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Interpersonal rejection and self-affirmation: The moderating effect of body weight contingent self-worth on women's body image evaluation

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INTERPERSONAL REJECTION AND SELF-AFFIRMATION: THE MODERATING EFFECT OF BODY WEIGHT CONTINGENT SELF-WORTH ON WOMEN'S BODY IMAGE EVALUATION

by

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ABSTRACT

Drawing upon the contingencies of self-worth and sociometer theories of self-esteem, these studies were devised to extend existing literature on the moderating effect of body weight contingent self-worth on the impact of interpersonal rejection on women's body image evaluations. Two experimental studies were conducted. Study 1 was designed to assess the prediction that women with elevated body weight contingent self-worth would defensively self-enhance within the domain of body image in response to rejection. After completing an online survey comprised of covariate and moderator measures, female undergraduates (N = 159) attended the laboratory and were assigned to either a peer rejection or a neutral control condition, after which they completed explicit and indirect measures of body image evaluation. In line with expectations, women with higher body weight contingent self-worth reported significantly lower state body satisfaction and appearance self-esteem than did those lower in body weight contingent self-worth. Contrary to predictions, women higher in body weight contingent self-worth did not differ in their explicit reports of state body satisfaction or appearance self-esteem depending on experimental condition. Unexpectedly, virtue contingent self-worth was the only self-worth contingent domain to moderate the impact of rejection on women's body image evaluations. Women with higher virtue contingent self-worth who experienced rejection reported significantly greater state appearance self-esteem relative to those who were not rejected. The lack of interactive effects between body weight contingent self-worth and rejection on body image evaluation was attributed to the possibility of an additional threat to body image posed by the presentation of candy. The unexpected moderating effect of virtue contingent self-worth on the impact of rejection was interpreted as defensive compensatory self-enhancement in the alternative domain of appearance. Study 2 was designed to determine whether providing women with an opportunity to self-affirm within

an intrinsic and relational domain would ameliorate defensive self-enhancement following rejection. Following completion of an online survey comprised of covariate and moderator measures, female undergraduates ($N = 105$) attended the laboratory where they all were exposed to rejection, assigned to either a kindness self-affirmation or a neutral control condition, and completed explicit and indirect measures of body image evaluation. Contrary to predictions, body weight contingent self-worth did not moderate the impact of self-affirmation after rejection on explicit measures of state body satisfaction or appearance self-esteem. However, women with higher body weight contingent self-worth who self-affirmed following rejection reported significantly lower shape- and weight-based self-esteem relative to those who were rejected but unaffirmed. Unexpectedly, women who self-affirmed after rejection generally reported significantly lower state social self-esteem than did rejected but unaffirmed women. Supplementary analyses revealed that women with higher virtue contingent self-worth who self-affirmed following rejection demonstrated significantly lower state appearance self-esteem than did those who were rejected but did not self-affirm. This suggests that self-affirming a social and intrinsic domain following interpersonal rejection can draw attention to one's shortcomings within the threatened domain, but that it also can improve the body image evaluations of women higher in body weight contingent self-worth and reduce defensive appearance self-enhancement for women with elevated virtue contingent self-worth. Together, these results expand upon past research on the impacts of interpersonal rejection and self-affirmation, and suggest that their effects on body image evaluation depend at least partially upon the domains on which women's self-worth is most contingent.

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LIST OF ABBREVIATIONS

BDI-II	Beck Depression Inventory-II
BISS	Body Image States Scale
BMI	Body Mass Index
BWCSWS	Body Weight Contingency of Self-Worth Scale
CSW	Contingency of self-worth
CSWS	Contingencies of Self-Worth Scale
DQ	Demographics questionnaire
IAT	Implicit Association Test
MCSDS	Marlowe-Crown Social Desirability Scale
MI	Multiple Imputation
MMRA	Moderated multiple regression analysis
MVA	Missing values analysis
PANAS	Positive and Negative Affect Schedule
PANAS-PA	Positive and Negative Affect Schedule – Positive Affect
PANAS-NA	Positive and Negative Affect Schedule – Negative Affect
REB	Research Ethics Board
RRS	Revised Restraint Scale
RSES	Rosenberg Self-Esteem Scale
RSMS	Revised Self-Monitoring Scale
SAWBS	Shape and Weight Based Self-Esteem Inventory
SCR	Suspicious Cases Removed
SCS	Self-Consciousness Scale
SSES	State Self-Esteem Scale
SSES-Total	State Self-Esteem Scale, Global scale
SSES-Appearance	State Self-Esteem Scale, Appearance subscale
SSES-Performance	State Self-Esteem Scale, Performance subscale
SSES-Social	State Self-Esteem Scale, Social subscale

I. INTRODUCTION

Body satisfaction is an important facet of body image attitudes that refers to evaluative beliefs about one's appearance (Cash, 2012). Body dissatisfaction is so common among girls and women that is widely considered as "normative" (Rodin, Silberstein, & Striegel-Moore, 1984, p. 267). Among adults, the prevalence of physical appearance concerns is highest among women between the ages of 18 and 60 (Harris & Carr, 2001), such that up to 91% of women report being dissatisfied with their current body size (Runfola et al., 2013). Understanding the factors contributing to body dissatisfaction in women is important, as it is associated with a lower quality of life (Mond et al., 2013), and because it is one of the most consistent and robust predictors of disordered eating behaviour (Stice, 2001) and the development of clinical eating disorders (Cooley & Toray, 2001; Johnson & Wardle, 2005).

Self-esteem, which refers to one's subjective evaluation of the self as intrinsically positive or negative (James, 1890; Sedikides & Gregg, 2003), is strongly linked to body satisfaction. Indeed, body satisfaction and appearance-related self-esteem are so closely associated with global self-esteem that they are considered integral to how one feels about the self in general (Tiggemann, 2011). Low self-esteem is strongly related to body dissatisfaction among female adolescents of various ethnic and socioeconomic backgrounds (van den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010), and with negative body image attitudes in female adults across the lifespan (Wilcox, 1997). Consequently, low self-esteem also is considered a major predictor in the development of disordered eating (Button, Sonuga-Barke, Davis, & Thompson, 1996; Dykens & Gerrard, 1986). Research shows that women with eating disorders strongly derive their self-worth from their physical appearance (Geller et al., 1998), and that overvaluation of body

weight and shape is a vital component of their overall self-esteem (Cooper & Fairburn, 1993; Goldfein, Walsh, & Midlarsky, 2000). Given the close association between self-esteem and body image, the overall objective of the present research was to investigate body image evaluations of women within the context of two theoretical perspectives on self-esteem: the contingencies of self-worth theory and the sociometer theory.

Contingencies of Self-Worth

A major determinant of self-esteem is one's perceived performance in self-important domains. According to Crocker and Wolfe's (2001) *contingencies of self-worth theory*, contingencies of self-worth are the specific domains of life from which people derive their self-esteem. Crocker and colleagues describe seven contingencies of self-worth that are common in university students: other's approval, academic achievement, God's love, family support, virtue, competition, and physical appearance (Crocker, Karpinski, Quinn, & Chase, 2003; Crocker, Luhtanen, Cooper, & Bouvrette, 2003). Individuals vary in their contingencies of self-worth, and self-worth can be based on one or more domains. For example, whereas one person's self-worth may be highly contingent on virtue, another's may be strongly based on physical appearance. Contingencies of self-worth are theorised to form over the course of development, where certain domains become important in relation to an individual's specific competencies (Harter, 1999), through meaningful experience, and in response to social influences (Ruble, 1987). For instance, people who are socially rewarded primarily for their academic success will tend toward basing their self-worth in the academic achievement domain, whereas those who receive social reinforcement primarily for their physical attractiveness are more likely to derive their self-worth from the domain of appearance.

Central to the contingences of self-worth theory is the proposition that people seek to

maintain and protect their self-esteem by pursuing success and avoiding failure in the domains on which their self-worth is based (Crocker & Park, 2003; Crocker & Wolfe, 2001). According to this perspective, efforts to sustain one's self-esteem are concentrated on self-important domains, such that individuals exert more energy to maintain self-esteem in contingent relative to noncontingent domains (Crocker et al., 2003b). For instance, women with elevated physical appearance contingent self-worth are more likely to spend time on behaviours related to appearance, such as grooming, dieting, and exercising, and less likely to spend time on behaviours associated with areas of life on which their self-worth is less contingent (Crocker et al., 2003b).

The contingencies of self-worth theory theorises that state self-esteem fluctuates according an individual's accomplishments in contingent domains, and that trait self-esteem develops as a result of average success and failure in contingent domains over the course of life experience (Crocker, 2002a; Crocker & Park, 2003). Furthermore, success and failure in contingent domains affects individuals' overall sense of self-worth (Crocker & Wolfe, 2001). For example, the more students base their self-worth on academic success, the more their global self-esteem decreases on days when they receive worse-than-expected grades (Crocker et al., 2003a) and following rejection during the graduate admission process (Crocker, Sommers, & Luthanen, 2002). Similarly, negative social feedback regarding one's interpersonal qualities results in lower global self-esteem for those who base their self-worth on others' approval than it does for those whose self-worth is less contingent on this domain (Park & Crocker, 2008). Because contingencies of self-worth influence how people feel about themselves in general, individuals remain highly vigilant for information and events that are relevant to their self-worth contingencies (Crocker & Wolfe, 2001).

The Body Weight Contingency of Self-Worth

Among the domains on which self-esteem can be contingent, physical appearance is particularly important for both men and women (Harter, 1999), and of the various components of physical appearance, body weight is a demonstrated facet of central importance for women (Fan, Liu, Wu, & Dai, 2004; Puhl & Boland, 2001; Swami, Greven, & Furnham, 2007; Tovée & Cornelissen, 2001; Tovée, Maisey, Emery, & Cornelissen, 1998). In Western culture, slimness is regularly promoted and rewarded in women through various media platforms (Fouts & Burggraf, 1999; 2000). The media's portrayal of the thin ideal, an idealised norm for female bodies that emphasises slenderness, leads women to view this ideal as expected, achievable, normative, and central to their physical attractiveness (Grabe, Ward, & Hyde, 2008). Indeed, the sociocultural norms that idealise the thin ideal are so prevalent that body weight is considered a primary aspect of the female identity (Grover, Keel, & Mitchell, 2003). Given this importance of body weight for women's sense of self, Clabaugh, Karpinski, and Griffin (2008) contend that the emphasis on slimness in Western culture contributes to the development of body weight as a specific contingency of self-worth in many women.

The *body weight contingency of self-worth*, which refers to the tendency to base one's self-worth on body weight, is considered an external contingency of self-worth. Whereas *internal contingencies of self-worth* are based on core, unique, or abstract features of the self, *external contingencies of self-worth* are based on superficial self-aspects. According to Crocker (2002b), whereas virtue and God's love are considered relatively internal and stable contingencies of self-worth, the contingencies that are regarded to be particularly external and unstable include competition, others' approval, and physical appearance.

External contingencies of self-worth are associated with greater sensitivity to socially evaluative information (Crocker, 2002b), as self-worth in these domains is highly dependent on validation from others (Crocker & Wolfe, 2001). Because external domains are more vulnerable to external threat than are internal contingencies, threatening information within external domains results in greater damage to an individual's overall sense of self-worth (Crocker & Wolfe, 2001). As a result, individuals who base their self-worth on external domains also tend to have unstable and low global self-esteem (Crocker et al., 2002). This is particularly the case for women who base their self-worth on body weight (Clabaugh et al., 2008). As such, women with higher body weight contingent self-worth are vulnerable to negative body image-related consequences, such as low appearance esteem and body dissatisfaction (O'Driscoll & Jarry, 2015), as well as greater subjective weight, body shape anxiety, and disordered eating behaviours (Clabaugh et al., 2008). Perhaps unsurprisingly, they also are highly susceptible to depression, generalised anxiety, and reduced life satisfaction (Clabaugh et al., 2008). Due to the unhealthy psychological outcomes associated with body weight contingency of self-worth, the proposed research is focused on this specific domain in particular.

The Sociometer Theory

Another demonstrated major determinant of self-esteem is interpersonal connectedness. According to the *sociometer theory*, self-esteem functions as an internal monitor of one's perceived relational value to others (Leary & Baumeister, 2000; Leary & Downs, 1995). *Relational value* is conceptualised as the extent to which an individual perceives that he or she possesses characteristics of value in interpersonal relationships (Leary, 2001; MacDonald & Leary, 2012). From this perspective, fluctuations in self-

esteem provide feedback on one's relational value, and subjective feelings of low or declining self-esteem motivate people to engage in behaviours to preserve their perceived inclusionary social status (MacDonald & Leary, 2012). Therefore, it is posited that people seek to engage in behaviours that enhance and maintain their self-esteem, not due to drive for higher self-esteem in and of itself, but instead because effective efforts increase one's perceived relational value, which in turn improves the probability of social inclusion and decreases the likelihood of exclusion (Leary & Baumeister, 2000). Therefore, from the sociometer perspective, state self-esteem is a reflection of one's perceived inclusionary social status at a given point in time, whereas trait self-esteem represents an overall appraisal of one's relational value across situations and over time (Leary, 1999; MacDonald & Leary, 2012).

The sociometer theory was derived from the *belongingness hypothesis*, which posits that humans have evolved an inborn 'need to belong,' a universal drive to form interpersonal relationships with others (Baumeister & Leary, 1995; Leary & Baumeister, 2000). Just as close relationships provide support during times of stress, a lack of positive relationships with others is related to negative mental and physical health outcomes (see Gardner, Gabriel, & Diekman, 2000 for a review), including social anxiety, jealousy, loneliness and depression (Leary, 1990), psychopathology (Bloom, White, & Asher, 1979; Hamachek, 1992), suicide (Holmes, Mateczun, Lall, & Wilcove, 1998), as well as reduced immune functioning and physical illness (Cacioppo, Hawkley, & Bernston, 2003; Cobb, 1976). Accordingly, the sociometer theory posits that self-esteem represents an internal mechanism that has evolved to monitor the environment for cues related to the quality of one's social relationships (Leary & Baumeister, 2000). When environmental cues indicate changes to one's perceived inclusionary social status,

the individual is alerted by means of decreased or increased self-esteem.

Interpersonal Rejection and Self-Esteem

Interpersonal rejection is conceptualised within the sociometer theory as a subjective experience in which an individual perceives that his or her relational value is insufficient (Leary, 2005b). As this theory posits that self-esteem itself is a reflection of perceived relational value, interpersonal rejection should represent a significant threat to an individual's sense of self-worth. In support of this proposition, individuals who are socially accepted feel relationally valued and tend to report higher self-esteem (Baumeister & Leary, 1995), whereas those who are rejected consistently demonstrate a lower overall sense of self-worth (see Leary, 2005a for a review). Indeed, rejection by anonymous strangers can lead individuals to experience damaged self-esteem and hurt feelings (e.g., Leary, Springer, Negel, Ansel, & Evens, 1998; Leary et al., 1995). Leary and colleagues (1998) demonstrated that even the self-esteem of people who report that they are unaffected by the evaluations of others are influenced by accepting and rejecting feedback. Overall, evidence suggests that people's overall sense of self-worth is closely and strongly associated with the extent to which they perceive themselves to be relationally valued.

Although the sociometer theory posits that self-worth is a reflection of both interpersonal inclusion and exclusion, research by Leary, Tambor, Terdel, and Downs (1995) demonstrates that damage to self-esteem resulting from rejection is significantly more salient than is enhancement to self-esteem resulting from the experience of acceptance. Social exclusion typically represents a more discrepant and unexpected event relative to inclusion, and therefore it is more likely to provoke stronger reactions in terms of its influence on self-esteem (Leary, 2005a). As such, Leary and colleagues

propose that sociometer systems have evolved to scan the social environment for any indications and one's relational value is low or declining (Leary, 2005a). Rejection is considered particularly threatening to an individual's overall sense of self-worth because it not only denotes a threat to one's relationships with others, it also is interpreted as an indication that one does not possess qualities that are desirable in social relationships (Sommers, 2001). From an evolutionary standpoint, indications that one's relational value may be threatened are particularly salient because they alert to the possibility of social exclusion, and therefore motivate behaviour to restore perceived inclusionary social status. Conversely, cues indicating that one is socially accepted are less salient because they represent an expected and desired situation, and therefore require little or no behavioural adjustment (Leary, 2005a). For these reasons, the present research is focussed on the effects of interpersonal rejection rather than acceptance.

Contingencies of Self-Worth and Sociometer Theory

MacDonald, Saltzman, and Leary (2003) propose that the effects of contingencies of self-worth on global self-esteem are likely driven by the implications of success and failure in contingent domains for one's perceived relational value. Due to the significance of relational value for the maintenance of self-esteem, they posit that individuals pursue self-esteem in domains that they perceive to be particularly important for gaining social approval and avoiding disapproval. As previously noted, people develop contingencies of self-worth in response to salient and important life experiences and within the context of socialisation (Harter, 1999). Therefore, the domains that become most central to an individual's sense of self-worth are those that are perceived to be important and are reinforced by others. From the perspective of the sociometer theory, contingencies of self-worth may be considered "contingencies of relational value"

(MacDonald et al., 2003, p. 36).

There is some evidence to support the link between contingencies of self-worth and perceived relational value. Specifically, research shows that people's self-esteem is affected by their self-evaluations in domains that they perceive to be important to others. Individuals with elevated virtue and appearance contingent self-worth report perceiving these domains to be more important to social evaluations than other domains (vanDellen, Hoy, & Hoyle, 2009). In addition, adolescent girls and boys show greater feelings of global self-worth when they believe that they are competent in domains that they believe to be important to their parents (Harter & Marold, 1991). Similarly, self-ratings of attractiveness are more strongly related to global trait self-esteem in university men and women who regard attractiveness as important for obtaining others' approval, compared to those who believe that attractiveness is of lesser social importance (MacDonald et al., 2003). This research suggests that the domains regarded as most important to self-worth are those considered most relevant for one's relational value.

Furthermore, Crocker (2002a) proposes that contingencies of self-worth not only represent domains in which individuals are most likely to seek self-esteem, but they also represent the domains in which people are most vulnerable to failure or rejection. Accordingly, research has shown that that the effects of others' domain-specific evaluations on an individual's self-esteem depend on the extent to which his or her self-worth is based on this domain. Crocker and colleagues (2002) demonstrated that during the graduate admission process, students who base their self-worth on academic success reported greater state self-esteem on days they were admitted to a graduate program and lower state self-esteem on the days they were rejected by these programs. Similarly, Park and Crocker (2008) showed that individuals who base their self-worth on the domain of

others' approval and who received negative interpersonal feedback in turn exhibited lower state self-esteem, compared to those who did not base their self-worth on others' approval. This research suggests that the effect of others' evaluations and relational devaluation on self-esteem depends on an individual's particular contingencies of self-worth.

Furthermore, vanDellen and colleagues (2009) examined individuals with domain-contingent self-worth to determine whether domain-specific outcomes are cognitively associated with social outcomes. They demonstrated that, after viewing a negative appearance prime, in contrast to a positive appearance prime or a nonword prime, people with higher appearance contingent self-worth were quicker to recognise exclusion-related target words on a lexical decision task relative to those with lower appearance contingent self-worth. In an additional study, these authors had participants write about an incident of social exclusion or a time when they were lost, after which they completed a word stem completion task. Results showed that those who based their self-worth highly on virtue demonstrated greater cognitive accessibility for negative compared to positive virtue-related words after reflecting on a time that they were excluded, but not after writing about a time when they were lost. There was no effect of experimental manipulation on cognitive accessibility of virtue-related words for those who based their self-worth on virtue to a lesser extent. These findings demonstrate that people with domain-contingent self-worth cognitively associate negative domain-specific outcomes with social exclusion and vice versa.

