., eating quality and quantity, dysfunctional eating patterns, physical activity) were elicited by other life factors (e.g., lack of work-life balance) and school stress (e.g., examination stress, workload). Stimuli that enhance self-presentation concerns and emphasize appearance, such as a mirror or presence of an ideal other, can result in feelings of inadequacy, eliciting an appearance discrepancy (Lamarche et al., 2012). Often, state body dissatisfaction is accompanied by negative self-related body talk (Mills & Fuller-Tyszkiewicz, 2017), which is why body talk and appearance discrepancies may share common elicitors.

As found by other studies, academic stress can result in reduced healthy eating and increased consumption of processed meals (Choi, 2020; Oaten & Cheng, 2005), decreased engagement in physical activity (Cruz et al., 2013; Oaten & Cheng, 2005) and disordered eating (Costarelli & Patsai, 2012). Furthermore, difficulty managing competing demands, including work and academic load, has been cited by college students as barriers to eating healthily and engaging in physical activity due to time constraints (LaCaille et al., 2011).

Surprisingly, COVID-19-related restrictions (e.g., quarantining, gym closures) or stress was not a common elicitor of women's body-related discrepancies despite the extant literature suggesting its negative impacts on physical activity levels, dietary intake (Bertrand et al., 2021;

Sidebottom et al., 2021), and disordered eating among college students (De Pasquale et al., 2021). These results may suggest that other facets of the social context remain the primary elicitors of these experiences and the COVID-19 pandemic may have exacerbated them rather than having a unique effect. For instance, many participants in our study cited that balancing work and academic obligations have been more difficult during the pandemic due to virtual schooling and constant work-related changes (i.e., closures, changing COVID-19 mitigation measures). Furthermore, they cited that pandemic-related gym closures disrupted their exercise routines and reduced access to spaces dedicated to physical activity, creating more barriers to exercise, which may explain why it is a more prominent elicitor of physical activity discrepancies.

Motivational differences were observed in the frequency of experiencing discrepancies related to eating quality and physical activity, such that women with more controlled eating regulation experienced more lapses in eating quality and physical activity, whereas women with more autonomous eating regulation experienced fewer lapses in eating quality. These findings were of small and medium magnitude, with the associations between controlled eating regulation and physical activity and eating quality discrepancies being of stronger magnitude. These results more reliably suggest that women with more controlled forms of motivation experience more daily self-regulatory failures rather than women with more autonomous eating regulation rarely experiencing self-regulatory failures, particularly as it relates to the healthfulness of their food choices and engagement in physical activity. These findings corroborate with previous studies demonstrating a positive relationship between more autonomous forms of motivation for eating regulation and healthy eating and between more controlled forms of motivation for eating and unhealthy eating (Guertin et al., 2017, 2018; Pelletier et al., 2004). They also support the

motivational spill-over effect found between physical activity and eating regulation, such that motivational styles underlying the regulation of eating behaviour is associated with physical activity outcomes (Carraca et al., 2019) and vice versa due to the cross-behavior facilitation of a controlled or more autonomous regulatory style (Carraca et al., 2020).

Surprisingly, no motivational differences were observed for daily negative appearance self-discrepancies. It is plausible that differences did not emerge due to controlling for women's eating disorder attitudes. Often, eating disorder attitudes and behaviors are examined as consequences of controlled eating regulation (Verstuyf et al., 2012, 2016). It is plausible that trait eating disorder attitudes and controlled eating regulation explain shared variance in situational appearance dissatisfaction, thereby nullifying the effects of motivational styles on the propensity of experiencing these discrepancies. As this analysis was sufficiently powered, it is unlikely that we falsely rejected the null hypothesis in regard to the effect of women's eating regulation on daily appearance self-discrepancies.

Motivational Differences in Affect Regulation, Compensation, and Eating Intentions

Aligned with Lavergne and Pelletier's (2015) HABICE model, autonomous and controlled motivation were associated with the use of distinct compensation strategies to resolve discrepancies, and consequently, were differentially related to domain-specific behavior outcomes. Similar to Lavergne and Pelletier's findings (2015), autonomous motivation was associated with the use of behavior modification strategies, which preclude changing behavior to be more aligned with important self-structures and behavioral commitments as indicated by intending to engage in healthy eating.

Furthermore, like Lavergne and Pelletier (2015), we observed that autonomous motivation was associated with the use of behavior modification strategies directly and indirectly

through cognitive dissonance, suggesting that autonomously motivated individuals select more effortful strategies irrespective of experiencing dissonance, demonstrating a non-contingent pro-active orientation (i.e., change behavior to avoid discrepancies pre-emptively or to reduce their magnitude). Our findings further expand on this notion by illustrating the role of self-compassion in the mitigation of dissonance arousal in those with more autonomous motivation and the joint effects of higher levels of self-compassion and lower levels of dissonance in the link between autonomous motivation and behavior modification strategies. Our findings suggest that self-compassion is a resilience factor among women with a more autonomous eating regulatory style who experience body-related discrepancies, and it is through the reduction of negative emotions that self-compassion enhances their self-regulatory capacity to select effortful compensatory strategies, such as behavior modification.

However, contrary to the HABICE model (Lavergne & Pelletier, 2015), autonomous motivation was associated with cognitive restructuring strategies indirectly through self-compassion. Previous research has suggested that self-compassion promotes positive cognitive restructuring, whereby those higher in self-compassion construe negative events as less dire through self-acceptance and positive reinterpretation (Allen & Leary, 2010), thus appraising failures as less threatening, more controllable, and consequently, less of a hindrance to their goal progress (Mosewich et al., 2019). Therefore, it is plausible that the indirect relationship between autonomous eating regulation and cognitive restructuring is a result of being self-compassionate and re-appraising body-related discrepancies as less threatening and more controllable by trivializing or rationalizing incongruent cognitions or behaviors, though more research is required.

Also aligned with the HABICE model (Lavergne & Pelletier, 2015), controlled motivation was associated with forms of specific strategies through higher levels of dissonance, supporting the notion that their selection of compensation strategies is contingent upon dissonance arousal. Particularly, we observed that controlled eating regulation was associated with higher use of avoidance and appearance fixing strategies to resolve a body-related discrepancy, illustrating that when discrepancies are perceived to be more threating to their ego, as indicated by higher levels of dissonance, individuals with controlled eating regulation employ strategies to minimize negative social evaluation or losses to esteem by concealing or fixing their appearance or physically removing themselves from the situation.

Furthermore, corroborating with the findings of Mask and Blanchard (2011), we observed that women with more controlled eating regulation who are subjected to stimuli that may elicit body-related discrepancies are more likely to intend to engage in maladaptive weight-controlling behaviors, such as disordered eating. We further expanded these findings by elucidating the distinct pathway involved in these intentioned actions, namely through avoidance strategies. Moreover, other mechanisms in this pathway, such as lower levels of self-compassion and higher levels of dissonance, support affect regulation models of disordered eating (Anderson et al., 2018; Stice et al., 1996). As demonstrated in our model, poor emotion regulation skills, such as those afforded by self-compassion, in conjunction with negative emotional states elicited by self-related threats (i.e., appearance, eating, negative social evaluation), can lead to experiential avoidance to reduce the saliency of the threat as suggested by Macneil and colleagues (2012). Similar to our findings, a study conducted by Anderson and colleagues (2017) demonstrated that limited access to emotion regulation strategies mediated the relationship between emotional distress and avoidance, and in turn, both low emotion regulation strategies and high avoidance

mediated the relationship between emotional distress and disordered eating among college-aged women.

Finally, we observed an indirect relationship between controlled motivation and cognitive restructuring. Particularly, this relationship was explained through lower levels of self-compassion and higher levels of dissonance, which is the opposite pattern that we observed between autonomous motivation and cognitive restructuring. It is plausible that controlled eating regulation is associated with cognitive restructuring for different reasons and may serve a different purpose. For instance, it has been suggested that those who regulate their behavior contingently to obtain desired outcomes (i.e., more controlled reasons) are motivated to compensate for discrepancies to save face, which may lead to the use of any available strategy if they lack the resources to compensate effectively (Lavergne & Pelletier, 2016). It is plausible that for some individuals with controlled eating regulation, cognitive restructuring was the only available strategy, particularly when emotion regulation resources were low (i.e., self-compassion), or was jointly used with other strategies that share similar underlying (mediating) mechanisms, such as avoidance. Thus, cognitive restructuring could have been the result of cognitive disengagement through trivialization and rationalization, though more research is required.

In light of these findings, it is important to note that many associations observed in the path analysis models were mostly of small magnitude. This suggests that they may not replicate in future models or that other factors outside of the model could explain additional variance in dissonance-related processes and eating outcomes following a body-related discrepancy. For instance, more variance was explained in factors involved in the disordered eating pathway compared to the healthy eating pathway. This may suggest that other relevant compensation

strategies or individual-level factors may play an explanatory role in healthy eating intentions following a body-related discrepancy. One of which could be an individuals' stage of change. According to the stages of change conceptualized by Pope et al. (2021), it is plausible that those earlier in the stages could be more reluctant to make efforts to rectify their discrepancy and therefore choose less effortful strategies to reduce dissonance, such as avoidance or cognitive restructuring, as they may not see this issue as personally relevant or do not know which actions to take. In contrast, those further along the stages may see the discrepancy as informative and suggestive that their current strategies aren't working, which in turn, may lead to the modification of behavior at the next opportunity.

Strengths, Limitations, and Future Directions

The present study had several strengths. First, this study used a strong methodological approach, such as using a recall experimental task, to understand the relationships between body-related discrepancies and intentions to engage in adaptive and maladaptive eating behaviors. Furthermore, we employed an inductive-deductive qualitative approach to analyze women's responses to the recall task, which provided a more expansive and nuanced understanding of the various forms of body-related discrepancies that women encounter, their frequency, and important contextual elicitors. Much of the research on this topic, suffers from small sample size and does not consider the role of affect regulation, compensation processes, or the social context simultaneously. Second, this study tested the HABICE model in the eating domain and further expanded it to encapsulate affect regulation and other contextually relevant compensation strategies (i.e., avoidance, appearance fixing), furthering our knowledge of dissonance compensation processes and the generalizability of the HABICE model to other life domains. Third, as our study employed a mixed method design, our understanding of distinct motivational

processes involved in resolving body-related discrepancies via dissonance processes is contextualized and gives insight into the potential applicability of this model to various body-related discrepancies that we have identified, such as patterns of eating, physical activity levels, valence of self-related weight commentary, and evaluations of one's physical appearance.

Despite these strengths, there are limitations that warrant discussion. First, participants could have reported on more than one body-related discrepancy in the recall task. When prompted to self-report on the strategies they used to compensate, their responses could reflect the independent strategies they use to resolve each type, resulting in high response rates across different strategies. For this reason, the patterns in the model may best represent a generalized process (i.e., all body-related discrepancies) when in fact some of these pathways observed could be unique to specific body-related discrepancies. Future research should experimentally induce specific types of body-related discrepancies in isolation and compare the compensation processes to delineate whether they are somewhat dependent on the characteristic of the self-discrepancy or stable according to motivational differences.

Second, our experimental paradigm induced awareness of a body-related discrepancy by relying on participants' abilities to recall a recent instance from memory using instructional prompts; therefore, it is plausible that specific biases affected their recall that were elicited by task instructions or individual differences. For instance, women at risk of an eating disorder are shown to have a memory bias for weight and shape words (Gasperini & Rousseau, 2014). Additionally, women with high body dissatisfaction have a memory bias for stimuli related to "fatness" compared to "thinness" (Baker et al., 1995; Chen & Jackson, 2005). These biases may have led to overreporting appearance discrepancies, particularly appearance dissatisfaction, when prompted by words such as "body image" in the task instructions. Considering that hypocrisy

induction is a popular method to induce dissonance and relies on participants' recollection of attitude-behavior incongruencies, future research should examine how task instructions influence the type of experiences reported and the role of cognitive biases. Third, our sample comprised a significant number of women who met clinical criteria for an eating disorder based on their mean eating disorder attitude score on the ED-15, thus our results may jointly represent the tendencies of clinical and non-clinical women, which may also be viewed as a strength due to capturing the experiences of women with a healthy and maladaptive eating orientation.

Lastly, our sample was relatively homogenous in terms of age, education, sexual orientation, and ethnicity; therefore, there is need to replicate or expand upon our findings in more diverse samples. For instance, in sexual minority women, intersectional stigma (e.g., weight, ethnicity, age, sexuality) is associated with body image concerns, engagement in unhealthy weight controlling behavior (Mason et al., 2018) and lower physical activity (Herrick et al., 2018). It is plausible that stressful identity-related experiences, such as stigma, would be a stronger contextual elicitor of sexual minority women's body-related discrepancies. Furthermore, the intersection of multiple stigmatized identities has implications on individuals' degree of self-compassion, with sexual and gender minority individuals of color demonstrating more self-compassion (Vigna et al., 2017). This may suggest that relationships in the HABICE model involving self-compassion may be strengthened or weakened depending on the intersection of identities.

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Table 1.1

Body-Related Discrepancy Theme Counts by Context

Direction	Context	Appearance (dissatisfied/ satisfied)	Eating quality (decreased/ increased)	Physical activity (decreased/ Increased)	Eating quantity (decreased/ increased)	Body talk (negative/ positive)	Dysfunctional eating patterns (increased)	Row Total
Decreased/dissatisfied /negative	Private	133	73	84	13	45	/	348
	Public	28	27	14	3	7	/	79
Increased/satisfied /positive	Private	18	3	4	22	7	31	85
	Public	3	0	1	7	1	7	19
	Total	181	103	100	45	60	38	531

Note. $N = 398$ women reported at least one self-discrepancy; women may have reported more than one type of self-discrepancy; therefore, row totals may be > 398.

Table 1.2

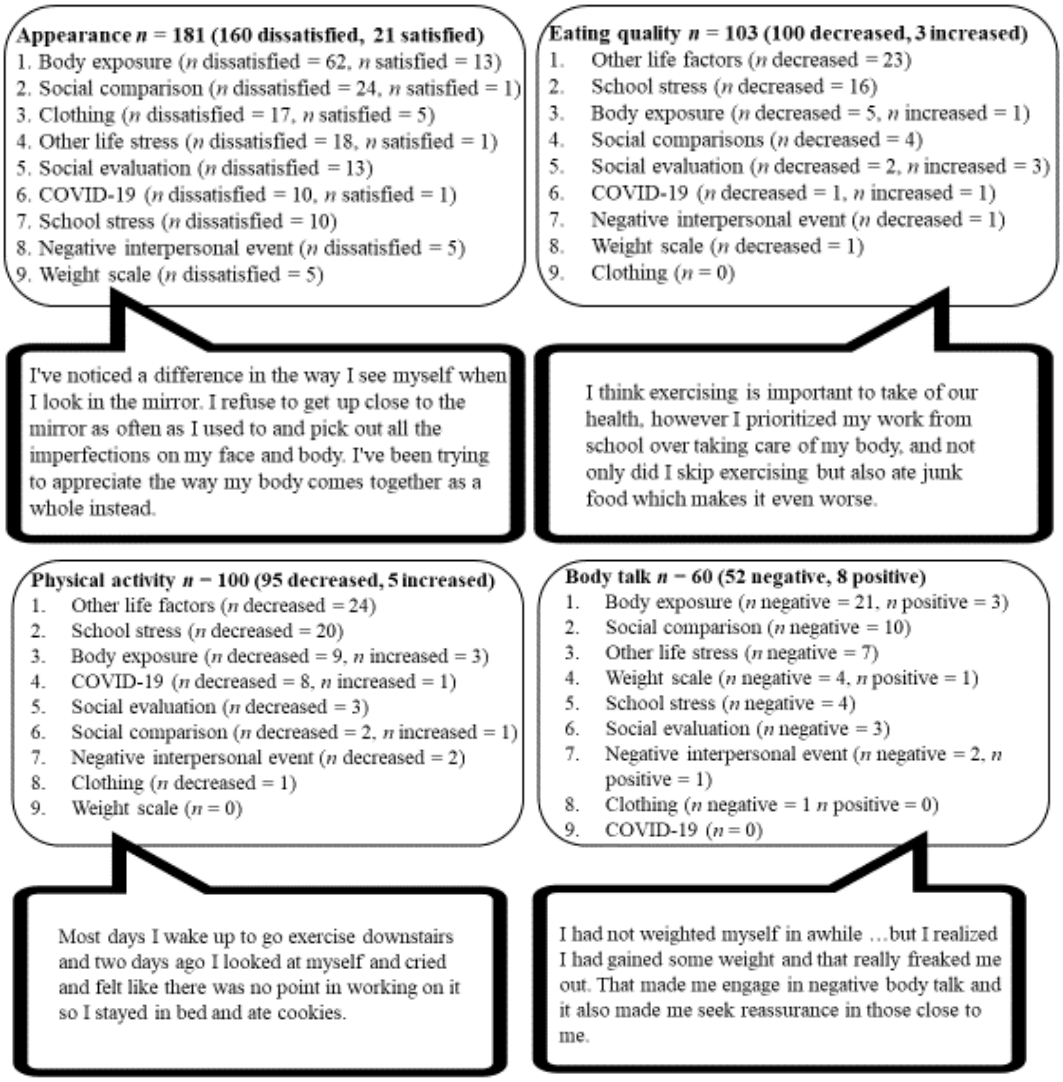
Means, Standard Deviations, and Correlations Among the Variables Examined in the Models Collapsed Across Context

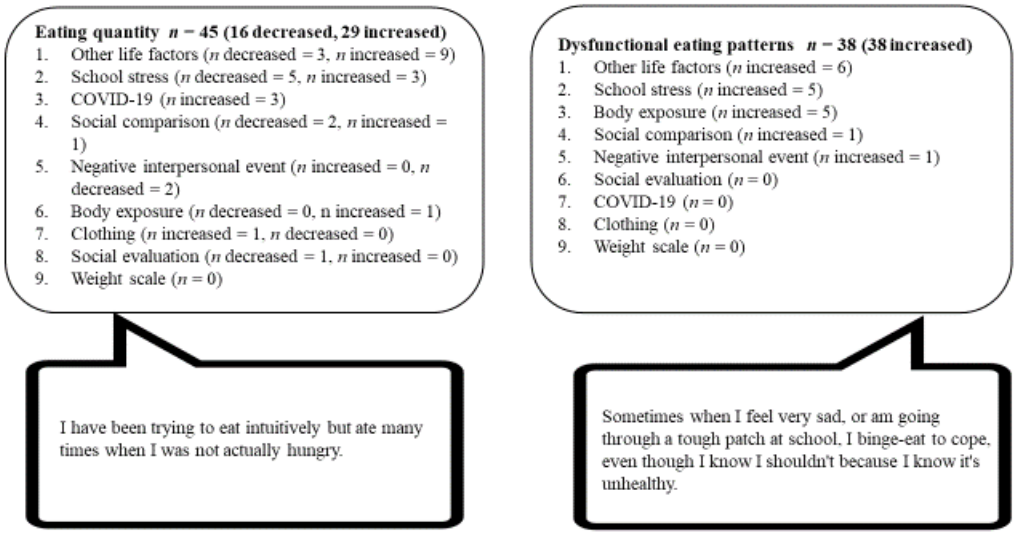
Variable	Mean	SD	ConMot	EDAT	SC	DA	BM	CS	AF	Avo	HEBI	DEBI
1. AutMot	4.6	1.3	.15*	.01	.23*	-.03	.35*	.16*	.01	-.02	.32*	.07
2. ConMot	3.0	1.3	–	.65*	-.41*	.48*	.20*	.16*	.50*	.48*	.23*	.59*
3. EDAT	2.6	1.5	–	–	-.43*	.49*	.21*	.04	.54*	.48*	.31*	.67*
4. SC	3.7	1.0	–	–	–	-.40*	.06	.18*	-.39*	-.43*	-.06	-.33*
5. DA	3.6	1.6	–	–	–	–	.26*	.08	.41*	.42*	.22*	.42*
6. BM	4.0	1.7	–	–	–	–	–	.15*	.22*	.08	.29*	.26*
7. CS	2.8	1.4	–	–	–	–	–	–	.09	.20*	.04	.03
8. AF	2.7	0.8	–	–	–	–	–	–	–	.42*	.26*	.43*
9. Avo	2.1	0.6	–	–	–	–	–	–	–	–	.18*	.47*
10. HEBI	4.6	1.5	–	–	–	–	–	–	–	–	–	.41*
11. DEBI	2.1	1.1	–	–	–	-	–	–	–	–	–	–

Note. N = 397. *$p < .05$. AutMot = autonomous motivation for eating; ConMot = controlled motivation for eating; EDAT = eating disorder attitudes; SC = self-compassion; DA= dissonance arousal; BM = behavior modification; CS = cognitive restructuring; AF = appearance fixing; Avo = avoidance; HEBI = healthy eating behavior intentions; DEBI = disordered eating behavior intentions.

Figure 2.1

Thematic Mapping of Forms of Body-Related Discrepancies and Their Respective Elicitors



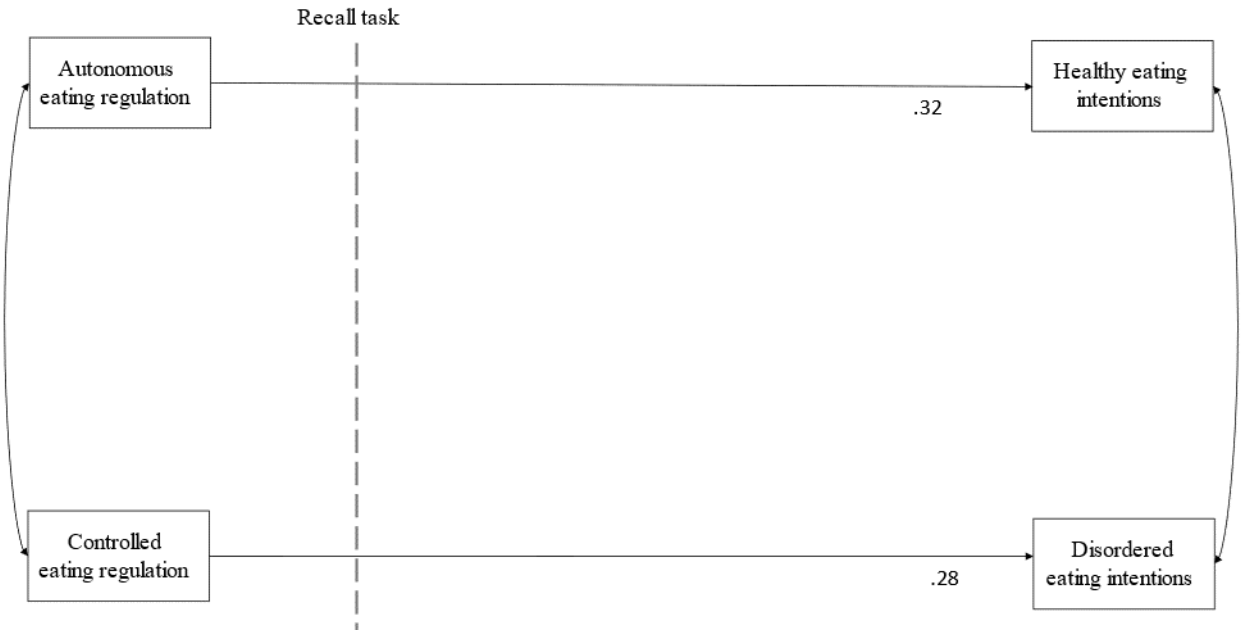


Note. $N = 398$ women reported at least one body-related discrepancy; women may have reported more than one type of discrepancy; therefore, total themes identified are > 398. Themes of body-related discrepancies appear in order of prevalence, their directionality are signified, and contextual elicitors are in rank order from most to least common.

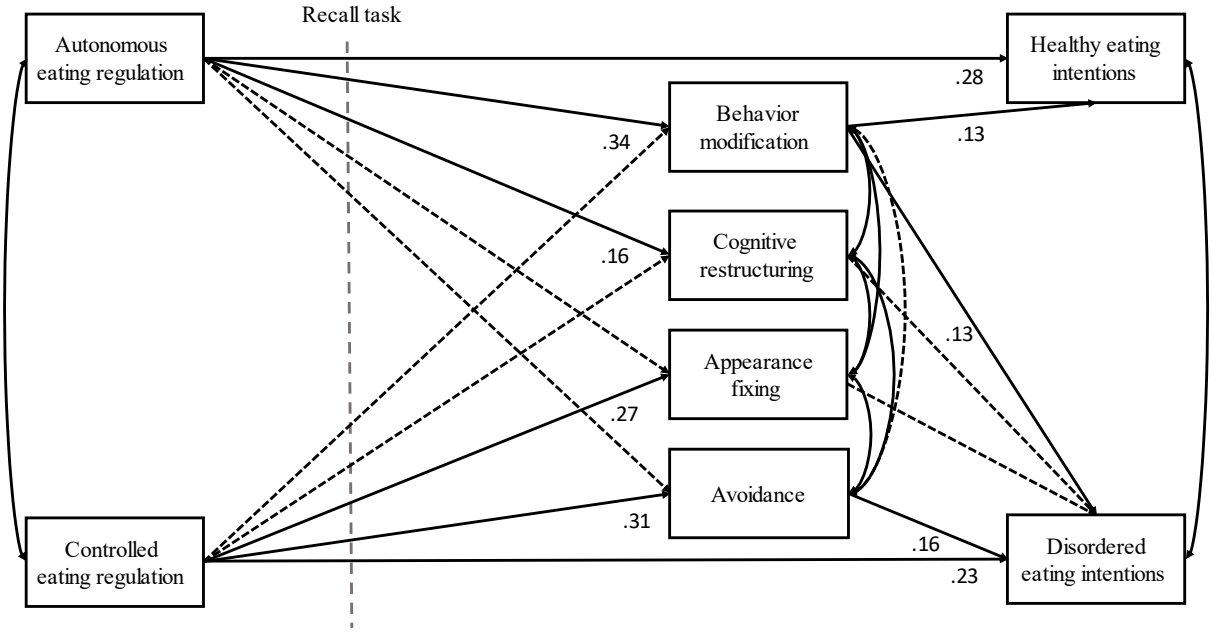
Figure 2.2

Path Analysis Models Testing the HABICE Model in the Eating Behavior Domain

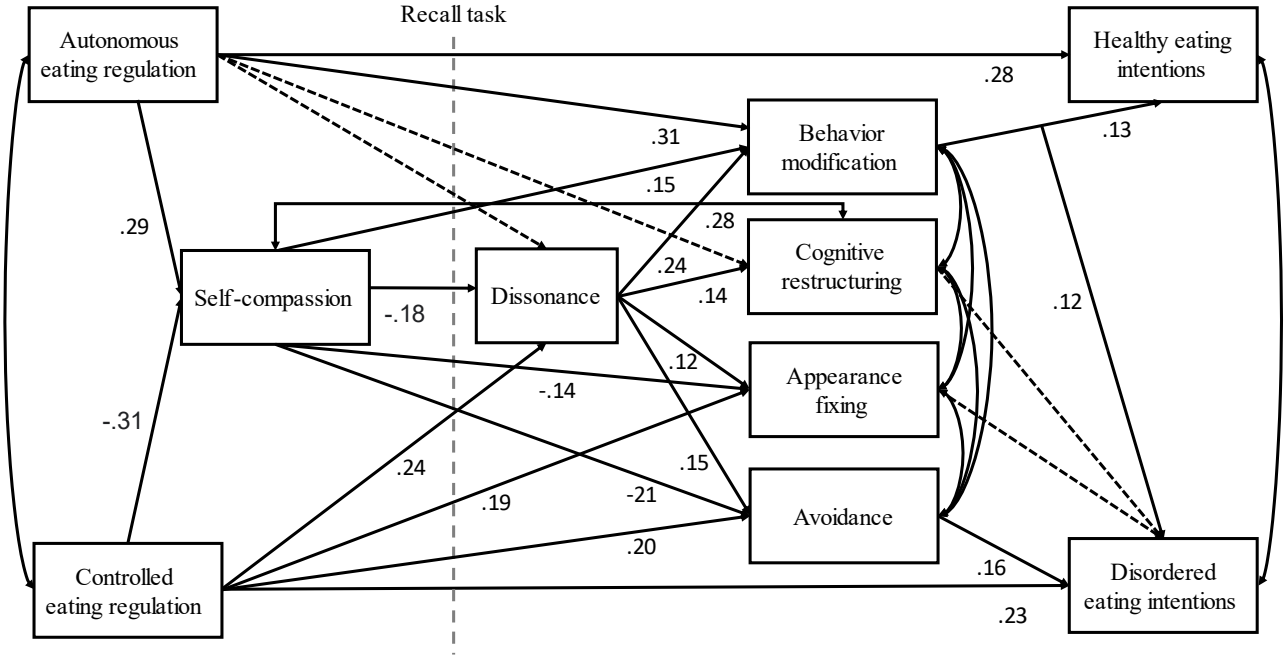
A) Model 1



B) Model 2



C) Model 3



Note. N = 396; all paths are constrained, solid lines denote statistically significant paths, * $p < .05$, dotted lines represent non-significant paths, curved arrows represent variables that were allowed to covary, and variables appearing before the dotted grey line were assessed before the recall task. Path coefficients are standardized. Non-significant relationships between autonomous and controlled eating regulation and compensation strategies in Figure 2.2B were removed in Figure 2.2C for simplicity. R^2 model 1 = 21% in healthy eating behavior intentions and 49% in disordered eating behavior intentions; model 2 = 23% in healthy eating behavior intentions, 53% in disordered eating behavior intentions, 3% in cognitive restructuring, 16% in behavior modification, 30% in avoidance, and 32% in appearance fixing; model 3 = 23% in healthy eating behavior intentions, 53% in disordered eating behavior intentions, 9% in cognitive restructuring, 21% in behavior modification, 36% in avoidance, 35% in appearance fixing, 30% in self-compassion and 31% in dissonance.

CHAPTER THREE

Barbeau, K., Boileau, K., & Pelletier, L. Women's Motivation for Eating Regulation Predicts Healthy and Disordered Eating Intentions Following Cognitive Dissonance Manipulations Through Mirror Exposure

Abstract

Mirror exposure (ME) is an effective technique to induce positive attitudinal and behavioral changes in women's body image and eating behavior. A plausible underlying working mechanism of ME is cognitive dissonance. However, existing studies solely target adaptive or disordered eating behavior and use diverging techniques to elicit dissonance, limiting our knowledge of potential shared mechanisms. Additionally, behavioral implications resulting from cognitive dissonance is dependent on an individuals' motivation for regulating behavior in the domain, suggesting that the effect of ME on women's eating behavior may be dependent on their motives for eating regulation. The current study addressed these knowledge gaps by 1) examining motivation-dependent relationships with healthy and disordered eating intentions following guided ME in a social and non-social-evaluative context and the mediating role of dissonance compensation strategies in these relationships (Study 1; N = 107) and 2) examining motivation-dependent relationships with healthy and disordered eating intentions following counter-attitudinal body talk ME in a social and non-social-evaluative context and the mediating role of dissonance arousal in these relationships (Study 2; N = 199). College-aged women were randomly allocated to ME conditions, which occurred virtually in their homes. In Study 1, women were subjected to ME while focusing on aspects of their bodies in either a social-evaluative (i.e., judges) or non-social-evaluative context (i.e., mirror alone). In Study 2, women were subjected to ME while being instructed to speak about their bodies in a positive or negative

manner in a social-evaluative or non-social-evaluative context. A series of multiple regressions demonstrated that women's motivation for eating regulation is associated with their eating intentions following guided ME, such that women with more autonomous eating regulation intended to engage in more healthy eating, whereas women with more controlled eating regulation intended to engage in more disordered eating. These relationships were not dependent on the context of ME. Furthermore, women with more controlled eating regulation benefitted from counter-attitudinal (positive/compassionate) body-talk ME as indicated by more intent to engage in healthy eating behavior. Results suggest that ME may result in the modulation of eating behavior; however, potential therapeutic effects for promoting healthy eating is dependent on having an autonomous eating orientation. However, counter-attitudinal ME, whereby individuals take on more positive body appraisals, may be beneficial for individuals with a more controlled eating orientation. Together these findings suggest two distinct techniques in promoting more healthy eating behavior in those with differing levels of autonomous and controlled motivation for eating regulation.

Introduction

In contemporary society, mirrors are relatively unavoidable as they pervade various social contexts, including at home, work, school, and fitness centers. As such, they can serve as constant reminders of personal flaws, thereby acting as a chronic stressor (Griffen et al., 2018). In particular, mirrors can increase the saliency of attitude-behavior incongruencies related to the appearance and care of the body (Barbeau et al., 2023). When incongruences are perceived, it can result in psychological discomfort, referred to as *dissonance* (Festinger, 1957), and subsequently, the enactment of compensation strategies that are associated with the modulation of eating behavior (Barbeau et al., 2023).

As a result, mirror exposure (ME) has been used as a tool to induce positive attitudinal and behavioral changes in body image and eating behavior in clinical and non-clinical populations by manipulating cognitive dissonance (Alawad et al., 2015; Griffen et al., 2018; Jansen et al., 2015). However, studies employing dissonance-based ME often target healthy or disordered eating behavior in isolation and the methodologies used to address these eating behaviors vary greatly. For instance, when targeting body dissatisfaction and disordered eating, cognitive incongruencies in dysfunctional self-attitudes/beliefs are created by manipulating body-related verbalizations (i.e., negative to positive body talk; Luethcke et al., 2011; Tanck et al., 2021) or shifting attentional focus during ME (i.e., positively valenced body parts; Jansen et al., 2015). However, when targeting healthy eating, mirror gazing is used to reduce the intake of unhealthy foods and its hedonic value (Alawad et al., 2015; Jami, 2016). This has convoluted the understanding of cognitive dissonance as a working mechanism of ME and its applicability as a therapeutic tool for targeting both healthy and disordered eating. Also, many of these studies did not examine the effects of ME in different social contexts. For instance, a study demonstrated

that the effects of ME on eating behaviors in a social-evaluative (i.e., facial exposure while being recorded for social evaluative purposes) and non-social-evaluative context (i.e., facial exposure without recording) is dependent on an individual's motivational style (Beaudry, 2010). This suggests that motives underlying the target behavior of ME should also be considered when determining its efficacy.

The current study sought to address these knowledge gaps and methodological inconsistencies by conducting two studies that manipulated cognitive dissonance via ME in different social contexts targeting healthy and disordered eating behavior in a sample of non-clinical college-aged women. Techniques included guided ME (i.e., attentional focus on five body parts), cognitive shifts in dispositional self-awareness via the context of ME, and counter-attitudinal body talk during ME. This study will shed light on potential shared working mechanisms underlying dissonance-based ME for healthy and disordered eating, which is imperative given the number of integrated initiatives targeting both health promotion and eating disorder prevention. The Hierarchical Action-Based Model of Inconsistency Compensation (HABICE; Barbeau et al., 2023; Lavergne & Pelletier, 2015), which combines tenets of Cognitive Dissonance Theory (CDT; Festinger, 1957) and Self-Determination Theory (SDT; Ryan & Deci, 2017), was used as a framework to understand motivational differences in dissonance processes during ME, and consequently, eating intentions following ME.

Mirror Exposure and Eating Behavior

Mirrors have diverse implications on eating behavior due to increased self-awareness, and consequently, increased self-focused attention toward private (i.e., values, attitudes, motives) and public (i.e., appearance) aspects of the self (Carver & Scheier, 1978). Once cognitions related to these facets of the self are activated, they are compared against a standard (e.g., social

norms) or prior states (Duval & Wicklund, 1972). This can result in self-monitoring and the modulation of behavior to align with important aspects of the self. For instance, a study that compared college students' eating behavior before and after ME demonstrated that individuals modified their eating behavior only during ME, such that they ate more slowly and consumed less pizza (Alawad et al., 2015). Furthermore, a study by Beaudry (2010) found that restrained eaters (i.e., those preoccupied with dieting and thinness) subjected to partial mirror exposure (i.e., face) while watching a TV show exhibited more eating restraint when offered popcorn compared to those in a control condition. This effect was primarily driven by individuals who regulated their behavior for less internal reasons (e.g., out of shame, to be well-liked). This finding was interpreted as a mirror's ability to activate cognitions related to an individual's self-regulatory style, thereby increasing engagement in behavior that is congruent with their self-structures (i.e., dieting). Furthermore, increased eating dysregulation has been observed among those with higher weight/shape preoccupations due to increased salience of appearance discrepancies. For instance, overweight individuals with binge eating disorder exhibit higher levels of body dissatisfaction, negative emotionality, and desire to binge eat following full body ME compared to overweight controls (Naumann, 2013).

Taken together, these findings suggest that brief ME can promote disordered eating (i.e., restriction, dysregulation) or healthy eating via reduced intake of processed snack and fast-food. This is achieved by the activation of cognitions (e.g., attitudes, values, goals, motives) that are relevant for behavior regulation, and, in turn, increased salience of body-related discrepancies (e.g., appearance, eating behavior). The Hierarchical Action-Based Model of Inconsistency Compensation (HABICE; Lavergne & Pelletier, 2015) has been used to understand the distinct processes involved in women's intent to engage in healthy and disordered eating following

enhanced self-awareness of body-related discrepancies (Barbeau, 2023), and thus offers testable predictions of how women may modulate their eating behavior in response to perceiving various types of body-related discrepancies during ME.

The Hierarchical Action-Based Model of Inconsistency Compensation (HABICE)

The HABICE model (Lavergne & Pelletier, 2015, 2016) is grounded in key tenets proposed by the action-based model of dissonance (Harmon-Jones et al., 2009) and integrates Self-Determination Theory (SDT; Deci & Ryan, 2008), a theory of human motivation, to conceptualize individual differences in dissonance processes following cognitive discrepancies. The action-based model of dissonance proposes that cognitions automatically activate action tendencies (e.g., beliefs, knowledge, or goals) that are involved in behavior regulation (Harmon-Jones et al., 2009). When cognitions with action implications are in conflict, *dissonance* is aroused because conflicting action-based cognitions interfere with effective action (Harmon-Jones et al., 2009). As a result, individuals are motivated to compensate for the inconsistency by employing strategies to reduce psychological discomfort, such as weakening attitudes to align with dissonant actions (e.g., cognitive restructuring), modifying behavior to align with existing attitudes, or avoidance (e.g., avoiding stimuli that increase the salience of the discrepancy). However, the strategy selected is dependent on dominant action tendencies activated by the inconsistency, which guide behavioral commitments and goals in the domain, and therefore play a role in the selected strategy that aims to satisfy those commitments, thereby restoring effective and unconflicted action.

The HABICE model operationalized dominant action tendencies as motives underlying the regulation of domain-specific behavior in accordance with SDT. When perceiving body-related discrepancies, motivation underlying the regulation of eating behavior is associated with

individual differences in dissonance arousal, use of compensation strategies, and eating intentions (Barbeau et al., 2023).

Motivation Orientation for Eating and Compensation Processes

According to SDT, motives underlying the regulation of eating behavior are distinguished by the degree to which regulation is self-endorsed and pursued out of personal relevance and interest (more autonomous reasons) compared to externally endorsed and pursued out of pressure, to obtain instrumental outcomes (e.g., thin-ideal, social approval) or to avoid losses to esteem (more controlled reasons; Pelletier et al., 2004). Since behavior is more integrated into the self, individuals with more autonomous eating regulation derive satisfaction by acting authentically with important self-structures (e.g., goals, beliefs) and thus tend to act in ways that are consistent and coherent with them (Deci & Ryan, 1985). For instance, studies demonstrate that women with more autonomous eating regulation are more likely to behave congruently with their health-oriented goals, such as engaging in healthy eating behavior (Barbeau et al., 2023; Guertin et al., 2018, 2017; Pelletier et al., 2004; Verstuyf et al., 2012). Conversely, since behavior is regulated for more external reasons, and thus experienced as more coercive, individuals with a controlled eating regulatory style are more prone to negative psychological experiences during regulation, such as low perceived behavioral control (Hagger et al., 2006). In turn, women with controlled eating regulation experience more self-regulatory failures, such as unhealthier (Barbeau et al., 2023; Guertin et al., 2017, 2018; Pelletier et al., 2004) and dysregulated eating behavior (i.e., binge eating; Verstuyf et al., 2016).

Given that eating regulation may be pursued to obtain desirable outcomes, such as to be perceived as more attractive (Guertin et al., 2017, 2018), individuals with controlled eating regulation tend to act in ways that uphold and protect self-structures that are tied to self-worth,

thus their behaviors are contingent upon possible outcomes for their esteem. For instance, following exposure to a thin-ideal image, women with controlled eating regulation exhibited higher negative affect and more intent to restrict eating (Mask & Blanchard et al., 2011).

These motivational differences in action tendencies toward the facilitation of self-consistence or ego-protection are observed when individuals become self-aware of body-related discrepancies, and in turn, individual differences in eating behaviors are explained by the selection of compensation strategies that are used to facilitate effective and unconflicted action (Barbeau et al., 2023). For example, in Barbeau and colleagues' study (2023), women with more autonomous eating regulation employed strategies that restore self-integrity, such as modifying behavior to align with attitudes, which partly explained their intent to engage in more self-concordant eating behavior (i.e., healthy eating). Conversely, women with controlled eating regulation employed cognitive and behavioral strategies that facilitate ego-protection, such as appearance fixing (i.e., altering appearance to be perceived more favorably) and avoidance. In turn, avoidance partially explained the positive relationship between controlled eating regulation and intent to engage in disordered eating. Furthermore, strategy selection was contingent on experiencing dissonance arousal for women with more controlled but not autonomous eating regulation, highlighting differences in dispositional tendencies to be proactive compared to reactive when discrepancies are salient.

It is important to note that these relationships were not influenced by the evaluative nature of the recalled body-related discrepancy, suggesting that these motivational differences persisted across non-social-evaluative and social-evaluative (i.e., presence of an audience) contexts (Barbeau et al., 2023). However, an empirical study by Beaudry (2010) demonstrated that women with a more autonomous motivation orientation demonstrated more eating restraint

of unhealthy food following partial ME in a more social-evaluative context, such as being recorded for the purpose of evaluation, whereas women with a more controlled motivation orientation demonstrated higher eating restraint following ME in a social and non-social-evaluative context (i.e., partial ME while being recorded versus partial ME). A social evaluative context is perceived as more controlling because it emphasizes the regulation of behavior in accordance with external, social standards, which is congruent with a controlled regulatory style, and thus has little to no implications on their eating behavior. However, this style of regulation is incongruent with an autonomous regulatory style and consequently has an influence on their eating behavior, such that eating behavior may become more aligned with external versus internal values. Thus, individual differences in eating intentions following ME may represent complex interactions between their motivation orientation for eating regulation, and consequently their tendency to orient toward integrity or ego-restorative dissonance compensation strategies, and the evaluative nature of the social context.

Manipulating Dissonance through Mirrors to Induce Change in Eating Behaviors

Dissonance-based ME has been used therapeutically to induce positive attitudinal and behavioral changes in individuals with body image disturbances (Griffen et al., 2018). Dissonance is created by instructing individuals to engage in incongruent forms of body-related verbalizations during full body ME, such as describing the body neutrally, nonjudgmentally (Delinsky & Wilson, 2006; Luethcke et al., 2011), or positively (Luethcke et al., 2011; Stice & Presnell, 2007; Tanck et al., 2021), or by using incongruent forms of cognitive processing, such as attending to positively valenced body parts (Jansen et al., 2015).

In the field of cognitive dissonance, these studies are employing an induced compliance technique, whereby individuals take on a counter-attitudinal stance via verbal speech (Freijy &

Kothe, 2013), which are commonly employed to facilitate change in dysfunctional attitudes (i.e., thin-ideal internalization), dieting and disordered eating (Stice et al., 2019). In a non-clinical sample of college women, random allocation to neutral/nonjudgmental or positive verbalizations during ME improved body checking, avoidance, and eating disorder pathology following ME (Luethcke et al., 2011). Jansen and colleagues (2015) also found these favorable effects in addition to sustained positive feelings during ME among college women high in trait body dissatisfaction following random allocation to a condition that enhanced attentional focus on positively valenced body parts. However, favorable effects on eating behavior are not consistently found. For instance, Tanck and colleagues (2021) observed no changes in disordered eating or positive affect in a non-clinical community sample of women randomly allocated to a positive body talk mirror condition.

In addition to methodological differences, such as differences in dissonance manipulations during ME and sample size, these mixed findings may also be explained by individual differences in women's motivation for eating regulation. For instance, some of these manipulations may not be incongruent with some women's self-structures and thus may not elicit a dissonant state and subsequent changes in their eating behavior. However, this has yet to be examined. For instance, women with more autonomous eating regulation exhibit higher levels of self-compassion compared to women with more controlled eating regulation, and this partly explains why they experience lower dissonance arousal when perceiving body-related discrepancies (Barbeau et al., 2023). Aspects of self-compassion include taking a nonjudgmental stance toward the self when one is feeling inadequate or has failed, and encompasses mindfulness, which facilitates affective balance by mitigating rumination (Neff, 2003; Sirois et al., 2015). Those who are more self-compassionate are also more likely to engage in positive

body talk (Barbeau et al., 2022), suggesting that this form of ME may not yield additional benefits for those with an autonomous eating regulation style because it is concordant with important self-structures. However, it may benefit women with controlled eating regulation because they exhibit lower levels of self-compassion and engage in higher levels of negative body talk (Guertin et al., 2018). Temporarily inducing more positive and compassionate body talk in women with controlled eating regulation may mitigate arousal via increase positive affect, which in turn, may enhance their ability to self-regulate successfully (i.e., more intent to engage in healthy eating). These improvements should also be apparent in social-evaluative contexts given that self-compassion has shown to buffer the effect of perceived social rejection on negative affect and restrictive eating (Beekman et al., 2017). Self-compassionate training also modulates physiological and subjective stress responses during a social-evaluative stressor (Arch et al., 2014).

Despite many studies demonstrating the negative consequences of engaging in negative body talk on women's affect, body image, and disordered eating (Jones et al., 2014; Mills et al., 2016 for a review), some have manipulated negative body talk during ME to induce positive attitudinal and behavioral changes through a process of habituation in non-clinical college and community women (Jansen et al., 2015; Tanck et al., 2021). However, these manipulations did not improve body image outcomes (i.e., body checking, avoidance) or disordered eating, but instead, worsened negative affect and body dissatisfaction (Jansen et al., 2015; Tanck et al., 2021). Women with more autonomous eating regulation may be more negatively impacted by this manipulation because it is incongruent with their positive self-attitude and ways of responding to perceived inadequacies. Therefore, engaging in more self-critical (versus self-compassionate) body talk may disrupt their ability to authentically function, resulting in

heightened dissonance arousal and attitude-incongruent eating intentions. Furthermore, these negative effects may be stronger in a social-evaluative context due to perceiving the situation as more controlling. That is, negative body talk may increase feelings of internal pressure (i.e., shame, humiliation), whereas the presence of an audience may increase feelings of external pressure (i.e., it is expected of me). However, negative body talk is congruent with how women with more controlled eating regulation respond to perceiving inadequacies; therefore, they should demonstrate a typical response, such as high dissonance arousal and more intent to engage in disordered eating behavior following negative body talk ME, in a social and non-social-evaluative context.

Present Research

The objective of the present research was to examine individual differences in women's healthy and disordered eating intentions following various types of dissonance manipulations through ME, such as the social-evaluative nature of the context and valence of self-related body talk. The HABICE model (Lavergne & Pelletier, 2015, 2016) was used as a framework to formulate predictions of these individual differences based on women's motivation for eating regulation. This was achieved by conducting two studies with different samples of non-clinical college-aged women. The objective of Study 1 was to examine the independent effects of and interactions between motivation for eating regulation and the social context of ME on women's use of dissonance compensation strategies and eating intentions. The objective of Study 2 was to examine the independent effects of and interactions between motivation for eating regulation and valence of body-related talk during ME on women's dissonance arousal and eating intentions. In the event that the social context played a role in Study 1, manipulations of self-related body talk during ME were employed in a social-evaluative (i.e., presence of female judges) and non-social-

evaluative (i.e., alone) context, and interactions with women's eating regulation on dissonance arousal and eating intentions were examined in each social context.

Study 1

The first study sought to examine and test hypotheses regarding women's selection of dissonance compensation strategies during ME and eating intentions following ME according to women's motivation for eating regulation and the social context of ME. It was hypothesized that women with more autonomous eating regulation would intend to engage in healthy eating behavior following ME (H1) and this would be partly explained by their use of behavior modification strategies during ME (H2). These relationships were hypothesized to be stronger following social-evaluative ME compared to non-social-evaluative ME due to a shift in regulation in accordance with more external (versus internal) standards as found by Beaudry (2010; H3). In Barbeau and colleagues' study (2023), women with autonomous eating regulation also engaged in cognitive restructuring strategies, potentially as a result of reappraising events more positively through self-compassion; however, this strategy was not associated with eating intentions. As such, it was hypothesized that women with more autonomous eating regulation would use this strategy during ME, but it would not be associated with their healthy eating intentions following ME (H4).

It was also hypothesized that women with more controlled eating regulation would intend to engage in disordered eating following ME (H5) and this would be partly explained by their use of appearance fixing (H6) and avoidance strategies during ME (H7). It was hypothesized that these relationships would persist across social-evaluative and non-social-evaluative contexts, given that those with a more controlled motivation orientation regulate in accordance with external standards irrespective of stimuli, such as the presence of others, that increase the

salience of norms (H8). Finally, considering that the selection of compensation strategies and eating intentions following the recollection of a body-related discrepancy is dependent on women's motivation for eating regulation (Barbeau et al., 2023), it was hypothesized that the context of ME would have no effect on the use of dissonance compensation strategies in response to ME (H9) or eating intentions following ME (H10) after considering the contribution of women's motivation for eating regulation. Hypotheses were proposed to hold while controlling for women's eating disorder attitudes.

Method

Participants

One-hundred thirteen undergraduate women (mean age = 19.7, *SD* = 4.7; mean Body Mass Index = 22.2, *SD* = 4.0) from a Canadian university research participation pool were recruited between October 2020 and May 2021 for an online multi-phase study. The study was advertised as examining the complex relations between personality and contextual characteristics on coping with challenges and threats to the self and how they may impact the regulation of health behaviors. For this phase of the study, participants were informed that they would be completing a short performance task via Zoom from home followed by questionnaires assessing their degree of stress, discomfort, coping strategies, and thoughts toward their body. Participants were eligible to participate if they had a device with a camera and self-identified as a woman. The number of participants recruited for this study was based on two criteria: 1) reaching sufficient sample size for data analyses for the current study, established by a priori power analyses (see data analytical plan), while 2) taking into consideration the responsivity of participants during the experimental protocol (i.e., patterns of drop-out rates, non-compliance

etc.). Once sufficient sample size was reached and/or until responsivity drastically dropped, recruitment stopped. Data were only analyzed once recruitment terminated.

Most participants identified as White (*n* = 60; 53%), South Asian or Indian Canadian (*n* = 11; 10%), Middle Eastern/Arab Canadian (*n* = 10; 9%) or Black/Afro-Caribbean/Afro-Canadian (*n* = 9; 8%). Many participants also identified as heterosexual (*n* = 89; 78%). When asked whether they currently have a psychiatric disorder, most indicated that they did not (*n* = 81; 71%). Using Tatham et al.'s (2015) Eating Disorder-15 (ED-15) weight, shape, and eating concerns subscale and Rodrigues et al.'s (2019) suggested cut-off of 2.8 (i.e., the Youden index), 41 (36%) women's scores were in the clinical range and 73 (64%) women's scores were in the non-clinical range.

Procedure

Prior to recruitment, ethics approval was obtained from our university. Participants were allocated two credits toward a course (i.e., criminology, psychology, administration, or linguistics) for their participation in the first (Article 1) and second phase of the study (Article 2; Study 1 or 2). Additionally, those who enrolled in the second phase of the study were entered into a draw to win a monetary prize (20 prizes valued at $50 CAD). The study consisted of completing an online survey (phase 1/Article 1; pre-treatment survey) followed by a Zoom session two to three days later (phase 2/Article 2; experimental session) where women were randomly allocated to ME in a social-evaluative or non-social-evaluative setting.