Together, the literature indicates that people's self-esteem is affected by their self-evaluations in domains that they perceive to be important to others, that evaluative social feedback that is specific to one's contingent self-worth domains has a potent impact on

one's overall sense of worth, and that people with domain contingent self-worth cognitively associate negative domain-specific outcomes with social exclusion. However, although previous research has examined the effects of domain-specific feedback on global self-esteem and the association between social exclusion-related cues and domain-specific outcomes, the question of the effects of direct exposure to more general interpersonal rejection on domain specific self-worth remained unexplored until recently.

The Body Weight Contingency of Self-Worth and Sociometer Theory

The first study to examine the impact of interpersonal rejection on a contingent self-worth domain was conducted by O'Driscoll and Jarry (2015), who investigated the potential moderating effect of body weight contingent self-worth on the impact of interpersonal rejection on women's body image evaluations. Because contingencies of self-worth are posited to reflect the domains in which people are most vulnerable to failure or rejection (Crocker, 2002a), it was expected that interpersonal rejection would most strongly and negatively affect the body satisfaction and appearance self-esteem of women whose sense of self-worth was highly contingent on body weight. Therefore, it was hypothesised that women with higher body weight contingent self-worth who were exposed to rejection would report lower body satisfaction and appearance self-esteem than would their counterparts unexposed to rejection. Further, because contingencies of self-worth are posited to reflect contingencies of relational value (e.g., Leary & Downs, 1995), O'Driscoll and Jarry (2015) predicted that the effect of interpersonal rejection on body image evaluation would be moderated specifically by body weight contingent self-worth, and that other domains of contingent self-worth would not moderate this effect. Similarly, it was predicted that for women whose self-worth is highly contingent on body

weight, the effect of interpersonal rejection would be unique to the domain of body image, and that other domains of self-esteem, such as social and performance, would be relatively unaffected.

To test these predictions, O'Driscoll and Jarry (2015) exposed women varying in levels of body weight contingent self-worth to either interpersonal rejection from peers or to a neutral condition involving no relational feedback. In line with previous research demonstrating that body weight contingent self-worth is associated with negative body image-related outcomes (Clabaugh, 2008; Clabaugh et al., 2008) and consistent with predictions, the results showed that women with higher body weight contingent self-worth reported lower state body satisfaction and appearance self-esteem than did those who based their self-worth in this domain to a lesser extent, regardless of experimental condition. Furthermore, as predicted, no other contingencies of self-worth had an interactive effect with rejection on state body satisfaction or appearance self-esteem. Similarly, the effect of interpersonal rejection on women with higher body weight contingent self-worth was specific to the body image domain and did not generalise to the social and performance dimensions of self-esteem. Additionally, when asked to report on why they believed that the other group members did not choose to work with them, more women with high body weight contingent self-worth attributed the rejection to their appearance than did women with low body weight contingent self-worth. Taken together, these results confirm that, for women who rely on their body weight for self-worth, interpersonal rejection impacted a consistent self-appraisal domain: body image evaluation.

Contrary to predictions, however, whereas there was no effect of rejection on the body image evaluations of women with lower body weight contingent self-worth, women

with higher body weight contingent self-worth reported *greater* body satisfaction and appearance self-esteem following rejection than did their counterparts not exposed to rejection. In other words, women whose self-worth was highly contingent on body weight responded to rejection by declaring themselves more satisfied with their body.

To make sense of these unexpected findings, O'Driscoll and Jarry (2015) speculated that this body image self-enhancement could be understood as a self-protective response. Evidence suggests that fragile self-esteem is associated with a propensity to feel threatened and with higher engagement in ego-protective processes (Kernis, 2003; Kernis, Cornell, Sun, Berry, & Harlow, 1993; Kernis, Grannemann, & Barclay, 1992). As body weight contingent self-worth in particular is associated with unstable self-esteem (Clabaugh et al., 2008), and because self-worth that is contingent on external domains such as body weight confers greater sensitivity to socially evaluative information (Crocker, 2002b), it was likely that this domain also is associated with a tendency to engage in compensatory defensive strategies in reaction to interpersonal rejection.

Self-Affirmation Theory

Though seemingly paradoxical, the body image self-enhancement exhibited by women with elevated body weight contingent self-worth in response to rejection is consistent with Steele's (1988) *self-affirmation theory*. A central tenet of this theory is that people are motivated to maintain a positive sense of self-integrity (Steele, 1988; Tesser, 1988). Integrity of the self is defined as the general perception that one is a "good and appropriate person" (Sherman & Cohen, 2006, p. 186). Due to uncomfortable feelings associated with threat and the centrality of self-esteem to everyday experience, people are vigilant to detect information that is threatening to their sense of self-worth (Sherman & Cohen, 2006; Steele, 1988). What is perceived to be a threat to one's

integrity varies by individual, but threats typically involve actual or perceived failures to meet important social or cultural standards (Leary & Baumeister, 2000). From this perspective, exposure to threatening information within a self-important domain has negative implications for an individual's global sense of self-worth. Viewed from the lens of sociometer theory, the drive to maintain one's self-integrity that underlies self-affirmation theory also may be considered as a motivation to protect one's perceived inclusionary social status (Sherman & Cohen, 2006).

When exposed to threats to self-integrity, people are motivated to diminish the threat and to attempt to repair their sense of self-worth (Sherman & Cohen, 2006). Self-affirmation theory posits that, to maintain an overall positive sense of self-integrity, threats can be managed by affirming alternative self-resources that are unrelated to the original threat itself (McQueen & Klein, 2006; Steele, 1988; Tesser, Martin, & Cornell, 1996). Steele's (1988) principle of *fluid compensation* suggests that domains of self-worth essentially are interchangeable, such that individuals can compensate for threats to one domain by self-affirming within any alternative domain. Self-affirmations can take different forms, but they typically entail reflecting upon, or engaging in an activity that makes salient aspects of life that are unconnected to the initial threat (Sherman & Cohen, 2006; Steele, 1988). For example, this theory posits that an individual can effectively compensate for threat to their overall self-integrity posed by failure on an exam by emphasising qualities in a different domain, such as their social connections or physical appearance.

To explain how self-affirmation exerts its effects, Sherman and Hartson (2011) emphasise that the function of self-affirmations is to maintain an *overall* sense of self-integrity. They suggest that global self-integrity is best conceptualised as a *self-system*

that comprises an individual's important roles, values, social identities, and belief systems. From this perspective, any of the self-important domains that comprise the self-system can be threatened or affirmed, such that each represents a potential avenue to an individual's overall sense of self-worth. Importantly, this self-system is suggested to be flexible, such that affirmations in one self-important domain can help to protect or maintain one's global self-integrity when an alternative domain is threatened (Sherman & Hartson, 2011). By drawing attention to an individual's overall self-integrity, self-affirmation potentially boosts an individual's self-resources and broaden an individual's perspective regarding the threat (Wakslak & Trope, 2009). In this manner, self-affirmation allows an individual to acknowledge threats without necessarily experiencing associated negative effects on well-being (Cook, Purdie-Vaughns, Garcia, & Cohen, 2012), therefore making optional the need to address the threat directly (Sherman & Cohen, 2006; Steele, 1988).

Means for Affirming Self-Integrity

Steele (1988) suggests that, in general, people tend to use the most salient and readily available means to restore their self-integrity following threats to their self-concept. This was demonstrated in research by Jarry and Kossert (2007), who showed that individuals use salient environmental cues to compensate for self-esteem threat. They demonstrated that after viewing thin models, women who had received a threat in the form of performance failure feedback on an alleged intellectual task in turn declared themselves more satisfied with their physical appearance and reported considering it less important than did those who had received success feedback. Jarry and Kossert (2007) conclude that exposure to the thin ideal may have increased the salience of appearance as an alternative source of self-esteem, thus prompting women to compensate for threat by self-

enhancing within this domain.

Just as cues from the environment can increase the accessibility of alternative sources of self-integrity, self-worth contingencies constitute salient self-resources that can be drawn upon to bolster one's integrity following threat. As previously discussed, contingencies of self-worth represent the domains of life from which people derive their self-esteem, and therefore, people seek to maintain and protect their global sense of self by pursuing success and avoiding failure in personally relevant domains (Crocker & Park, 2003; Crocker & Wolfe, 2001). Because contingent domains are central to the self-concept, it is reasonable to posit that these domains represent available sources of self-worth for individuals who are confronted with information that is threatening to their self-esteem. Indeed, considerable evidence suggests that self-enhancement efforts occur mainly in domains that matter most to an individual relative to those that do not (Sedikides, Gaertner, & Toguchi, 2003).

Therefore, in O'Driscoll and Jarry (2015), self-esteem threat in the form interpersonal rejection may have triggered an ego-protective response, prompting women higher in body weight contingent self-worth to compensate for threat to their perceived relational value, and protect their overall self-worth, by self-affirming within the valued domain of body image. In other words, the claimed elevated levels of body satisfaction and appearances self-esteem of these women may have represented a defensive and compensatory self-enhancement response to rejection. Conversely, for women lower in body weight contingent self-worth, body image likely would not have represented an important or salient domain for bolstering their self-worth, such that these women would not have considered body satisfaction and appearance self-esteem as immediate self-resources when responding to rejection.

Self-Enhancement and Behavioural Consistency

Though defensive responses serve the function of protecting global self-worth, there are potential negative implications associated with using self-enhancement to compensate for threat. Because individuals' actual performance in a domain may not be aligned with their explicit declared positive self-evaluations, responding to threat with self-enhancement is likely to induce cognitive dissonance for individuals who are uncertain as to whether they indeed possess the self-enhanced attributes. Because of the uncomfortable feelings associated with holding contradictory beliefs, people are strongly motivated to reduce feelings of dissonance (Festinger & Carlsmith, 1959). As a result, defensive self-enhancement in a particular domain may carry with it the perceived obligation to behave in a manner that is consistent with one's claimed positive self-evaluations.

Research confirms that individuals who self-enhance following threat tend to behave in a manner that is aligned with their declared self-evaluations. For example, Baumeister (1982) showed that following exposure to threat in the form of bogus feedback on a personality assessment, those who responded with self-enhancement by rating themselves positively on attributes associated with cooperativeness in turn behaved in a more cooperate manner on the Prisoner's Dilemma game than did those who did not self-enhance. Likewise, Brown and Smart (1991) demonstrated that following threat in the form of an alleged test of intellectual ability, participants who responded with self-enhancement by rating themselves positively in the alternative domain of prosocial behaviour also were more likely to agree to help a graduate student allegedly in need of assistance than were participants who did not respond to threat with self-enhancement.

Given this tendency toward behavioural consistency following defensiveness, the use

of body image as a source of self-enhancement may prove problematic. In Western culture, an exaggerated and narrowly defined standard of thinness is strongly emphasised as the female ideal, to the extent that current ideals have become virtually unattainable for most women (e.g., Richins, 1991; Silverstein, Perdue, Peterson, & Kelly, 1986). Because women whose self-worth is contingent on the domain of body weight tend to demonstrate high levels of body dissatisfaction (O'Driscoll & Jarry, 2015), responding to interpersonal rejection by claiming to be satisfied with one's body is likely to induce substantial cognitive dissonance for those who may feel that they are unable to achieve or possess the thin body that they perceive to be worthy of their claimed satisfaction (Jarry & Kossert, 2007). Due to the fact that people are motivated to reduce feelings of dissonance (Festinger & Carlsmith, 1959), and because self-esteem that is contingent on external domains such as body weight is heavily reliant on validation from others, the claimed satisfaction in this domain may imply a felt obligation to align one's appearance and body weight with one's claims and, thereby, with appearance-related social standards and expectations. Therefore, if the defensive interpretation put forth by O'Driscoll and Jarry (2015) is correct for women who rely highly on body weight for self-worth, this artificial bolstering of body image satisfaction may carry with it the need to engage in appearance modification strategies, such as restricted eating, as means to approach social standards of thinness.

Limitations of O'Driscoll and Jarry (2015)

Although O'Driscoll and Jarry's (2015) research provides an initial investigation into the moderating effects of body weight contingent self-worth in the impact of interpersonal rejection on body image evaluation, there are important limitations to their research. Specifically, the results were based on explicit self-report measures of body

image evaluation. This makes it impossible to determine whether the claimed body image satisfaction reported by women with higher body weight contingent self-worth was ego-protective, or whether it in fact was a reflection of their genuine appraisal of their appearance. In the absence of less explicit supporting data regarding their body image evaluations, the interpretation that this reported greater body image satisfaction reflects defensive compensatory self-enhancement remains an empirical question.

Overview of the Present Studies

In two experimental studies, this research expanded upon O'Driscoll and Jarry (2015) by further examining the nature of the greater body image satisfaction claimed by women whose self-worth is contingent on their weight in response to interpersonal rejection. Study 1 was designed to assess whether the claimed positive body image evaluations of women whose self-worth is highly contingent on body weight represents a defensive response against cues denoting relational devaluation. To remedy the reliance on explicit self-report measures to assess body image satisfaction in O'Driscoll and Jarry (2015), Study 1 employed both explicit self-report measures of body image evaluation, as well as indirect measures of implicit responding and of automatic behaviour. Furthermore, given the potential negative effects associated with such defensive responses, Study 2 was designed to determine whether providing women with higher body weight contingent self-worth with an opportunity to self-affirm within an alternative intrinsic and relational domain would diminish the tendency to defensively self-enhance in the domain of body image.

II. STUDY 1

Defensive responses typically occur in a subconscious and automatic fashion (Sherman & Cohen, 2006). Therefore, whether the post-rejection claimed body satisfaction of women who rely highly on body weight of self-worth is defensive may be elucidated by examining these women's implicit attitudes and automatic behaviour in response to interpersonal rejection, in addition to explicit self-reports of their body image evaluation. It has been contended that explicit self-reports do not directly reflect self-evaluations, but instead are more reflective of self-enhancing presentational motivations and styles (Baumeister, Tice, & Hutton, 1989; Farnham, Greenwald, & Banaji, 1999). In contrast, implicit attitudes can be conceptualised as favourable or unfavourable evaluations toward an object or the self that may occur without conscious awareness (Fazio & Olson, 2003; Greenwald & Banaji, 1995), with automatic behaviour referring to the spontaneous production of behaviour operating without conscious direction or control (Bargh & Chartrand, 1999). If the claimed body satisfaction of women whose self-worth is highly contingent on body weight truly is a defensive response to rejection and thus, not genuine, implicit measures of body image evaluation should not show self-enhancement, and these women's automatic behaviour should be at odds with their stated satisfaction with their body. Therefore, in addition to self-report measures of explicit body image evaluation, Study 1 employed a measure of implicit weight identity, as well as an assessment of automatic eating behaviour.

Implicit Attitudes

In recent years, measures of implicit cognition have been increasingly used as an alternative to explicit measures. In contrast to explicit measures, which typically involve self-report questionnaires that ask participants to express their conscious attitudes,

implicit measures refer to methods that assess attitudes and beliefs that may not be directly accessible by conscious introspection. These measures have several advantages over explicit measures. Implicit measures can uncover attitudes that may not be available to conscious recall (Greenwald & Banaji, 1995; Greenwald, McGhee, & Schwartz, 1998), they are less susceptible to self-presentation biases (Greenwald & Banaji, 1995), and they can allow for the prediction of behaviours that may not be predicted accurately by explicit measures (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997). As such, implicit measures represent a potentially effective means to assess defensive processes.

Implicit Body Image Evaluation

If the claimed body satisfaction of women whose self-worth is highly contingent on body weight serves a self-protective function against interpersonal rejection, as speculated by O'Driscoll and Jarry (2015), it was anticipated that these women's implicit evaluations of their weight would contradict their explicitly stated satisfaction with their body. In other words, it was expected that, despite the reported body satisfaction and appearance self-esteem on explicit measures, similar enhancement in body image evaluation would not be seen on implicit measures of body image evaluation.

Body image as a subjective and malleable construct. Evidence suggests that perceptions of one's own body weight are often inaccurate and subjective, and that this is particularly the case for women (Cash & Hicks, 1990). Because body image is believed to be and attitude or mental construction rather than an objective evaluation (Markus, 1977), it is considered relatively 'elastic' and can differ substantially from one's objective physical appearance (Myers & Biocca, 1992). Indeed, the evidence is that 'overweight' may be as much a state of mind as it is a physical state (Cash & Hicks, 1990).

Due to the pervasive idealisation of thinness and derogation of heavy weight in Western culture (Levitt, 2003), lower self-esteem and higher body dissatisfaction tend to be associated with subjective overestimations of body weight. For instance, a meta-analysis by Miller and Downey (1999) demonstrated that the correlation between low self-esteem and self-perceived heavy weight is stronger than the association between low self-esteem and actual weight in men and women. Similarly, Cash and Hicks (1990) showed that normal weight men and women who evaluated their physical appearance more negatively and reported feeling more dissatisfied with their body also reported perceiving themselves to be overweight.

Furthermore, people's explicit and subjective perception of their own weight can be influenced by environmental factors. Evidence suggests that threatening information within the body image domain can lead people to subjectively perceive their body weight as heavier. For example, research by Hamilton and Waller (1993) showed that anorexic and bulimic women who viewed media portrayals of idealised female bodies in women's fashion magazines in turn overestimated their body size to a greater extent did those who viewed photographs of neutral objects. Similarly, Martin and Xavier (2010) demonstrated that following exposure to images of slim models, male and female participants perceived their weight to be heavier and reported more pressure toward thinness, than did those who viewed heavier models.

To the extent that the body image satisfaction reported by women with higher body weight contingent self-worth represents a defensive response to interpersonal rejection as posited by O'Driscoll and Jarry (2015), it was expected that these women's subjective body weight would be at odds with their claimed satisfaction with their body. Due to the fact that contingent self-worth domains are thought to represent contingencies of

relational value (Leary & Downs, 1995) and also represent the domains in which people are most vulnerable to failure or rejection (Crocker, 2002a), it was predicted that cues indicating relational devaluation from others should increase the salience of body weight for women whose self-worth is highly contingent on this domain. Furthermore, because perceptions of one's own body weight are often and subjective (Cash & Hicks, 1990) and susceptible to influence from the environment (e.g., Hamilton & Waller, 1993; Martin & Xavier, 2010), it was expected that the increased focus on weight activated by rejection would instigate an intensification of body dissatisfaction and self-perceived heavy weight for women whose self-worth is highly contingent on their body weight. In this research, subjective body weight was assessed using the implicit weigh identity Implicit Association Test (IAT).

The Implicit Association Test. The Implicit Association Test (IAT; Greenwald et al., 1998) is an implicit measure designed to assess the relative strength of association between various constructs. The logic underlying measurement using the IAT is that pairing of semantic concepts should be easier, and response times should be faster, when two concepts share stronger implicit cognitive associations, compared to concepts that share weaker associations (Nosek, Greenwald, & Banaji, 2007).

In the standard procedure of the IAT (as described by Greenwald et al., 1998), participants are instructed to assign attributes, such as words or pictures, to a given pair of target categories as quickly as possible. The associative strength between two concepts is measured by the time required for pairing a given pair of target categories (e.g., *flower* versus *insect*) with an associated pair of attributes (e.g., *good* versus *bad*). As illustrated by Greenwald and colleagues (1998), in an IAT measuring the strength of association between *bad* versus *good* and *insect* versus *flower*, the task consists of four

classifications: *good, bad, flower*, and *insect*. Participants are instructed to press one response key (e.g., left key) for any word denoting *good* or *flower* (e.g., triumph, happy, daisy, carnation), and a different key (e.g., right key) for any word denoting *bad* or *insect* (e.g., cancer, rotten, cockroach, mosquito). The response key pairings then are reversed, such that participants press one response key (e.g., left key) in response to words denoting *good* or *insect*, and the other key (e.g., right key) for words denoting *bad* or *flower*. Easier pairings, as indicated by faster response times, are interpreted as more strongly implicitly associated than more difficult pairings, as indicated by slower response times. In the above example, a positive implicit attitude toward flowers, as opposed to insects, is indicated when participants categorise items more quickly when they are required to make the same response to flowers and positive words, and a different response to insects and negative words, compared to when these pairings are reversed.