In the pre-treatment survey (phase 1), women completed measures in the following order: a sociodemographic questionnaire, the ED-15, and the Regulation of Eating Behaviors Scale. In the experimental session (phase 2), women in both conditions completed an online survey while on Zoom. The survey was divided into sections (baseline, anticipation, exposure, recovery)

prompting participants to stop the survey (i.e., when a page with a stop sign appeared) and ask the research assistant for further instruction. Women in both experimental conditions completed measures in the following order at baseline, anticipation (i.e., condition-specific instructions of the ME were revealed), and exposure (i.e., following ME): the Inconsistency Induced Affect Scale (i.e., dissonance arousal), a visual analog scale (VAS) of psychological stress, and the Body Image States Scale (BISS). At exposure, following the BISS, women completed additional measures to assess their use of dissonance compensation strategies (the Abbreviated Inconsistency Compensation Strategies Scale) and body image coping strategies (the Body Image Coping Strategies Inventory) during ME. Additionally, women completed measures assessing their intent to engage in disordered or healthy eating behavior over the next 7 days (ED-15 behavioral subscale; Healthy and Unhealthy Eating Behavior Scale). At recovery (i.e., 15-20 minutes post ME), women completed the VAS of psychological stress and a question related to perceived authenticity of the experiment before being de-briefed.

Social-Evaluative and Non-Social-Evaluative Mirror Exposure Conditions

Prior to the experimental session, women were instructed to change their name on their Zoom profiles to ensure anonymity. Once the session commenced, at baseline, women in both ME conditions were informed that they would be completing a task and a survey while on Zoom. Following the completion of questionnaires, participants were informed about the mirror task and were given condition-specific instructions (i.e., anticipation phase). In the *social-evaluative ME condition*, women were instructed that following the completion of questionnaires, they are to position themselves in front of a mirror in their home. Once in front of the mirror, instructions through an audio recording will guide them to think or speak about certain parts of their body for a period of five minutes. During the task, they were instructed to keep their microphone and

cameras on because two female (mock) judges will be evaluating their behavior. In the *non-social-evaluative ME condition*, women were given the same instructions; however, they were told to mute themselves, turn off their cameras during the task, and no judges were mentioned. Following the completion of questionnaires and a verification process (i.e., confirmation of being situated in front of a mirror and an audio check), women were reminded of their condition-specific instructions and followed them accordingly while the audio recording was playing (i.e., exposure). At this phase, two women acting as (mock) judges joined the session in the *social-evaluative condition* with their camera and microphones on. The mock judges were previously instructed to give no verbal or facial feedback during the task and to periodically appear as though they were noting participants' behaviors.

In both conditions, the audio recording instructed women to "look in the mirror and try to focus on the appearance of your [body part]. Try to think about or describe aspects of your [body part] either out loud or through internal talk. If you need to, move around to get different angles." The audio recording instructed women to focus on their face, chest, stomach, arms, thighs, and buttocks each for a period of 45 seconds. They were told not to shift their focus to another body part until instructed. This measure was taken to control for women's attentional biases across manipulations (Smeets et al., 2011). Following ME, women completed questionnaires (i.e., exposure and recovery). The protocol for Study 1 is illustrated in Figure 3.1 panel A.

Manipulation Adherence, Authenticity, and Efficacy

Throughout the experimental session, the first author or research assistant and/or mock judges recorded notes related to the participants' adherence to instructions and/or withdrawal from the study. Participants were considered non-compliant if they did not stop and ask for further instruction at each phase of the survey or did not follow their condition-specific

instructions during ME (i.e., camera and microphone on/off, using social media, or interacting with others in their environment during the session). These notes, organized by participants' unique identification numbers, were later paired with subjects' anonymized survey data collected during the experimental session and were used to exclude participants from analyses. Regarding authenticity, before participants were de-briefed, they were asked to rate the degree to which the experiment (i.e., ME with or without the presence of other women) replicated what happens to them in real life on a scale of 1 (*not at all*) to 7 (*very much*). The purpose of this question was to gauge the extent to which results obtained from the study could be generalized to real-life experiences. The efficacy of the manipulation of context was assessed by examining between-condition differences in psychological stress levels at each phase of the experiment: successful manipulation of context would be characterized by higher levels of psychological stress at anticipation and exposure in the social-evaluative mirror condition compared to the non-social-evaluative mirror condition. The efficacy of the manipulation of dissonance was assessed by examining state changes in dissonance from baseline to anticipation and exposure across conditions when instructions are revealed related to/or when exposed to a stimulus that may elicit body-related discrepancies.

Measures

Sociodemographic Information

Women self-reported their height, weight, age, ethnicity, sexuality, and whether they currently suffer from a psychiatric disorder(s).

Eating Disorder Attitudes

The ten-item shape, weight, and eating concerns subscale from the ED-15 (Tatham et al., 2015) was used to measure women's eating disorder attitudes. Women were asked to rate the

extent to which each statement reflected their eating attitudes and behaviors (e.g., "I follow strict rules about my eating") over the past week on a 7-point Likert scale from 0 (*not applicable*) to 6 (*all the time*). A total score was created by averaging all ten items. Evidence of the validity of the ED-15 was established in a sample of clinical and non-clinical adult women (Tatham et al., 2015). In the current sample, the average inter-item correlation of scores on the ED-15 was .53, which was above the minimum suggested value of .20 (Piedmont, 2014).

Motivation for Eating Regulation

The 24-item Regulation of Eating Behaviors Scale (REBS; Pelletier et al., 2004) was used to assess women's motivation for regulating their eating behavior. The REBS comprises six subscales (4 items each), which represent different types of behavioral regulation styles. Three subscales represent more autonomous forms of regulation (intrinsic, integrated, and identified), two subscales represent more controlled forms of regulation (introjected and extrinsic), and one subscale represents a lack of intent to self-regulate (amotivation). On a scale from 1 (*does not correspond at all*) to 7 (*corresponds exactly*), women indicated the extent to which each statement represented their reasons for regulating their eating behavior (e.g., "because I take pleasure in fixing healthy meals"). Composite scores were created by averaging items from respective subscales that represent autonomous and controlled regulation. Evidence of the structural validity of the REBS was demonstrated via exploratory and confirmatory factor analysis in a sample of college women (Pelletier et al., 2004). Construct validity was established by examining the associations between autonomous and controlled motivation and wellbeing, healthy eating behaviors, and bulimic symptoms (Pelletier et al., 2004). In the current sample, the average inter-item correlation between scores capturing more autonomous eating regulation

was .60 and the average inter-item correlation between scores capturing more controlled eating regulation was .26.

Dissonance Arousal

Nine items from the Inconsistency Induced Affect Scale (IIAS; Lavergne & Pelletier, 2015) were used to measure women's levels of psychological discomfort during the experimental session at baseline, anticipation, and following ME. These nine items assessed feelings of general discomfort (3 items; e.g., uncomfortable), self-consciousness (3 items; e.g., guilt), and dejection (3 item; e.g., disappointed). At each of the three time points, women were asked to rate the extent to which they were currently feeling each emotion on a scale from 1 (*not at all*) to 7 (*very much*). Construct validity was supported by examining associations between this score and cognitive and behavioral dissonance compensation strategies and motivation orientation in the environmental and eating domains (Barbeau et al., 2023; Lavergne & Pelletier, 2015). In the current sample, the average inter-item correlations of these scores ranged between .51 to .60 across the three time points.

Psychological Stress

A visual analog scale (VAS) was used to assess women's psychological stress during the experimental session at baseline, anticipation, following ME, and at recovery (approximately 15-20 minutes following ME). Women were asked how stressed they feel in the present moment and to indicate the extent of their stress by pulling a slider across a scale ranging from 0 to 100. Construct validity of the digital VAS scale of psychological stress was demonstrated by examining the correlations between the scores on the VAS with scores on the Perceived Stress Scale and Brief Stress Assessment Scale (Barré et al., 2017). Additionally, psychological stress

has been assessed via a VAS scale in a previous study employing a social stress task (Wan et al., 2019).

State Body Image Satisfaction

The six-item Body Image States Scale (BISS; Cash et al., 2002) was used to assess women's state body satisfaction in the experimental session at baseline. Women were asked to select the statement that best describes how they feel in the present moment with statements representing dissatisfaction allocated a score of 1 and statements representing satisfaction allocated a score of 9 (e.g., extremely satisfied with my physical appearance). After reverse scoring, items were averaged to create a total score. Convergent validity of the BISS score was demonstrated via correlations with trait measures of body image in a college sample (Cash et al., 2002). Additionally, convergent validity was established in the same sample by demonstrating changes in BISS scores in the anticipated direction among individuals exposed to hypothetical positive and negative body image experiences (Cash et al., 2002). In the current sample, the average inter-item correlation between scores was .36.

Dissonance Compensation Strategies

The adapted Abbreviated Inconsistency Compensation Strategies Scale (AICSS; Barbeau et al., 2023) was used to assess women's use of compensation strategies in response to ME. The AICSS (Lavergne & Pelletier, 2015) comprises two subscales, one of which measures behavioral compensation strategies, such as enacting behavior modification (3 items; e.g., immediately thinking of ways to correct myself through actions), and the other measures cognitive restructuring strategies (4 items), such as weakening attitudes by trivializing (e.g., concluded that my thoughts or behaviors are indicative of my true attitudes) or rationalizing (e.g., thinking that the action I just did, despite being inconsistent, was consistent with other values and goals I

consider important). On a scale from 1 (*never*) to 7 (*all of the time*), women rated the extent to which they used these strategies during ME. Structural validity of the adapted scale was demonstrated via exploratory factor analysis in a sample of college women following a task that induced dissonance by recalling a recent body-related discrepancy (Barbeau et al., 2023). In the current sample, the average inter-item correlations of scores capturing behavior modification and cognitive restructuring were .57 and .31, respectively.

Appearance Fixing and Avoidant Coping Strategies

The appearance fixing (10 items; e.g., I spend extra time trying to fix what I don't like about my looks) and avoidance (8 items; I try to ignore the situation and my feelings) subscales from the Body Image Coping Strategies Inventory (BICSI; Cash et al., 2005) were used to measure women's use of avoidance and appearance fixing body image coping strategies. On a scale from 1 (*definitely not like me*) to 4 (*definitely like me*), women rated the extent to which they used these strategies during ME. Items belonging to each subscale were averaged. Structural validity of the BICSI was supported via exploratory factor analysis in a sample of college men and women (Cash et al., 2005). In the current study, the average inter-item correlations of scores capturing appearance fixing and avoidance were .38 and .26, respectively.

Healthy and Disordered Eating Behavior Intentions

An adapted version of the Healthy and Unhealthy Eating Behavior Scale (HUEBS; 7 items; Guertin et al., 2020) and the ED-15 behavioral subscale (5 items; Tatham et al., 2015) was used to assess women's intentions to engage in healthy and disordered eating following ME. Items on these scales were adapted to reflect eating intentions rather than habitual eating behavior (Barbeau et al., 2023). Women rated on scale from 1 (*not at all likely*) to 7 (*very likely*) the extent to which they plan to engage in healthy (e.g., eat more fruits) and disordered eating

(e.g., binge on food) in the following 7 days. Composite scores for healthy and disordered eating intentions were created by averaging items on each scale. Structural validity of the adapted HUEBS was demonstrated via exploratory factor analysis in a sample of college women following a body-related discrepancy recall task (Barbeau et al., 2023). In the current sample, the average inter-item correlations of scores capturing healthy eating intentions and disordered eating intentions were .52 and .23, respectively.

Data Analytical Plan

For the preliminary analyses, a series of repeated measures ANOVAs were conducted to determine the efficacy of the manipulations in regard to between group differences in psychological stress and dissonance arousal. A priori power analysis using G*Power (Faul et al., 2007) suggested a sample size of 104 participants for a 2 (group) by 3 (dissonance arousal) repeated measures ANOVA and a sample size of 46 participants for a 2 (group) by 4 (psychological stress) repeated measures ANOVA at an alpha of .05 for a medium effect at 80% power. A medium effect size was estimated considering that other social-evaluative stress paradigms involving judges has a medium to large effect on negative affect and psychological stress (Seddon et al., 2020). To examine authenticity, descriptive statistics were conducted on a survey question asking participants the degree to which their experiences during ME replicated what occurs to them in the real world (on a scale from 1, *not at all*, to 7, *very much*).

For the main analyses, a series of hierarchical multiple regressions were conducted to establish the relationships between ME condition and outcomes of interest (body image coping strategies, compensation strategies, eating intentions), women's autonomous and controlled eating regulation on outcomes interest, and the moderating role of condition on the relationships between motivation and outcomes of interest. Additionally, these analyses determined the

suitability of testing our hypotheses related to a moderated mediation. For instance, examining if the association between motivation for eating regulation and eating intentions is partly explained by the selected compensation and/or body image coping strategy, and, if so, whether this effect is conditional upon the social context (i.e., mirror conditions). In the event where there was 1) a significant relationship between motivation for eating regulation and a given strategy, 2) a significant relationship between motivation for eating regulation and eating intentions, and 3) condition functioned as a moderator in these relationships, a follow-up moderated mediation analysis was conducted. However, if there were no interactions between motivation for eating regulation and condition, follow-up mediation analyses were conducted instead of a moderated mediation. These analyses were conducted using PROCESS macro with bootstrapping (5000 iterations). Mediation was inferred if the confidence interval did not include 0 (Barbeau et al., 2019).

Women's eating disorder attitudes were controlled for in all analyses due to previous correlations found between higher eating and weight/shape concerns and use of avoidant and appearance fixing body image coping strategies and disordered eating intentions (Barbeau et al., 2023). Regarding the hierarchical multiple regression, in block 1, women's eating disorder attitudes were entered as a control variable. In block 2, condition was entered to parcel out the main effect of condition. In block 3, controlled and autonomous eating regulation were entered to examine their additional predictive contribution on the outcomes of interest. In block 4, the hypothesized interaction(s) between motivation and condition were entered to determine whether motivational effects are dependent on the social context of ME. When running multiple regression analyses, corrections to control for Type 1 error was not applied as the power to detect interactions when using multiple regression are already extremely low, especially when trying to

detect an interaction between a continuous and categorical variable (Aguinis, 2004). Therefore, correcting for multiple tests increases the risk of false negative effects due to lowering the power to detect a significant interaction, thereby increasing Type II error.

An a priori power analysis using G*Power (Faul et al., 2007) suggested a sample size of 92 participants for a multiple regression with 5 predictors at an alpha of .05 and 80% power. An a priori power analysis using the InteractionPoweR Shiny App (Baranger et al., 2022) suggested a sample size of 146 to detect an interaction at an alpha of .05 and 80% power. Correlations between constructs to estimate power were based on Barbeau et al.'s (2023) findings.

Results

Preliminary Analyses

Regarding dropouts and non-compliance, one participant dropped out (i.e., left during the protocol; $n = 1$ in the social-evaluative condition) and four were non-compliant to task instructions ($n = 5$ in the non-social-evaluative condition). These participants were excluded from analyses. Among those included in the analyses (N = 107; $n = 52$ in the non-social-evaluative condition; $n = 55$ in the social-evaluative condition), there were no missing data. A one-way multivariate analysis of variance (MANOVA) determined that there were no differences in age, BMI, eating disorder attitudes, state body image satisfaction, or degree of autonomous or controlled eating regulation across conditions, $F(6, 99) = 0.69$, $p = .657$, $\eta^2 = 0.04$. Therefore, random allocation to conditions was considered successful and these factors were not controlled for when examining the effects of condition on the outcomes of interest.

For the preliminary analyses, assumptions of normality for the repeated ANOVAs were met; however, there were violations to sphericity. Due to this, a Greenhouse-Geisser correction was applied.

For the main analyses, assumptions for the hierarchical multiple regression analyses were met (i.e., linearity, multivariate normality, multicollinearity). Furthermore, assumptions for mediation analyses, such as correlations between variables, were examined to determine eligibility of models to be tested. Means, standard deviations, and correlations between variables are displayed in Table 2.1. The ability to detect interactions in the hierarchical regression analyses were underpowered (70% power); however, they were still pursued.

Manipulation Efficacy and Authenticity

Regarding psychological stress levels, a 2 (condition) by 4 (time) ANOVA revealed that there was a main effect of time, $F(2.4, 253) = 9.22$, $p < .001$, $\eta^2 = .08$, a non-significant main effect of condition, $F(1, 105) = 3.38$, $p = 0.691$, $\eta^2 = 0.03$, and a significant interaction between time and condition, $F(2.4, 253) = 8.21$, $p < .001$, $\eta^2 = 0.07$. As illustrated in Figure 3.2 panel A, simple effects revealed that women in the social-evaluative condition were more stressed at anticipation ($p = .021$, $\eta^2 = .05$) and following ME ($p = .005$, $\eta^2 = .07$) compared to those in the non-social-evaluative condition. Additionally, only women in the social-evaluative condition significantly changed in stress levels over time ($p < .001$, $\eta^2 = .40$): they increased in stress from baseline to anticipation, baseline to ME, and steeply decreased from anticipation to recovery and exposure to recovery back to levels comparable to baseline.

Regarding levels of dissonance, a 2 (condition) by 3 (time) ANOVA revealed that there was a significant main effect of time, $F(1.52, 159.52) = 28.55$, $p < .001$, $\eta^2 = .21$, a non-significant main effect of condition, $F(1, 105) = 0.00$, $p = .994$, $\eta^2 = .00$, and a significant time by condition interaction, $F(1.52, 159.52) = 5.6$, $p = .009$, $\eta^2 = 0.05$. As illustrated in Figure 3.2 panel B, simple effects revealed that women in both conditions significantly increased in dissonance over time (non-social-evaluative condition: $p = .016$, $\eta^2 = .02$; social-evaluative

condition: $p < .001$, $\eta^2 = .27$). In the non-social-evaluative condition, women's dissonance increased between anticipation and exposure. In the social-evaluative condition, women's dissonance increased in a gradient fashion: from baseline to anticipation, baseline to exposure, and anticipation to exposure.

Regarding the authenticity of the experimental paradigms, women reported that the experimental protocol moderately replicated their experiences in the real-world (non-social-evaluative condition; mean = 5.2, *SD* = 1.2; social-evaluative condition; mean = 4.9, *SD* = 1.6). Based on these results, the manipulations were considered successful considering that 1) women experienced increased levels of dissonance during the task, 2) women allocated to the social-evaluative condition perceived the task as more stressful, and 3) women perceived the protocol as adequately reflecting reality.

Main Analyses

Independent and Interactive Effects of Motivation and Mirror Condition on Strategies

Significant variance was explained in behavior modification with a significant R^2 change only following the addition of women's autonomous and controlled eating regulation in block 3 (R^2 change from .09 to .14); therefore, this model was retained (N = 107; $F(4, 102) = 4.35$, $p = .003$). However, there were no interactions between autonomous motivation and condition, which was contrary to the hypotheses (H3). Aligned with the hypotheses, autonomous eating regulation was positively associated with the use of behavior modification strategies during ME (H2; $\beta = .23$, $p = .021$, partial $r = .23$) and there were non-significant associations between condition ($\beta = -.06$, $p = .544$, partial $r = -.06$) and behavior modification (H9). There was also a non-significant relationship between controlled eating regulation and behavior modification ($\beta = .049$, $p = .687$, partial $r = .04$).

Significant variance was explained in cognitive restructuring with a significant R^2 change only following the addition of women's autonomous and controlled eating regulation in block 3 (R^2 change from .03 to .13; therefore, this model was retained (N = 107; $F(4, 102) = 3.68$, $p = .008$). However, there were no interactions between autonomous motivation and condition. Aligned with the hypotheses, autonomous eating regulation was positively associated with the use of cognitive restructuring strategies during ME (H4; β = .33, $p = .001$, partial $r = .32$) and there were non-significant associations between condition (β = -.08, $p = .423$, partial $r = -.08$) and cognitive restructuring (H9). Controlled eating regulation was also non-significantly associated with cognitive restructuring (β = -.10, $p = .426$, partial $r = -.08$).

Significant variance was explained in appearance fixing during ME; however, subsequent blocks did not explain additional variance. Therefore, model 1 was retained, (N = 107; $F(1, 105) = 27.62$, $p < .001$, $R^2 = .21$), suggesting no effect of condition, motivation, or interactions between condition and motivation above and beyond women's eating disorder attitudes (β = .46, $p < .001$, partial $r = -.46$). This partly supported hypotheses (H9); however, the finding that women's controlled eating regulation did not explain significant variance in appearance fixing was contrary to the hypotheses (H6) and therefore there was also no support for H8.

Significant variance was explained in avoidance during ME; however, subsequent blocks did not explain additional variance. Therefore, model 1 was retained, (N = 107; $F(1, 105) = 26.68$, $p < .001$, $R^2 = .20$), suggesting no effect of condition, motivation, or interactions between condition and motivation above and beyond women's eating disorder attitudes (β = .45, $p < .001$, partial $r = -.45$). This partly supported the hypotheses (H9); however, the finding that women's controlled eating regulation did not explain significant variance in avoidance was contrary to the hypotheses (H7). This also suggested no support for H8.

Independent and Interactive Effects of Motivation and Mirror Condition on Eating Intentions

Significant variance was explained in healthy eating intentions with a significant R^2 change following the addition of condition (R^2 change from .04 to .09) in block 2 and women's autonomous and controlled eating regulation in block 3 (R^2 change from .04 to .28). As the third model explained the most variance, it was retained (N = 107; $F(4, 102) = 9.68$, $p < .001$). This suggested no interaction between autonomous eating regulation and condition, which was contrary to the hypotheses (H3). Aligned with the hypotheses, autonomous eating regulation was positively associated with healthy eating intentions following ME (H1; β = .42, $p < .001$, partial r = .43) while condition (H10; β = .16, p = .064, partial r = .18) was non-significantly associated with healthy eating intentions. Additionally, controlled eating regulation (β = .08, p = .482, partial r = .07) was non-significantly associated with healthy eating intentions.

Significant variance was explained in disordered eating intentions with a significant R^2 change only following the addition of women's autonomous and controlled eating regulation in block 3 (R^2 change from .40 to .47); therefore, this model was retained (N = 107; $F(4, 102) = 22.22$, $p < .001$). This suggested no interaction between controlled eating regulation and condition, which partly supports the hypotheses (H8). Also aligned with the hypotheses, controlled eating regulation was positively associated with disordered eating intentions following ME (H5; β = .21, p = .031, partial r = .21) while condition (H10; β = .12, p = .031, partial r = .16) was non-significantly associated with disordered eating intentions. Autonomous eating regulation was also non-significantly associated with disordered eating intentions (β = .13, p = .091, partial r = .17).

Mediating Effects of Strategies in the Relationship Between Motivation and Eating Intentions

Considering that condition did not moderate the relationships between motivation and strategies and motivation and eating intentions, mediation analyses were pursued. Only one mediation model could be tested given the assumptions of this test (i.e., significant correlations between variables), namely the mediating effect of behavior modification in the relationship between autonomous eating regulation and healthy eating intentions. As illustrated in Figure 3.3, a mediation analysis revealed that the use of behavior modification strategies partly explained the positive relationship between autonomous eating regulation and healthy eating intentions following ME (indirect effect: $\beta = .05$, [95% CI = .006 to .125]), which was aligned with the hypotheses (H2).

Discussion

This study sought to examine motivational differences in women's eating intentions following ME in a social-evaluative and non-social-evaluative context and the explanatory role of compensation strategies in these relationships. Motivational differences in eating intentions following ME were observed in hypothesized directions, such that those with more autonomous eating regulation were intended to engage in higher levels of healthy eating behavior, whereas women with more controlled eating regulation intended to engage in higher levels of disordered eating behavior. These findings highlight the need to examine these motives when determining the efficacy of ME interventions for promoting adaptive eating behavior via dissonance. Furthermore, these motivation-dependent effects on eating intentions as a result of ME provides a nuanced understanding of the effect of mirrors on the modulation of eating behavior, as studies have found either favorable (i.e., less intake of unhealthy foods; Alawad et al., 2015) or unfavorable impacts (i.e., binge eating; Naumann, 2013). We also observed that the relationship between autonomous eating regulation and healthy eating intentions following ME was partly

explained by behavior modification compensation strategies, aligned with the hypotheses. This finding corroborates with a previous cross-sectional study examining how women typically respond to body-related discrepancies in everyday life (Barbeau et al., 2023). We also observed that women with autonomous eating regulation engaged in cognitive restructuring strategies; however, higher use of this strategy was not associated with their eating intentions as hypothesized.

Contrary to the hypotheses, the relationship between autonomous eating regulation and healthy eating intentions was not strengthened following social-evaluative ME compared to non-social-evaluative ME. Although incongruent with the empirical findings by Beaudry (2010), these results replicate what has been observed cross-sectionally following the recollection of a body-related discrepancy that occurred in a private or public context (Barbeau et al., 2023). Our findings may have differed from Beaudry's (2010) due to methodological differences in our manipulations. For instance, in the current study, women in both mirror conditions were exposed to full-body ME, which may emphasize more external (public) aspects of the self given that studies employing ME observe changes in women's body perceptions (Delinsky & Wilson, 2006; Moreno-Dominguez et al., 2012); however, women in the social-evaluative condition were additionally exposed to social evaluation. Therefore, the differences between our ME conditions represent the effect of social evaluation, and potentially the degree of external (public) self-awareness, rather than the effect of external (public) compared to internal (private) self-awareness as manipulated by Beaudry (2010). Considering this, our results should be interpreted as such and suggest that women with a more autonomous eating regulation and controlled eating regulation demonstrate higher levels of intent to engage in healthy and disordered eating, respectively, following the salience of a body-related discrepancy across contexts that vary in the

degree of public self-awareness. It is also important to note that our analyses were insufficiently powered to detect interactions. It is plausible that there were interactions of small magnitude that we could not detect. For instance, interactions between motivation and conditions increasing private and public self-consciousness via ME on eating were of small magnitude in Beaudry's (2010) study.

Furthermore, contrary to the hypotheses, women with higher controlled eating regulation did not engage in higher levels of avoidance or appearance fixing strategies during ME, nor were they likely to engage in any other compensation strategy examined. In those with high body dissatisfaction, guided ME has shown to reduce avoidance behaviors (Diaz-Ferrer et al., 2017), which may be attributed to instructions to attend to each body part. Thus, our results may reflect the mitigation of this compensation strategy in those who typically use it. Lavergne and Pelletier (2016) also observed that those with controlled motivation are likely to use any compensation strategy that is available to protect their ego or reduce dissonance; therefore, it is plausible that when avoidance is not possible, they use other strategies that are available to them, which were not examined in the current study. Furthermore, relationships between predictors and dependent variables were found to be statistically significant and yield a significant R^2 change when they were approaching a medium effect size. Thus, it is plausible that controlled eating regulation was, albeit to a small magnitude, associated with a given compensation strategy that we could not detect. This effect may have been further muted by the addition of eating disorder attitudes in the first block, such that a predictor with a medium to large effect would render the addition of other variables with a small magnitude of effect as unsubstantial to contributing to variance in the outcome of interest.

Following distressing body-related experiences, akin to those elicited by mirrors, women engage in negative and positive forms of self-related body talk (Lamarche et al., 2012). The valence of body talk could represent the degree to which women experience body discontentment; however, it may also function as a compensation strategy. For instance, it has been suggested that women could criticize their own bodies to defend against others' opinions out of fear of negative evaluation (i.e., "If I judge myself first, you can't judge me"; Barbeau et al., 2022; Lamarche et al., 2012) or out of a sense to belong and relate to other women by engaging in normative behavior (Shannon & Mills, 2015). Therefore, negative body talk may function as a compensation strategy following a body-related discrepancy to reduce losses to one's self-worth or social image.

Regarding positive self-related body talk, Cash and colleagues (2005) observed that some women engage in positive rationale acceptance, a cognitive strategy that reframes body distressing situations as less threatening by exhibiting self-acceptance, mitigating rumination and overidentification with the situation by minimalizing its importance, and trying to be understanding and patient with oneself. This cognitive strategy shares many characteristics with self-compassion, a positive self-attitude that is regarded as a resilience factor for women's body image and disordered eating (Turk & Waller, 2020). Positive rationale acceptance and self-compassion can manifest behaviorally through positive self-related body talk (Barbeau et al., 2022; Lamarche et al., 2012), suggesting that it may function as a compensation strategy that protects women's self-perceptions during body-related discrepancies. As we did not examine body talk as a compensation strategy in Study 1, in Study 2 we sought to examine the role of self-congruent and self-discrepant (i.e., counter-attitudinal) body talk on women's eating intentions following ME and motivational differences in these relationships.

Study 2

The second study sought to further examine and test hypotheses regarding women's dissonance arousal and eating intentions following positive or negative body talk ME in a social-evaluative and non-social-evaluative context according to women's motivation for eating regulation. Considering that women with more autonomous eating regulation are more self-compassionate (Barbeau et al., 2023; Guertin et al., 2020), it was hypothesized that women with more autonomous eating regulation would experience more dissonance arousal (H1), and, in turn, less authentic behavioral regulation (i.e., less healthy eating intentions) in the negative body talk ME condition compared to the positive/compassionate body talk ME condition (H2) due to engaging in negative counter-attitudinal behavior. These relationships were hypothesized to occur in social-evaluative and non-social evaluative negative counter-attitudinal ME; however, the interacting effects between autonomous eating regulation and negative counter-attitudinal ME on healthy eating intentions were proposed to be stronger in the social-evaluative ME conditions (H3). For instance, women with autonomous eating regulation may perceive the social-evaluative context as less controlling during periods of heightened self-compassion (i.e., self-congruent attitudes), thus resulting in less detriments to their self-regulation, and as more controlling during periods of low self-compassion (i.e., more self-discrepant attitudes), resulting in more detriments to their self-regulation.

However, women with more controlled eating regulation were hypothesized to experience less dissonance arousal (H4), and in turn, exhibit more successful behavior regulation as indicated by more healthy eating (H5) and lower disordered eating intentions (H6) following positive/compassionate ME compared to negative ME due to engaging in positive counter-attitudinal behavior. Given that self-compassion, as a trait or an induced state, attenuates arousal

in social-evaluative contexts (Arch et al., 2014; Breines et al., 2014; Ketay et al., 2022), these relationships were hypothesized to occur during social and non-social-evaluative positive counter-attitudinal ME (H7). Finally, considering that self-compassion promotes health behavior engagement and reduces disordered eating by improving emotion regulation (Sirois, 2015; Turk & Waller, 2020), it was hypothesized that, compared to negative body talk ME, positive/compassionate body talk ME would be independently associated with more healthy (H8) and less disordered eating intentions (H9), and lower dissonance arousal (H10). This relationship was hypothesized across the context of ME, such as when comparing non-social-evaluative ME conditions (i.e., positive/compassionate versus negative) and social-evaluative ME (i.e., positive/compassionate versus negative) conditions (H11). All hypotheses were proposed to hold while controlling for women's eating disorder attitudes.

Method

Participants

Two-hundred nine undergraduate women (mean age = 19.8, *SD* = 4.7; mean Body Mass Index = 23.0, *SD* = 5.8) from a Canadian university research participation pool were recruited between June 2021 and February 2022 for an online multi-phase study (see Study 1 for study description, eligibility criteria, and compensation). Women in the research participation pool were in psychology, criminology, linguistics, or administration courses. The number of participants recruited for this study was based on two criteria: 1) reaching sufficient sample size for data analyses for the current study, established by a priori power analyses (see data analytical plan), while 2) taking into consideration the responsivity of participants during the experimental protocol (i.e., patterns of drop-out rates, non-compliance etc.). Once sufficient sample size was

reached and/or until responsivity drastically dropped, recruitment stopped. Data were only analyzed once recruitment terminated.

Most participants identified as White (*n* = 116; 56%), Black/Afro-Caribbean/Afro-Canadian (*n* = 26; 12%), South Asian or Indian Canadian (*n* = 20; 10 %), Middle Eastern/Arab Canadian (*n* = 12; 6%), or East Asian (*n* = 11; 5%). Many participants also identified as heterosexual (*n* = 156; 75%). When asked whether they currently have a psychiatric disorder, most indicated that they did not (*n* = 145; 69%). Using Tatham et al.'s (2015) ED-15 eating disorder attitudes subscale and Rodrigues et al.'s (2019) suggested cut-off of 2.8, 93 (44%) women's scores were in the clinical range and 116 (56%) women's scores were in the non-clinical range.

Procedure

Participants completed the REBS and ED-15 in a previous phase of the study (Article 1). Regarding the experimental procedure, the current study followed the same protocol as Study 1 in a separate sample with additional condition-specific manipulations (i.e., body talk during ME across a social-evaluative and non-social-evaluative contexts). Measures assessed in the experimental survey in Study 1 were also assessed in the current study (i.e., IIAS, VAS of psychological stress, the BISS, modified HUEBS, modified ED-15) in addition to measures assessing women's engagement in positive, compassionate, and negative self-related body talk during ME (i.e., exposure phase). Therefore, only aspects of the protocol and measures that deviate from Study 1 due to the manipulation of body talk will be described. Women completed scales in the following order at exposure: the IIAS, a VAS of psychological stress, the BISS (see Study 1 for description), the Body Talk Scale (positive and negative body talk), and the Self-Compassion Scale (self-compassionate talk).

Positive/Compassionate and Negative Body Talk Mirror Exposure Conditions

Following randomization to one of four ME conditions (positive/compassionate social-evaluative, positive/compassionate non-social-evaluative, negative social-evaluative, negative non-social-evaluative) and the completion of questionnaires (i.e., baseline) in the experimental session, participants were informed about the mirror task and were given condition-specific instructions (i.e., anticipation phase).

In the *social-evaluative ME conditions*, following the completion of questionnaires, women were instructed to position themselves in front of a mirror and follow instructions given to them via an audio recording, which will guide them to speak about aspects of their body for five minutes. In the *positive/compassionate body talk condition*, women were told that, while in the mirror, the audio recording will instruct them to think or make verbal comments about aspects of their bodies that make them feel good or proud, which aspects they're satisfied with, or to be accepting and compassionate toward its flaws. In *the negative body talk condition*, women were told that the audio recording will instruct them to think or make verbal comments about aspects of their bodies that make them feel self-conscious, what it is they're dissatisfied with, and list any criticisms that come to mind. Like in Study 1, women were told that they would complete the task with their cameras and microphones on while two female (mock) judges observe their behaviors.

In the *non-social-evaluative ME conditions*, women were given the same instructions and the manipulations of body talk were the same; however, they were told to mute themselves, turn off their cameras during the mirror task, and there was no mention of judges. Following the completion of questionnaires, women followed their condition-specific instructions during the ME (exposure). In the *positive/compassionate body talk ME conditions*, the audio recording

instructed women to “look in the mirror and try to focus on the appearance of your [body part]. Try to positively/compassionately think about or describe aspects of your [body part] either out loud or through internal talk. If you need to, you can move around to get different angles”. In the *negative body talk ME conditions*, the audio recording instructed women to “look in the mirror and try to focus on the appearance of your [body part]. Try to negatively think about or negatively describe aspects of your [body part] either out loud or through internal talk. If you need to, you can move around to get different angles”. Like in Study 1, women focused on their face, chest, stomach, arms, thighs, and buttocks. The protocol for Study 2 is illustrated in Figure 3.1 panel B.

Manipulation Adherence and Efficacy

Adherence to the experimental protocol and withdrawal from the study was recorded by the research assistant and/or mock judges (see further description in Study 1). Similar to Study 1, psychological stress was assessed at each phase of the experiment to determine the efficacy of the manipulation of context, which would be illustrated by higher levels of psychological stress in the social-evaluative mirror conditions compared to the non-social-evaluative mirror conditions within a given body talk manipulation (i.e., negative body talk in a social-evaluative versus in a non-social-evaluative setting). The efficacy of the manipulation of dissonance was assessed by examining state changes in dissonance from baseline to anticipation and exposure across conditions, which may be elicited by a stimulus (i.e., mirror) or instruction to engage in incongruent body talk. Measures assessing participants’ positive, compassionate, and negative body talk during ME were used to determine the efficacy of the body talk manipulations across each context.

Measures

Like in Study 1, participants completed the sociodemographic questionnaire, ED-15 (Tatham et al., 2015), and the REBS (Pelletier et al., 2004) in the baseline survey (phase 1). The average inter-item correlations of scores on the ED-15 was .55 and on the REBS was .65 and .44 for autonomous and controlled eating regulation subscales, respectively. In the experimental session (phase 2), like in Study 1, women completed the IIAS, a VAS of psychological stress, the BISS, the adapted ED-15 behavioral subscale, and the adapted HUEBS (see Study 1 for description and scale anchors). The average inter-item correlation of scores on dissonance across the three time points were between .58 and .63. The average inter-item correlation of scores on the BISS, adapted ED-15, and adapted HUEBS were .47, .28, and .58, respectively. Women completed two other scales at exposure to assess their body talk during ME, which are described in the order they appeared in the experimental survey.

Positive and Negative Body Talk

The 14-item Body Talk Scale (BTS; Lin et al., 2021) was used to assess women's engagement in positive and negative body talk during ME. The BTS comprises three subscales: negative fat talk (5 items; e.g., I need to lose some weight), negative muscle talk (4 items; e.g., I wish I was more muscular), and positive body talk (5 items; e.g., I like the way I look). On a scale from 1 (*never*) to 6 (*always*) women rated the extent to which they engaged in the following body talk while they were in the mirror. A composite score for negative body talk were created by averaging items on the negative fat talk and muscle talk subscale, whereas a total score was created for positive body talk by averaging items on the positive body talk subscale. Structural validation of the BTS was demonstrated via exploratory and confirmatory factor analysis in a college sample of men and women (Lin et al., 2014). In the current study, the

average inter-item correlation of scores on the BTS subscales for positive and negative body talk were .55 and .47, respectively.

Self-Compassionate Talk

The 26-item Self-Compassion Scale (SCS; Neff, 2003) was used to assess women's engagement in self-compassion during ME. On a scale from 1 (*almost never*) to 7 (*almost always*), women indicated the extent to which they were compassionate toward themselves while in the mirror (e.g., I was kind to myself and tried to build myself up). This revised scaling of the SCS has been employed in another study (Guertin et al., 2018). A total score of self-compassionate talk was created by averaging all six subscale scores after reverse scoring negatively worded subscales (i.e., self-judgment, isolation, over-identification). Structural validity of the SCS was demonstrated via exploratory and confirmatory factor analyses in a sample of men and women (Neff, 2003). The SCS was used to measure short-term changes in self-compassion in previous studies employing a brief body-focused self-compassion intervention (Seekis et al., 2017, 2020). In the current study, the average inter-item correlation of scores on the SCS was .69.

Data Analytical Plan

For the preliminary analyses, two 2 (ME condition) by 3 (body talk) MANOVAs were conducted to determine the efficacy of the body talk instructions on promoting positive or negative forms of body talk during ME. A repeated 4 (ME condition) by 4 (psychological stress) ANOVA was conducted to determine the efficacy of the manipulation of social-evaluation during ME. Two 2 (ME condition) by 3 (dissonance arousal) repeated measures ANOVAs were conducted to determine the efficacy of eliciting dissonance during ME as a result of engaging in incongruent body talk. A priori power analysis using G*Power (Faul et al., 2007) suggested a

sample size of 180 participants for a 2 (condition) by 3 (body talk) MANOVA, a sample size of 200 for a 4 (condition) by 4 (psychological stress) repeated measures ANOVA, and a sample size of 104 for a 2 (ME condition) by 3 (dissonance arousal) repeated measures ANOVA at an alpha of .05 for a medium effect at 80% power. A medium effect size was estimated considering that other social-evaluative stress paradigms involving judges have a medium to large effect on negative affect and psychological stress (Seddon et al., 2020). Additionally, dissonance-based interventions have close to a medium effect on outcomes such as dieting, negative affect, and eating disorder symptoms (Stice et al., 2019).

For the main analyses, a series of hierarchical regressions were conducted to examine the effect of condition, motivation for eating regulation, and interaction between condition and motivation for eating regulation on dissonance arousal and healthy and disordered eating intentions. Therefore, six hierarchical regression tests were carried out: three per ME context (social-evaluative and non-social evaluative) on the three outcomes of interest. Women's eating disorder attitudes were controlled for given the association between weight/shape and eating concerns and eating disorder behavior.

In the first block, women's eating disorder attitudes were entered. In the second block, condition was entered to examine the main effect of condition. In the third block, women's autonomous motivation for eating regulation and controlled motivation for eating regulation were entered to examine the additional contribution of motivation. In the fourth block, hypothesized interactions between women's motivation for eating regulation and condition were entered to determine if there were condition-dependent relationships (i.e., congruent versus incongruent forms of body talk) between women's motivation for eating regulation and dissonance arousal during ME and eating intentions following ME. When running multiple

regression analyses, corrections to control for Type 1 error was not applied as the power to detect interactions when using multiple regression are already extremely low, especially when trying to detect an interaction between a continuous and categorical variable (Aguinis, 2004). Therefore, correcting for multiple tests increases the risk of false negative effects due to lowering the power to detect a significant interaction, thereby increasing Type II error.

An a priori power analysis using G*Power (Faul et al., 2007) suggested a sample size of 98 participants for a multiple regression with 6 predictors at an alpha of .05 and 80% power. An a priori power analysis using InteractionPoweR Shiny App determined a sample size of 146 was required to detect an interaction at an alpha of .05 and 80% power (Baranger et al., 2022). Correlations between constructs used to estimate power was based on findings by Barbeau et al. (2023).

Results

Preliminary Analyses

Regarding dropouts and non-compliance to task instructions, four participants dropped out (i.e., left during the protocol; $n = 4$; 3 from the positive social-evaluative condition) and five were non-compliant ($n = 5$; 2 from the positive social-evaluative, 2 from the negative social-evaluative, and 1 from the negative non-social-evaluative mirror conditions). These participants were excluded from analyses. Among those included in the analyses (N = 199), missing data were imputed using the expectation-maximization method (Little's MCAR (df = 3756) = 3755.61, $p = .498$). A MANOVA revealed that women allocated to the four mirror conditions ($n = 52$ positive body talk non-social-evaluative, $n = 52$ negative body talk non-social-evaluative, $n = 47$ positive body talk social-evaluative, $n = 48$ negative body talk social-evaluative) did not differ in age, BMI, state body image satisfaction, eating disorder attitudes, or degree of

autonomous or controlled eating regulation, $F(18, 567) = 0.90$, $p = 0.584$, $\eta^2 = .03$; therefore, random allocation to conditions was considered successful.

For the preliminary analyses, the MANOVA assumptions for linearity, homogeneity of variance-covariance matrices, and multicollinearity were met; however, there were some violations to normality and one multivariate outlier. MANOVA is robust to non-normality; therefore, this analysis was still pursued, and Pillai's trace was used to interpret the main effects due to this violation. The MANOVAs were underpowered; however, they were still conducted to determine the efficacy of the body talk instructions during ME. For the repeated measures ANOVA, assumptions for linearity and normality were met; however, assumptions of sphericity were violated. A Greenhouse-Geisser correction was therefore applied. The ANOVAs were slightly underpowered (i.e., by 2 participants and 9 participants); however, they were still pursued to determine the efficacy of counter-attitudinal ME to induce dissonance and to determine the efficacy of the manipulation of context as indicated by differences in stress levels.

For the main analyses, assumptions related to linearity, multicollinearity, and outliers were met for the hierarchical multiple regressions. The ability to detect interactions was underpowered (66% and 62%); however, the analyses were still pursued. Means, standard deviations, and correlations between variables are displayed in Tables 2 and 3, stratified by condition.

Manipulation Efficacy

Two MANOVAs were conducted to determine between-group differences in the engagement in positive, compassionate, and negative body talk during ME. When comparing the non-social-evaluative mirror conditions, women differed in their levels of body talk, $F(3, 100) = 4.06$, $p = .009$, $\eta^2 = .11$. Post-hoc analyses revealed that women in the positive body talk

condition engaged in more positive, $F(1,102) = 11.29$, $p = .001$, $\eta^2 = .10$, and compassionate body talk, $F(1,102) = 6.97$, $p = .010$, $\eta^2 = .06$, compared to the negative body talk condition. When comparing the social-evaluative mirror conditions, women differed in their levels of body talk, $F(2, 90) = 3.53$, $p = .018$, $\eta^2 = .11$. Post-hoc analyses revealed that women in the positive body talk condition engaged in more compassionate body talk, $F(1, 92) = 9.45$, $p = .003$, $\eta^2 = .09$, and less negative body talk, $F(1, 92) = 6.85$, $p = .010$, $\eta^2 = .07$, compared to women in the negative body talk condition.

A 4 (mirror body talk condition) by 4 (time) repeated measures ANOVA was conducted to determine between-group differences in psychological stress over time. There was a main effect of time, $F(2.2, 432.87) = 24.11$, $p < .001$, $\eta^2 = .11$, a main effect of condition, $F(3, 195) = 6.65$, $p < .001$, $\eta^2 = .09$, and a significant time by condition interaction, $F(6.66, 432.87) = 4.98$, $p < .001$, $\eta^2 = .07$. As illustrated in Figure 3.4 panel A, simple main effects revealed that groups differed at anticipation ($p = .005$, $\eta^2 = .06$), exposure ($p < .001$, $\eta^2 = .11$), and recovery ($p < .001$, $\eta^2 = .13$). At anticipation, women experienced more stress in the negative body talk social-evaluative condition compared to the non-social-evaluative positive and negative body talk conditions. At exposure, women experienced more stress in the social-evaluative conditions, such that differences emerged between the positive social-evaluative and positive non-social-evaluative body talk conditions, and the negative social-evaluative and positive and negative non-social-evaluative conditions. Finally, at recovery, women in the negative body talk social-evaluative condition exhibited elevated stress levels compared to all three mirror conditions.

Regarding levels of cognitive dissonance, two 2 (mirror talk condition) by 3 (time) ANOVAs were conducted. When comparing the non-social-evaluative conditions, there was a main effect of time, $F(1.55, 158.42) = 17.04$, $p < .001$, $\eta^2 = .14$, a non-significant effect of

condition, $F(1, 102) = 3.67$, $p = .058$, $\eta^2 = .04$, and a significant interaction, $F(1.55, 158.41) = 16.63$, $p < .001$, $\eta^2 = .14$. As illustrated in Figure 3.4 panel B, simple effects revealed that women in the non-social-evaluative negative body talk condition experienced more dissonance at exposure compared to women in the non-social-evaluative positive body talk condition ($p < .001$, $\eta^2 = .13$). Additionally, women in both mirror conditions increased in dissonance over time (positive body talk condition, $p = .010$, $\eta^2 = .09$; negative body talk condition, $p < .001$, $\eta^2 = .29$): women in either condition increased in dissonance from baseline to exposure; however, women in the negative body talk condition also increased in dissonance from anticipation to exposure. When comparing the social-evaluative mirror conditions, there was a significant main effect of time, $F(1.57, 144.09) = 21.63$, $p < .001$, $\eta^2 = .19$, a non-significant effect of condition, $F(1, 92) = 0.85$, $p = .359$, $\eta^2 = .01$, and a non-significant interaction, $F(1.56, 144.09) = 2.58$, $p = .092$, $\eta^2 = .03$. As illustrated in Figure 3.4 panel C, post-hoc comparisons revealed that all women increased in dissonance gradually across time (time 1 compared to time 2 and 3; $p < .001$; time 2 to time 3; $p = .002$). Based on these results, the manipulations were considered successful since 1) the affectivity of body talk differed across conditions in the anticipated direction, suggesting that the manipulation of body talk was successful, 2) ME in each condition elicited dissonance, and 3) women experienced more stress in the social-evaluative compared to the non-social-evaluative mirror condition under the same body talk manipulation, suggesting that the manipulation of the social context was successful.

Main Analyses

Independent and Interacting Effects of Motivation and Mirror Condition on Dissonance Arousal

Significant variance was explained in dissonance arousal in the non-social-evaluative ME conditions with a significant R^2 change only following the addition of ME body talk condition (R^2 = .16 to .32); therefore, this model was retained (N = 104; $F(2, 101) = 23.67$, $p < .001$). Contrary to the hypotheses, there were no interactions between motivation and condition (H1, H3, H4, H7). Women instructed to engage in negative body during ME experienced higher dissonance arousal (β = .37, $p < .001$, partial $r = .41$), which lends support to the hypotheses (H10).

Significant variance was explained in dissonance arousal in the social-evaluative ME conditions; however, no additional variance was explained by the ME body talk condition or interactions between motivation and condition, which was contrary to the hypotheses (H1, H3, H4, H7, and H11). Therefore, the first model was retained, (N = 95; $F(1, 92) = 49.48$, $p < .001$, R^2 = .35). Women with higher eating disorder attitudes experienced higher dissonance arousal during social-evaluative ME (β = .59, $p < .001$, partial $r = .59$).

Independent and Interacting Effects of Motivation and Mirror Condition on Eating Intentions

Significant variance was explained in healthy eating intentions in the non-social-evaluative ME conditions with a significant R^2 change only following the addition of interactions between autonomous and controlled motivation for eating regulation and condition (R^2 .09 to .18); therefore, this model was retained (N = 104; $F(6, 97) = 3.45$, $p = .004$). In addition to women's eating disorder attitudes being associated with more healthy eating intentions following ME (β = .31, $p = .002$, partial $r = .31$), the interaction between controlled eating regulation and condition was also significant (β = -.32, $p = .014$, partial $r = -.25$). As illustrated in Figure 3.5, plotting the interaction revealed that the relationship between controlled eating regulation and healthy eating intentions was strengthened and more positive when women with higher

controlled eating regulation were engaging in positive body talk and was strengthened and more negative when they were engaging in negative body talk during ME in a non-social-evaluative setting (R^2 linear correlation = .26 in both directions). These findings were aligned with the hypotheses (H5). However, there was no support for H2 or H8 as there were no interactions between condition and autonomous eating regulation or a main effect of condition.

Significant variance was explained in healthy eating intentions in the social-evaluative ME conditions; however, there was a non-significant R^2 change following the addition of condition, motivation for eating regulation, and interactions between motivation and condition, which was contrary to the hypotheses (H2, H3, H5, H8, H7, and H11). As such, the first model was retained ($F(1, 92) = 17.05$, $p < .001$, $R^2 = .16$). Women with higher eating disorder attitudes had higher intent to engage in heathy eating following ME ($\beta = .40$, $p = .002$, partial $r = .40$).

Significant variance was explained in disordered eating intentions in the non-social-evaluative ME conditions; however, there was a non-significant R^2 change following the addition of condition, motivation for eating regulation, and interactions between controlled eating regulation and condition, which was contrary to the hypotheses (H6, H9). As such, the first model was retained (N = 104; $F(1, 102) = 56.63$, $p < .001$, $R^2 = .36$). Women with higher eating disorder attitudes had higher intent to engage in disordered eating following ME ($\beta = .60$, $p < .001$, partial $r = .60$).

Significant variance was explained in disordered eating intentions in the social-evaluative ME conditions; however, there was a non-significant R^2 change following the addition of condition, motivation for eating regulation, and interactions between controlled eating regulation and condition, which was contrary to the hypotheses (H6, H7, H9, and H11). As such, the first model was retained (N = 95; $F(1, 92) = 62.49$, $p < .001$, $R^2 = .40$). Women with higher eating

disorder attitudes had higher intent to engage in disordered eating following ME (β = .64, $p <$ .001, partial r = .64).

Discussion

The objective of the current study was to examine the effects of positive/compassionate and negative body talk ME in a social-evaluative and non-social-evaluative context on women's levels of dissonance and eating intentions. Furthermore, as more positive or negative self-related body talk may be self-discrepant with women's typical tendencies according to their motivation orientation, we examined whether the effects of the body talk manipulations were dependent on women's motivation for eating regulation. Overall, we observed that counter-attitudinal positive/compassionate body talk during ME can benefit women who typically engage in more negative body talk (i.e., women with more controlled motivation); however, it has no additional benefits for those who typically engage in it (i.e., women with more autonomous eating regulation). Furthermore, there were no main effects of body talk condition on eating intentions, suggesting that the benefits of restructuring bodily cognitions to become more positive during ME is dependent on women's motivation for eating regulation.