The IAT is considered a general-purpose test of implicit attitudes and associations. It successfully has been used to measure implicit associations in the areas of memory, personality, knowledge, attitudes, stereotypes, self-concept, and self-esteem (refer to Nosek et al., 2007 for a review). Though the IAT is most commonly administered with the goal of measuring relatively stable implicit associations, it shows evidence of both trait- and occasion-specific variation (Schmukle & Egloff, 2004). Further, the IAT has been used as a sensitive state measure of group differences in acute stress following self-esteem threat (Sato & Kawahara, 2012).

Implicit weight identity IAT. In this research, the IAT was used to assess women's implicit attitudes regarding their body weight. *Implicit weight identity* refers to an individual's implicit appraisal of his or her own weight status (Grover et al., 2003). To

date, there exists only one known measure of implicit weight identity. To measure this construct, Grover and colleagues (2003) designed a modified version of the IAT, to assess the extent to which people implicitly identify themselves as thin versus fat. By asking participants to pair *thin* versus *fat* attributes with *self* versus *other* categories (Grover et al., 2003), the logic of the implicit weight identity IAT is that faster reaction times when pairing *fat* and *self,* as compared to *thin* and *self*, can be interpreted as an indication that the individual more strongly implicitly identifies the self as fat as opposed to thin.

The Implicit Weight IAT as a measure of defensiveness. From an operational standpoint, because the claimed body image satisfaction of women with body weight contingent self-worth is posited to be a defensive, and thus not genuine, response to rejection, it was anticipated that whereas body image self-enhancement would be evident on explicit measures of body image self-evaluation (as indicated by greater reported body satisfaction and appearance self-esteem), this self-enhancement effect would not be apparent on implicit measures of weight identity. These women were expected to demonstrate a stronger association between the self and heavy weight, as indicated by faster implicit associations between *self* and *fat* relative to *self* and *thin*, compared to their counterparts who were not rejected. Conversely, it was expected that the implicit weight identity of women whose self-worth is less contingent on body weight would not differ for those exposed to rejection compared to those who were not, such that there would be no difference in implicit associations between *self* and *fat* relative to *self* and *thin* across these experimental conditions.

Eating Behaviour

In this research, eating behaviour was used as an additional means to assess defensiveness. Cohen and Farley (2008) argue that eating is an automatic behaviour that often operates without conscious awareness or direction (Bargh, 1994; Bargh & Chartrand, 1999). Research has demonstrated that the environment exerts powerful influences on the amount and types of food that people consume (Cohen & Farley, 2008), and that eating behaviour is influenced by environmental stimuli, even when the perception of these stimuli is outside of conscious awareness (Cohen & Farley, 2008).

Environmental Influences on Eating Behaviour

It is generally accepted that emotional distress can result in either increases or decreases in eating, depending on the type of individual involved and the nature of the threat. Dietary restraint, which refers to self-initiated attempts to restrict dietary intake for the purpose of controlling one's body weight (Polivy & Herman, 1993), is a demonstrated robust predictor of the amount of food consumed in response to stress. Because the physiological responses to stress are similar to internal cues associated with satiety, under normal circumstances emotional distress typically tends to suppress eating (Schachter, Goldman, & Gordon, 1968). However, restrained eaters tend to increase their food consumption in high compared to low stress conditions, whereas unrestrained eaters eat less when placed under stress (e.g., Baucom & Aiken, 1981; Herman & Polivy, 1975; Herman et al., 1987; Ruderman, 1985). For example, Heatherton, Herman, and Polivy (1991) found that restrained eaters' food consumption increased relative to unrestrained eaters following physical threat (in the form of anticipated electrical shock) and ego threat (in the forms of failure on an easy cognitive task or anticipating giving a speech). For restrained eaters, they proposed that emotional distress disrupts the cognitive restraint

that is required to maintain a restricted diet, therefore resulting in behavioural disinhibition and increased food consumption (Heatherton et al., 1991). On the other hand, they theorised that unrestrained eaters, who are not under the added pressure of maintaining cognitive restraint, remain more strongly affected by the physiological and appetite-suppressing cues released during stress, and therefore are more inclined to eat less (Polivy, Herman, & McFarlane, 1994). This research suggests that, in the absence of cognitive load associated with efforts to restrict food consumption, people tend to eat less when under stress.

Additional evidence suggests that women who are induced to feel dissatisfied with their body restrict their dietary intake. Strahan, Spencer, and Zanna (2007) showed that, after controlling for restrained eating, women who viewed thin models ate less relative to those who viewed neutral commercials. Similarly, Krahé and Krause (2010) demonstrated that, when given the option of a diet or nondiet snacks, women who were exposed to thin models were more likely to choose diet variants, relative to women who viewed normal sized models, regardless of body mass index (BMI) or restrained eating status. This suggests that, in general, women compensate for threats to their body image by limiting the amount of food they consume and avoiding what are perceived to be higher calorie options.

Eating behaviour and contingencies of self-worth. Along similar lines, some evidence suggests that contingencies of self-worth may moderate the effect of body image threat on eating behaviour. Although research in this area is relatively limited, Williams, Schimel, Hays, and Usta (2014) examined the effect of body image threat on food consumption for women with varying levels of extrinsic contingency focus. *Extrinsic contingency focus* was defined as the extent to which individuals pursue self-

esteem by living up to socially defined expectations and gaining social approval. These authors demonstrated that, relative to those who viewed advertisements that pictured products alone, for women who were exposed to idealised body images, higher levels of extrinsic-contingent self-worth was related to lower levels of snack food consumption, as well as stronger reported preferences for healthy foods. The researchers argued that, for highly extrinsically focussed women, viewing idealised body images activated the self-esteem goal of aligning body weight with normative standards to fit in and to feel accepted.

Eating behaviour and interpersonal rejection. Interestingly, research on the effects of interpersonal rejection on eating has demonstrated findings in the opposite direction. Baumeister, DeWall, Ciarocco, and Twenge (2005) showed that men and women exposed to rejection from peers ate twice as many cookies than did those exposed to acceptance, regardless of their BMI. This effect is supported further by studies using the Cyberball paradigm, a computer-based game in which players are induced to feel included by receiving the ball as often as other players, or are excluded from the game after the first few ball tosses. Oaten, Williams, Jones, and Zadro (2008) showed that, men and women who were excluded during a Cyberball game ate more than did those who were included, even after controlling for BMI. Similarly, Salvy and colleagues (2011) found that Cyberball exclusion resulted in increased food consumption for overweight, but not normal weight, men and women. Sproesser, Schupp, and Renner (2014) furthermore demonstrated that the impact of social feedback on eating was moderated by participants' more general tendencies to eat under stress, such that following peer rejection, participants who habitually eat more in response to stress (stress hyperphagics) ate more ice cream than did those who habitually eat less in response to

stress (stress hypophagics). It therefore is suggested that social exclusion represents a unique kind of threat that disrupts self-regulation, or the capability to control one's responses, by directing attention away from other effortful processes, which in turn increases food consumption (Baumester et al., 2005; Oaten et al., 2008).

Eating Behaviour as a Measure of Defensiveness

The foregoing research on eating behaviour indicates that exposure to body image threats can lead to dietary restriction and preference for foods that are perceived to be healthier (Krahé & Krause, 2010; Strahan, Spencer, & Zanna, 2007), and that such effects are more pronounced for women with higher extrinsic contingent self-worth (Williams et al., 2014). Although social threat typically results in increased food consumption (Baumester et al., 2005; Oaten et al., 2008; Salvy et al., 2011; Sproesser et al., 2014), because interpersonal rejection is posited to negatively affect the body image evaluation of women who rely on body weight for self-worth, social threat is predicted to have a negative impact on eating behaviour for this group of women. As discussed previously, people are highly motivated to reduce the experience of cognitive dissonance associated with defensive responses (Festinger & Carlsmith, 1959). Because body weight contingent self-worth is associated with body dissatisfaction (O'Driscoll & Jarry, 2015) and greater subjective weight appraisals (Clabaugh et al., 2008), it was expected that the defensive and artificial bolstering of explicit body satisfaction for women with higher body weight contingent self-worth would also entail engagement in appearance modification strategies, such as restricted eating, to align their physical appearance with their stated satisfaction with their body.

The Present Research

The overarching purpose of the Study 1 was to expand upon O'Driscoll and Jarry

(2015) by examining the proposition that the claimed body image satisfaction of women whose self-worth is reliant on body weight represents a defensive response to interpersonal rejection. In Study 1, women of varying levels of body weight contingent self-worth were exposed to either rejection from peers or to a neutral condition involving no relational feedback. All women then completed measures of explicit body image evaluation (state body satisfaction and appearance self-esteem) and state social and performance self-esteem, an implicit measure of weight identity, and a behavioural measure of appearance management in the form of eating behaviour. Additionally, global trait self-esteem, depressive symptoms, restrained eating status, and BMI were examined as potential covariates because of their prior demonstrated associations with the dependent variables.

Research Questions

Study 1 was designed to address several research questions: First, do individual differences in the tendency to base self-worth on body weight influence the effect of interpersonal rejection on body image evaluation? Second, does rejection result in greater body satisfaction and appearance self-esteem for women who base their self-worth on body weight relative to their counterparts not exposed to rejection? Third, can the reported greater body satisfaction and appearance self-esteem demonstrated by women who base their self-worth highly on body weight be explained as a defensive response to rejection?

Research Aims and Hypotheses

Aim 1. The first aim of Study 1 was to expand upon O'Driscoll and Jarry's (2015) findings, by directly examining the moderating effects of the body weight contingency self-worth in the impact of interpersonal rejection on women's body image evaluations.

As previously discussed, basing self-worth on body weight is generally associated with negative body image-related outcomes (Clabaugh et al., 2008; O'Driscoll & Jarry, 2015). Therefore, it was expected that women with higher body weight contingent self-worth would report lower levels of state body satisfaction and appearance self-esteem relative to those who base their self-worth to a lesser extent on this domain.

Further, because contingencies of self-worth are theorised to represent contingencies of relational value (e.g., Leary & Downs, 1995) and also represent the domains in which people are most vulnerable to failure or rejection (Crocker, 2002a), it was expected that interpersonal rejection would influence women whose self-worth is highly contingent on their body weight most strongly within the domain of body image evaluation. Further, evidence suggests that self-worth that is contingent on external domains such as body weight tends to be superficial, unstable, and sensitive to threat (Clabaugh et al., 2008), and that fragile self-worth is associated with engagement in ego-protective processes in response to threatening information (e.g., Kernis, 2003). Therefore, it was expected that women whose self-worth is highly contingent on body weight would respond to rejection in a defensive and self-enhancing fashion, by self-reporting greater satisfaction with their body in comparison to their nonrejected counterparts. In contrast, it was anticipated that the body image evaluation of women who base their self-worth to a lesser extent on their body weight would remain unaffected by rejection. Specific hypotheses are outlined below:

Hypothesis 1.1.1. Women whose self-worth is highly contingent on body weight would explicitly report significantly lower state body satisfaction and appearance self-esteem than would women whose self-worth is less contingent on body weight across experimental conditions.

Hypothesis 1.1.2. Body weight contingent self-worth would moderate the impact of rejection on reported body image evaluation. Following exposure to interpersonal rejection, women higher in body weight contingent self-worth would self-report significantly greater state body satisfaction and appearance self-esteem than would their nonrejected counterparts. Among women lower in body weight contingent self-worth, self-reports of state body satisfaction and appearance self-esteem would not differ significantly across experimental conditions.

Hypothesis 1.1.3. The self-enhancement effect of women with higher body weight contingent self-worth in response to interpersonal rejection would be unique to the domain of body image, such that other domains of state self-esteem (i.e., social and performance) would not significantly be affected by this combination of predictors.

Hypothesis 1.1.4. The effect of interpersonal rejection on body image evaluation would be moderated specifically by body weight contingent self-worth, such that other domains of contingent self-worth (i.e., other's approval, academic achievement, God's love, family support, virtue, and competition) would not moderate the effect of rejection on reported state body satisfaction and appearance self-esteem.

Aim 2. The second aim of Study 1 was to expand upon O'Driscoll and Jarry's (2015) findings by examining the prediction that the body image self-enhancement exhibited by women with higher body weight contingent self-worth represents a defensive response to interpersonal rejection. Because higher body weight contingent self-worth is associated with body dissatisfaction (O'Driscoll & Jarry, 2015) and greater subjective body weight (Clabaugh et al., 2008), it was expected that women whose self-worth is highly contingent on their weight generally would demonstrate a greater implicit fat identity and that they also would eat less compared to women with lower body weight contingent self-

worth.

Further, if the reported elevated body satisfaction of women whose self-worth is highly contingent on body weight following interpersonal rejection represents a self-enhancement response, and thus a defensive attempt to restore self-esteem, it was anticipated that these women's implicit attitudes and behavioural responses would be inconsistent with their claimed satisfaction with their body. Specifically, despite their reported body satisfaction and appearance self-esteem, it was anticipated that the increased focus on the domain of body weight activated by rejection would instigate an intensification of self-perceived heavy weight for women whose self-worth is highly contingent on weight. Therefore, it was expected that women with higher body weight contingent self-worth would demonstrate greater implicit fat identity following rejection than would their counterparts not exposed to rejection. Conversely, it was predicted that the implicit weight identity of women who base their self-worth to a lesser extent on their weight would remain relatively unaffected by the rejection.

Further, because exposure to interpersonal rejection is generally associated with increased unhealthy food consumption (Baumester et al., 2005; Oaten et al., 2008; Salvy et al., 2011; Sproesser et al., 2014), it was expected that women who were exposed to rejection generally would eat more compared to those who were not. However, for women with higher body weight contingent self-worth, it was posited that dissonance associated with defensive self-enhancement would imply a felt obligation to restrict dietary intake to align their appearance with their claimed satisfaction. Therefore, it was expected that these women would restrict their dietary intake in response to rejection. Specific hypotheses are as follows:

Hypothesis 1.2.1. Women whose self-worth is highly contingent on body weight

would demonstrate greater implicit fat identity, indicated by significantly faster implicit associations between *self* and *fat* relative to *self* and *thin*, than would women whose self-worth is less contingent on body weight across experimental conditions.

Hypothesis 1.2.2. Women whose self-worth is highly contingent on body weight would eat significantly less than would women whose self-worth is less contingent on body weight across experimental conditions.

Hypothesis 1.2.3. Body weight contingent self-worth would moderate the impact of rejection on implicit weight identity. Following exposure to interpersonal rejection, women with higher body weight contingent self-worth would demonstrate significantly greater implicit fat identity, indicated by significantly faster implicit associations between *self* and *fat* relative to *self* and *thin*, than would their counterparts not exposed to rejection. Among women lower in body weight contingent self-worth, implicit weight identity would not differ significantly across experimental conditions.

Hypothesis 1.2.4. Women in the interpersonal rejection condition would eat significantly more than would women who were unexposed to rejection.

Hypothesis 1.2.5. Body weight contingent self-worth would moderate the impact of rejection on eating behavior. Following exposure to interpersonal rejection, women with higher body weight contingent self-worth would eat significantly less than those not exposed to rejection, whereas women with lower body weight contingent self-worth would eat significantly more than control.

Method

Design

This study used a controlled experimental design and used moderated multiple regression analysis (MMRA) to test the research hypotheses. The independent variable was experimental condition (rejection versus control) and the moderator variables were contingencies of self-worth and the body weight contingency of self-worth. The dependent variables were state body satisfaction, state self-esteem (comprised of appearance, performance, and social subscales), implicit weight identity, and eating behaviour. In addition, global trait self-esteem, depressive symptoms, dietary restraint, and body mass index (BMI) were tested as covariates due to their demonstrated relationships with the dependent variables.

The methodology used in Study 1 was modelled after O'Driscoll and Jarry (2015), with a few notable exceptions. To assess the defensiveness hypothesis proposed by these authors, the present study integrated two measures of automatic responding. The implicit weight identity IAT used in this study used the same word list (Wojtiwicz & von Ranson, 2007) as that of O'Driscoll and Jarry's (2015) lexical decision task and visual-dot probe task, and the order in which the IAT was presented was randomised within presentation of the other dependent variable questionnaires (Body Image States Scale, State Self-Esteem Scale). M&M® candies were presented to all participants following the rejection procedure and participants' eating behaviour was measured simultaneous to their completion of the other dependent variable measures (Body Image States Scale, State Self-Esteem Scale, IAT), which were presented in randomised order. To reduce reactivity of the body image-related aspects of this study, three distractor measures were included: the Marlowe-Crowne Social Desirability Scale, the Self-Consciousness Scale,

and the Revised Self-Monitoring Scale. These questionnaires were chosen because they are brief, and because they do not contain items related to rejection, body image, or food/eating.

Participants

Recruitment. The sample consisted of female undergraduate students from the University of Windsor. The focus of this study was on women in particular, as body image concerns are notably more prevalent in women than in men (Pliner, Chaiken, & Flett, 1990), and because body image concerns are qualitatively different for men and women (e.g., Liet, Gray, & Pope, 2002). Because the current focus was on women from nonclinical populations, the sample was limited to participants who had never been diagnosed with an eating disorder. Individuals who declared dietary allergies or restrictions also were excluded from the sample to avoid the possibility of negative (e.g., allergic) reactions during the eating behaviour component (see Study 1 "Procedure" for details). To reduce reactivity to the body image aspects of this study, individuals who previously participated in other laboratory-based studies at the Studies of Psychology of Appearance (SPA) laboratory also were excluded. The study advertisement titled "Pilot Studies for Future Research" was posted online and was visible to eligible participants (refer to Appendix A). Participants volunteered for this study by means of an online Psychology Participant Pool and received course credit for their participation. The online survey was worth 0.5 bonus credits for 30 minutes. To encourage participants to attend the laboratory component of the study, the laboratory session was worth 1.5 bonus credits for 90 minutes of participation, plus an additional 0.5 bonus credits for travel.

Current sample. In total, 223 participants completed the online survey component, and 159 (71.30%) completed both the online survey and laboratory components of this

study. Overall, 92 participants were assigned randomly to the rejection condition, and 67 participants were assigned randomly to the control condition. A larger proportion of participants were assigned to the rejection condition relative to control, to account for the fact that rejected participants are more likely to be suspicious of the manipulation and cover story compared to those who receive neutral feedback (O'Driscoll & Jarry, 2015).

In terms of demographics, all participants self-identified as female. The mean age of participants was 20.44 years (*SD* = 4.73, range = 17–56 years). Reported ethnic background was as follows: 62.14% European, 10.71% Arab or West Asian, 10.00% South Asian, 7.14% African, 3.57% Aboriginal, 3.57% East Asian, and 2.14% South or Central American. The average BMI of participants, based on their weight and height measured in the laboratory, was 25.29 kg/m^2 (*SD* = 6.26), which is in the normal weight (18.50 to 24.90) to overweight (25.00 to 29.90) range (Centre for Disease Control, 2011). The average BMI of participants, based on their reported weight and height, was 24.53 kg/m^2 (*SD* = 5.10), which falls within the normal weight range. In terms of years of university education, 32.86% were in their first year, 28.57% in second year, 17.86% in third year, 12.14% in fourth year, and 8.57% had attended university for more than four years. Additionally, 35.90% of participants were psychology majors, and 91.30% reported that they had taken at least one psychology course.

Power analysis. For the purposes of power analysis, effect sizes were obtained from past literature on rejection. A meta-analysis by Gerber and Wheeler (2009) indicated a moderate effect size of demarcated rejection on self-esteem ($d+$ = -0.53, p = .005, 95% CI = -0.16, -0.91). The number of predictors included in in this study ranged from three to six. As such, power analysis calculated by G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009), assuming a medium effect size and power = 0.8, indicated that a sample size

of approximately 70 (with 3 predictors) to 98 (with 6 predictors) participants would be sufficient.

Materials

Eating behaviour assessment materials. Eating behaviour was assessed by the quantity of candies consumed in the form of weight in grams. Pre-weighed packages of plain M&M® candies (492 kcal, 71.21g CHO, 21.13g fat, 4.33g protein per 100g) containing 135g of candies were prepared prior to each experimental session. M&M® candies have been used to assess eating behaviour in previous research, and their consumption has been shown to be sensitive to experimental manipulations in several studies (e.g., Aubie & Jarry, 2009; Cavallo & Pinto, 2001; Copeland, Woods, & Hursey, 1995; Robillard, 2004, 2007).

Measures

Sample demographics. Demographics of the sample were assessed using a demographics questionnaire, which was administered to obtain information such as age, ethnicity, and educational background (refer to Appendix B).

Moderator variable measures.

Body-weight contingency of self-worth scale (BWCSWS; Clabaugh, 2008; Clabaugh et al., 2008). The BWCSWS is an 8-item self-report measure of the extent to which self-worth is based on body weight. Items such as "My self-esteem is influenced by my body weight" are scored on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). A mean score is calculated after reverse scoring negatively worded items, with higher scores indicating a greater tendency to base one's self-worth on body weight (refer to Appendix C).

Convergent validity of the BWCSWS has been demonstrated, indicating that scores are positively correlated, $r = .85$, with scores on the Appearance CSW subscale of the Contingencies of Self-Worth Scale (CSWS; Clabaugh et al., 2008). Research by Clabaugh and colleagues (2008) demonstrated excellent internal consistency for the BWCSWS, $\alpha = .92$. In the current study, the BWCSWS also demonstrated excellent internal consistency, $\alpha = .90$.

Contingencies of Self-Worth Scale (CSWS; Crocker et al., 2003b). The CSWS is a 35-item self-report measure of the extent to which individuals base their self-worth on various domains. The CSWS consists of seven five-item subscales that are designed to assess the extent to which participants base their self-worth on physical appearance, academic competence, approval from others, competition, family support, God's love, and virtue. Items such as "My self-esteem would suffer if I did something unethical" are scored on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Mean scores for each subscale are calculated after reverse scoring negatively worded items, with higher scores indicating a greater tendency to base self-worth on each respective domain (refer to Appendix D).

Convergent validity of the CSWS has been demonstrated, indicating that all subscales of the were positively correlated, $r = .08$ to $.27$, with the Importance to Identity subscale of the Collective Self-Esteem scale (CSE; Crocker et al., 2003b). Test-retest reliability of the CSWS ranges from $r = .68$ to $.92$ for a 3-month interval, to $r = .51$ to $.88$ for an 8.5-month interval. Research by Crocker and colleagues (2003b) provides evidence for good to excellent internal consistency of the CSWS subscales, $\alpha = .82$ to $.96$. In the present study, internal consistency was excellent for the God's love subscale, $\alpha = .97$; good for the academic competence, $\alpha = .83$, approval from others, $\alpha = .88$, competition, $\alpha = .86$,

and virtue, α = .81, subscales; and was acceptable for the physical appearance, α = .75, and family support, α = .77 subscales.

The CSWS was administered to help disguise the true nature of the present research during the online survey portion of the study (see Study 1 "Procedure" for details). This measure also was used to ascertain whether the effect of rejection on the dependent variables was uniquely associated with the body weight contingency of self-worth domain rather than other domains of contingent self-worth.

Manipulation and debriefing checks.

Rejection manipulation check questionnaire. To assess the effectiveness of the manipulation, participants completed a rejection manipulation check questionnaire, in which they rated the extent to which each of five adjectives (rejected, unwanted, unwelcome, included, and accepted) described how they felt "at the present moment" (refer to Appendix E). All items were rated on a 5-point Likert-type scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Previous research using similar questions has shown significant differences between rejected and control participants (e.g., Gaertner, Luzzini, & O'Mara, 2008). Higher scores on rejection-related items and lower scores on acceptance-related items in the rejection condition relative to the control condition were taken to indicate that the manipulation was effective (see Study 1 "Procedure*"* for details). To reduce the reactivity of these items, they were embedded within the Positive and Negative Affect Schedule (PANAS), as described below.

Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS is a self-report measure consisting of two ten-item subscales designed to assess positive affect (PA) and negative affect (NA). Items such as "Excited" are rated on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Total

scores are calculated by summing items for each subscale. For the PA and NA subscales, higher scores indicate more positive and negative affect, respectively (refer to Appendix E). This study used the state version of the PANAS, which is sensitive to changes in affect resulting from experimental manipulation (McIntyre, Watson, Clark, & Cross, 1991). The PANAS was administered as an additional means to verify the effectiveness of both the experimental manipulation and of the debriefing procedure (Study 1 "Procedure" for details). Higher scores on the negative affect subscale and lower scores on the positive affect subscale in the rejection condition relative to the control condition were taken to indicate that the manipulation was effective. In addition, negative affect scores that were lower after debriefing than they were before, and positive affect scores that were higher after debriefing than they were before were taken as indications that the debriefing procedure was successful.

Convergent validity of the PANAS has been demonstrated by positive correlations, r = .85 to .91, with scores on the Profile of Mood States (POMS; Watson & Clark, 1994). Eight-week test-retest reliability was found to be r = .58 for the PA subscale and r = .48 for the NA subscale (Watson et al., 1988). Research by Watson and colleagues (1988) indicated good internal consistency of the state version of the PANAS ranging from α = .86 to .90 for the PA subscale, and from α = .84 to .87 for the NA subscale. In the current study, the PA subscale demonstrated good internal consistency post-manipulation, α = .87, as well as post-debriefing, α = .89. The NA subscale also had acceptable internal consistency post-manipulation, α = .80, and post-debriefing, α = .76.

Dependent variable measures.

Body Image States Scale (BISS; Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002). The BISS is a 6-item self-report measure of state changes in body satisfaction.

Items such as "Right now I feel…" are scored on a 9-point scale ranging from negative (e.g., *extremely physically unattractive*) to positive (e.g., *extremely physically attractive*) body image states. After reverse scoring negatively worded items, a total score is calculated by summing all items, with higher scores indicating greater state body satisfaction (refer to Appendix F). The BISS is sensitive to changes in body satisfaction as a result of experimental manipulation (Cash et al., 2002).

Convergent validity of the BISS has been demonstrated, with scores positively correlating, $r = .77$, with scores on the Body Areas Satisfaction subscale of the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Cash & Pruzinsky, 1990). Research by Cash and colleagues (2002) indicated a 2- or 3- week test-retest reliability of $r = .69$ in university women, and acceptable to excellent internal consistency of the BISS, ranging from $\alpha = .77$ to .90. In the current study, the BISS demonstrated good internal consistency, $\alpha = .84$.

State Self-Esteem Scale (SSES; Heatherton & Polivy, 1991). The SSES is a 20-item self-report measure assessing state changes in self-esteem. The SSES consists of three subscales: appearance (six items), performance (seven items), and social (seven items) state self-esteem. Items such as "I am pleased with my appearance right now" are scored on a 5-point scale ranging from 1 (*not at all*) to 5 (*extremely*). After reverse scoring negatively worded items, a total score is calculated by summing all items, and scores for each of the three subscales are calculated by summing items from each respective scale. Higher scores indicate greater state self-esteem (refer to Appendix G). All subscales are sensitive to changes resulting from experimental manipulation (Heatherton & Polivy, 1991).

Convergent validity of the SSES has been demonstrated, with scores positively correlating with global trait self-esteem (RSES; Rosenberg, 1965), $r = .72$. Research by Heatherton and Polivy (1991) indicated a test-retest reliability ranging from $r = .48$ to .75, and excellent internal consistency, $\alpha = .92$. Internal consistency in the present study was excellent for the total scale, $\alpha = .92$, and good for the physical appearance, $\alpha = .83$, performance, $\alpha = .82$, and social, $\alpha = .86$, subscales.

Implicit Association Test (IAT; Greenwald et al., 1998). The IAT used in this study was modelled after the implicit weight identity IAT designed by Grover and colleagues (2003). As discussed previously, the IAT requires respondents to categorise various stimuli, depending on the association under study. To examine implicit weight identity, the stimuli used in this study involved 10 self/other words and 10 weight-related evaluative words (refer to Appendix H). Specifically, the self/other category included five self-related stimuli words (i.e., *self, myself, me, I, mine*) and five other-related words (i.e., *other, people, them, they, theirs*). The evaluative category included five thin words (i.e., *skinny, thin, slender, lightweight, and slim*) and five fat words (i.e., *chubby, fat, plump, heavy, and wide*).

The IAT instructions and general procedure was modified from the procedure used in Kim (2013) and modelled after the implicit weight identity IAT designed by Grover and colleagues (2003; refer to Appendix I). Two categories were presented on the top left side of the computer screen (e.g., *self* and *thin* or *other* and *thin*), whereas the other two categories (i.e., *other* and *fat* or *self* and *fat*) were presented at the top right of the screen. To control for order effects, the category pairings were counterbalanced across two versions of the IAT.

For the first testing block of version one, *self* and *thin* were paired together on the left side of the screen, whereas *other* and *fat* were paired on the right side. The stimuli words (e.g., *myself, them, skinny, heavy*) were presented in the middle of the screen, and participants were asked to press the "E" key to indicate that the stimulus belongs to the *self* or *thin* categories, and to press the "I" key to indicate that the stimulus belongs in the *other* and *fat* categories. During the second testing block for version one, the pairings were changed such that *other* and *thin* were grouped together on the left side of the screen, whereas *self* and *fat* were grouped together on the right side. Participants were again required to categorise stimulus words by pressing either the "E" or "I" key.

For the first testing block of version two, *other* and *thin* were paired together on the left side of the screen, whereas *self* and *fat* were paired together on the ride side. During the second block of version two, *self* and *thin* were paired on the left side of the screen, whereas *other* and *fat* were paired on the right side.

It was anticipated that participants would categorise the stimuli more quickly and accurately when the categories were paired in a way that matched their implicit weight identity. In other words, the IAT effect measured how much easier it was for participants to categorise *self* with *fat* (and/or *other* with *thin*) items compared to *self* with *thin* (and/or *other* with *fat)* items. Refer to Table 1 and Table 2 below for a summary of the IAT procedure.

Table 1

Implicit Association Test Procedure – Version One

Block	No. of trials	Function	Items assigned to left key response	Items assigned to right key response
1	20	Practice	Self words	Other words
2	20	Practice	Thin words	Fat words
3[a]	20	Practice	Thin words + Self words	Fat words + Other words
4[a]	**40**	**Test**	**Thin words + Self words**	**Fat words + Other words**
5	40	Practice	Other words	Self words
6[a]	20	Practice	Thin words + Other words	Fat words + Self words
7[a]	**40**	**Test**	**Thin words + Other words**	**Fat words + Self words**

[a] Trials used to calculate the IAT effect (*D*)

Table 2

Implicit Association Test Procedure – Version Two

Block	No. of trials	Function	Items assigned to left key response	Items assigned to right key response
1	20	Practice	Other words	Self words
2	20	Practice	Thin words	Fat words
3	20	Practice	Thin words + Other words	Fat words + Self words
4	**40**	**Test**	**Thin words + Other words**	**Fat words + Self words**
5	40	Practice	Self words	Other words
6	20	Practice	Thin words + Self words	Fat words + Other words
7	**40**	**Test**	**Thin words + Self words**	**Fat words + Other words**

[a] Trials used to calculate the IAT effect (*D*)

IAT data were scored using the Greenwald, Nosek, and Banaji (2003) improved scoring algorithm. Based on standard procedures, trials greater than 10,000 msec were deleted, as were subjects for whom more than 10% of trials had latencies less than 300msec. The inclusive deviation was computed for all trials in Stages 3 and 6, as well as for all trials in Stages 4 and 7. The mean latency for responses in each of Stages 3, 4, 6, and 7 then was computed. The two mean differences ($Mean_{Stage\ 6} - Mean_{Stage\ 3}$ and $Mean_{Stage\ 7} - Mean_{Stage\ 4}$) were calculated, and each difference score was divided by its associated inclusive standard deviation. The IAT effect is represented by a final difference score (*D*), which reflects the equal-weight average of the two resulting ratios. In the present study, *D* was calculated by subtracting the mean response times for the *self/thin-other/fat block* from the mean response times for the *self/fat-other/thin block*. For the purposes of this study, this difference score was reversed, such that greater positive *D* scores indicated greater associations between the *self* and *fat* (and/or *other* and *thin*) adjectives whereas more negative *D* scores indicated that *self* and *thin* (and/or *other* and *fat*) adjectives are more strongly implicitly associated.

This IAT was administered to assess state changes in implicit weight identity in response to rejection. As previously mentioned, research has demonstrated that the IAT shows evidence of both trait-specific variation and occasion-specific variation (Schmukle & Egloff, 2004), and that the IAT can be used as a sensitive measure of group differences in acute stress following self-esteem threat (Sato & Kawahara, 2012).

Research attests to the reliability and validity of various versions of the IAT. The implicit stereotype IAT has demonstrated good test-retest reliability and convergent validity with other measures of implicit attitudes (Cunningham, Preacher, & Banaji, 2001). Similarly, the implicit self-esteem IAT has adequate stability, as well as known

groups validity, predictive validity, and discriminant validity (Greenwald & Farnham, 2000). Convergent validity for the implicit weight identity IAT in particular also has been demonstrated, such that implicit fat identity is correlated with lower implicit self-esteem, $r = .31$, and explicit measures of weight identity, $r = .36$, in women (Grover et al., 2003). In the present study, implicit fat identity was positively associated with BMI, $r = .37$, and negatively associated with appearance self-esteem, $r = -.37$, and body satisfaction $r = -.29$.

Covariate measures. As emphasized by Field (2009) and Stevens (2009), any variable that theoretically correlates with the dependent variable of interest should be considered as a potential covariate. Several variables were measured to separate their effects from that of rejection and the body weight contingency of self-worth on the outcome variables. These were global trait self-esteem, depressive symptoms, dietary restraint, and BMI. These measures were selected for their reliability and their demonstrated relationships with the dependent variables.

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965, 1979). The RSES is a 10-item self-report measure of global trait self-esteem. Items such as "I take a positive attitude toward myself" are rated on a 4-point scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). After reverse scoring negatively worded items, all items are summed, with higher total scores indicating greater global trait self-esteem (refer to Appendix J). The RSES was examined as a potential covariate because global trait self-esteem correlates with state self-esteem (Heatherton & Polivy, 1991), and with body satisfaction (Furnham, Badmin, & Sneade, 2002; Lowery et al., 2005).

Convergent validity studies indicate that scores on the RSES positively correlate, $r = .66$, with the Coopersmith Self-Esteem Inventory (CSEI; Demo, 1985). Test-retest

reliability of the RSES ranges from a mean of $r = .85$ at two weeks (Silber & Tippett, 1965) to $r = .69$ at six years (Robins, Hendin, & Trzesniewski, 2001). Research by Rosenberg (1965) indicated excellent internal consistency of the RSES, $\alpha = .92$. In the current study, the RSES also demonstrated excellent internal consistency, $\alpha = .90$.

Beck Depression Inventory-II (BDI-II; Beck, Steer, Ball, & Ranieri, 1996). The BDI-II is a 21-item self-report measure of the severity of affective, cognitive, and neurovegetative symptoms of depression in adults. Items such as "Sadness" are scored on a 4-point scale ranging from 0 indicating absence of the symptom (e.g., *I do not feel sad*) to 3 indicating severe level of that symptom (e.g., *I am so sad or unhappy that I can't stand it*). A total score is calculated by summing all items, with higher scores indicating more depressive symptoms (refer to Appendix K). The BDI-II was examined as a potential covariate because depression correlates with self-esteem (Hankin, Lakdawalla, Carter, Abela, & Adams, 2007), and with body dissatisfaction (Joiner, Schmidt, & Singh, 1994).

Convergent validity of the BDI-II has been demonstrated, with scores positively correlating, $r = 0.71$, with the Hamilton Rating Scale for Depression (HAM-D; Dozois & Covin, 2004). Test-retest reliability was $r = .93$ for a group of psychiatric outpatients. Research by Beck and colleagues (1996) indicated excellent internal consistency of the BDI-II in university students, $\alpha = .93$. In the present study, the BDI-II also demonstrated excellent internal consistency, $\alpha = .91$.

Revised Restraint Scale (RRS; Herman & Polivy, 1980). The RRS is a 10-item self-report measure used to assess restrained eating consisting of two subscales that measure concern for dieting (six items) and weight fluctuations (four items). Items such as "How conscious are you about what you're eating?" are scored on a 5-point rating scale (e.g.,

ranging from *never* to *always*). A total score is calculated by summing all items, and scores for each of the subscales are calculated by summing items from each respective scale. Higher scores indicate greater dietary restraint (refer to Appendix L). The RRS also includes one question about the respondent's current height and one question about current weight. These scores were used to calculate BMIs for participants declined to have their height and weight measured (see Study 1 "Procedure" for details). The total RRS score was included as a covariate in the present study, because dietary restraint predicts different eating behaviour patterns in dieters compared to nondieters (e.g., see Polivy & Herman, 1983; Ruderman, 1986 for a review).

The RRS is psychometrically sound when administered with samples of normal-weight women (Ruderman, 1983). Convergent validity studies indicate that the RRS is highly correlated, $r = .74$, with the Three-Factor Eating Questionnaire (TFEQ; Allison et al., 1992). Test-retest reliability for the RRS ranges from $r = .95$ at 2 weeks (Allison, Kalinsky, & Gorman, 1992) to $r = .74$ at 6.5 years (Klesges, Klem, Epkins, & Klesges, 1991). The RRS has acceptable to good internal consistency, ranging from $\alpha = .79$ (Johnson, Lake, & Mahan, 1984) to .86 (Ruderman & Christensen, 1983). In the present study, internal consistency was acceptable for the total scale, $\alpha = .77$, and concern for dieting subscale, $\alpha = .79$, but was found to be questionable for the weight fluctuation subscale, $\alpha = .64$.

Body mass index (BMI). BMI was calculated by dividing body weight (kilograms) by height (metres) squared. BMI was examined as a potential covariate because objective body weight is correlated with self-esteem (Miller & Downey, 1999) and body dissatisfaction (Swami et al., 2010)

Procedure

Study 1 observed Tri-council ethical guidelines and received clearance from the University of Windsor's Research Ethics Board (REB# 15-124). A summary of the research procedure is presented in Table 3.

This study consisted of two components: an online survey followed by a laboratory session. Participants registered for both components simultaneously after viewing an advertisement posted on an online Psychology Participant Pool (see Study 1 "Method – Recruitment" for details). To minimise demand characteristics, the true purpose of the research was not initially disclosed.[1] Participants were instructed that they were participating in a series of pilot studies assessing questionnaires and experimental tasks for future research, and they were instructed that the two components were offered together to facilitate recruitment and to make it convenient to gather their bonus credit allotment. Participants were provided with a list of time slots, with the laboratory session taking place 7 to 14 days after the online survey. Participants who registered were sent an e-mail including a link to the online survey and details regarding their appointment time and the location of the laboratory session.

[1] Research has shown that participants are generally not harmed by deception. Participants in deception research reported that they are not put off by the deception, but that they enjoy the experience more and find the experience to be more educational, when compared to those who participated in nondeception research (Christensen, 1988).