As hypothesized, we observed that women with higher controlled eating regulation demonstrated the most self-regulatory benefits from taking a counter-attitudinal stance toward their body during ME as indicated by higher intent to engage in healthy eating. It is, however, important to note that these effects were small in magnitude, aligned with meta-analytical findings by Stice (2019) on the impacts of dissonance interventions on eating outcomes. Additionally, these positive behavioral implications arising from induced positive, compassionate body talk was limited to a non-social-evaluative context and was not explained through lower dissonance arousal. Studies manipulating positive, nonjudgmental forms of body

talk during ME did not compare its efficacy across different social contexts; therefore, it is plausible that brief inductions are insufficient to harness adaptive affective and behavioral responses, particularly in non-social-evaluative contexts. For instance, compared to a multisession intervention (Arch et al., 2014), single session self-compassionate training did not reduce physiological or subjective measures of arousal during a social-evaluative stressor (Ketay et al., 2022).

Furthermore, a series of studies by Brassard (2020) demonstrate that individuals high in social anxiety exhibit lower self-compassion when responding to stressful situations involving social judgment compared to those involving the self (i.e., physical illness). This may explain why individuals with controlled eating regulation, who are preoccupied by how others view them (Verstuyf et al., 2012), may have more difficulty benefiting from an induction characterized by self-compassion in a social-evaluative versus non-social-evaluative context. It is also important to note that analyses carried out in the social-evaluative body talk ME condition were more underpowered than analyses carried out in the non-social-evaluative body talk ME condition. This may have affected the ability to detect an interaction, especially when it is of small magnitude. The literature on the efficacy of self-compassion to attenuate the negative effects of social-evaluative stress induced by a laboratory paradigm is relatively limited to stress responses. Thus, it is plausible that favorable effects on stress-induced behavior is smaller, such as eating.

Additionally, incongruent with the hypotheses, women with more autonomous eating regulation demonstrated no independent or manipulation-dependent relationships with dissonance arousal or eating intentions. When comparing these findings with those of Study 1, it suggests that the manipulation of body talk, congruent or incongruent, had an effect on their authentic functioning. However, it is difficult to determine how each manipulation may have led

to diminished intent to engage in healthy eating intentions following ME. Correlations between autonomous eating regulation, dissonance arousal and healthy eating intentions across conditions in tables 2 and 3 may shed some light on this. More specifically, in a condition that supports the highest level of self-concordance, such as engaging in positive/compassionate body talk in a context that emphasizes the lowest degree of external facets of the self (i.e., non-social-evaluative), autonomous eating regulation is associated with more intent to engage in healthy eating and lower dissonance arousal. However, manipulations of incongruence either in terms of body talk or self-awareness results in a distinct pattern of correlations between these constructs.

It is also important to note that the correlations between motivation for eating regulation and eating intentions are weaker, while correlations between eating disorder attitudes and eating intentions are stronger in Study 2 compared to Study 1. By adding eating disorder attitudes into the first block in the analyses, it may have reduced the likelihood of a significant R^2 change for variables, such as motivation for eating regulation, for predicting variance in eating intentions, especially if their effect is smaller in magnitude. Finally, in partial support of the hypotheses, women in the positive/compassionate ME condition exhibited lower dissonance arousal at exposure compared to women in the negative body talk ME condition; however, this effect was only apparent in non-social-evaluative contexts.

Integrated Discussion

The purpose of the present research was to explain individual differences in healthy and disordered eating intentions following various dissonance-based ME techniques in a non-clinical sample of women. Propositions from the HABICE model (Lavergne & Pelletier, 2015, 2016) were tested by examining the predictive role of women's motivation for eating regulation on eating intentions following ME in different social contexts mediated by dissonance-

compensation strategies (Study 1) and the predictive role of women's motivation for eating regulation on dissonance arousal and eating intentions in response to self-discrepant body talk during ME in different social contexts (Study 2). The results suggest that ME in a social-evaluative and non-social-evaluative context can elicit body-related discrepancies in women as indicated by elevated dissonance arousal following exposure. Although social-evaluative ME was perceived as more stressful, ME in either context elicited comparable levels of dissonance. This suggests that different types of body-related discrepancies may have been elicited (i.e., appearance versus social evaluation) that are equally threatening to women's self-structures or that both types of ME are not significantly different and have similar effects. For instance, being guided to examine (Study 1) and speak about aspects of the body (Study 2) during ME may elicit cognitive discrepancies in women who do not typically attend to these aspects of the self (i.e., those with more autonomous motivation) and in women who are preoccupied and dissatisfied with their appearance (i.e., those with more controlled motivation).

The results also highlight that the effects of ME on eating intentions is dependent on women's motivation for eating regulation, which are partly explained by differences in the use of compensation strategies that support behavior change. Furthermore, inducing cognitive dissonance via engagement in counter-attitudinal body talk during ME that harnesses acceptance, appreciation, and compassion may be a useful technique to promote more adaptive eating behavior in women who regulate their eating for more controlled reasons (i.e., to obtain the thin-ideal, out of shame/guilt).

Regarding Study 1, we observed that women with autonomous eating regulation were more likely to use compensation strategies that restore self-integrity, such as behavior modification, following the salience of a body-related discrepancy via ME. This, in turn, partly

explained their tendency to engage in healthy eating intentions following ME. We also observed that women with controlled eating regulation exhibited eating intentions that are conducive to more attitude-behavior incongruencies following ME, such as engaging in forms of disordered eating (i.e., restricting and binge eating). These motivational differences in compensation and behavioral outcomes as result of self-discrepancies corroborate with tenets of the HABICE model and previous studies in the environmental, body image and eating domain (Barbeau et al., 2023; Lavergne & Pelletier, 2015, 2016).

Also, these motivation-dependent relationships with eating intentions following ME support the notion that dissonance processes, though typically viewed as adaptive, are not beneficial for everyone or in every circumstance, particularly when dissonance reduction strategies maintain prolonged commitment to harmful actions (Harmon-Jones et al., 2009). For instance, Barbeau and colleagues (2023) observed that avoidance strategies partly explained the positive association between controlled eating regulation and disordered eating in women following the salience of a body-related discrepancy, elucidating how dissonance reduction strategies can maintain (versus change) maladaptive eating behaviors.

Although our results in Study 1 did not replicate these findings, perhaps due to the guided nature of the task, thereby reducing women's ability to avoid/escape the examination of their bodies during ME, the observation that controlled eating regulation remained positively associated with disordered eating intentions may represent a generalized process stemming from low perceived behavioral control. A review on eating regulation by Verstuyf and colleagues (2012) illustrate that cycles of restriction and binge eating represent compensatory mechanisms to cope with negative psychological experiences during controlled eating regulation. These experiences result from taking a rigid (versus flexible) approach toward eating and regulating

behavior out of pressure (versus personal choice), which can lower perceived behavioral control over eating and self-efficacy to regulate, and consequently, dysregulated eating. Thus, stimuli that activate women's controlled regulatory style, such as a mirror, may trigger these thoughts and feelings and result in restriction or dysregulation shortly after. This was also observed by Beaudry (2010) after subjecting women to partial ME. Furthermore, we also observed that relationships between motivation and eating intentions were not dependent upon the social evaluative nature of the context of ME. These findings are aligned with the notion that individuals with more autonomous motivation exhibit noncontingent forms of compensation (Lavergne & Pelletier, 2015), thereby using behavior modification to restore self-integrity whenever it is threatened.

Regarding Study 2, we observed that inducing cognitive discrepancies via counter-attitudinal body talk during ME may be useful in promoting healthy eating behavior in some women. To our knowledge, our study is the first to demonstrate the efficacy of this technique for promoting more adaptive eating behavior intentions. However, our observation that only women with more controlled eating regulation benefitted from counter-attitudinal body talk during ME (i.e., more positive/compassionate), as indicated by more intent to engage in healthy eating, may suggest a targeted (versus universal) approach.

It is somewhat unsurprising that these favorable effects among women with more controlled eating regulation were not mediated by lower dissonance arousal given that dissonance represents feelings associated with cognitive conflict (i.e., feeling hypocritical, uncomfortable), which would occur if the induction was successful. This finding, however, does not rule out emotion regulation as an explanatory mechanism as we only assessed changes in a specific type of negative affect and did not assess changes in positive affect. For instance, during

positive ME (i.e., attending to positive body parts), Jansen and colleagues (2015) observed that women increased in positive affect only, highlighting that this manipulation may enhance affective balance primarily by increasing positive emotions rather than mitigating negative emotions. Future research is required to test this notion and examine whether increased emotion regulation explains enhanced self-regulation among women with controlled eating regulation when instructed to engage in counter-attitudinal body talk during ME.

Furthermore, the observation that these favorable effects were not apparent in a social-evaluative context may suggest that these interventions should occur in low social-evaluative settings to be efficacious, as the ability to be more compassionate toward inadequacies, such as disliked aspects of the body, may be more difficult in situations that involve social judgment for individuals who are preoccupied by how others view them (Brassard et al., 2020). A meta-analysis by Stice (2019) also found mixed findings, such that dissonance activities using induced compliance were more effective at reducing eating disorder symptomology when occurring in a large group setting (versus smaller group setting); however, differences only emerged in body dissatisfaction when comparing group versus online delivery. This may suggest that public advocation, in some contexts, such as around familiar others who also support the counter-attitude, increase the likelihood of attitude change toward the self, and in turn, reduces disordered eating.

The observation that autonomous eating regulation did not interact with body talk ME conditions on dissonance arousal or eating intentions does not necessarily suggest that body talk, either congruent or incongruent, had no effect on their authentic regulation. For instance, as demonstrated in tables 2 and 3, autonomous eating regulation is more consistently positively associated with healthy eating intentions in conditions that instruct more self-congruent forms of

body talk (i.e., positive/compassionate ME conditions) compared to conditions that instruct more incongruent forms of body talk (i.e., negative ME conditions). However, the strength of these associations is weaker than what was observed in Study 1 (Table 2.1 collapsed across conditions), potentially affecting the likelihood of this effect to come out as statistically significant. These differences may reflect differences in methodology from Study 1 to Study 2, most notably the enforced instruction to engage in a specific form of body talk during ME. Perceived choice to engage in counter-attitudinal behavior is associated with the degree of attitude change, including during induced compliance paradigms (Harmon-Jones et al., 2009, 2015; Stice et al., 2019); therefore, having no perceived choice in how to talk about one's body during ME could have had worse effects on more autonomous women's experienced autonomy even when engaging in self-congruent body talk. As a result, their ability to behave authentically (i.e., intend to engage in healthy eating) may have been impeded in Study 2 compared to Study 1. Future research should examine the effects perceived choice in dissonance-based ME methodology on experienced autonomy, competence, and relatedness in addition to its effects on priming motivational styles (i.e., more autonomous or more controlled). Although it was anticipated that counter-attitudinal (versus congruent) body talk during ME would negatively impact their authentic functioning, these effects may have been nullified by the effect of perceived choice to engage in such body talk. When individuals perceive that their behavior is self-endorsed, they take more personal responsibility for the behavioral incongruency, and in turn, are more likely to change their attitudes to align with behaviors (Harmon-Jones et al., 2009; Miklosovic, 2010).

Also, compared to Study 1, participants in Study 2 had less choice during the paradigm, since we exerted control over the type of body talk during ME; however, this may only have

deleterious effects on individuals who regulate their behavior for more autonomous reasons as it is more incongruent with their regulatory style. Lower perceived choice may have resulted in similar behavioral outcomes across body talk conditions for more autonomous women, considering that attitude change resulting from counter-attitudinal (negative) body talk would be less likely to occur and that congruent attitudinal (positive/compassionate) body talk would be experienced as less authentic. Together, these different processes result in the same outcome and potentially explain the lack of interaction between autonomous eating regulation and body talk condition on eating intentions following ME. However, more research is required to test these notions.

Theoretical and Practical Implications

Our findings have theoretical implications for CDT, the HABICE, and SDT in addition to practical implications for eating behavior change interventions based on key tenets of CDT (i.e., dissonance-based ME) or adjacent methods, such as consciousness raising. As we observed that eating intentions and selection of compensation strategies following ME were dependent on women's motivation orientation, it suggests that individual differences modulate dissonance processes. As such, the propositions of the HABICE model enhance the prediction of behavioral outcomes elicited by dissonance paradigms, including dissonance-based ME. Additionally, the underlying working mechanisms of dissonance-based ME in relation to promoting positive behavioral outcomes is relatively unknown (Griffen et al., 2018). However, our findings suggest two plausible mechanisms.

The first mechanism is by activating an individual's motivation orientation through self-focused attention, which in turn, may facilitate self-monitoring and the detection of body-related discrepancies. Although becoming aware of body-related discrepancies can be helpful to guide

self-corrective behavior, our findings suggest this may only be the case if women possess more autonomous eating regulation. This corroborates with SDT's notion of functional significance of external events, whereby individuals subjected to the same environment could have different outcomes as external feedback may be perceived as informative (i.e., behaviorally relevant) or controlling (Ryan et al., 2023). In the case of women with more autonomous eating regulation, feedback from the mirror may be perceived as informational, thereby functioning as a guide to change behavior to enhance alignment with personal values. However, for women with more controlled eating regulation, feedback from the mirror may be experienced as more controlling, thereby enhancing behavioral regulation in accordance to internalized pressures or external standards, such as restricting food intake to obtain a thin body. Considering that this may be one underlying mechanism that explains the impact of ME on eating behavior, it suggests that interventions manipulating the salience of body-related discrepancies to promote healthy eating behavior should facilitate an autonomous eating regulation beforehand. This is particularly pertinent to interventions based on theories of behavior change, such as the Transtheoretical Model (TTM; Prochaska & DiClemente, 1983), as consciousness raising and self-evaluation are used to help individuals progress across the stages. Indeed, it has been found that individuals in the earlier stages of eating behavior change possess less autonomous motivation for eating regulation (Guertin et al., 2019). Therefore, efforts to help individuals with more controlled eating regulation to progress across the stages of eating behavior change by using mechanisms proposed by the TTM would inadvertently lead to self-regulatory failure as it would increase the salience of body-related discrepancies.

The second underlying mechanism of ME could be its ability to enhance the efficacy of restructuring dysfunctional body cognitions. Aligned with the notion, following a self-criticism

induction, Petrocchi and colleagues (2016) observed that compassionate self-talk in the mirror was more effective than compassionate self-talk only and mirror only conditions for soothing affect and adaptive emotion regulation (i.e., indexed via heart rate variability). We observed that positive/compassionate ME is only efficacious in facilitating healthy eating intentions in non-social-evaluative contexts, particularly for women regulate their eating for more external reasons (i.e., pressure from others/society, self-endorsed guilt). These findings expand the applicability of positive/compassionate body talk ME, such that it is conducive for promoting positive changes in eating disorder pathology (Luethcke et al., 2011; Stice et al., 2019) and adaptive eating behavior. The positive effects of facilitating a specific type of cognitive restructuring when processing body-related discrepancies further contributes to our understanding of outcomes associated with dissonance compensation. In the CDT literature, cognitive restructuring is often regarded as a strategy that is conducive to future self-discrepancies as it weakens current attitudes (Lavergne et al., 2015, 2016); however, it does not consider its potential role in weakening harmful negative self-attitudes that are spontaneously elicited by body-related discrepancies. As observed by Barbeau and colleagues (2023), the integration of self-compassion in the HABICE model elucidated two pathways related to the use of cognitive restructuring. One of which was through self-compassion, which represents the positive reframing of body distressing events as more controllable and less threatening, which in turn, harnesses self-regulatory resources for behavior modification.

These two proposed mechanisms explain both how ME enhances action tendencies and therefore could reinforce adaptive eating behavior, and how it could be used to enhance the efficacy of cognitive restructuring of negative body appraisals. These two mechanisms could possibly feed into one another, such that a method to enhance autonomous eating regulation

could be to increase self-compassion via compassionate body talk during ME. For instance, others have found that self-compassion is conducive to a more autonomous eating regulation as it has a more inward focus, thereby allowing an individual to be more attuned to their intrinsic aspirations (i.e., health weight management goals) and authentic self (Guertin et al., 2018). Self-compassion also facilitates basic psychological needs (Gunnell et al., 2017), which is pivotal for experiencing more autonomous motivation. Once a more autonomous eating regulation is established via cognitive restructuring in ME, future forms of self-awareness raising could be used as a tool to solidify the new behavior into a person's lifestyle. This would also likely enhance a person's autonomous eating regulation as one form is characterized by higher levels of integration of the behavior into one's life.

Strengths, Limitations, and Future Directions

Our study fills a knowledge gap by assessing the applicability of an induced compliance technique (i.e., counter-attitudinal body talk during ME) to facilitate change in non-clinical health behaviors (Freij & Kothe, 2013). Currently, dissonance paradigms targeting eating behavior, using any type of technique, solely focus on disordered eating (Freij & Kothe, 2013). Our findings also contribute to the understanding of cognitive dissonance as a working mechanism underlying ME and the effects of individual differences in these processes, such as women's motivation for eating regulation. Most importantly, our results provide rationale and some evidence supporting a targeted approach for dissonance-based ME interventions to increase its efficacy in promoting adaptive eating behavior and reducing unintentional increases in disordered eating behavior among women. Other strengths include randomization to mirror conditions, controlling for important confounders, such as eating disorder attitudes, state body image, and attentional biases during ME, and assessing manipulation efficacy across conditions.

Despite these strengths, our study also had several limitations. First, data collection for both studies occurred during time periods where active restrictions were put in place to reduce the transmission of COVID-19 in Canada (i.e., lockdowns, quarantining, vaccine passports). This prohibited in-person research, and as such, we used a videoconferencing application (i.e., Zoom) to conduct the ME paradigms and relied on self-report measures of dissonance. Conducting the ME paradigm virtually compared to a controlled laboratory setting may have increased the external validity of the experiment as the participants completed ME in their own home, but it is also possible that it may have increased the likelihood of confounders. Potential extraneous factors during the paradigm were noted by the first author and research assistants; when these factors impaired adherence to the instructions (i.e., attending to phone notifications, talking to others in their household), participants' data were not retained and were accounted for in the non-compliance counts as a safeguard. Additionally, women reported that the paradigm felt authentic as it occurred in a naturalistic setting in the mirror that they use everyday; therefore, the manipulation may have lower internal validity but higher external validity as a result of conducting it on Zoom. Furthermore, recruiting during the COVID-19 pandemic may have contributed to attrition rates from baseline to the experiment and lower responsivity in participation in the current study overall due to heightened stress and anxiety. For instance, college students' mental health was negatively affected by the pandemic, which in turn, negatively affected their academic, health, and lifestyle-related outcomes (Son et al., 2020). Additionally, students' level of emotional engagement in academic activities also decreased during the pandemic due to the shift from in-person to online learning (Salta et al., 2022). Together, these factors may have influenced the interest and retention rates, thereby leading to a smaller sample size and underpowered analyses.

Furthermore, social-evaluative stress tasks conducted virtually are shown to elicit consistent physiological and psychological responses to those occurring in a laboratory setting (Gunnar et al., 2021). Regarding the use of self-reports, it is plausible that women's dissonance scores reflect residual affect following the implementation of compensation strategies given that the assessment occurred following the mirror task. Objective measurements of dissonance throughout the task would have given a more accurate estimate. Previous studies have found that anterior cingulate cortex activity is higher when processing incongruent information (Hajcak et al., 2003, 2004). A valid proxy of this activation is sympathetic nervous system arousal, such as skin conductance; therefore, future studies should seek to replicate our inductions with a more objective assessment of dissonance.

Second, perceived choice to engage in counter-attitudinal behavior is associated with the degree of attitude change, especially for induced compliance paradigms (Harmon-Jones et al., 2009, 2015; Stice et al., 2019). This confounder is inherently embedded in our manipulation to induce counter-attitudinal body talk in Study 2, and therefore, needs to be considered when interpreting the results. For instance, our inability to replicate the deleterious effects of negative (relative to positive/compassionate) body talk on eating intentions may be due to low perceived choice to engage in such body talk. An empirical study that demonstrated a causal relationship between negative self-related body talk and dieting intentions among women was more naturalistic that our paradigm, whereby individuals chose to engage in negative body talk or not following exposure to peers' negative body talk (Cruwys et al., 2015). Furthermore, a meta-analysis by Stice (2019) also found that voluntary participation in dissonance activities moderated the efficacy of dissonance-based eating disorder prevention programs for inducing favorable changes in body dissatisfaction and eating disorder symptoms. Considering this, it has

been recommended that dissonance paradigms should “induce minimal force while still leading the person to believe that [they] ultimately chose the behavior” (Harmon-Jones et al., 1996).

Third, we measured eating intentions rather than eating behavior; however, behavioral intentions are a valid proxy for health behavior change when conducting dissonance paradigms (Freij & Kothe, 2013). Due to the reliance on behavioral intentions, it remains unclear whether dissonance inductions can produce lasting changes in non-clinical behaviors (Freij & Kothe, 2013). Therefore, future research should strive to replicate our inductions and determine whether there are lasting changes in women’s eating behavior and if this is dependent on their motivation orientation. Based on previous research, more autonomous motivation is associated with sustained dieting over a period of four weeks through dieting intentions (Hagger et al., 2006). This may suggest that brief inductions that enhance intentional action toward maintaining a healthy diet may lead to lasting changes in healthy eating behavior in those with more autonomous eating regulation.

Fourth, we only examined the affective aspect of cognitive dissonance, limiting our understanding of which cognitive discrepancies were occurring during ME and their respective implications on individual differences in dissonance-based processes following ME. A thematic analysis of women’s self-reported body-related discrepancies revealed that mirrors functioned as a contextual elicitor primarily for appearance and self-related body talk discrepancies. However, mirrors also elicited a wider spectrum of self-discrepancies related to the quality of eating, physical activity, and disordered eating (Barbeau et al., 2023). It is plausible that some motivational differences in eating intentions following ME are partly attributed to the type of body-related discrepancy elicited. As we did not observe any interactions between motivation and ME condition or a main effect of ME condition on eating intentions, it is plausible that

social-evaluative and non-social-evaluative ME elicited the same type of body-related discrepancies. For instance, according to SDT's notion of functional significance, it is plausible that women with autonomous eating regulation experienced the same type of body-related discrepancy during social-evaluative and non-social-evaluative ME, and as result, perceived them to be equally informative. If this occurred, it would nullify the main effect of ME condition and result in no interactions between ME condition and motivation, which is what we observed. Future research should assess the stability of motivational differences in dissonance-based processes when perceiving different types of body-related discrepancies.

Finally, our sample comprised undergraduate women who were homogenous in terms of age, socioeconomic status, and sexual orientation and were recruited via a convenience sampling approach. Future studies should seek to replicate our findings in a more representative sample, particularly in male populations where studies assessing the utility of dissonance-based ME is lacking (Griffen et al., 2018) and in underrepresented groups with known eating disorder disparities, such as sexual and gender minority individuals (Miller et al., 2019; Nagata et al., 2020). Furthermore, a substantial number of women in our studies (Study 1; 36%, Study 2; 56%) met clinical cut-offs on the ED-15 attitudinal subscale (Tatham et al., 2015). This is higher than Canadian population rates using the EAT-26 (8.7%; Johnson & Bedford, 2004), which may suggest that our findings are generalizable to clinical populations.

Conclusion

Mirror exposure (ME) can be used as a tool to induce positive behavioral changes in eating behaviors, such as to increase individuals' intentions to engage in healthy eating, by manipulating the salience of a cognitive discrepancy related to the body. However, our results suggest that individual differences in women's motivation for eating regulation determine the

type of information that is perceived during ME (i.e., health or appearance), and in turn, dictate the strategies they use to rectify feelings elicited by this information, which has consequences on their eating behavior. Furthermore, manipulating dissonance by facilitating women's use of positive body talk as a compensation strategy during ME has potential to mitigate the negative effects of ME on eating behavior, particularly for women who regulate their eating due to external or self-induced pressure (i.e., guilt, shame).

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Table 2.1

Means, Standard Deviations, and Correlations Among Variables in Study 1

Variable	Mean	SD	CREB	EDAT	BM	CS	Avo	AF	HEBI	DEBI
AREB	4.8	1.3	.22*	-.01	.22*	.30**	.03	-.13	.45**	.18
CREB	2.9	1.2	–	.57**	.26**	-.09	.40**	.37**	.26**	.54**
EDAT	2.4	1.5	–	–	.31**	-.17	.44**	.46**	.23*	.61**
BM	3.8	1.8	–	–	–	.01	.47**	.44**	.38**	.38**
CS	2.7	1.1	–	–	–	–	-.06	-.10	.09	-.18
Avo	1.7	0.5	–	–	–	–	–	.55**	.19	.51**
AF	2.1	0.7	–	–	–	–	–	–	.14	.47**
HEBI	4.9	1.4	–	–	–	–	–	–	–	.42**
DEBI	1.9	1.0	–	–	–	–	–	–	–	–

Note. $N = 107$, $^{*}p < .05$. AREB = autonomous regulation of eating behavior, CREB = controlled regulation of eating behavior, EDAT = eating disorder attitudes, BM = behavior modification, CS = cognitive restructuring, Avo = avoidance, AF = appearance fixing, HEBI = healthy eating behavior intentions, DEBI = disordered eating behavior intentions.

Table 2.2

Descriptive Statistics and Correlations Among Variables in Study 2 in the Non-Social-Evaluative Mirror Conditions

Variable	Mean	SD	Controlled eating regulation	Eating disorder attitudes	Dissonance	Healthy eating intentions	Disordered eating intentions
Positive non-social-evaluative							
Autonomous eating regulation	4.6	1.3	.20	-.13	-.17	.12	-.20
Controlled eating regulation	3.3	1.4	–	.24	.07	.27	.21
Eating disorder attitudes	2.6	1.4	–	–	.29*	.40*	.55*
Dissonance	2.1	1.0	–	–	–	.08	.53*
Healthy eating intentions	4.2	1.5	–	–	–	–	.31*
Disordered eating intentions	2.0	1.0	–	–	–	–	–
Negative non-social-evaluative							
Autonomous eating regulation	4.3	1.4	.17	-.04	-.23	.05	-.05
Controlled eating regulation	2.9	1.2	–	.04	-.06	-.26	-.17
Eating disorder attitudes	2.4	1.5	–	–	.58*	.23	.64*
Dissonance	3.2	1.7	–	–	–	.23	.49*
Healthy eating intentions	4.5	1.6	–	–	–	-	.49*
Disordered eating intentions	1.9	1.0	–	–	–	–	–

Note. n = 52 positive non-social-evaluative, n = 52 negative non-social-evaluative. *$p < .05$.

Dissonance = assessed post mirror exposure.

Table 2.3

Descriptive Statistics and Correlations Among Variables in Study 2 in The Social-Evaluative Mirror Conditions

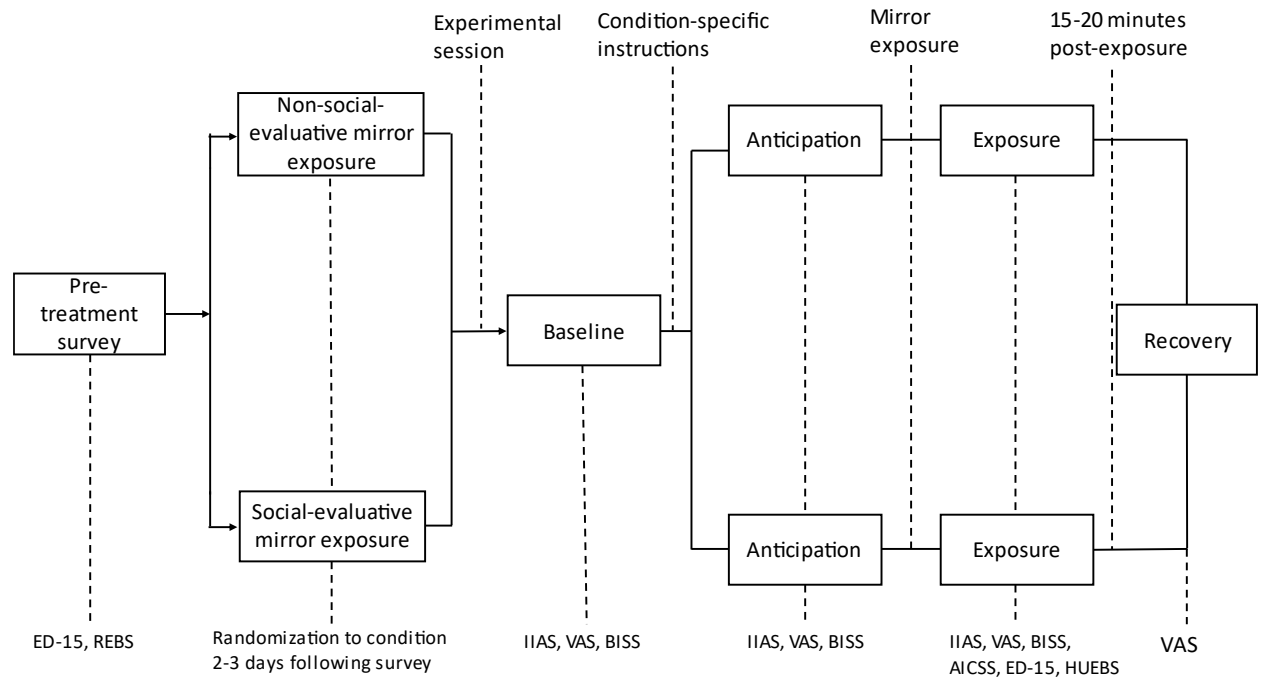
Variable	Mean	SD	Controlled eating regulation	Eating disorder attitudes	Dissonance	Healthy eating intentions	Disordered eating intentions
Positive social-evaluative							
Autonomous eating regulation	4.3	1.3	.19	.21	.22	.28	.18
Controlled eating regulation	2.9	1.3	–	.08	.03	-.08	.03
Eating disorder attitudes	2.6	1.4	–	–	.43*	.44*	.50*
Dissonance	2.7	1.4	–	–	–	.37*	.50*
Healthy eating intentions	4.5	1.3	–	–	–	–	.50*
Disordered eating intentions	1.8	0.9	–	–	–	–	–
Negative social-evaluative							
Autonomous eating regulation	4.6	1.1	.15	-.19	-.16	-.21	-.17
Controlled eating regulation	2.9	1.3	–	.24	.11	.02	.09
Eating disorder attitudes	2.8	1.8	–	–	.72*	.39*	.67*
Dissonance	3.2	1.7	–	–	–	.39*	.56*
Healthy eating intentions	4.4	1.8	–	–	–	–	.52*
Disordered eating intentions	2.1	1.0	–	–	–	–	–

Note. $n = 47$ positive social-evaluative, $n = 48$ negative social-evaluative. *$p < .05$. Dissonance = assessed post mirror exposure.

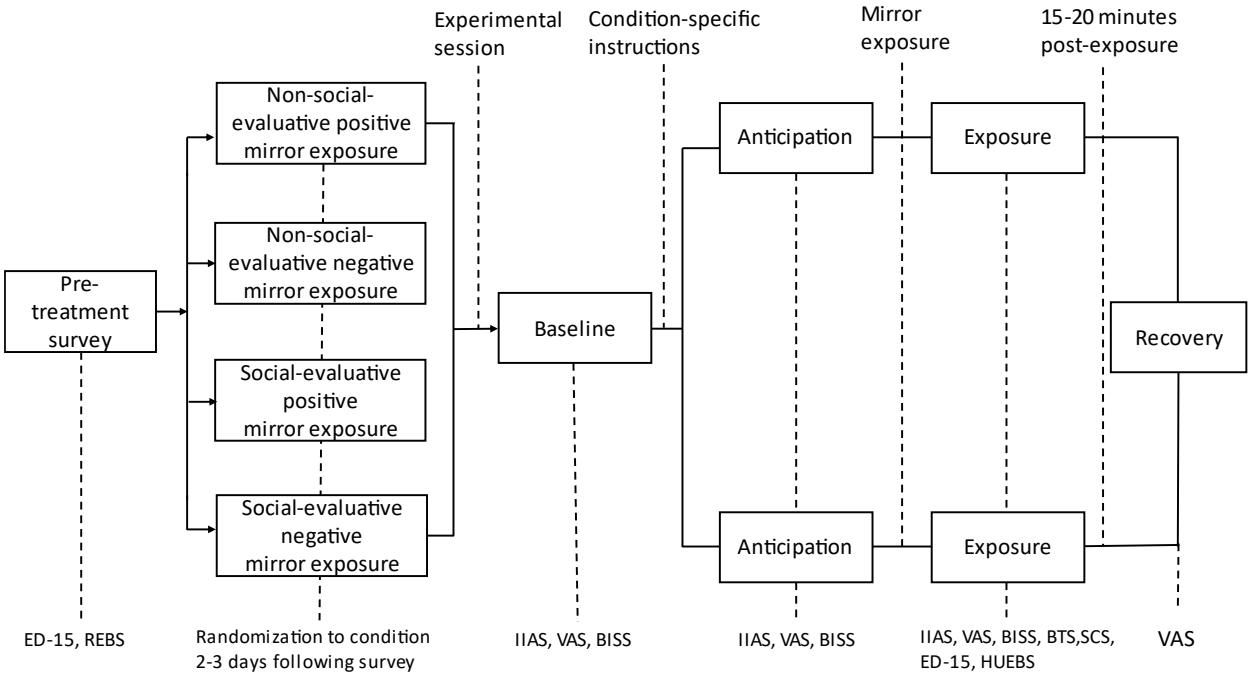
Figure 3.1

Protocol for Study 1 (Panel A) and Study 2 (Panel B)

A)



B)

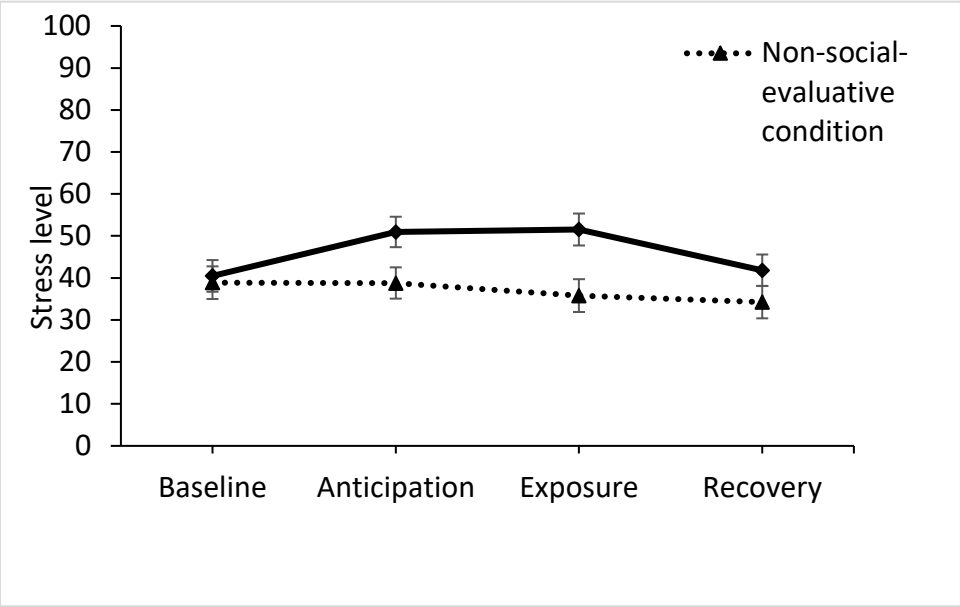


Note. N = 107 Study 1, N = 199 Study 2. ED-15 = Eating Disorder-15, REBS = Regulation of Eating Behaviors Scale, IIAS = Inconsistency Induced Affect Scale, VAS = visual analog scale of psychological stress, BISS = Body Image States Scale, AICSS = Abbreviated Inconsistency Compensation Strategies Scale, BTS = Body Talk Scale, SCS = Self-Compassion Scale, and the HUEBS = Healthy and Unhealthy Eating Behaviors Scale.

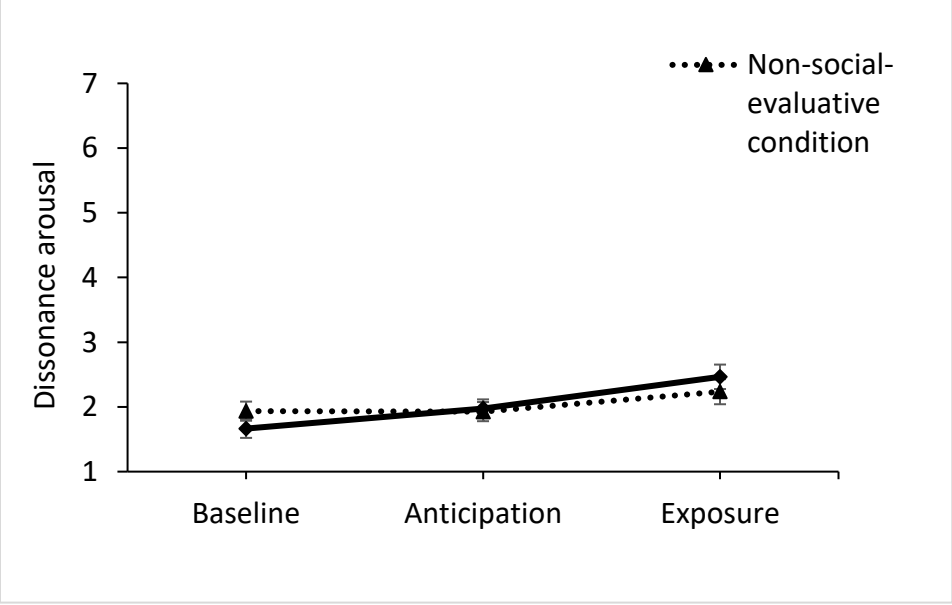
Figure 3.2

Women's Psychological Stress (Panel A) and Dissonance Arousal (Panel B) Over Time Across Mirror Conditions in Study 1

A)



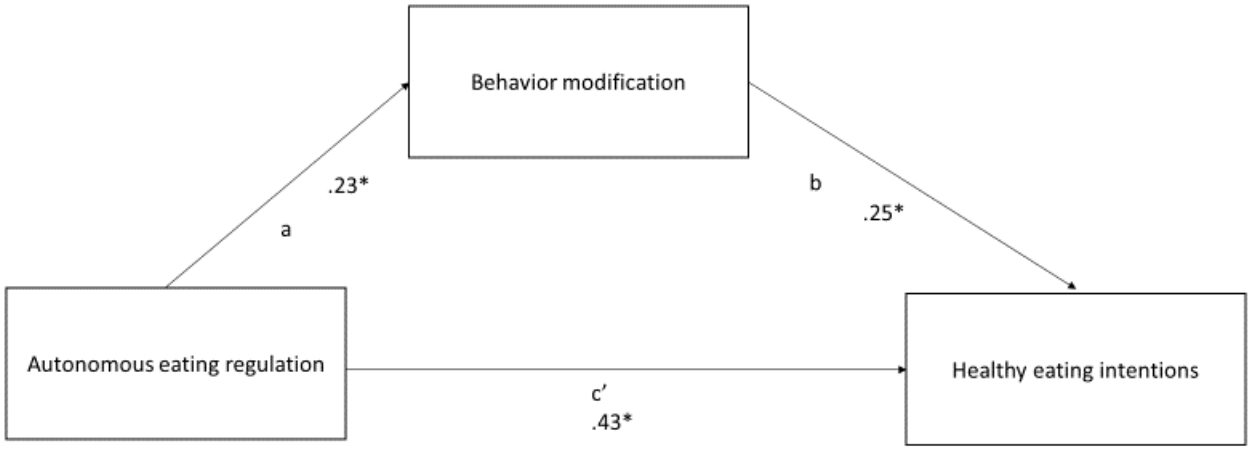
B)



Note. n = 52 non-social-evaluative, n = 55 social-evaluative. Errors bars are standard error of the mean.

Figure 3.3

Behavior Modification as a Mediator Between Autonomous Eating Regulation and Healthy Eating Intentions in Study 1

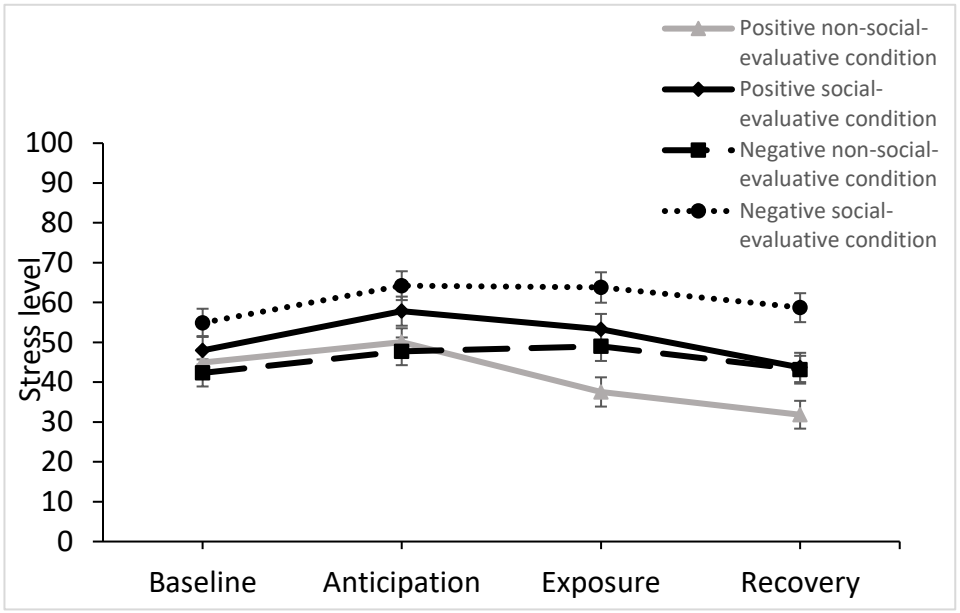


Note. N = 107. *$p < .05$. Coefficients are standardized. Relationships reflect associations between variables after controlling for controlled eating regulation and eating disorder attitudes.

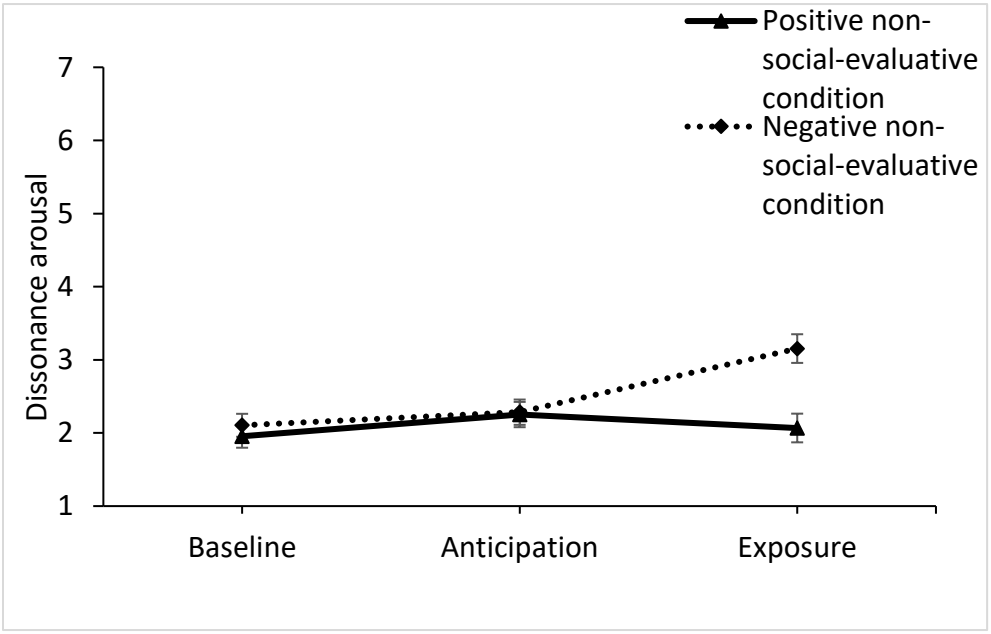
Figure 3.4

Women's Psychological Stress (Panel A) and Dissonance Arousal (Panel B, Panel C) Across Time for Each Mirror Condition

A)



B)



C)

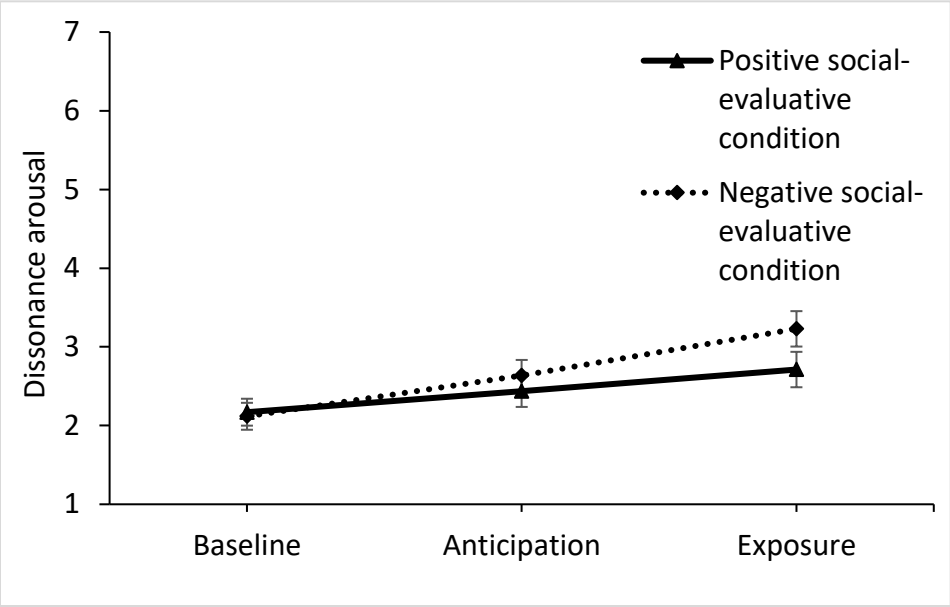
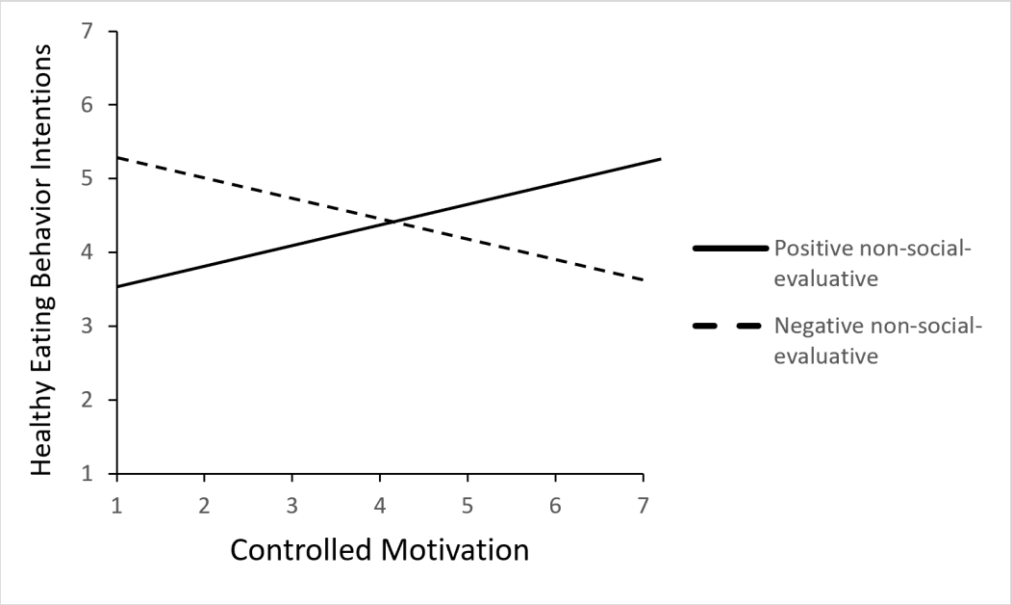

7
6
5
4
3
2
1
Dissonance arousal
Positive social-evaluative condition
Negative social-evaluative condition
Baseline
Anticipation
Exposure

Figure 3.5

Interaction Between Non-Social-Evaluative Body Talk Mirror Conditions and Controlled Eating Regulation on Healthy Eating Intentions in Study 2



Note. N = 104.

CHAPTER FOUR

General Discussion

The objective of the current thesis was to examine motivational differences in women's perception, compensation, and eating intentions in response to various body-related discrepancies. As the Hierarchical Action-Based Model of Inconsistency Compensation (HABICE; Lavergne & Pelletier, 2015, 2016) model formulates predictions related to motivational differences in the experience of dissonance and the selection of compensation strategies following a cognitive discrepancy, it was used as a theoretical framework to conceptualize motivational differences in dissonance-related pathways in relation to women's intent to engage in healthy or disordered eating behavior following a body-related discrepancy. Furthermore, the HABICE model suggests that some motivational pathways are contingent on whether the self-discrepancy is perceived as threatening to ego self-structures (i.e., could incur losses to self-worth). Therefore, the moderating role of the social context (i.e., social-evaluative versus non-social-evaluative) of the body-related discrepancy on motivational pathways were examined in addition to examining the overall impact of contextual factors on eliciting specific types of body-related discrepancies.

The objective of the current thesis was achieved through three interrelated studies divided into two articles. The first study (Article 1) examined motivational differences in the perception of and compensation for a body-related discrepancy, and in turn, intentions to engage in healthy and disordered eating. The moderating role of the social context on these relationships was examined. The tenability of various models was assessed using a phased model building approach. This approach was employed to understand the unique contribution of women's motivation for eating (SDT model), followed by dissonance-based processes proposed by the

action-based model (HABICE model), and self-compassion as an intermediatory factor that further explains the motivation-dissonance and motivation-compensation dependent relationships proposed by the HABICE model (integrated HABICE model). Additionally, this study sought to examine various forms of body-related discrepancies that women may face, factors in the social environment that may elicit them, and motivational differences in experiencing a given type. As this study tests propositions of the HABICE model cross-sectionally, we sought to replicate our findings using a stronger design, such as inducing a body-related discrepancy in a more controlled setting through an experimental paradigm using mirrors.

Thus, the second study (Article 2) examined motivational differences in dissonance compensation and eating intentions following a mirror induced body-related discrepancy via self-focused attention on the body across different social contexts (i.e., social-evaluative versus non-social-evaluative). As women may engage in certain forms of body talk for impression management (Barbeau et al., 2022; Lamarche et al., 2012; Shannon & Mills, 2015), it is plausible that it functions as a compensation strategy when perceiving body-related discrepancies. Furthermore, researchers have sought to facilitate cognitive restructuring, a compensation strategy, to promote positive behavioral changes in women's eating via counter-attitudinal positive body talk during ME (Griffen et al., 2018; Stice et al., 2019). Therefore, we examined the effect of inducing a body-related discrepancy associated with women's self-related body talk (i.e., positive/compassionate and negative) during ME in the third study (Article 2). As such, Study 3 (Article 2) examined motivational differences in dissonance arousal and eating intentions following congruent and incongruent body talk during ME across different social contexts (i.e., social-evaluative versus non-social-evaluative). The main findings from each article will be discussed separately.

In the following sections, an overview of the findings of each of the three studies will be provided. In addition, theoretical and practical implications as well as strengths, limitations, and future directions of the thesis will be discussed.

Main Findings: Article 1

The purpose of this article was to gain an expansive understanding of the types of body-related discrepancies that women face on a daily basis, and once activated, to examine motivational differences in eating intentions through distinct dissonance processes. This article therefore had two objectives. First, to understand the types of body-related discrepancies that women face, important contextual elicitors of these experiences, and motivational differences in experiencing a given type of body-related discrepancy. The second objective was to examine motivational differences in women's intent to engage in healthy and disordered eating following the salience of a body-related discrepancy through distinct affect and compensation processes and the moderating role of the social context on these relationships.

Thematic analysis of women's responses from the body-related discrepancy recall task revealed six distinct types of body-related discrepancies, which were elicited, to a different degree, by similar contextual factors. For instance, we observed that women experience self-discrepancies related to their appearance (e.g., weight, shape, facial features), eating quality (e.g., perceived healthiness of food ingested), physical activity levels (e.g., working out), self-related body talk (e.g., internal or external body-related dialogue), eating quantity (e.g., quantity of food ingested), and dysfunctional eating (e.g., binging, purging, restricting). These self-discrepancies were relatively negative in nature, reflecting more dissatisfaction with appearance, a decrease in health-promoting behavior (i.e., decrease in eating quality and physical activity), and an increase

in undesired behavior (i.e., dysfunctional eating, eating quantity). They were also more likely to occur in a non-social-evaluative context.