Table 3

Summary of the Research Procedure – Study 1

Study Component	Procedure
1. Registration via online Psychology Participant Pool	a. Pre-screening: Participants screened for female gender, absence of past or present eating disorder diagnosis, lack of dietary allergies or restrictions, and prior participation in SPA laboratory research
2. Online survey (30 minutes, 0.5 bonus credits)	a. Informed consent b. Online survey: Moderator (Contingencies of Self-Worth Scale and Body Weight Contingency of Self-Worth Scale) and covariate (Beck Depression Inventory-II, Rosenberg Self-Esteem Scale, Revised Restraint Scale) measures, followed by demographics questionnaire
3. Laboratory session (90 minutes, 2 bonus credits)	a. Informed consent b. Demarcated rejection procedure: Conversation task, group member selection, distractor measure (Marlowe-Crowne Social Desirability Scale), and group assignment feedback (rejection versus control) b. Manipulation check: Rejection manipulation check questionnaire (embedded within the Positive and Negative Affect Schedule) c. Dependent measures: Eating behaviour assessment, State Self-Esteem Scale, Body Image States Scale, Implicit Association Test, and distractor measures (Self-Consciousness Scale and Revised Self-Monitoring Scale) e. Suspicion probe and debriefing f. Debriefing check: Rejection manipulation check questionnaire (embedded within the Positive and Negative Affect Schedule) g. Body mass index measurement: Informed consent and measurement of height and weight

Online survey component. The first part of the study was an online survey consisting of a series of questionnaires comprised of the covariate and the moderator measures. The survey was administered on FluidSurveys and was competed at each participant's convenience in a location of their choice. Before completing the survey, participants were presented with an informed consent form (refer to Appendix M), and they indicated their consent to participate by selecting "Yes" at the bottom of the screen.

After giving informed consent, participants completed the Body Weight Contingencies of Self-Worth Scale (BWCSWS), the Contingencies of Self-Worth Scale (CSWS), the Rosenberg Self-Esteem Scale (RSES), the Beck Depression Inventory-II (BDI-II), and the Revised Restraint Scale (RRS). Still to disguise the body weight-related aspects of the study, the BWCSWS was administered following the Contingencies of Self-Worth Scale (CSWS; Crocker et al., 2003a). To ensure that participants were reading the items presented in the online questionnaires, the BDI-II and RRS each included an additional validity check item that asked the participant to indicate a specific response (e.g., on the RRS "Please select *5*, *Always*"). To reduce the likelihood of order effects, the CSWS/BWCSWS, RSES, and BDI-II questionnaires were presented in random order. The RRS was administered following the other measures to reduce the likelihood that questions regarding participants' own body weigh would bias subsequent responding. To maintain consistency, in all cases the demographics questionnaire was presented last. Following the survey, participants were given the contact information for the principal investigator and were provided community resources.

Laboratory session component. After completing the online survey, participants were invited to the laboratory component of the study. Because the laboratory session involved an eating component, participants were booked on weekdays between the hours

of 11:00am and 5:30pm (Robillard, 2004, 2007). To encourage continued participation in the laboratory session, participants who agreed to attend were sent an e-mail reminder prior to their appointment.

Informed consent. Upon arriving at the laboratory, each participant was provided with an informed consent form and was asked to give written consent using paper-and-pencil (refer to Appendix N). They were told that they would be completing a series of pilot studies for future research consisting of a conversation task, a series of short questionnaires, and a group-based decision-making task.

Rejection manipulation. The first part of the laboratory session consisted of a relational devaluation experimental manipulation, which was a demarcated rejection procedure modelled after the method originally designed by Nezlek, Kowalski, Leary, Blevins, and Holgate (1997). Demarcated rejection refers to a paradigm in which the participant is explicitly told that he or she is rejected (Gerber & Wheeler, 2009). Procedures like the method used in this study have been shown to be effective in several previous studies (see Gerber & Wheeler, 2009 for a review). The specific procedure in this study follows the method used in research by Kerr (2008; see also Leary et al., 1995).

Participants first met in groups of four in the main laboratory room. To reduce distraction, participants were asked to turn off their mobile phones for the remainder of the experiment. They were provided with nametags and asked to introduce themselves to the other participants by stating their first name, as well as their program and year of study. The experimenter then facilitated a discussion of topics unrelated to body image (e.g., places to meet new people on campus, most interesting courses, places to study on or off campus) for 10 minutes (refer to Appendix O). In situations in which less than four

participants attended the laboratory session, undergraduate research assistants who were trained as confederates acted as participants in this group conversation.

After the group conversation, participants were placed into individual rooms where they sat at a table in front of a computer. They were instructed to write the names of two other participants with whom they wished to work during an alleged group decision-making task that was purported to follow (refer to Appendix P). Each was told that she would be working with at least one other participant of her choice.

Once participants complete their selection, the experimenter left the room under the pretense of assigning groups for the decision-making task. During this time, participants completed the Marlowe-Crowne Social Desirability Scale (MCSDS-Form C) distractor measure on FluidSurveys. The MCDS is a 13-item self-report measure designed to assess participants' tendencies toward socially desirable responding (Crowne & Marlowe, 1960). It was chosen as a distractor because it is relatively brief and because it contains items unrelated to body image or eating (refer to Appendix Q).

After 5 minutes, participants were informed of their decision-making task group assignment, with each participant assigned randomly to a rejection or a neutral control condition. In both conditions, participants were instructed that they would be working alone for the remainder of the study; however, the reason for this varied by condition. In the rejection condition, participants were given the following feedback:

"I need to talk to you about your participation in the final decision-making task. This is unusual, but no other participant chose to work with you. This means that you will be completing the rest of the pilot studies alone."

Alternatively, participants assigned to the control condition were told:

"I need to talk to you about your participation in the final decision-making task. This is unusual, but there has been a mistake in assigning you to a group. This means that you will be completing the rest of the pilot studies alone."

To assess the effectiveness of the experimental manipulation, immediately following this feedback participants completed the PANAS with items embedded from the rejection manipulation check questionnaire on FluidSurveys.[2]

Dependent measures. Participants then completed the dependent measures, consisting of the eating behaviour assessment, the Body Image States Scale (BISS), the State Self-Esteem Scale (SSES), and Implicit Association Test (IAT). The Self-Consciousness Scale (SCS) and the Revised Self-Monitoring Scale (RSMS) also were included as distractor measures, as described below.

The following eating behaviour assessment was modelled after Robillard (2004, 2007). The eating behaviour component of this study was administered by an experimenter who remained blind to the experimental condition to which each participant was assigned. At this point, the experimenter entered the room, casually holding a bowl and an open bag of pre-weighed M&M®s (see Study 1 "Materials" for details). To help keep track of the amount of M&M®s consumed by each participant, the bottom of each bowl was inconspicuously labeled with a number matched to one of the individual laboratory rooms. To reduce any concerns about hygiene, the experimenter also carried a pair of scissors to give the impression that the bag of M&M®s was just opened. She notified the participant that:

"These M&M®s were left over from an experiment on taste preference that was cancelled yesterday, so now we have plenty of them left over and you are welcome to help yourself."

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[2] In the event that a participant demonstrated visible distress following the rejection manipulation, she was immediately withdrawn from the study. The experimenter thoroughly debriefed the participant as to the true nature of the study and the purpose of the rejection manipulation, and she were assured that the rejection feedback was untrue. The experimenter was present to discuss the participant's concerns, and she was given contact information for the University of Windsor Student Counselling Centre, should she wish to discuss her concerns with an outside party.

The experimenter then poured the M&M®s into a bowl for each participant. The amount of M&M®s was large enough that participants could eat as much as they wished with the amount remaining inconspicuous. The experimenter then began the computerised administration of the dependent and distractor measures and told the participant that another experimenter would return in 15 minutes. The experimenters used a stop-watch to ensure that each participant was given the same amount of time to consume the candy.

Participants then completed the remaining dependent and distractor measures. The online version of the IAT, and the remaining dependent (BISS, SSES) and distractor measures (SCS, RSMS) were administered using FluidSurveys. To ensure that participants were reading the items presented in the questionnaires, the BISS and RSMS each included an additional validity check item that asked the participant to indicate a specific response (e.g., on the RSMS "Please select *1*, *Generally False*"). To reduce the likelihood of order effects, the order in which the computerised dependent variable measures (BISS, SSES, and IAT) and the distractor measures (SCS, RSMS) were presented was randomised.

An online version of the IAT was linked through FluidSurveys, such that participants were directed to a website hosting this measure by clicking a webpage link. After being directed to the webpage, they were assigned randomly to one of two versions of the IAT (see Study 1 “Measures” for details). Upon completion of the IAT, participants were directed back to FluidSurveys to complete the remaining computerised dependent and distractor measures.

The Self-Consciousness Scale (SCS) and the Revised Self-Monitoring Scale (RSMS) were chosen as distractors because they are relatively brief and because they are

comprised of items unrelated to body image or eating. The SCS is a 23-item self-report measure designed to assess participants' tendencies toward private and public self-consciousness (Fenigstein, Scheier, & Buss, 1975; refer to Appendix R), and the RSMS is a 13-item self-report measure designed to assess the extent to which individuals monitor and regulate their self-presentation (Lennox & Wolfe, 1984; refer to Appendix S). After 15 minutes, the experimenter returned to collect the bowl containing the remaining M&M®s from the eating behaviour assessment. The M&M®s were weighed to calculate the amount consumed.

Suspicion probe and debriefing. To determine the credibility of the deception, participants were probed for suspicion using a funnel debriefing procedure (Bargh & Chartrand, 2000). They were asked to discuss the experimental procedure in as much detail as possible, what they believed the study was about, and what they suspected the hypotheses were. The experimenter took note of their responses. This was followed by a thorough debriefing about the true nature of the study, including the purpose of the deception and of the rejection manipulation. Participants also were asked to read and sign a debriefing form confirming their consent to retain their data (refer to Appendix T). At this stage, participants were asked whether they knew any of the other participants in the laboratory session. If a participant indicated that she knew another participant, she was asked to describe the nature of their relationship. The experimenter recorded their responses.

To assess the effectiveness of debriefing in ameliorating negative affect and feelings of rejection, participants were administered another paper-and-pencil version of the Positive and Negative Affect Schedule (PANAS), which contained embedded items from the rejection manipulation check questionnaire. At this stage, the experimenter reviewed

participants' responses on the PANAS to ensure that they are not reporting elevated levels of distress prior to being excused from the experiment.

Weight and height measurement. Participants were told that obtaining measures of their height and weight was an important component of the study. Those who agreed to be measured were asked to read and sign an additional paper-and-pencil informed consent form (refer to Appendix U), because the original consent did not include details of this procedure. Participants were asked to remove their jackets and shoes. To obtain an accurate measure of their BMI, the experimenter measured participants' weight using a precise scale, and measured their height using a measuring tapes that was secured to the wall of each laboratory room in an inconspicuous location. Reported height and weight from the Revised Restraint Scale (RRS) that was administered online were used for any participants who did not consent to having their height or weight measured. Research suggests that self-reports of height and weight are reliable and reasonably accurate across a wide range of subgroups (e.g., Jeffrey, 1996; Stunkard & Albaum, 1981), and that self-report is highly correlated with measured height and weight in young adult populations (e.g., Kuczmarski, Kuczmarski, & Najjar, 2001). Finally, participants were thanked for their participation and excused.

Results

Approach to Data Analysis

All statistical analyses were performed using SPSS for Mac (Version 22.0). First, items on each measure were inspected for out of range values, and reliability analyses were conducted on all continuous variables. Validity checks and missing values analyses then were performed on all variables. Next, descriptive analyses were conducted for measures in each of the experimental conditions. A series of analyses then were

completed to assess the effectiveness of the methodology. Finally, after the assumptions of multiple regression were assessed, separate moderated hierarchical multiple regressions were conducted for each dependent variable, body satisfaction (BISS), state self-esteem (SSES-Appearance, SSES-Performance, SSES-Social), implicit weight identity (IAT-Fat + Self), and eating behaviour (candy consumed).

Data Inspection

Validity check. The data were first inspected for invalid cases. Technical difficulties (e.g., computer freezing) were noted for 14 laboratory participants. Data for these participants were removed from subsequent analyses, because it was determined that these errors would have disrupted the timing of subsequent experimental procedures and that these participants' data would be uninterpretable as a result. In addition, six participants failed one or more validity check items, and closer inspection of their data indicated that they engaged in seemingly random patterns of responding. A series of nonparametric Mann-Whitney U tests comparing participants retained and those that were excluded did not reveal any significant differences on any of the variables of interest. After these cases were removed, 140 were retained for subsequent analyses.

Missing values check. The data then were inspected for missing values. Missing values analysis (MVA) was first performed. Little's MCAR test was not significant, $\chi^2(12039) = 121.297$, $p = 1.00$, indicating that the data were missing completely at random (MCAR) and thus considered ignorable. Overall, less than 1.00% of values were missing.

Closer inspection of the data revealed that data were missing on several measures due to technical errors or participants choosing to not to respond: one participant did not complete the PANAS debriefing check (0.71% missing); and nine did not complete the

IAT (6.43% missing). Despite prior screening, three participants who came to the laboratory reported that they had allergies to the ingredients contained in M&M® candies (i.e., two reported lactose intolerance and one reported a nut allergy). Data for these cases were excluded from analyses that involved these respective variables (refer to Study 1 "Main Analyses").

Imputation of missing values. On questionnaire variables, less than 1.00% of values were missing overall. Missing values ranged from 0.00% to 0.71% on all measures. Therefore, imputation of missing values was determined to be an acceptable solution (Schafer & Graham, 2002). Because of the small proportion of missing values and to maintain an internally consistent set of results, missing values were imputed on questionnaire measures using mean substitution (Tabachnik & Fidell, 2007).

In total, five participants declined to have their weight and height measured in the laboratory. For these participants, BMI was calculated using reported weight and height from the RRS. In the total sample, measured and reported weight, $r(133) = .92$, $p < .001$, and height, $r(133) = .82$, $p < .001$, were significantly positively correlated, as were calculated BMIs based on measured and reported weight and height, $r(133) = .86$, $p < .001$.

Descriptive Analysis

Descriptive statistics for measures according to experimental condition are presented in Table 4 below.

Table 4

Descriptive and t-test Statistics for Measures by Condition (N = 140)

	Control condition (n = 55)		Rejection condition (n = 85)			
Variable	Mean	*SD*	Mean	*SD*	*t*	*Sig.*
BWCSWS	4.91	1.15	5.03	1.32	-0.59	.556
CSWS-Academics	5.76	0.90	5.86	0.88	-0.64	.524
CSWS-Appearance	5.31	0.85	5.24	0.99	0.39	.697
CSWS-Approval	4.09	1.47	3.91	1.39	0.73	.469
CSWS-Competition	4.98	1.51	4.90	1.11	0.42	.678
CSWS-Family	5.56	3.53	5.45	0.95	0.71	.479
CSWS-God	3.53	1.93	3.83	1.98	-0.88	.378
CSWS-Virtue	5.21	0.83	5.32	0.98	-0.70	.488
BDI	13.29	12.08	15.11	9.48	-0.99	.323
BMI	24.31	4.12	25.92	7.27	-1.49	.138
RRS-Total	13.28	5.30	13.54	5.86	-0.26	.794
RRS-CD	7.45	3.60	7.76	3.93	-0.48	.634
RRS-WF	5.83	3.07	5.77	3.04	0.11	.913
RSES	20.66	5.24	19.86	5.65	0.84	.405
SSES-Total	73.10	12.67	71.59	13.99	0.65	.520
SSES-Appearance	20.41	4.08	19.32	5.01	1.36	.177
SSES-Performance	27.10	4.58	26.86	4.88	0.29	.773
SSES-Social	25.58	5.62	25.41	6.04	0.17	.867
BISS	5.42	1.42	5.02	1.48	1.59	.115
IAT-Fat + Self	-0.40	0.35	-0.45	0.40	0.80	.425
Candy Consumed	29.36	28.05	25.36	24.71	0.89	.377

Note. BWCSWS = Body Weight Contingent Self-Worth Scale; CSWS-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSWS-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSWS-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSWS-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSWS-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSWS-God = Contingencies of Self-Worth Scale, God's Love subscale; CSWS-Virtue = Contingencies of Self-Worth Scale, Virtue subscale; BDI-II = Beck Depression Inventory-II; BMI = Body Mass Index; RRS-Total = Revised Restraint Scale, Total Score; RRS-CD = Revised Restraint Scale, Concern for Dieting scale; RRS-WF = Revised Restraint Scale, Weight Fluctuation scale; RSES = Rosenberg Self-Esteem Scale; SSES-Total = State Self-Esteem Scale, Total scale; SSES-Performance = State Self-Esteem Scale, Performance subscale; SSES-Social = State Self-Esteem Scale, Social subscale; SSES-Appearance = State Self-Esteem Scale, Appearance subscale; BISS = Body Image States Scale; IAT-Fat + Self = implicit weight identity (*D* IAT effect); Candy Consumed = amount of candy consumed in grams (g).

Methodology Checks

Equivalence of groups. A series of analyses were conducted to determine whether participants assigned to the rejection and control conditions were equivalent regarding demographics, covariate and moderator variables, laboratory conditions, and relationships between participants.

Random assignment. A series of independent *t* tests were conducted to determine whether random assignment of participants to the rejection versus the control conditions was effective. Results indicated that participants in the rejection condition did not differ significantly from those in the control condition (*p*s > .201) across demographics (i.e., age, ethnicity, number of psychology courses taken, relationship status, or employment status). Participants also did not differ significantly (*p*s > .138) according to the covariate and moderator variables (i.e., contingencies of self-worth domains, body weight contingent self-worth, trait global self-esteem, depressive symptoms, dietary restraint, reported or measured BMI). Thus, random assignment was considered to be effective.

Laboratory conditions. Analyses were conducted to ascertain whether there were any effects of laboratory conditions on participants' responses. A series of one-way ANOVAs indicated that room assignments did not appear to have significant impact on any of the dependent variables (*p*s > .468). Because five different experimenters were involved in laboratory data collection, a series of ANOVAs were conducted to determine whether any of the dependent variables were impacted by the primary experimenter (i.e., the experimenter administering the manipulation and computerised dependent variables), the experimenter providing candy, or confederate involved in the study session (refer to Table 5 for a summary of results).

Table 5

Effects of Experimenters and Confederates on Dependent Variables

	Primary experimenter		Candy provider		Confederate	
Dependent Variable	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*
SSES-Appearance	2.25	.086	2.10	.069	0.40	.846
SSES-Performance	1.55	.204	1.33	.257	0.34	.891
SSES-Social	2.95	.035	1.26	.287	0.48	.790
BISS	2.81	.042	0.68	.637	0.47	.799
IAT-Fat + Self	0.54	.563	0.99	.428	0.59	.710
Candy consumed	1.40	.246	1.20	.313	2.55	.031

Note. SSES-Appearance = State Self-Esteem Scale, Appearance subscale; SSES-Performance = State Self-Esteem Scale, Performance subscale; SSES-Social = State Self-Esteem Scale, Social subscale; BISS = Body Image States Scale; IAT-Fat + Self = implicit weight identity (*D* IAT effect); Candy consumed = amount of candy consumed in grams (g).

ANOVA results showed that participants' responses on the SSES-Social and BISS differed significantly depending on which of four primary experimenters was running their session. Four post-hoc contrasts were conducted for each of the dependent variables, using Bonferroni adjusted alpha levels of $p < .013$ to account for familywise error. Results indicated that participants' scores on the SSES-Social, $t(316) = -2.71$, $p = .008$, and the BISS, $t(136) = -2.79$, $p = .006$, were significantly lower for Experimenter 4 relative to the combined effect of the remaining experimenters. Although the exact reason for this discrepancy is unknown, the principal investigator observed that Experimenter 4 appeared relatively more nervous about administering rejection feedback in comparison to the other experimenters. It is possible that this apprehension was interpreted as a genuine reaction to providing negative social feedback to participants, which may have increased the believability and impact of the rejection feedback on the above variables.

In addition, ANOVA results indicated that participants' responses differed significantly on the IAT depending on which of five experimenters (or no experimenter) acted as a confederate. Again, to account for familywise error, six post-hoc contrasts were conducted using Bonferroni adjusted alpha levels of $p < .008$. Results indicated that participants' implicit weight identity scores were significantly higher when Experimenter 4 acted as a confederate, $t(123) = 2.77$, $p = .006$, in comparison to the combined effect of the remaining experimenters and no confederate. Conversely, there were no significant differences on the dependent variables depending on which experimenter provided candy. As a result of these discrepancies, analyses were conducted separately for the full sample and on a sample with data for Experimenter 4 excluded to determine whether removal of these cases affected the results (see Study 1 "Results – Main Analyses" for details).