Body exposure (e.g., looking at the body in the mirror) and other life factors (e.g., stress, lack of life-work balance) were cited as the most common contextual elicitors of body-related discrepancies. However, a pattern emerged whereby body exposure was a more consistent elicitor of appearance-related self-discrepancies, whereas "other life factors" was a more consistent elicitor of behavioral self-discrepancies related to physical activity and eating behavior. Other contextual elicitors included: social comparisons (e.g., peer, family, social media), clothing (e.g., trying on unflattering or revealing clothing), social evaluation (e.g., perceived evaluation in the presence of others), school stress (e.g., workload and exams), negative interpersonal events (e.g., dissolution of romantic relationships), weight scales (e.g., self-weighing), and COVID-19-related factors (e.g., quarantining, gym closures). Women with more autonomous eating regulation experienced fewer eating quality and physical activity self-discrepancies, whereas women with more controlled eating regulation experienced more frequent eating quality and physical activity self-discrepancies daily. No motivational differences were observed for appearance self-discrepancies.

In regard to motivational differences in eating intentions following the salience of a body-related discrepancy, the results of the path analysis revealed that the best fitting model that explained the most amount of variance in compensation processes was the third model, which reflects propositions of the HABICE (Lavergne & Pelletier, 2015, 2016) and the integration of self-compassion to the HABICE. Distinct motivational pathways emerged via self-compassion and compensation strategies, which explained differences in intent to engage in healthy and disordered eating behavior. However, the social context of the body-related discrepancy (i.e.,

social-evaluative or non-social-evaluative) did not play a moderating role on any motivational pathways tested in the models.

In the first pathway, autonomous eating regulation was associated with more intent to engage in healthy eating behavior. This relationship was partly explained by higher levels of behavior modification strategies. Furthermore, the positive relationship between autonomous eating regulation and behavior modification strategies was partly explained by higher levels of self-compassion and lower levels of dissonance arousal in a serial fashion. Additionally, it was also observed that autonomous eating regulation was also associated with higher levels of cognitive restructuring strategies indirectly through higher levels of self-compassion.

In the second pathway, controlled eating regulation was associated with more intent to engage in disordered eating behavior. This relationship was partly explained by higher levels of avoidance strategies. The positive relationship between controlled eating regulation and avoidance strategies was independently explained by lower levels of self-compassion and higher levels of dissonance arousal. Furthermore, lower levels of self-compassion and higher levels of dissonance arousal also explained the indirect positive relationship between controlled eating regulation and cognitive restructuring strategies. Additionally, lower levels of self-compassion partly explained the positive association between controlled eating regulation and appearance fixing strategies; however, appearance fixing and cognitive restructuring were not associated with eating intentions.

This study broadens current definitions of body-related discrepancies to encompass other facets of the body apart from one's physical appearance, such as behaviors that are enacted to care for the body and maintain one's body weight. It also sheds light on important factors in the social environment that elicit them in addition to furthering our understanding of motivational

differences in self-discrepant behavior in the body image and eating domain at the daily level rather than at the habitual level. Furthermore, our observations of distinct motivational pathways associated with women's intent to engage in healthy and disordered eating following a body-related discrepancy sheds light on the paradoxical findings in the literature regarding the influence of enhanced awareness of self-discrepancies. Additionally, our findings illustrate the explanatory role of personal resources, such as self-compassion, on motivational differences in perceiving body-related discrepancies as threatening (i.e., higher dissonance arousal), and in turn, its role in the facilitation of compensation strategies that support (i.e., behavior modification) versus hinder (i.e., avoidance) self-concordant action.

Main Findings: Article 2

Article 2 had two main purposes and were carried out in two studies. The purpose of the first study was to replicate findings from Article 1 by experimentally manipulating the salience of a body-related discrepancy using a mirror in a social-evaluative and non-social-evaluative context. As such, the objective of Study 1 was to examine the independent effects of and interactions between motivation for eating regulation and the social context of ME on women's use of dissonance compensation strategies and eating intentions. The purpose of the second study was to examine the impact of inducing a particular type of body-related discrepancy during ME, such as women's self-related body talk, and examine the differential impacts of inducing self-discrepant (i.e., more positive/compassionate or negative) self-appraisals in accordance with women's motivation for eating regulation. These effects were examined across social-evaluative and non-social-evaluative contexts. As such, the objective of the second study was to examine the independent effects of and interactions between motivation for eating regulation and valence of body-related talk during ME on women's dissonance arousal and eating intentions.

In the first study, the social context of ME had no independent effect on women's compensation strategies or eating intentions nor were there any context-dependent relationships between women's motivation for eating regulation, compensation strategies and eating intentions. As found in Article 1, women with more autonomous eating regulation intended to engage in more healthy eating behavior and this relationship was partly explained by higher use of behavior modification strategies during ME. Additionally, we also observed a positive association between autonomous eating regulation and cognitive restructuring during ME, but like in Article 1, this strategy was not associated with eating intentions. Corroborating with our findings in Article 1, women with more controlled eating regulation intended to engage in more disordered eating following ME; however, this relationship was not explained by engaging in a particular type of compensation strategy. It is plausible that women used other compensation strategies that were available, such as negative or positive self-related body talk. As such, in the second study, we manipulated their use of self-congruent and self-discrepant body talk during ME to determine its role in explaining motivational differences in eating intentions.

In the second study, the valence of self-related body talk during ME across different social contexts had no independent effect on women's dissonance arousal or eating intentions. Additionally, there were no interactions between women's motivation for eating regulation and the mirror conditions on dissonance arousal nor was there an independent effect of motivation on dissonance arousal. In regard to eating intentions, there were no independent effects of motivation on disordered eating intentions following ME nor were there any interactions with the mirror conditions. Additionally, there were no independent effects of motivation on healthy eating intentions following ME. However, there was one significant interaction between controlled eating regulation and mirror condition. It was observed women with a more controlled

eating regulation intended to engage in more healthy eating behavior when instructed to engage in positive/compassionate body talk (i.e., self-discrepant) and in less healthy eating behavior when instructed to engage in negative body talk (i.e., self-congruent) during ME. These effects were only observed in the non-social-evaluative mirror conditions.

The first study illustrates that mirrors can elicit body-related discrepancies, and in turn, activate dispositional motivation orientations relevant to the domain that facilitate distinct dissonance processes that give rise to different approaches toward eating. Therefore, the presence of mirrors may propagate more intentional action to regulate eating; however, whether this is conducive to health-promotion or ill-being is dependent on women's motivation for eating regulation. The second study illustrates that self-discrepant behavior that facilitates more positive, compassionate self-appraisals during ME is particularly beneficial for individuals who regulate their eating behavior for more controlled reasons, such that it disrupts their tendency to engage in disordered eating and increases their intent to engage in healthy eating.

Implications of Study Findings

The studies in the current thesis have several theoretical and practical implications. In particular, theoretical applications related to action-based model of Cognitive Dissonance Theory (Harmon-Jones et al., 2009), the HABICE model (Lavergne & Pelletier, 2015, 2016), and SDT (Ryan & Deci, 2017), will be discussed. In regard to practical applications, findings will be discussed in relation to interventions based in CDT, such as dissonance-based ME, and the Transtheoretical model (TTM; Prochaska & DiClemente, 1983) for the promotion of adaptive eating behavior and reduction of disordered eating behavior.

Theoretical

Findings in the current thesis lend further support for the use of the HABICE model in the prediction of domain-specific outcomes following self-discrepancies and demonstrate its applicability to other types of cognitive discrepancies, such as those related to one's physical appearance, eating, and physical activity behaviors. They also support the distinction between distal (i.e., motivation orientations) and proximal (i.e., dissonance arousal) motives involved in the compensation processes, whereby dissonance represents a general motivated state toward arousal reduction, whereas individuals' motivation orientation in the domain guides the selection of compensation strategies in reference to personal standards of effective and unconflicted action.

Our findings also build upon basic propositions of the action-based model (Harmon-Jones et al., 2009), specifically the proposition that dissonance reduction following commitment to action involves approach motivational processes, which is represented by distal motives for effective and unconflicted action. Our observations and those of Lavergne and Pelletier (2015, 2016) and Otis and Pelletier (2008), however, suggest that some action tendencies (i.e., motivation orientations) promote more approach or avoidant processes and subsequently compensation that reflects these orientations. For instance, in Articles 1 and 2 (Study 1), we observed that autonomous eating regulation was consistently associated with the use of behavior modification strategies following a body-related discrepancy across different induction methods (i.e., hypocrisy recall task and ME). This demonstrates the dispositional tendency of those with autonomous motivation to move toward behaviors that enhance self-consistency, aligned with propositions of SDT and the HABICE model (Lavergne & Pelletier, 2015, 2016). Also in Article 1, we observed that controlled eating regulation was associated with compensation strategies that aim to minimize losses to ego self-structures, such as avoiding attentional focus on the body (i.e.,

avoidance) and concealing physical inadequacies (i.e., appearance fixing), rather than moving toward self-corrective action, thereby demonstrating a more avoidant (i.e., avoid behavior modification, avoid losses to self-worth) versus approach orientation. Therefore, it could be argued that dissonance reduction could reflect approach or avoidance motivation processes, and this is largely dependent on an individuals' motivation for regulating behavior that is involved in the cognitive discrepancy.

Our findings also build upon propositions of the HABICE model, in particular how some motivational pathways may differ depending on the domain due to the number and type of available compensation strategies. First, we observed that many other domain-dependent compensation strategies (i.e., avoidance, appearance fixing) were involved in motivational pathways that are currently not captured in the HABICE model. This suggests that the number and type of compensation strategies that individuals use to resolve self-discrepancies is highly dependent on the domain. Second, in most CDT literature, behavioral strategies reflect approaching adaptive outcomes, whereas cognitive restructuring strategies reflect weakening attitudes that are pivotal for valuing and committing to adaptive behavior. However, in the body image literature, cognitive and behavioral strategies can reflect movement toward adaptive or maladaptive outcomes; therefore, patterns observed between motivation and compensation strategies may be dependent on the domain as some strategies may reflect methods to maintain behavioral commitments that promote or hinder wellbeing.

These distinctions were apparent in our findings: in Article 1, we observed that women with more controlled motivation were more likely to compensate for body-related discrepancies by using strategies that facilitate cognitive and behavioral avoidance and suppression (i.e., using food to cope, body avoidance, hiding appearance flaws). In turn, avoidance was associated with

higher intent to engage in disordered eating, which may represent sustained behavioral commitment to a stringent dieting regime (i.e., restriction) or an underlying mechanism that explains the relationship between controlled eating regulation and dysregulated eating behavior. In contrast, women with a more autonomous eating regulation were more likely to use behavioral strategies that facilitate commitment to a healthy diet.

The integration of self-compassion in the HABICE model also served as a theoretical contribution as it played a role in the facilitation of compensation strategies and explained variations in dissonance arousal according to women's motivation orientation. It also shed light on the potential complex relationship between motivation orientations and use of cognitive restructuring and how, in some domains, it could reflect an adaptive process by which negative self-attitudes are minimized during self-discrepancies. For instance, in Article 1, we observed that both autonomous and controlled eating regulation were indirectly associated with cognitive restructuring through self-compassion and dissonance arousal, however, in opposite patterns (i.e., autonomous pathway: higher self-compassion and lower dissonance arousal; controlled pathway: lower self-compassion and higher dissonance arousal). The autonomous pathway may represent the positive reframing of self-regulatory failures as less dire, thereby reducing overidentification with failures and rumination, or may represent the minimization of the importance of one's physical appearance via self-acceptance (i.e., item on scale: "thinking that the action I just did, despite being inconsistent with my attitudes toward myself, was consistent with other values and goals I consider important"). In contrast, the controlled pathway may represent the overidentification with personal failures and inadequacies, which may facilitate the rationalization of self-discrepant behavior (i.e., item on scale: "concluding that my thoughts are indicative of my true attitudes about myself") or defensive restructuring to minimize the

importance of eating healthily (i.e., item on scale: “Decided that there is no need to alter my health behaviors”). Therefore, it is plausible that cognitive restructuring could be somewhat effective in reducing dissonance when personal resources to cope with self-discrepancies are low (i.e., when controlled motivation is dominant), or it could function as a method to mitigate attitudinal change when self-discrepancies facilitate negative self-appraisals (i.e., when autonomous motivation is dominant).

In regard to SDT, our results extend our knowledge of underlying working mechanisms that explain why women with a more autonomous eating regulation are more successful at sustaining a healthy diet, whereas women with a more controlled eating regulation are not. In particular, our results suggest that these motivational differences are attributed to differences in how women perceive and compensate for everyday self-discrepancies relevant to the eating domain. For instance, individuals with an autonomous eating regulation may be more successful at maintaining a healthy diet compared to those with a more controlled eating regulation partly because they process self-threatening information in a more compassionate manner. In turn, this helps sustain positive states and self-regulatory resources to enact effortful strategies that promote self-congruent eating behavior. This extends previous findings by Girelli et al. (2016), Otis and Pelletier (2008) and Hagger et al. (2006) and suggests a mechanism by which autonomous motivation for healthy eating is associated with more healthy eating intentions through the facilitation of positive states, approach versus avoidance planning, and perceived behavioral control.

Furthermore, our observation that the positive relationship between autonomous eating regulation and healthy eating intentions and controlled eating regulation and disordered eating intentions remained unchanged across ME in a social-evaluative and non-social-evaluative

context may further extend SDT's notion of functional significance of external and internal events (Ryan, 1982; Ryan et al., 2023). According to SDT, external and internal events can be experienced as either informational (i.e., provide information that is behaviorally relevant) or controlling (i.e., pressured to adhere to external standards); those that are informational facilitate intrinsic motivation, whereas those that are controlling thwart it (Ryan, 1982). Based on this premise, it is plausible that those with a more autonomous eating regulation may have perceived both mirror conditions as providing informational feedback regarding body-related discrepancies relevant to their health goal strivings (i.e., eating quality, physical activity). This feedback could have been provided by external cues (i.e., mirror) and internal cues (i.e., more self-compassionate body talk). In particular, their internal informational feedback may have attenuated the salience of controlling external feedback from the presence of judges in the social-evaluative ME condition. In contrast, women with a more controlled eating regulation may have experienced both mirror conditions as controlling given their dispositional public self-awareness; therefore, the external cues (i.e., mirror, presence of judges) and their internal cues (i.e., negative body talk) may have functioned as reminders of external body standards as it activated body-related discrepancies related to their appearance. These findings further support the notion that women with autonomous and controlled eating regulation may differentially respond to an appearance-related stimulus as a result of perceiving feedback from the stimulus as informational (i.e., relevant to their health) or controlling (i.e., appearance standards), which in turn explains distinct eating outcomes following its salience (Mask & Blanchard, 2011).

Practical

Apart from theoretical implications, our findings have several practical implications for interventions that aim to promote adaptive eating behavior based on tenets of CDT. For instance,

our studies demonstrate that inducing a state of dissonance via eliciting a body-related discrepancy may only enhance engagement in adaptive eating behavior if the individual has a more autonomous eating regulation. As such, making individuals aware of potential self-discrepant actions in the eating domain could be helpful for the purposes of self-monitoring. However, the outcome of this motivated state is largely dependent on what individuals intend to do to compensate for the self-discrepancy, which is guided by their motivation orientation. Therefore, interventions should not only seek to enhance self-awareness of body-related discrepancies via various methods (e.g., hypocrisy recall or exposure to mirrors) but should also consider enhancing autonomous motivation. This is particularly relevant to eating behavior change interventions based on the TTM.

According to the TTM, self-re-evaluation could help individuals advance in the six stages of behavior change, most notably from a state of contemplation (i.e., awareness that a problem exists without commitment) to action (i.e., actively modifying behavior; Prochaska & DiClemente, 1983). However, research has shown that individuals at earlier stages of eating behavior change have less autonomous motivation (Guertin et al., 2019). As such, inducing self-evaluative processes amongst those with more controlled eating regulation would likely elicit a self-discrepancy (i.e., the awareness of how one's behavior is discrepant with the knowledge of how problematic the behavior is for their health) and subsequently self-regulatory failure rather than eating behavior change. Additionally, as individuals with more controlled eating regulation use avoidance compensation strategies, other posited processes of change by the TTM, such as consciousness raising (Prochaska & DiClemente, 1983), may also have negative implications for attending to and processing relevant messages that would otherwise facilitate the change process.

Our results therefore have implications for improving the efficacy of interventions based on the TTM.

One method to improve interventions based on the TTM would be to facilitate a more autonomous eating regulatory style before the intervention or within the intervention, particularly during phases that involve consciousness raising and self-evaluation. Our findings in Article 2 (Study 2) further lend credence to this notion and suggest a possible method to accomplish this. Our findings in Article 2 (Study 2) suggest that facilitating a more open, objective processing style during the processing of body-related discrepancies via the engagement in positive/self-compassionate body talk can lead to more self-congruent action, particularly among individuals with more controlled eating regulation. SDT suggests that mindfulness, which is a key component of self-compassion, is conducive to autonomy as it represents an open and receptive stance with respect to inner and outer events (Ryan et al., 2021). In turn, open and receptive awareness facilitates a greater sense of choice and congruence in action (i.e., autonomy) and lower defensiveness (Niemiec et al., 2010). As such, overall, our findings provide some evidence of the benefits of facilitating an internal dialogue characterized by proponents of mindfulness, such as self-compassion, to enhance experienced autonomy and facilitate self-congruence among individuals who typically cannot self-regulate optimally due to their internally controlling processes (i.e., controlled eating regulatory style). This may be a useful method to enhance individuals' autonomous eating regulation, particularly in interventions that use consciousness raising and self-evaluation to promote eating behavior change, such as those rooted in CDT (i.e., mirror-based dissonance interventions) or the TTM.

Limitations of the Thesis

Despite the theoretical and practical implications of the current thesis, there are several limitations that warrant discussion. These limitations and ways to address them will be discussed in subsequent sections.

Homogenous Samples

Across all three studies, convenience sampling was used to recruit undergraduate women. As such, the sample was homogenous in terms of age, socioeconomic status, and sexual orientation; however, the samples were more diverse in terms of ethnicity (i.e., Article 1: Study 1= 55% White, Article 2: Study 1= 53% White; Study 2 = 56% White). In regard to age, studies demonstrate that women's degree of body dissatisfaction remains stable (Tiggeman et al., 2001; Quittkat et al., 2019), although, several facets of body image change. For instance, as women age, body appreciation increases, whereas self-objectification and habitual body monitoring decreases (Tiggeman et al., 2001). These findings suggest that the body-related discrepancies that we identified in Article 1 should be generalizable to experiences of women across the life span, but older women may experience some of them less frequently and may be less likely to use certain compensation strategies. For instance, older women may be less likely to engage in compensation strategies that are considered forms of self-objectification and body monitoring, such as negative body talk and appearance fixing. As they are more appreciative of their bodies, which is a facet of positive body image (Avalos et al., 2005), it is likely that they would experience fewer daily appearance-related discrepancies. Furthermore, despite some studies suggesting that disordered eating decreases with age (Tiggeman et al., 2001), disordered eating among older women remains relatively stable when considering the effect of "old talk" (i.e., negative self-related talk focused on the aging body; Becker et al., 2013), which becomes more salient as women age and perhaps represents a unique type of body-related discrepancy.

Additionally, sexual minority women are underrepresented in body image research, despite known disparities in eating disorders and unhealthy weight-controlling behaviors (Mason et al., 2018; Miller et al., 2019). Sexuality and gender-related interpersonal experiences have direct and indirect negative implications on sexual minority women's body image and disordered eating behaviors (Mason et al., 2018). Thus, the characterization of body-related discrepancies may differ on the basis of experienced intersectional stigma, the interdependent and mutually constitutive relationships between multiple stigmatized identities (Turan et al., 2019). In turn, their body-related discrepancies may be elicited by negative identity-related interpersonal experiences, such as weight stigma (i.e., negative attitudes toward persons in larger bodies) and discrimination. Future research should strive to replicate our studies among women of all ages and sexual orientations as it is likely that there are important nuances in terms of the type of body-related discrepancies experienced, their contextual elicitors, and in turn, motivation-dependent relationships with compensation strategies. Furthermore, as sexual minority women are more likely to engage in unhealthy weight-controlling behavior, elucidating motivational pathways that mitigate this following a body-related discrepancy offers insight for the creation of strength-based prevention programs.

Time of Data Collection: Coronavirus Disease (COVID-19)

A possible important limitation is that data collection for all three studies occurred between October 2020 and February 2022 during periods where active restrictions were put in place to reduce the transmission of COVID-19 in Canada (i.e., lockdowns, quarantining, vaccine passports). As such, the pandemic may have affected some of the trends we observed in our results, characteristics of participants in the samples, and affected the methodological design for the ME studies.

For instance, during the pandemic, studies have observed declines in college students' physical activity levels (Lopez-Valenciano et al., 2021) and changes in their dietary intake in favorable (e.g., increased consumption of fruits and vegetables) and unfavorable ways (e.g., increased consumption of unhealthy snack foods and decreased consumption of fruits and vegetables; Jehi et al., 2022). Additionally, body image, disordered eating, and eating disorder prevalence increased during the pandemic (see Simone et al., 2021 for a review). Some COVID-19-related factors attributed to these patterns included worsened mental health due to heightened uncertainty, fear of contracting COVID-19, and social isolation; increased time spent on social media, such as exposure to triggering messages regarding quarantine weight gain and exercise; mindless overeating due to boredom; and increased physical activity at home (Haddad et al., 2020; Simone et al., 2021). Although women did not cite COVID-19-related stressors as a primary elicitor of their body-related discrepancies, it is important to consider that COVID-19 may have increased the daily occurrence of certain types of body-related discrepancies in our participants, thereby nullifying and/or magnifying motivational differences in their frequency. For instance, as changes in dietary intake are mixed, it is plausible that individuals with more autonomous eating regulation used confinement as an opportunity to enhance their dietary quality by cooking more food from home and planning healthy meals, whereas individuals with more controlled eating regulation demonstrated the opposite pattern due to enhanced proximity to tempting food during confinement. Furthermore, a study conducted before COVID-19 demonstrated that uncomfortable body-related situations were more likely to occur in a social-evaluative context (Lamarche et al., 2012), although, we observed that they were more likely to occur in a non-social-evaluative context. Our findings likely reflect the effect of workplace and

school closures and social gathering restrictions on opportunities for women to experience body-related discrepancies in a social-evaluative context.

Regarding COVID-19 impacts on the characteristics of our samples, the increasing number of women meeting clinical criteria on the ED-15 attitudinal subscale across all three studies may reflect the exacerbation of eating disorder symptoms during the pandemic (Simone et al., 2021). In particular, in Article 2, Study 2 comprised more women meeting clinical criteria compared to Study 1 (56% versus 36%). As women higher in eating disorder attitudes report higher fear of self-compassion (Kelly et al., 2014) and fear of negative evaluation (Trompeter et al., 2019), it is plausible that it reduced the efficacy of the positive/compassionate ME manipulation, particularly in a social-evaluative context.

Finally, as in-person research was largely prohibited in 2020 and 2021, this led to methodological decisions to rely on self-report measures and videoconferencing applications (i.e., Zoom), particularly for observing the effects of manipulating a body-related discrepancy via ME in different social contexts. Although a virtual setting may have been less controlled compared to a laboratory setting, thereby increasing the likelihood of confounders on the mirror manipulation, the manipulation was perceived and reported as more ecologically valid. Women cited that the manipulation felt more authentic because it occurred in a naturalistic setting in the mirror that they use every day. Furthermore, social-evaluative stress tasks conducted virtually are shown to elicit comparable physiological and psychological responses to those occurring in a laboratory setting (Gunnar et al., 2021).

Regarding the use of self-reports, it is plausible that women's dissonance scores somewhat reflected residual affect following the implementation of compensation strategies as it was taken after the mirror task; therefore, this may have either overestimated or underestimated

actual levels of dissonance. Objective measurements of dissonance throughout the task would have given a more accurate estimate. The anterior cingulate cortex has been found to be activated when processing incongruent information (Hajcak et al., 2003, 2004). This activation is indicated by sympathetic nervous system arousal, such as skin conductance. Skin conductance was initially part of our methodology; however, due to COVID-19 restrictions on in-person research, it was forgone. Therefore, future research should strive to replicate our findings with more objective measurements of dissonance.

Conceptualization of Dissonance

In studies 2 and 3 (studies 1 and 2 in Article 2), our index of whether a cognitive discrepancy related to the body occurred during ME was changes in women's dissonance arousal from baseline to exposure. Although we did observe this, it remains unclear which type of body-related discrepancy was elicited and whether the type was dependent on women's motivation for eating regulation. Previous studies subjecting women to ME observe reductions in appearance satisfaction (see Griffen et al., 2018 for a review), suggesting that ME elicits appearance discrepancies. However, in Study 1 (Article 1) we observed that mirrors also elicited self-discrepancies related to the quality of eating, physical activity, and disordered eating. Therefore, it is likely that the mirror task elicited a variety of body-related discrepancies. As women with more autonomous eating regulation attend to more private aspects of the self (i.e., goals, behaviors), they may be more likely to perceive self-discrepancies related to their behaviors in relation to their health goals, such as their eating quality and physical activity. In contrast, as women with more controlled eating regulation attend to more public aspects of the self (i.e., appearance, social image), they may be more likely to perceive self-discrepancies related to their appearance. This notion was proposed by Mask and Blanchard (2011) after observing that

women with higher body dissatisfaction who were lower in autonomous eating regulation experienced more negative affect, body size dissatisfaction, and intent to reduce unhealthy eating following exposure to a thin-ideal image.

Additionally, as women with more controlled eating regulation pursue weight management to bolster their appearance, ME may also increase the salience of self-discrepancies related to appearance management behaviors, such as restriction (i.e., not maintaining stringent eating) and overeating (i.e., loss of control when trying to restrict). How women compensate for different types of body-related discrepancies is currently unknown, with many examining it as a generalized process. This is also a limitation of our first study, as we tested the HABICE model across all body-related discrepancies rather than examining nuances in our findings according to each type. Thus, determining the type of body-related discrepancy that occurred during ME could help us further understand motivational differences in intended eating behavior.

Future research should pursue this endeavour while also considering individuals' stage of change. An individuals' stage of eating behavior change may characterize the type of body-related discrepancies that an individual perceives as it determines what information about the self is personally relevant and important. For instance, in earlier stages of eating behavior change, individuals may be aware of the problem, however, this awareness may come from external sources (i.e., physicians, romantic partners) and facilitate a more controlled eating regulation. As such, weight management via changing eating behavior may be pursued for more extrinsic goals, such as to improve appearance, and as a result, individuals in earlier stages may be more likely to perceive appearance discrepancies. However, in later stages of change, where the regulation of eating behavior is more self-endorsed and personally important, self-discrepancies may be characterized by actions relevant to their stages. According to the phases of change proposed by

Pelletier and colleagues (2017), the cognitive discrepancies related to actions will vary as individuals move through different phases. These actions include searching for information related to their physical appearance in the early phase, searching for information relevant to the actions they need to take to improve their health (i.e., resources on goal setting) as they decide to do something to deal with their current physical state, implementing food planning and monitoring strategies, and maintaining healthy eating behavior in the later phases. Future research should therefore test postulates of the HABICE model by examining the moderating role of individuals' stage of change relevant to the behavior involved in the cognitive incongruency.

Measurement of Eating Outcomes

Across all three studies, eating intentions were used as proxies for healthy and unhealthy eating behavior. Although changes in behavioral intentions are commonly assessed following inductions of dissonance (Freijy & Kothe, 2013; Priolo et al., 2019), intentions do not always predict future behavior. Indeed, there are mixed findings in regard to the efficacy of dissonance inductions on changing health behavior compared to changing health behavior intentions (Freijy & Kothe, 2013). It is plausible that what we observed in our dissonance inductions (i.e., body-related discrepancy recall task, mirror task), though congruent with the literature on motivation orientations and habitual eating behavior, may not fully replicate if we objectively assessed eating behavior. However, it is important to mention that our results partly replicated findings by Beaudry (2010), which examined changes in the consumption of food (i.e., popcorn) following various ME manipulations. Although we did not assess eating restraint, the observation that women with more controlled eating regulation intended to engage in more disordered eating

following ME in a social-evaluative and non-social-evaluative context may be indicative of higher intent to restrict, similar to Beaudry (2010).

However, it is hard to interpret our findings in relation to other studies that assessed objective food consumption during or following ME as many offered unhealthy food items to participants. Therefore, it is difficult to observe nuances in individuals' approach to improving their diet as both increasing intake of healthy foods and limiting intake of unhealthy foods is part of a healthy diet. As such, Beaudry's (2010) interpretation of the finding that autonomous motivation being more associated with eating restraint following ME under social evaluation may not solely reflect the regulation of behavior in accordance with external versus internal standards. To gain a clearer understanding of the effect of mirrors on eating behaviors among women with differing levels of autonomous eating regulation, future research should strive to replicate our inductions and examine changes in women's eating behaviors over time using objective assessments. For instance, the Food Frequency Questionnaire (Boucher et al., 2006) is a valid behavioral report that could be used to examine changes in women's eating behaviors over time using an experiential sampling design.

Directions for Future Research

Apart from the aforementioned ways that future research could address the limitations of the current thesis, future research should incorporate basic psychological needs as proposed by SDT (Ryan & Deci, 2017). The satisfaction or frustration of basic needs for autonomy, competence and relatedness have implications on individuals' motivation, emotion regulation, and compensatory behavior, including rigid eating behaviors (Vansteenkiste et al., 2020; Verstuyf et al., 2012). The examination of these needs may shed light on motivational differences in perceiving and compensating for body-related discrepancies, thereby acting as a

personal resource afforded by stable orientations in the eating and body image domain (i.e., motivation orientation and self-compassion).

According to Verstuyf et al. (2012), individuals' approach toward eating as result of their motivation for eating regulation gives rise to need satisfying and need frustrating experiences. In turn, need satisfaction contributes to successful self-regulation, whereas need thwarting contributes to the uptake of need substitutes (i.e., thin-ideal) or compensatory behavior characterized by stringent dieting or excessive eating. Furthermore, a longitudinal study found that self-compassion increases positive affect and reduces negative affect partly through the satisfaction of basic psychological needs (Gunnell et al., 2017). As such, basic psychological needs would likely contribute to the HABICE model by playing a mediating role in the relationships between 1) motivation orientation and self-compassion on dissonance arousal, and 2) motivation orientation and self-compassion and dissonance compensation strategies.

As elements in the social context can support or thwart psychological needs, examining the fluctuation of need satisfaction and frustration following a body-related discrepancy in different social contexts could help elucidate the patterns we observed in women's eating behavior following various dissonance manipulations using ME. For instance, previous research has found that daily fluctuations in need frustration is associated with binge eating symptoms in women (Verstuyf et al., 2013). Additionally, daily need frustration is associated with body-related shame and guilt (Thøgersen-Ntoumani et al., 2018). Future research should examine whether motivational differences in eating intentions following ME is partly attributed to differences in experienced need satisfaction or frustration.

In particular, it should be examined whether needs act as a personal resource that facilitate certain forms of compensation or whether compensation strategies contribute to the

replenishment or thwarting of needs. The latter assumption is akin to the notion that individuals can be exposed to need-thwarting environments (i.e., environments that could increase the salience of body-related discrepancies); however, if they cope optimally, there may be no detrimental effects. Supporting this idea, Ntoumanis et al. (2020) observed that need frustration worsened the effect of upward comparisons on appearance evaluation, whereas appearance self-compassion reduced the effect of upward comparisons on appearance evaluation. Finally, psychological needs may also be an underlying mechanism that explains the benefits of non-social-evaluative positive/compassionate ME for women with more controlled eating regulation. As being more self-compassionate is conducive to need satisfaction (Gunnell et al., 2017), and in turn, need satisfaction facilitates intrinsic motivation (Vandercammen et al., 2013), it is likely that those with controlled eating regulation benefitted from positive/compassionate ME because they experienced higher intrinsic motivation. In turn, higher intrinsic motivation facilitated more optimal eating regulation.

Beyond ME, a daily diary method could be used to examine the pattern in the relationships between motivation, basic psychological needs, compensation strategies, and eating intentions following daily spontaneous body-related discrepancies. This would further reveal the *process* of motivational differences in eating outcomes as a result of distinct dissonance pathways. It could also be used to test the stability of motivational differences at the between- and within-person level across various social conditions.

Conclusion

Everyday, women are exposed to cues in their environment, such as mirrors and social media, that make them aware of their physical appearance, which may lead to perceiving a body-related discrepancy. The broad aim of the current thesis was to examine motivational differences

in women's perception, compensation, and eating intentions in response to various body-related discrepancies. This thesis contributed to knowledge gaps in several ways. First, we demonstrated that women experience a wide spectrum of body-related discrepancies that are affiliated with their appearance and health behavior, which are elicited by several unique contextual factors. Second, we demonstrated that women's motivation for eating regulation was differentially associated with healthy and disordered eating intentions following a body-related discrepancy through distinct affective and compensation pathways. This contributes to our knowledge of why individuals with more autonomous eating regulation are more successful at maintaining behavioral commitments to healthy eating, whereas individuals with more controlled motivation are not, and in turn, maintain behavioral commitments to dysfunctional eating patterns. Third, motivational differences in eating intentions were also observed following ME. This suggests that women's motivation for eating modulates the efficacy of tools that are used to promote healthy eating behavior via self-awareness. As such, on the one hand, the use of mirrors as a health promotion tool should be used in a targeted manner to help individuals with more autonomous eating regulation maintain their behavioral commitments. On the other hand, there may be a need to reduce the number of mirrors in physical spaces as it may unintentionally increase disordered eating in some women. However, the negative effect of mirrors on some women could be mitigated if they possessed the capacity to be more positive toward their bodies. This not only supports the use of ME to enhance cognitive restructuring efforts toward the body (i.e., restructuring body cognitions to be more accepting and positive) to reduce disordered eating, but also illustrates the need to facilitate this mindset when processing other self-threatening information, such as health-related information, during interventions that aim to promote healthy eating behavior.

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APPENDIX A

Eating Disorder Attitudes: Eating Disorder-15

This questionnaire considers your eating attitudes and behaviors **over the past week**. Please indicate to the extent that you thought or behaved in such ways.

Not at all	Rarely	Occasionally	Sometimes	Often	Most of the time	All the time
0	1	2	3	4	5	6

1. Worried about losing control over my eating.	0	1	2	3	4	5	6
2. Avoided activities or people because of the way I look.	0	1	2	3	4	5	6
3. Been preoccupied with thoughts of food and eating.	0	1	2	3	4	5	6
4. Compared my body negatively with others.	0	1	2	3	4	5	6
5. Avoided looking at my body (e.g., in mirrors; wearing baggy clothes) because of the way it makes me feel.	0	1	2	3	4	5	6
6. Felt distressed about my weight.	0	1	2	3	4	5	6
7. Checked my body to reassure myself about my appearance (e.g., weighing myself; using mirrors).	0	1	2	3	4	5	6
8. Followed strict rules about my eating.	0	1	2	3	4	5	6
9. Felt distressed about my body shape.	0	1	2	3	4	5	6
10. Worried that other people were judging me as a person because of my weight and appearance.	0	1	2	3	4	5	6

Appendix B

Motivation for Eating Regulation: The Regulation of Eating Behaviours Scale (REBS)

Listed below are several statements concerning **possible reasons why people might try to regulate their eating behaviours.** Using the scale from 1-7 below, please indicate the degree to which the proposed reasons **correspond to your reasons** for regulating your eating behaviours (i.e., "try to eat healthy" or "pay attention to your eating habits").

Why are you trying to regulate your eating behaviours?

Does not correspond at all 1	2	3	Moderately 4	5	6	Completely 7
1. Because it is fun to create meals that are good for my health	1	2	3	4	5	6	7
2. Because it's a good thing I can do to feel better about myself in general	1	2	3	4	5	6	7
3. Because I would be humiliated if I was not in control of my eating behaviors	1	2	3	4	5	6	7
4. I don't really know. I truly have the impression that I'm wasting my time trying to regulate my eating behaviors	1	2	3	4	5	6	7
5. For the satisfaction of eating healthy	1	2	3	4	5	6	7
6. Because regulating my eating behaviors has become a fundamental part of who I am	1	2	3	4	5	6	7
7. Because I believe it will eventually allow me to feel better	1	2	3	4	5	6	7
8. Because I don't want to be ashamed of how I look	1	2	3	4	5	6	7
9. Because I think it's a good idea to try to regulate my eating behaviors	1	2	3	4	5	6	7
10. Because other people close to me insist that I do	1	2	3	4	5	6	7
11. Honestly, I don't know. I can't really see what I'm getting out of it	1	2	3	4	5	6	7
12. Because other people close to me will be upset if I don't	1	2	3	4	5	6	7
13. Because I like to find new ways to create meals that are good for my health	1	2	3	4	5	6	7
14. Because eating healthy is part of the way I have chosen to live my life	1	2	3	4	5	6	7
15. Because I would feel ashamed of myself if I was not eating healthy	1	2	3	4	5	6	7
16. Because I must absolutely be thin	1	2	3	4	5	6	7

17. Because eating healthy is an integral part of my lifestyle	1	2	3	4	5	6	7
18. Because I take pleasure in fixing healthy meals	1	2	3	4	5	6	7
19. Because it is a way to ensure long-term health benefits	1	2	3	4	5	6	7
20. I don't know. I can't see how my efforts to eat healthy are helping my health situation	1	2	3	4	5	6	7
21. Because it is expected of me	1	2	3	4	5	6	7
22. Because eating healthy is congruent with other important aspects of my life	1	2	3	4	5	6	7
23. Because people around me nag me to do it	1	2	3	4	5	6	7
24. I don't know why I bother	1	2	3	4	5	6	7

Appendix C

Self-Compassion and Compassionate Self-Related Talk: Self-Compassion Scale (SCS)

Please read each statement carefully before answering. Please indicate how often you behave in the stated manner to situations like the one you described earlier.

Almost never			Some of the time			Almost all of the time
1	2	3	4	5	6	7

1. I'm disapproving and judgmental about my own flaws and inadequacies	1	2	3	4	5	6	7
2. I tend to obsess and fixate on everything that's wrong	1	2	3	4	5	6	7
3. When I feel bad about myself, I see the difficulties as part of life that everyone goes through	1	2	3	4	5	6	7
4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the world	1	2	3	4	5	6	7
5. I try to be loving towards myself by being positive about my attributes	1	2	3	4	5	6	7
6. I become consumed by feelings of inadequacies	1	2	3	4	5	6	7
7. I remind myself that there are lots of other people in the world feeling like I am	1	2	3	4	5	6	7
8. I tend to be tough on myself	1	2	3	4	5	6	7
9. I try to keep my emotions in balance and tell myself that it will pass	1	2	3	4	5	6	7
10. I try to remind myself that feelings of inadequacy are shared by most people	1	2	3	4	5	6	7
11. I'm intolerant and impatient towards those aspects of myself that I don't like	1	2	3	4	5	6	7
12. I give myself the caring and tenderness that I need like I would a friend	1	2	3	4	5	6	7
13. I tend to feel like most other people are probably happier than I am	1	2	3	4	5	6	7

14. When something painful happens, I try to take a balanced view of the situation	1	2	3	4	5	6	7
15. I try to see my failings as part of the human condition	1	2	3	4	5	6	7
16. When I see aspects of myself that I don't like, I get down on myself	1	2	3	4	5	6	7
17. I try to keep things in perspective	1	2	3	4	5	6	7
18. I tend to feel like other people must be having an easier time with it	1	2	3	4	5	6	7
19. I'm kind to myself and build myself up	1	2	3	4	5	6	7
20. I get carried away with my feelings	1	2	3	4	5	6	7
21. I can be a bit cold-hearted towards myself	1	2	3	4	5	6	7
22. I try to approach my feelings with curiosity and openness	1	2	3	4	5	6	7
23. I'm tolerant of my own flaws and inadequacies	1	2	3	4	5	6	7
24. I tend to blow the incident out of proportion	1	2	3	4	5	6	7
25. I tend to feel alone	1	2	3	4	5	6	7
26. I try to be understanding and patient towards aspects of myself that I don't like	1	2	3	4	5	6	7

Appendix D

Body-Related Self-Discrepancy Recall Task

Please briefly describe a recent situation where you either behavior or felt counter to your attitude/beliefs about your body (i.e., if you believe that taking care of your body via health behaviors is important, but you ate unhealthily or decided not to exercise; if you engaged in negative self-related body talk or were self-critical about your appearance but usually are positive about your body or vice versa).

_____
_____
_____

Context of the Body-Related Self-Discrepancy
In which context did this situation occur?

- Private (alone)
- Public (in the presence of others)

Frequency of the Body-Related Self-Discrepancy

How often do similar situations occur on a daily basis?

_____

Appendix E

Dissonance Arousal: Inconsistency Induced Affect Scale (IIAS)

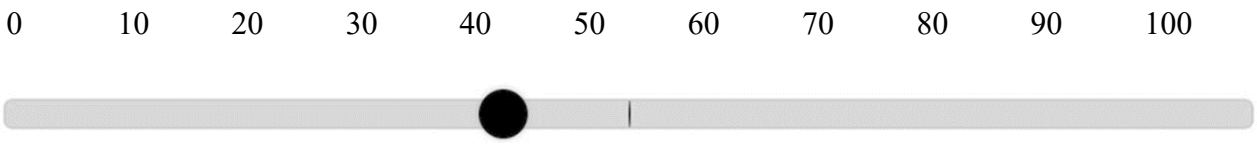
After [recalling that situation/mirror task], to what extent are you feeling the following emotions right now from 1, not at all, to 7, very much?

Not at all			Moderately					Very much
1	2	3	4	5	6	7		
1. Discouraged			1	2	3	4	5	6	7
2. Guilty			1	2	3	4	5	6	7
3. Disappointed			1	2	3	4	5	6	7
4. Uneasy			1	2	3	4	5	6	7
5. Hypocritical			1	2	3	4	5	6	7
6. Ashamed			1	2	3	4	5	6	7
7. Dissatisfied			1	2	3	4	5	6	7
8. Uncomfortable			1	2	3	4	5	6	7
9. Bothered			1	2	3	4	5	6	7

Appendix F

Perceived Stress: Visual Analog Scale

In general, how stressed do you feel? Please use the scale from 0, not at all stressed, to 100, very stressed to indicate your relative stress level in this moment.



Appendix G

State Body Image Satisfaction: Body Image Satisfaction Scale (BISS)

For each of the items below, check the box beside the one statement that best describes how you feel RIGHT NOW, AT THIS VERY MOMENT. Read the items carefully to be sure the statement you choose accurately and honestly described how feel right now.

1.Right now I feel …
- o Extremely dissatisfied with my physical appearance
- o Mostly dissatisfied with my physical appearance
- o Moderately dissatisfied with my physical appearance
- o Slightly dissatisfied with my physical appearance
- o Neither dissatisfied nor satisfied with my physical appearance
- o Slightly satisfied with my physical appearance
- o Moderately satisfied with my physical appearance
- o Mostly satisfied with my physical appearance
- o Extremely satisfied with my physical appearance

2. Right now I feel …
- o Extremely dissatisfied with my body size and shape
- o Mostly dissatisfied with my body size and shape
- o Moderately dissatisfied with my body size and shape
- o Slightly dissatisfied with my body size and shape
- o Neither dissatisfied nor satisfied with my body size and shape
- o Slightly satisfied with my body size and shape
- o Moderately satisfied with my body size and shape
- o Mostly satisfied with my body size and shape
- o Extremely satisfied with my body size and shape

3. Right now I feel …
- o Extremely dissatisfied with my weight
- o Mostly dissatisfied with my weight
- o Moderately dissatisfied with my weight
- o Slightly dissatisfied with my weight
- o Neither dissatisfied nor satisfied with my weight
- o Slightly satisfied with my weight
- o Moderately satisfied with my weight
- o Mostly satisfied with my weight
- o Extremely satisfied with my weight

4. Right now I feel …
- o Extremely physically attractive
- o Very physically attractive
- o Moderately physically attractive
- o Slightly physically attractive

- Neither attractive or unattractive
- Slightly physically unattractive
- Moderately physically unattractive
- Very physically unattractive
- Extremely physically unattractive

5. Right now I feel …
   - A great deal worse about my looks than I usually feel
   - Much worse about my looks than I usually feel
   - Somewhat worse about my looks than I usually feel
   - Just slightly worse about my looks than I usually feel
   - About the same about my looks as usual
   - Just slightly better about my looks than I usually feel
   - Somewhat better about my looks than I usually feel
   - Much better about my looks than I usually feel
   - A great deal better about my looks than I usually feel

6. Right now I feel …
   - A great deal better than the average person looks
   - Much better than the average person looks
   - Somewhat better than the average person looks
   - Just slightly better than the average person looks
   - About the same as the average person looks
   - Just slightly worse than the average person looks
   - Somewhat worse than the average person looks
   - Much worse than the average person looks
   - A great deal worse than the average person looks

Appendix H

Dissonance Compensation Strategies: The Abbreviated Inconsistency Compensation Strategies Scale (AICSS)

Please indicate the extent you use(d) the following strategies during the [insert task]

Never			Some of the time			All the time
1	2	3	4	5	6	7

1. I actively thought about or planned to engage in health behaviors to resolve my feelings	1	2	3	4	5	6	7
2. Concluded that I could not have acted any other way under the circumstances	1	2	3	4	5	6	7
3. Decided that there is no need to alter my cognitions about myself or my health behaviors	1	2	3	4	5	6	7
4. Concluded that my thoughts are indicative of my true attitudes about myself	1	2	3	4	5	6	7
5. Actively thought about making changes in my surroundings or cognitions the next chance I have	1	2	3	4	5	6	7
6. Thinking that the action I just did, despite being inconsistent with my attitudes toward myself, was consistent with other values and goals I consider important	1	2	3	4	5	6	7
7. Immediately thinking of ways to correct myself through actions	1	2	3	4	5	6	7

Appendix I

Body Image Coping Strategies: Body Image Coping Strategies Inventory (BICSI)

Using the scale from 1 to 4, please indicate how these statements reflect how you react(ed) to [insert task].

Definitely not like me	Mostly not like me	Mostly like me	Definitely like me
1	2	3	4

1. I try to tune out my thoughts and feelings	1	2	3	4
2. I try to ignore the situation and my feelings	1	2	3	4
3. I avoid looking at myself in the mirror	1	2	3	4
4. I eat something to help me deal with the situation	1	2	3	4
5. I told myself that I am helpless to do anything about the situation	1	2	3	4
6. I react by overeating	1	2	3	4
7. I withdraw and interact less with others	1	2	3	4
8. I make no attempt to cope or deal with the situation	1	2	3	4
9. I do something to try to look more attractive	1	2	3	4
10. I spend extra time trying to fix what I don’t like about my looks	1	2	3	4
11. I think about what I should do to change my looks	1	2	3	4
12. I compare my appearance to that of physically attractive people	1	2	3	4
13. I make a special effort to hide or “cover up” what's troublesome about my looks.	1	2	3	4
14. I make a special effort to look my best.	1	2	3	4

Appendix J

Positive and Negative Self-Related Body Talk: Body Talk Scale (BTS)

When you were in the mirror, how often did you think/say the following comments about your body?

Never	Rarely	Sometimes	Often	Frequently	Always
1	2	3	4	5	6

1. I need to lose some weight	1	2	3	4	5	6
2. I feel fat	1	2	3	4	5	6
3. My clothes are too tight	1	2	3	4	5	6
4. I should stop eating fattening foods	1	2	3	4	5	6
5. I need to exercise more so I can lose some weight	1	2	3	4	5	6
6. I wish I was more muscular	1	2	3	4	5	6
7. I wish my body were stronger	1	2	3	4	5	6
8. I should eat foods that promote muscle growth	1	2	3	4	5	6
9. I need to life weights more often to build muscle	1	2	3	4	5	6
10. I like the way that I look	1	2	3	4	5	6
11. I feel good about my body	1	2	3	4	5	6
12. I am proud of what my body can do	1	2	3	4	5	6
13. I am happy with my eating habits	1	2	3	4	5	6
14. I am satisfied with my exercise habits	1	2	3	4	5	6

Appendix K

Intentions to Engage in Healthy Eating Behavior: Healthy and Unhealthy Eating Behavior Scale (HUEBS)

In the following week, to what extent do you intend to do the following activities from 1, not at all, to 4, somewhat, to 7, very much?

Not at all likely			Somewhat likely			Definitely likely
1	2	3	4	5	6	7

1. Eat more fruits	1	2	3	4	5	6	7
2. Eat more vegetables	1	2	3	4	5	6	7
3. Limit/decrease intake of deep-fried foods	1	2	3	4	5	6	7
4. Limit/decrease intake of high calorie snacks foods (i.e., chips, cookies)	1	2	3	4	5	6	7
5. Limit/decrease intake of refined grains (e.g., white bread, white rice) and increase intake of whole grains (e.g., brown bread, brown rice)	1	2	3	4	5	6	7
6. Limit/decrease intake of processed foods (i.e., pre-packaged meats, cereals etc.)	1	2	3	4	5	6	7
7. Increase variety in my diet (i.e., supplementing legumes and meat supplements for protein intake, eating green, orange, and red fruits and vegetables)	1	2	3	4	5	6	7

Appendix L

Intentions to Engage in Disordered Eating Behavior: Eating Disorder-15 Behavior Subscale

In the following week, to what extent do you intend to do the following activities from 1, not at all, to 4, somewhat, to 7, very much?

Not at all likely			Somewhat likely					Definitely likely	
1	2	3	4	5	6	7			
1. Binge on food to feel better			1	2	3	4	5	6	7
2. Vomit to control my weight			1	2	3	4	5	6	7
3. Use laxatives to control my weight/shape			1	2	3	4	5	6	7
4. Restrict or diet in order to control my weight			1	2	3	4	5	6	7
5. Exercise hard or excessively in order to control my weight			1	2	3	4	5	6	7

Appendix M

Audio Recording Scripts for the Mirror Tasks

Guided Mirror Task Without the Manipulation of Body Talk

Now we will begin the session, please look in the mirror and try to focus on the appearance of your **face.** Describe aspects of your face either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **chest.** Describe aspects of your **chest** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **stomach.** Describe aspects of your **stomach** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **arms.** Describe aspects of your **arms** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **thighs.** Describe aspects of your **thighs** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **buttocks.** Describe aspects of your **buttocks** either out loud or through internal talk. If you need to, you can move around to get different angles. The session is over. You can now leave the mirror and go back to your computer to complete the remainder of the questionnaires.

Guided Mirror Task Manipulation of Negative Body Talk

Now we will begin the session, please look in the mirror and try to focus on the appearance of your **face.** Try to negatively think about or negatively describe aspects of your face either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **chest.** Try to negatively think about or negatively describe aspects of your **chest** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **stomach.** Try to negatively think about or negatively describe aspects of your **stomach** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **arms.** Try to negatively think about or negatively describe aspects of your **arms** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **thighs.** Try to negatively think about or negatively describe aspects of your **thighs** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **buttocks.** Try to negatively think about or negatively describe aspects of your **buttocks** either out loud or through internal talk. If you need to, you can move around to get different angles. The session is over. You can now leave the mirror and go back to your computer to complete the remainder of the questionnaires.

Guided Mirror Task Manipulation of Positive/Compassionate Body Talk

Now we will begin the session, please look in the mirror and try to focus on the appearance of your **face.** Try to positively or compassionately think about or positively describe aspects of your face either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **chest.** Try to positively or compassionately think about or positively describe aspects of your **chest** either out loud or through internal talk. If you need to,

you can move around to get different angles. Now shift your focus to your **stomach.** Try to positively or compassionately think about or positively describe aspects of your **stomach** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **arms.** Try to positively or compassionately think about or postively describe aspects of your **arms** either out loud or through internal talk. If you need to, you can move around to get different angles. Now shift your focus to your **thighs.** Try to positively or compassionately think about or positively describe aspects of your **thighs** either out loud or through internal talk. If you need to, you can move around to get different angles.
Now shift your focus to your **buttocks.** Try to positively or compassionately think about or positively describe aspects of your **buttocks** either out loud or through internal talk. If you need to, you can move around to get different angles. The session is over. You can now leave the mirror and go back to your computer to complete the remainder of the questionnaires.