Relationships between participants. During the suspicion probe, participants were asked whether they knew any of the other participants taking part in the laboratory session. In total, six participants in the control condition and 13 participants in the experimental condition reported that they knew another participant. A chi-square analysis was conducted to determine whether the proportion of participants who reported that they knew another participant (no prior relationship or prior relationship) differed according to experimental condition (rejection or control). Results indicated that there was no significant association between reported prior relationship and experimental condition, $\chi^2(1) = 0.55$, $p = .459$. In addition, a series of nonparametric Mann-Whitney U tests indicated that there were no significant differences between participants who reported a prior relationship and those who did not on any of the dependent variables.

Implicit responding. The extent to which participants implicitly identified their weight identity on the IAT also was examined. The difference (D) score for the IAT is

considered to be a measure of effect size that is closely related to Cohen's *d*, and can be computed as a *d* value using the formula $D = 2d/\sqrt{(4+d^2)}$ (Nosek & Sriram, 2007). The average Cohen's *d* for the IAT used in this study was .41, which can be interpreted as a small to medium effect size (Cohen, 1988).

Credibility of the cover story. The credibility of the cover story was assessed during a suspicion probe prior to debriefing. All participants were able to accurately describe the cover story that was presented at the beginning of the laboratory portion of the study. That said, 46.43% of participants described some degree of suspicion regarding the cover story. Specifically, 53.57% (54.55% in the control group and 52.94% in the rejection condition) stated that they believed the cover story, 21.43% (29.09% in the control group and 16.47% in the rejection condition) suspected that the study was about body image, 9.30% (no participants in the control group and 15.29% in the rejection condition) suspected that the study was about rejection, 4.30% (no participants in the control group and 7.06% in the rejection condition) suspected that the study was about body image and rejection, and 11.43% (16.36% in the control condition and 8.34% in the rejection condition) stated that they were skeptical of the cover story but could not say what the study was about.

A chi-square analysis was conducted to determine whether participants' reported suspicion regarding the cover story (no suspicion, suspicious of body image, suspicious of rejection, suspicious of body image and rejection, or skeptical of cover story but not specifically suspicious) differed according to experimental condition (control or rejection). Results indicated that there was a significant association between reported suspicion and experimental group, such that participants in the rejection condition were more likely to report that they were suspicious of the cover story relative to control, $\chi^2(4)$

= 16.72, $p = .002$. An additional analysis was conducted to examine whether participants' reported suspicion regarding the rejection manipulation (did not suspect rejection or suspected rejection) differed according to experimental condition (control or rejection). Based on the odds ratio, participants in the rejection condition were 32.55 times more likely to report that they suspected that the study was about rejection than were those in the control condition, $\chi^2(1) = 14.23$, $p < .001$.

Participants who reported that they suspected that the study was about body image generally reported that they became suspicious while answering questionnaires that asked questions about their body image. Those who suspected rejection typically stated that they began to question the group assignment feedback at some point after the rejection feedback was delivered. Based on this information, it could not be determined whether the credibility of the cover story was intact when participants were completing the dependent variables. Therefore, analyses were conducted separately for the full sample and on a sample with suspicious cases excluded to determine whether removal of these cases affected the results (see Study 1 "Results – Main Analyses" for details).

Manipulation check. To test the effectiveness of the demarcated rejection manipulation, independent *t* tests first were performed. Descriptive statistics for manipulation check items (rejected, unwanted, unwelcome, included, and accepted) and PANAS subscales are presented in Table 6.

Table 6

Descriptive Statistics for Manipulation and Debriefing Variables (N = 140)

Variable	Control condition (n = 55)		Rejection condition (*n* = 85)		*t*	Sig.
	Mean	*SD*	Mean	*SD*		
Rejected	1.15	0.49	2.13	1.21	-5.72	.000
Unwanted	1.25	0.67	1.98	1.28	-3.85	.000
Unwelcome	1.13	0.39	1.86	1.08	-4.81	.000
Accepted	3.58	0.74	2.46	1.12	6.57	.000
Included	3.20	0.97	1.98	1.11	6.68	.000
PANAS-PA_M	27.01	7.67	23.37	7.84	1.22	.224
PANAS-NA_M	13.71	4.61	15.35	4.57	-2.07	.040
PANAS-PA_D	29.12	7.79	29.31	8.07	-0.14	.893
PANAS-NA_D	12.29	3.03	12.13	3.10	0.30	.764

Note. PANAS-PA_M = Positive and Negative Affect Schedule, Positive Affect subscale (post-manipulation); PANAS-NA_M = Positive and Negative Affect Schedule, Negative Affect subscale (post-manipulation); PANAS-PA_D = Positive and Negative Affect Schedule, Positive Affect subscale (post-debriefing); PANAS-NA_D = Positive and Negative Affect Schedule, Negative Affect subscale (post-debriefing).

Manipulation checks indicated that participants in the rejection condition reported feeling significantly more rejected, unwanted, and unwelcome relative to those in the control condition. Participants in the rejection condition also reported feeling significantly less accepted and included relative to control. It therefore appears that the rejection condition was successful in increasing feelings of rejection and decreasing feelings of acceptance. Analyses also showed that participants' negative affect was significantly greater in the rejection condition compared to control. On the other hand, there was no significant difference according to condition in participants' positive affect. It appears that the rejection manipulation was effective at increasing participants'

negative affect; however, although their positive affect was lower in the rejection condition relative to the control condition, it was not significantly affected.

Debriefing check. To assess the effectiveness of the debriefing procedure, independent *t* tests were conducted on the PANAS-NA and PANAS-PA subscales administered post-debriefing. Descriptive statistics and *t*-test results for PANAS debriefing check subscales also can be found in Table 6. There were no significant differences between conditions in terms of reported negative or positive affect following debriefing. Additionally, a series of one-way repeated measures ANOVAs were conducted on the PANAS-NA and PANAS-PA subscales for participants in the rejection condition pre- and post-debriefing. For participants who received rejection feedback, negative affect scores were significantly lower after debriefing compared to before, $F(1,83) = 44.24$, $p < .001$, and their positive affect scores also were significantly greater after debriefing compared to before, $F(1, 83) = 41.53$, $p < .001$. Taken together, these results suggest that the debriefing was effective in correcting any negative impact of the rejection manipulation on participants.

Assumptions of Multiple Regression

Prior to the main analysis, assumptions of multiple regression were evaluated for all variables included in subsequent regression analyses. Data checking procedures were modelled after those suggested by Tabachnik and Fidel (2007). First, the assumption of adequate sample size was assessed. Harris (1985) recommends that, for regression equations with five or fewer predictors, the number of participants should exceed the number of predictors by at least 50 (e.g., $N = 53$ for three predictors). For regression equations with 6 or more predictors, a minimum number of 10 participants per predictor is recommended (e.g., $N = 60$ for six predictors). In the present study, the total number of

predictors included in each regression ranged from three to six. Therefore, given that number of cases in each regression exceeded the requisite number all analyses, the sample size was deemed adequate.

The assumption of independence of errors then was assessed separately for each regression. As none of the Durban-Watson statistics were less than 1 or greater than 3 (Field, 2009), this assumption was considered met. The data then were inspected for homoscedasticity of errors and linearity (Field, 2009). Homoscedasticity of errors was directly tested using the Koenker-Bassett test, which showed no violation on any of the dependent variables (*p*s > .067). Visual inspection of standardised residual versus predicted residual scatterplots for each regression showed that the residuals were distributed in a straight horizontal fashion and were randomly scattered with an almost equal number of residuals above and below the zero-residual line. Further, the scatterplots did not demonstrate any wave or a megaphone patterns. As such, the assumptions of independent errors and homoscedasticity were assumed.

The assumption of normality was assessed by visual inspection of histograms and Q-Q plots, standardised scores for skewness and kurtosis, as well as Shapiro-Wilk (*S-W*) statistics (Field, 2009). Although univariate normality is not an explicit assumption of multiple regression, Tabachnick and Fidell (2007) suggest that nonnormal distributions of individual variables can degrade the solution of a regression model. Examination of normality diagnostics for each continuous variable indicated that RRS and BISS passed *S-W*, with skewness and kurtosis statistics within the normal range (i.e., not exceeding ±3*SD*). Variables BWCSWS, CSWS-Appearance, CSWS-Approval, CSWS-Competition, CSWS-Family, CSWS-God, CSWS-Virtue, RSES, SSES-Total, SSES-Appearance, SSES-Performance, SSES-Social, IAT-Fat + Self, and Candy Consumed

violated *S-W*, with skewness and kurtosis within the normal range. Variables BMI and BDI violated *S-W* and were positively skewed with kurtosis within the normal range. Finally, CSWS-Academics violated *S-W* and was negatively skewed with positive kurtosis.

After outliers were identified and their impact was reduced (refer to discussion of outliers below), normality of residuals for BDI and CSWS-Academics were greatly improved. Though *S-W* continued to be violated for these variables, skewness and kurtosis was found to be within the normal range. For BMI, *S-W* continued to be violated, with a positive skew and kurtosis within the normal range. That said, examination of normal probability plots for these variables did not indicate any considerable violations from normality. Multiple regression analysis is fairly robust to violations of normally distributed errors (Osborne & Waters, 2002) and regression models with nonnormally distributed residuals are considered valid when sample size is adequate (Schmidt & Finan, 2018). Therefore, all variables were left un-transformed to avoid problems associated with introducing unnecessary bias to standard errors and slope coefficients (Schmidt & Finan, 2018).

As recommended by Tabachnik and Fidell (2007), the assumption of absence of outliers was examined after normality was inspected. The data first were inspected for univariate outliers within each variable, where extreme cases were detected using scatter plots and *z* scores. Based on a cut-off value of $z = |3.29|$, two univariate outliers were identified. To reduce their impact, extreme values were replaced with raw scores one unit larger than the next most extreme score present in the distribution of the respective variable (Tabachnik & Fidell, 2007). The data subsequently were examined for multivariate outliers separately for each regression analysis. First, outliers on the

dependent variables were detected using studentized deleted residual values. Though outliers on the dependent variables were detected for all regression models, their removal did not appreciably impact the final solutions, and as a result they were retained. Next, influential observations were examined using Cook's distance. As no influential observations were detected for any of the regressions, all cases were retained. Next, outliers on independent variables were inspected using leverage and Mahalanobis distance. Two outliers were identified using both statistics. As suggested by Tabachnik and Fidel (2007), multivariate outliers are particularly problematic because they represent a combination of scores on two or more variables, and therefore can distort the results in a variety of directions. Examination of the demographic characteristics of these outliers did not reveal any discernable pattern of association, and a series of nonparametric Mann-Whitney U tests comparing participants retained and those that were excluded did not reveal any significant differences on any of the variables of interest. Accordingly, these cases were removed from subsequent analyses. After multivariate outliers were removed, the total sample consisted of 138 cases.

The assumption of absence of multicollinearity was assessed by examining variance inflation factors (VIF), tolerance, and intercorrelations among predictor variables. None of the variables approached the cut-offs of VIF > 10 or tolerance < 0.1 (Field & Miles, 2010), and none of the predictor variables shared a correlation that exceeded $r = |.90|$ (Tabachnik & Fidell, 2007). Accordingly, absence of multicollinearity was assumed (refer to Table 7 for all zero-order correlations).

In addition to the aforementioned assumptions of MRA, inclusion of covariates in the analysis requires that the covariates are measured without error. The covariate measures in the present study were chosen based on their wide use in body image and rejection

research. In addition, only measures with at least acceptable levels of internal consistency and test-retest reliability were selected and all had acceptable to excellent internal consistency in the present study (see Study 1 “Measures” for details)

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Table 7

Zero-Order Correlations (Pearson) Between Variables (N = 138)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. BWCSWS	1																		
2. CSWS-Academics	.29**	1																	
3. CSWS-Appearance	.67**	.19*	1																
4. CSWS-Approval	.47**	.39**	.45**	1															
5. CSWS-Competition	.42**	.42**	.39**	.31**	1														
6. CSWS-Family	.23**	.29**	.31**	.31**	.27**	1													
7. CSWS-God	-.03	.08	.01	.02	.10	.35**	1												
8. CSWS-Virtue	.16	.23**	.20*	.22**	.25**	.31**	.26**	1											
9. BDI	.31**	.07	.18*	.07	.02	-.19*	-.10	.06	1										
10. BMI	.23**	.09	.06	.11	.02	-.04	-.13	-.01	.23	1									
11. RRS-Total	.56**	.21*	.29**	.18*	.22**	.13	-.11	.11	.39**	.47**	1								
12. RSES	-.39	-.08	-.26**	-.28**	-.11	.19*	.18*	-.01	-.70**	-.19*	-.22**	1							
13. SSES-Total	-.52**	-.12	-.36**	-.43**	-.09	-.07	.09	-.04	-.52**	-.29**	-.46**	.64**	1						
14. SSES-Appearance	-.59**	-.16	-.41**	-.40**	-.11	.00	.22*	.01	-.52**	-.38**	-.53**	.64**	.87**	1					
15. SSES-Performance	-.31**	.02	-.17*	-.27**	.06	-.01	-.03	-.03	-.45**	-.18*	-.33**	.52**	.87**	.63**	1				
16. SSES-Social	-.49**	-.18*	-.36**	-.46**	-.17*	-.15	.06	-.06	-.42**	-.22*	-.39**	.54**	.92**	.71**	.69**	1			
17. BISS	-.61**	-.20	-.38**	-.30**	-.14	-.06	.27**	-.03	-.43**	-.48**	-.62**	.42**	.74**	.84**	.53**	.62**	1		
18. IAT-Fat + Self	.15	.05	.02	.05	.11	-.05	-.09	-.12	.16	.37**	.24**	-.23**	-.33**	-.37**	-.23**	-.29**	-.29**	1	
19. Candy consumed	.07	.11	.11	.09	.12	-.02	.08	.05	.01	-.07	.02	-.00	-.07	.04	-.09	-.12	-.02	-.19*	1

* Indicates statistical significance at the $p < .05$ level, ** indicates statistical significance at the $p < .01$ level.

Note. BWCSWS = Body Weight Contingent Self-Worth Scale; CSWS-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSWS-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSWS-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSWS-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSWS-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSWS-God = Contingencies of Self-Worth Scale, God's Love subscale; CSWS-Virtue = Contingencies of Self-Worth Scale, Virtue subscale; BDI-II = Beck Depression Inventory-II; BMI = Body Mass Index; RSES = Rosenberg Self-Esteem Scale; RRS-Total = Revised Restraint Scale, Total Score; SSES-Total = State Self-Esteem Scale, Total scale; SSES-Performance = State Self-Esteem Scale, Performance subscale; SSES-Social = State Self-Esteem Scale, Social subscale; SSES-Appearance = State Self-Esteem Scale, Appearance subscale; BISS = Body Image States Scale; IAT-Fat + Self = implicit weight identity (*D* IAT effect); Candy Consumed = amount of candy consumed in grams (g).

Main Analyses

To test the research hypotheses, separate moderated multiple regression analyses (MMRAs) were conducted for each of the dependent variables: state body satisfaction (BISS), state self-esteem (SSES-Appearance, SSES-Performance, and SSES-Social), implicit weight identity (IAT-Fat + Self), and eating behaviour (candy consumed). Multiple regression analysis was selected over analysis of variance (ANOVA) for the present analysis, as it is a powerful approach that is more suitable for testing multiple covariates (Nelson & Zaichkowsky, 1979). MMRA is recommended for testing moderation in this case, as the regression equation can accommodate a continuous moderator (Holmbeck, 1997; Mason, Tu, & Cauce, 1996). Prior to analysis, the continuous moderator and covariate variables were centred to eliminate the possibility of mulitcollinearity between the independent variables and the moderator with the interaction term (Aiken & West, 1991).

As aforementioned, a potential covariate is any variable that is correlated significantly with the dependent variable of interest (Field, 2009; Stevens, 2009). By accounting for and partialling out variance that otherwise would be left unexplained, inclusion of covariates reduces within-group error variance, thereby allowing for a more accurate assessment of the effects of the independent variables and improving the sensitivity of the test (Stevens, 2009). As mentioned above, covariates in the present study included depressive symptoms (BDI), body mass index (BMI), global trait self-esteem (RSES), and dietary restraint (RRS-Total). For each regression, covariates that were theoretically associated and moderately correlated ($r \geq |0.30|$) with the dependent variable were entered into the analysis, and were retained only if they contributed significantly to the model (Field, 2005).

To test the significance of the moderation effect, the significant covariate variables, independent variable (experimental condition: rejection versus control), and moderator (BWCSWS or CSWS), as well as the interaction term (BWCSWS x experimental condition or CSWS x experimental condition), were entered into the regression equation in a hierarchical fashion (Baron & Kenny, 1986; Holmbeck, 1997). Specifically, the covariate variables were entered in the first step, the main effects represented by the independent variable (coded as 1 = rejection, 0 = control) and the moderator variable were entered in the second step, and the interaction term was entered in the third and final step of the model. Each dependent variable, state self-esteem (SSES-Appearance, SSES-Performance, and SSES-Social), body satisfaction (BISS), implicit weight identity (IAT-Fat + Self), and eating behaviour (candy consumed) was separately regressed on this equation. Significant moderation effects were indicated by significance of the interaction term variable when the independent and moderator variables were controlled (Baron & Kenny, 1986). Interaction effects were examined using simple slopes analysis (Aiken & West, 1991; Dawson, 2014). An alpha level of $p < .05$ was adopted for all main analyses. Also reported are squared partial correlation coefficients (r^2), which indicate the proportion of variance accounted for by the effect of the independent variable on the dependent variable, after controlling for the effects of other variables included in the model (small effect = .01, medium effect = .09, large effect = .25).

As described previously, several participants reported suspicion about the cover story during the suspicion probe and debriefing procedure (see Study 1 "Results – Methodology Checks" for details). As such, regression analyses were conducted on the full sample ($N = 138$), as well as on a sample ($N = 120$) that excluded participants who reported suspicion about rejection ($n = 13$) and those who closely guessed the purpose of

the study (n = 5). In addition, because several of the dependent variables were impacted by the experimenter who was acting as primary experimenter or confederate, regression analyses were conducted on state social self-esteem and state body satisfaction data with Experimenter 4 primary experimenter data removed (n = 126), and on implicit weight identity data on a sample with Experimenter 4 confederate data removed (n = 118). Across all regression analyses, removal of participants did not change the primary outcomes, and all findings remained comparable to those from the full sample. As such, only results from analyses on the full sample are presented below (refer to Appendix V for regression summary tables with suspicious cases removed; Appendix W for regression summary tables with data impacted by Experimenter 4 removed).

State Body Satisfaction and Appearance Self-Esteem

Hypotheses 1.1.1. and 1.1.2. The first regression analyses examined predictors of body satisfaction and state appearance self-esteem. In hypothesis 1.1.1., it was predicted that women whose self-worth is based highly on body weight would demonstrate significantly lower state body satisfaction and appearance self-esteem than would women whose self-worth is less contingent on body weight across conditions. In addition, based on results from O'Driscoll and Jarry (2015), it was expected that women whose self-worth is highly contingent on body weight would respond to rejection in a defensive and self-enhancing fashion. Therefore, in hypothesis 1.1.2., it was predicted that women higher in body weight contingent self-worth would self-report significantly greater state body satisfaction and appearance self-esteem following rejection relative to control. Among women lower in body weight contingent self-worth, it was expected that self-reports of state body satisfaction and appearance self-esteem would not significantly differ across conditions.

State body satisfaction. The full sample ($N = 138$) was included in the analysis for state body satisfaction. To account for their demonstrated relationships with the dependent variable, global trait self-esteem, depressive symptoms, and BMI were tested as covariates, and all were significant and included in the final model (refer to Table 8 for a summary of the final model).

Table 8

Final Regression Model for State Body Satisfaction (N = 138)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.60	0.36	(Constant)	5.16	0.10	-	52.25	.000	4.97	5.36
			RSES	0.05	0.03	0.21	2.16	.033	0.01	0.10
			BDI	-0.03	0.01	-0.20	-2.08	.040	-0.06	-0.00
			BMI	-0.10	0.02	-0.31	-5.51	.000	-0.14	-0.07
2	0.73	0.54	(Constant)	5.22	0.14	-	38.36	.000	4.95	5.49
			RSES	0.01	0.02	0.05	0.62	.536	-0.03	0.06
			BDI	-0.03	0.02	-0.18	-2.17	.032	-0.05	-0.00
			BMI	-0.08	0.01	-0.31	-5.06	.000	-0.11	-0.05
			BWCSWS	-0.53	0.08	-0.46	-7.11	.000	-0.68	-0.38
			Condition	-0.10	0.18	-0.03	-0.54	.589	-0.44	0.25
3	0.73	0.54	(Constant)	5.22	0.14	-	38.18	.000	4.95	5.49
			RSES	0.01	0.02	0.05	0.60	.550	-0.03	0.06
			BDI	-0.03	0.01	-0.18	-2.16	.033	-0.05	-0.00
			BMI	-0.08	0.02	-0.31	-5.03	.000	-0.11	-0.05
			BWCSWS	-0.52	0.12	-0.46	-4.27	.000	-0.76	-0.28
			Condition	-0.10	0.18	-0.03	-0.54	.589	-0.44	0.25
			BWCSWS x Condition	-0.01	0.15	-0.01	-0.09	.925	-0.30	0.28

Note. Dependent variable: Body image States Scale (BISS)
RSES = Rosenberg Self-Esteem Scale; BDI = Beck Depression Inventory; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(3,134) = 25.19$, $p < .001$, and accounted for 36.06% of the variance in state body satisfaction. At this step, global trait self-esteem significantly contributed to the model, $\beta = 0.21$, $t(137) = 2.16$, $p = .033$, with participants

who scored higher on this variable reporting greater levels of state body satisfaction. Depressive symptoms also contributed significantly, β = -0.20, $t(137) = -2.08$, $p = .040$, with those reporting more depressive symptoms reporting lower levels of state body satisfaction. Additionally, BMI contributed significantly, β = -0.10, $t(137) = -5.51$, $p < .001$, with those with higher BMIs reporting lower state body satisfaction.

In Step 2, adding body weight contingent self-worth and experimental condition significantly improved the prediction of state body satisfaction, $\Delta F(2,132) = 25.38$, $p < .001$, accounting for an additional 17.76% of the variance. In line with predictions, body weight contingent self-worth significantly contributed, β = -0.46, $t(137) = -7.11$, $p < .001$, with participants who scored higher on this variable reporting lower state body satisfaction. On the other hand, experimental condition was not significant, β = -0.10, $t(137) = -0.54$, $p = .589$. The squared partial correlation between experimental condition and state body satisfaction was $r^2 < .01$, which is a negligible effect size (Cohen, 1988).

Contrary to predictions, the interaction term was not significant, β = -0.01, $t(137) = -0.09$, $p = .925$, and its addition to the model did not significantly improve the prediction of state body satisfaction, $\Delta F(1,131) = 0.01$, $p = .925$, accounting for an additional 0.08% of the variance. As depicted in Figure 1, simple slopes analysis showed that there were no significant differences in state body satisfaction between conditions for women with higher ($M + 1SD$) body weight contingent self-worth, $t(137) = -0.44$, $p = .663$, or for women with lower ($M - 1SD$) body weight contingent self-worth, $t(137) = -0.31$, $p = .757$. The effect size of the correlation between the interaction term and state body satisfaction was $r^2 < .01$, which is a negligible effect size (Cohen, 1988). The complete model accounted for 53.82 % of the variance in state body satisfaction.

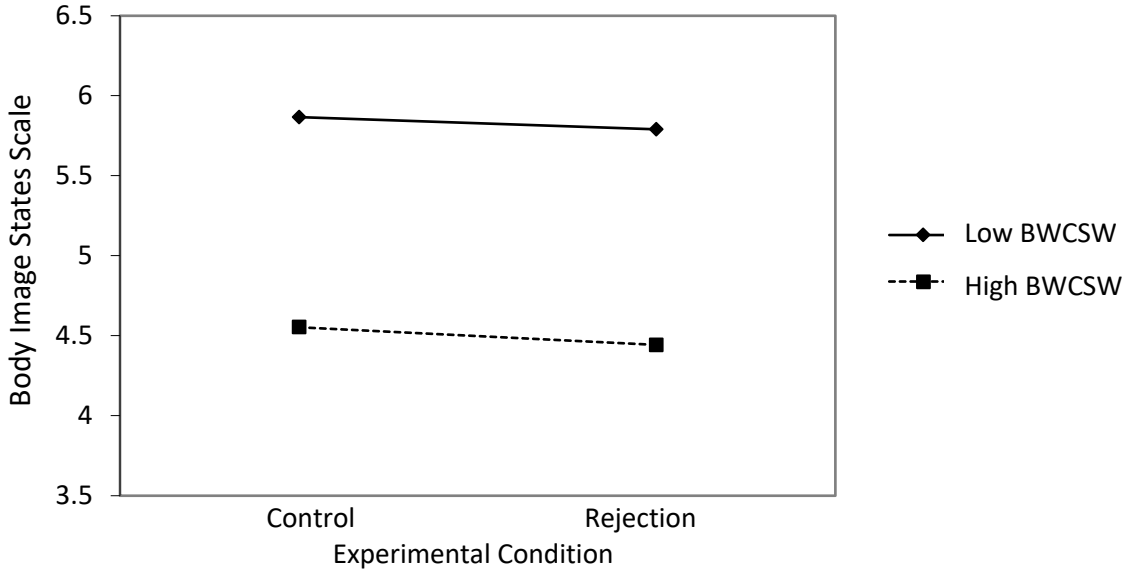

Figure 1. Effect of experimental condition on state body satisfaction at low and high levels of body weight contingent self-worth.

State appearance self-esteem. The full sample ($N = 138$) was included in the analysis for state appearance self-esteem. To account for their demonstrated relationships with the dependent variable, global trait self-esteem, depressive symptoms, and BMI were tested as covariates. Depressive symptoms did not significantly contribute as a covariate to the model ($p = .280$), and thus was removed from subsequent analysis (refer to Table 9 for a summary of the final model).

Table 9

Final Regression Model for State Appearance Self-Esteem (N = 138)

Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	*95% CI*	
									Min	Max
1	0.69	0.48	(Constant)	19.74	0.29	-	68.09	.000	19.16	20.31
			RSES	0.50	0.05	0.59	9.35	.000	0.39	0.61
			BMI	-0.22	0.05	-0.27	-4.18	.000	-0.33	-0.12
2	0.77	0.59	(Constant)	19.91	0.42	-	47.90	.000	19.08	20.73
			RSES	0.39	0.05	0.46	7.54	.000	0.29	0.49
			BMI	-0.17	0.05	-0.20	-3.50	.001	-0.27	-0.07
			BWCSWS	-1.37	0.23	-0.37	-6.00	.000	-1.82	-0.92
			Condition	-0.28	0.53	-0.03	-0.52	.605	-1.33	0.78
3	0.77	0.59	(Constant)	19.92	0.42	-	47.72	.000	19.09	20.74
			RSES	0.39	0.05	0.46	7.46	.000	0.29	0.49
			BMI	-0.17	0.05	-0.20	-3.47	.001	-0.27	-0.07
			BWCSWS	-1.22	0.37	-0.33	-3.30	.001	-1.96	-0.49
			Condition	-0.29	0.54	-0.30	-0.53	.594	-1.35	0.77
			BWCSWS x Condition	-0.23	0.45	-0.05	-0.51	.615	-1.11	0.66

Note. Dependent variable: State Self-Esteem Scale-Physical Appearance subscale (SSES-Appearance) RSES = Rosenberg Self-Esteem Scale; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(3,134) = 41.83$, $p < .001$, and accounted for 47.91% of the variance in state appearance self-esteem. At this step, global trait self-esteem significantly contributed, $\beta = 0.59$, $t(137) = 9.35$, $p < .001$, with participants who scored higher on this variable reporting greater levels of state appearance self-esteem. BMI also contributed significantly, $\beta = -0.27$, $t(137) = -4.18$, $p < .001$, with those with higher BMIs reporting lower levels of state appearance self-esteem.

In Step 2, adding body weight contingent self-worth and experimental condition significantly improved the prediction of state appearance self-esteem, $\Delta F(2,133) = 18.15$, $p < .001$, accounting for an additional 11.17% of the variance. As predicted, body weight contingent self-worth significantly contributed, $\beta = -0.38$, $t(137) = -6.00$, $p < .001$, with

participants who scored higher on this variable reporting lower state appearance self-esteem. On the other hand, experimental condition was not significant, $\beta = -0.03$, $t(137) = -0.52$, $p = .605$. The squared partial correlation between experimental condition and state appearance self-esteem was $r^2 < .01$, which is a negligible effect size (Cohen, 1988).

Contrary to predictions, the interaction term was not significant, $\beta = -0.05$, $t(137) = -0.50$, $p = .615$, and its addition to the model did not significantly improve the prediction of state appearance self-esteem, $\Delta F(1,132) = 0.25$, $p = .615$, accounting for an additional 0.08% of the variance. As depicted in Figure 2, simple slopes analysis showed that there were no significant differences between conditions in state appearance self-esteem for women with higher ($M + 1SD$) body weight contingent self-worth, $t(137) = -0.72$, $p = .472$, or for women with lower ($M - 1SD$) body weight contingent self-worth, $t(137) = -0.01$, $p = .996$. The effect size of the correlation between the interaction term and state appearance self-esteem was $r^2 < .01$, which is a negligible effect size (Cohen, 1988). The complete model accounted for 59.16% of the variance in state appearance self-esteem.

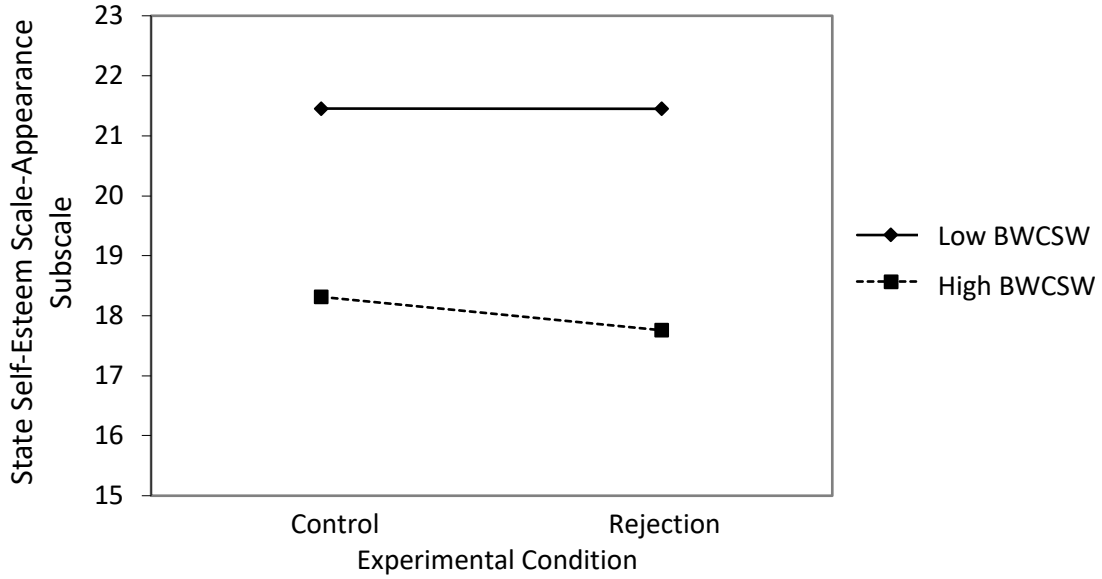

Figure 2. Effect of experimental condition on state appearance self-esteem at low and high levels of body weight contingent self-worth.

Effects of BWCSW and Rejection on Performance and Social Self-Esteem

Hypothesis 1.1.3. To further ascertain whether the effect of the predictors was specific to appearance, additional regression analyses were conducted to determine whether body weight contingent self-worth moderated the effect of experimental condition on performance and social state self-esteem. It was predicted that any self-enhancement effect of women with higher body weight contingent self-worth in response to rejection would be unique to the domain of body image, such that other domains of state self-esteem (i.e., performance and social) would not significantly be affected by this combination of predictors.

State performance self-esteem. The full sample ($N = 138$) was included in the analyses for state performance self-esteem. To account for their demonstrated relationships with the dependent variable, global trait self-esteem and depressive symptoms were tested as covariates. Depressive symptoms did not significantly

contribute as a covariate (p = .097), and thus was removed from subsequent analyses (refer to Table 10 for a summary of the final model).

Table 10

Final Regression Model for State Performance Self-Esteem Removed (N = 138)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.52	0.27	(Constant)	26.99	0.35	-	78.21	.000	26.31	27.68
			RSES	0.45	0.06	0.52	7.16	.000	0.33	0.57
2	0.54	0.29	(Constant)	26.98	0.55	-	48.85	.000	25.89	28.07
			RSES	0.41	0.07	0.48	5.99	.000	0.27	0.56
			BWCSWS	-0.46	0.30	-0.12	-1.52	.131	-1.05	0.14
			Condition	0.03	0.71	0.00	0.04	.970	-1.38	1.43
3	0.54	0.29	(Constant)	26.98	0.56	-	48.61	.000	25.89	28.08
			RSES	0.41	0.07	0.48	5.94	.000	0.27	0.55
			BWCSWS	-0.38	0.49	-0.10	-0.78	.439	-1.36	0.59
			Condition	0.02	0.71	0.00	0.03	.975	-1.39	1.43
			BWCSWS x Condition	-0.11	0.59	-0.02	-0.19	.853	-1.28	1.06

Note. Dependent variable: State Self-Esteem Scale-Performance subscale (SSES-Performance) RSES = Rosenberg Self-Esteem Scale; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(1,136) = 51.20$, $p < .001$, and accounted for 27.35% of the variance in state performance self-esteem. At this step, global trait self-esteem significantly contributed to the model, β = 0.52, $t(137) = 7.16$, $p < .001$, with the responses of participants who scored higher on this variable indicating greater levels of state performance self-esteem.

In Step 2, adding body weight contingent self-worth and experimental condition did not significantly improve the prediction of state performance self-esteem, $\Delta F(2,134) = 1.16$, $p = .318$, accounting for an additional 1.23% of the variance. Body weight contingent self-worth also did not significantly contribute to the model, β = -0.12, $t(137) = -1.52$, $p = .131$, nor did experimental condition, β = 0.00, $t(137) = 0.04$, $p = .970$. The

squared partial correlation between experimental condition and state performance self-esteem was $r^2 < .01$, which is a negligible effect size (Cohen, 1988).

In line with predictions, the interaction term was not significant, $\beta = -0.02$, $t(137) = -0.19$, $p = .853$, and its addition to the model did not significantly improve the prediction of state performance self-esteem, $\mathbf{\Delta}F(1,133) = 0.03$, $p = .853$, accounting for an additional 0.02% of the variance. As depicted in Figure 3, simple slopes analysis showed that there were no significant differences in state performance self-esteem between conditions for women with higher ($M + 1SD$) body weight contingent self-worth, $t(137) = -0.11$, $p = .912$, or for women with lower ($M - 1SD$) body weight contingent self-worth, $t(137) = 0.16$, $p = .874$. The effect size of the correlation between the interaction term and state performance self-esteem was $r^2 < .01$, which is a negligible effect size (Cohen, 1988). The complete model accounted for 28.60% of the variance in state performance self-esteem.

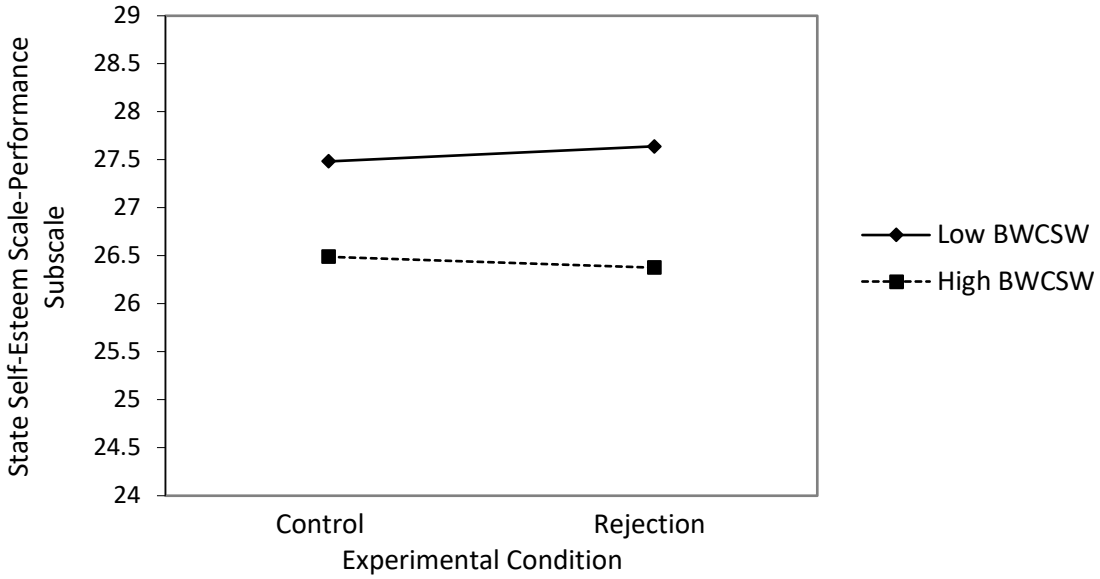

Figure 3. Effect of experimental condition on state performance self-esteem at low and high levels of body weight contingent self-worth.

State social self-esteem. The full sample ($N = 138$) was included in the analyses for state social self-esteem. To account for their demonstrated relationships with the dependent variable, global trait self-esteem and depressive symptoms were tested as covariates. Depressive symptoms did not significantly contribute as a covariate to the model ($p = .411$), and thus was removed from subsequent analyses (refer to Table 11 for a summary of the final model).

Table 11

Final Regression Model for State Social Self-Esteem (N = 138)

Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	*95% CI*	
									Min	Max
1	0.54	0.29	(Constant)	25.51	0.42	-	60.79	.000	24.68	26.35
			RSES	0.57	0.08	0.54	7.45	.000	0.42	0.72
2	0.62	0.38	(Constant)	25.42	0.63	-	40.13	.000	24.16	26.67
			RSES	0.44	0.08	0.41	5.57	.000	0.28	0.59
			BWCSWS	-1.51	0.34	-0.32	-4.39	.000	-2.19	-0.83
			Condition	0.16	0.82	0.01	0.20	.841	-1.45	1.77
3	0.62	0.38	(Constant)	25.43	0.64	-	39.98	.000	24.17	26.69
			RSES	0.43	0.08	0.41	5.50	.000	0.28	0.59
			BWCSWS	-1.29	0.57	-0.28	-2.28	.024	-2.41	-0.17
			Condition	0.15	0.82	0.01	0.18	.854	-1.46	1.76
			BWCSWS x Condition	-0.33	0.68	-0.06	-0.50	.626	-1.68	1.01

Note. Dependent variable: State Self-Esteem Scale-Social subscale (SSES-Social)
RSES = Rosenberg Self-Esteem Scale; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(1,136) = 55.44$, $p < .001$, and accounted for 28.96% of the variance in state social self-esteem. At this step, global trait self-esteem significantly contributed to the model, $\beta = 0.54$, $t(137) = -7.45$, $p < .001$, with the responses of participants who scored higher on this variable indicating greater levels of state social self-esteem.

In Step 2, adding body weight contingent self-worth and experimental condition significantly improved the prediction of state social self-esteem, $\Delta F(2,134) = 9.63$, $p < .001$, accounting for an additional 8.93% of the variance. Body weight contingent self-worth significantly contributed to the model, $\beta = -0.32$, $t(137) = -4.39$, $p < .001$, with participants who scored higher on this variable reporting lower levels of state social self-esteem. Experimental condition did not significantly contribute, $\beta = 0.01$, $t(137) = 0.20$,

p = .841. The squared partial correlation between experimental condition and state social self-esteem was $r^2 < .01$, which is a negligible effect size (Cohen, 1988).

As predicted, the interaction term was not significant, β = -0.06, $t(137) = -0.49$, p = .626, and its addition to the model did not significantly improve the prediction of state social self-esteem, $\Delta F(1,133) = 0.24$, p = .626, accounting for an additional 0.11% of the variance. As depicted in Figure 4, simple slopes analysis showed that there were no significant differences in state social self-esteem between conditions for women with higher (M + 1SD) body weight contingent self-worth, $t(137) = -0.22$, p = .825, or for women with lower (M - 1SD) body weight contingent self-worth, $t(137) = 0.49$, p = .626. The effect size of the correlation between the interaction term and state social self-esteem was $r^2 < .01$, which is a negligible effect size (Cohen, 1988). The complete model accounted for 38.00% of the variance in state social self-esteem.

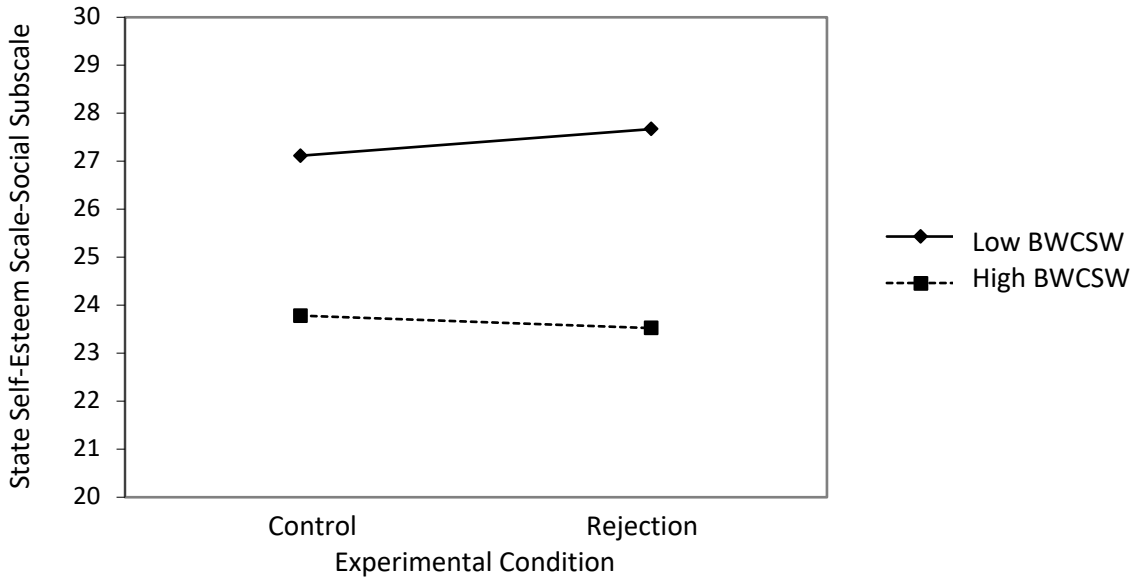

Figure 4. Effect of experimental condition on state social self-esteem at low and high levels of body weight contingent self-worth.

Effects of CSW and Rejection on Body Satisfaction and Appearance Self-Esteem

Hypothesis 1.1.4. To determine whether the body weight contingency of self-worth uniquely moderated the effect of rejection on state body satisfaction and appearance self-esteem, a series of additional regression analyses were conducted on state body satisfaction and state appearance self-esteem, using experimental condition and each of the seven self-worth contingency domains (academics, appearance, approval, competition, family support, God's love, and virtue) as predictors. It was predicted that the effect of rejection on body image evaluation would be moderated specifically by body weight contingent self-worth, such that other domains of self-worth would not moderate the effect of rejection on reported state body satisfaction or appearance self-esteem.

State body satisfaction. The full sample (N = 138) was included in all analyses for state body satisfaction. To account for their relationships with the dependent variables, global trait self-esteem, depressive symptoms, and BMI were included as significant covariates.

Significant main effects were detected for the following contingencies of self-worth: appearance, β = -0.24, $t(137) = -2.08$, $p < .001$, $r^2 = .03$, 95% CI [-0.73, -0.02], approval, β = -0.22, $t(137) = -3.02$, $p = .003$, $r^2 = .06$, 95% CI [-0.37, -0.08], and family support, β = -0.16, $t(137) = -2.31$, $p = .023$, $r^2 < .01$, 95% CI [-0.47, -0.04]. Specifically, those who based their self-worth to a greater extent on these domains reported significantly lower state body satisfaction. A significant main effect for God's love, β = 0.17, $t(137) = 2.44$, $p = .024$, $r^2 = .04$, 95% CI [0.02, 0.23], indicated that those with higher God's love contingent self-worth reported significantly greater state body satisfaction.

As predicted, results for state body satisfaction revealed no significant interaction effects between experimental condition and any of the contingencies of self-worth domains (refer to Table 12 for a summary of interaction effects). Furthermore, simple slopes analysis showed that there were no significant differences in state body satisfaction between conditions at

higher (*M* + 1*SD*) or lower (*M* - 1*SD*) levels of any of the domains of contingent self-worth (*p*s > .340).

Table 12

CSW x Condition as Predictors of State Body Satisfaction (N = 138)

							95% CI	
Predictor	*b*	*SE b*	β	*t*	*Sig.*	r^2	Min	Max
CSWS-Academics x Condition	0.04	0.23	0.02	0.20	.845	.00	-0.41	0.50
CSWS-Appearance x Condition	-0.12	0.22	-0.06	-0.55	.583	.00	-0.55	0.31
CSWS-Approval x Condition	-0.07	0.14	-0.05	-0.48	.636	.00	-0.35	0.22
CSWS-Competition x Condition	-0.01	0.18	-0.01	-0.06	.955	.00	-0.37	0.35
CSWS-Family Support x Condition	0.07	0.23	0.03	0.29	.773	.00	-0.38	0.52
CSWS-God's Love x Condition	-0.03	0.10	-0.03	-0.28	.784	.00	-0.24	0.18
CSWS-Virtue x Condition	0.22	0.23	0.12	0.92	.358	.01	-0.25	0.68

Note. Dependent variable: Body Image States Scale (BISS), controlling for Rosenberg State Self Esteem Scale (RSES), Beck Depression Inventory-II (BDI-II), and Body Mass Index (BMI)
CSWS-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSWS-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSWS-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSWS-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSWS-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSWS-God = Contingencies of Self-Worth Scale, God's Love subscale; CSWS-Virtue = Contingencies of Self-Worth Scale, Virtue subscale.

State appearance self-esteem. The full sample (N = 138) was included in all analyses for state appearance self-esteem. To account for their demonstrated relationships with the dependent variables, global trait self-esteem, depressive symptoms, and BMI were tested as covariates. Depressive symptoms did not significantly contribute as a covariate to the model for state appearance self-esteem (p = .280), and therefore was removed from subsequent analyses. Significant main effects were detected for appearance β = -0.26, $t(137) = -4.22$, $p < .001$, $r^2 = .12$, 95% CI [-1.92, -0.69], and approval, β = -0.22, $t(137) = -3.54$, $p = .001$, $r^2 = .09$, 95% CI [-1.15, -0.33], contingencies of self-worth, such that those who based their self-worth to a greater extent on these domains reported significantly lower state appearance self-esteem.

Results for state appearance self-esteem revealed no significant interaction effects between experimental condition and any of the contingencies of self-worth domains,

though there was a near significant interaction for virtue contingent self-worth (refer to Table 13 for a summary of interaction effects). Furthermore, simple slopes analysis showed that there were no significant differences in state appearance self-esteem between conditions at higher (M + 1SD) or lower (M - 1SD) levels of any of the domains of contingent self-worth (ps > .334), with the exception of virtue contingent self-worth, as described below.

Table 13

CSW x Condition as Predictors of State Appearance Self-Esteem (N = 138)

							95% CI	
Predictor	*b*	*SE b*	β	*t*	*Sig.*	r^2	Min	Max
CSWS-Academics x Condition	0.66	0.67	0.10	0.99	.326	.01	-0.67	1.99
CSWS-Appearance x Condition	-0.19	0.64	-0.03	-0.30	.763	.00	-1.45	1.07
CSWS-Approval x Condition	0.03	0.41	0.01	0.07	.943	.00	-0.78	0.84
CSWS-Competition x Condition	0.12	0.53	0.02	0.23	.821	.00	-0.93	1.17
CSWS-Family Support x Condition	0.31	0.67	0.05	0.47	.642	.00	-1.01	1.63
CSWS-God's Love x Condition	-0.05	0.31	-0.02	-0.17	.869	.00	-0.66	0.56
CSWS-Virtue x Condition	1.27	0.68	0.21	1.88	.063	.03	-0.07	2.61

Note. Dependent variable: State Self-Esteem Scale-Appearance subscale (SSES-Appearance), controlling for Rosenberg State Self Esteem Scale (RSES) and Body Mass Index (BMI)
CSWS-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSWS-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSWS-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSWS-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSWS-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSWS-God = Contingencies of Self-Worth Scale, God's Love subscale; CSWS-Virtue = Contingencies of Self-Worth Scale, Virtue subscale.

There were no significant main effects of virtue contingent self-worth, β = 0.01, $t(137) = -0.46$, $p = .864$, $r^2 < .01$, 95% CI [-0.57, -1.47], or condition, β = -0.03, $t(137) = -0.46$, $p = .645$, $r^2 = < .01$, 95% CI [-1.47, 0.91] on state appearance self-esteem. However, the interaction term between virtue contingent self-worth and condition approached significance, β = -0.03, $t(137) = -0.30$, $p = .063$, and it marginally improved the prediction of state appearance self-esteem, $\Delta F(1,132) = 0.09$, $p = .063$, accounting for

0.03% of the variance. As depicted in Figure 5, state appearance self-esteem did not differ significantly between conditions for women with lower (*M* - 1*SD*) virtue contingent self-worth, $t(137) = -1.23$, $p = .222$. However, women with higher (*M* + 1*SD*) virtue contingent self-worth reported significantly greater levels of state appearance self-esteem in the rejection condition relative to control, $t(137) = 2.29$, $p = .024$. The effect size of the correlation between the interaction term and state appearance self-esteem was $r^2 = .03$, which is a small to medium effect size (Cohen, 1988). The complete model accounted for 54.16% of the variance in state appearance self-esteem.

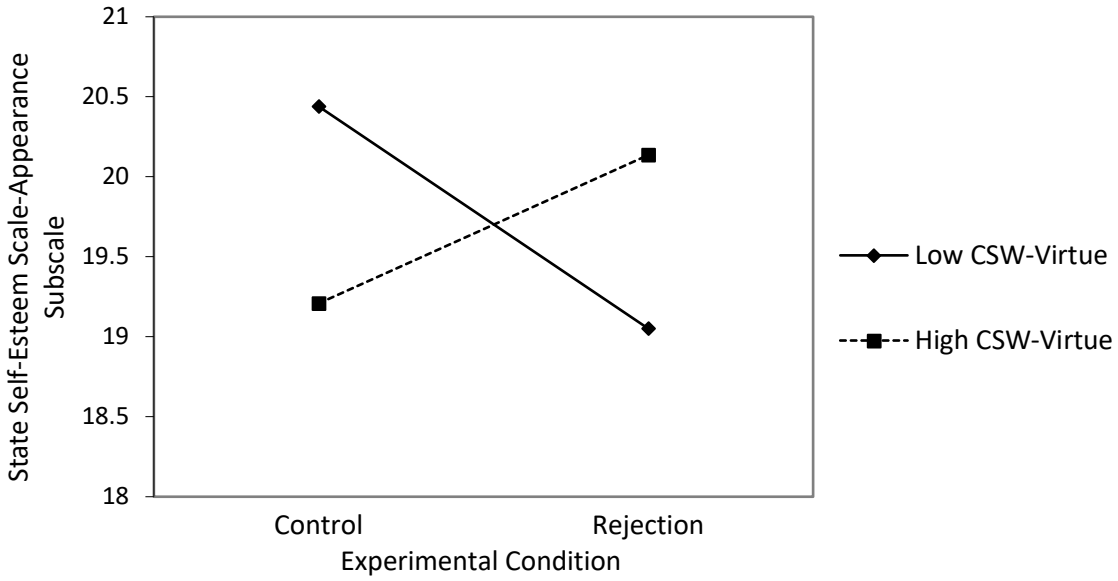

Figure 5. Effect of experimental condition on state appearance self-esteem at low and high levels of virtue contingent self-worth.

Implicit Weight Identity

Hypotheses 1.2.1. and 1.2.3. The next regression examined predictors of implicit weight identity, as measured by the IAT effect difference score (*D*). In hypothesis 1.2.1., it was predicted that women whose self-worth is highly contingent on body weight would demonstrate greater implicit fat identity, indicated by significantly faster implicit associations between *self* and *fat* relative to *self* and *thin* (i.e., greater positive *D* scores) than would women whose self-worth is less contingent on body weight across experimental conditions. Hypothesis 1.2.3. predicted that, following exposure to rejection, women with higher body weight contingent self-worth would demonstrate significantly greater implicit fat identity, indicated by significantly faster implicit associations between *self* and *fat* relative to *self* and *thin* (i.e., greater positive *D* scores), than would their counterparts not exposed to rejection. Among women lower in body weight contingent self-worth, it was predicted that implicit weight identity would not differ significantly across experimental conditions.

Nine participants who did not complete the IAT were excluded from this analysis, and the total *N* for the regression was 129. To account for their demonstrated relationships with the dependent variable, global trait self-esteem, depressive symptoms, and BMI were tested as covariates. Depressive symptoms did not significantly contribute to the model as a covariate ($p = .578$), and thus was removed from subsequent analysis (refer to Table 14 for a summary of the final model).

Table 14

Final Regression Model for Implicit Weight Identity (N = 129)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.41	0.17	(Constant)	-0.43	0.03	-	-13.75	.000	-0.49	-0.37
			RSES	-0.01	0.01	-0.17	-2.08	.039	-0.02	-0.00
			BMI	0.02	0.01	0.34	4.13	.000	0.01	0.04
2	0.42	0.18	(Constant)	-0.37	0.05	-	-7.27	.000	-0.48	-.272
			RSES	-0.01	0.01	-0.18	-1.97	.052	-0.03	0.00
			BMI	0.02	0.01	0.35	4.14	.000	0.01	0.04
			BWCSWS	0.00	0.03	0.01	0.12	.903	-0.05	0.06
			Condition	-0.09	0.07	-0.11	-1.35	.181	-0.22	0.04
3	0.42	0.18	(Constant)	-0.37	0.05	-	-7.24	.000	-0.48	-0.27
			RSES	-0.01	0.01	-0.18	-1.97	.052	-0.03	0.00
			BMI	0.02	0.01	0.35	4.14	.000	0.01	0.04
			BWCSWS	0.02	0.05	0.05	0.34	.736	-0.08	0.11
			Condition	-0.09	0.07	-0.11	-1.34	.182	-0.22	0.04
			BWCSWS x Condition	-0.02	0.06	-0.05	-0.33	.742	-0.13	0.09

Note. Dependent variable: IAT effect difference score (*D*), with greater positive scores reflecting associations between Fat + Self (and/or Thin + Other) and more negative scores reflecting associations between Thin + Self (and/or Fat + Other)
RSES = Rosenberg Self-Esteem Scale; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(2,126) = 12.49$, $p < .001$, and accounted for 16.55% of the variance in implicit weight identity. At this step, global trait self-esteem significantly contributed to the model, $\beta = -0.17$, $t(128) = -2.08$, $p = .039$, with the responses of participants who scored higher on this variable indicating lower levels of implicit fat identity. BMI also contributed significantly, $\beta = 0.34$, $t(128) = 4.13$, $p < .001$, with the responses of those with higher BMIs indicating greater levels of implicit fat identity.

In Step 2, adding body weight contingent self-worth and experimental condition did not significantly improve the prediction of implicit weight identity, $\Delta F(2,124) = 0.92$, p

= .401, accounting for an additional 1.22% of the variance. Contrary to predictions, body weight contingent self-worth also did not significantly contribute to the model, β = 0.01, $t(128) = 0.12$, $p = .903$, nor did experimental condition, β = -0.11, $t(128) = -1.35$, $p = .181$. The squared partial correlation between experimental condition and implicit weight identity was $r^2 = .01$, which is a small effect size (Cohen, 1988).

Contrary to expectations, the interaction term was not significant, β = -0.05, $t(128) = -0.33$, $p = .742$, and its addition to the model did not significantly improve the prediction of implicit weight identity, $\Delta F(1,123) = 0.11$, $p = .742$, accounting for an additional 0.07% of the variance. As depicted in Figure 6, simple slopes analysis showed that there were no significant differences in implicit weight identity between conditions for women with higher ($M + 1SD$) body weight contingent self-worth, $t(128) = -1.16$, $p = .248$, or for women with lower ($M - 1SD$) body weight contingent self-worth, $t(128) = -0.68$, $p = .495$. The effect size of the correlation between the interaction term and implicit weight identity was $r^2 < .01$, which is a negligible effect size (Cohen, 1988). The complete model accounted for 17.89% of the variance in implicit weight identity.

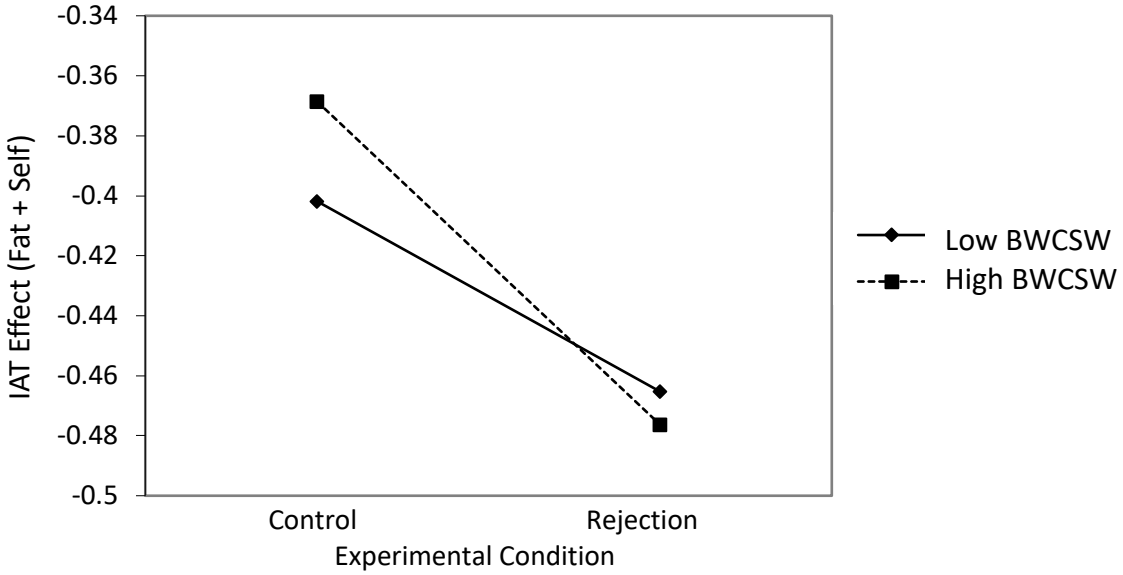

Figure 6. Effect of experimental condition on implicit weight identity at low and high levels of body weight contingent self-worth.

Eating Behaviour

Hypotheses 1.2.2., 1.2.4., and 1.2.5. The final regression examined predictors of eating behaviour, as measured by the amount of candy consumed. Hypothesis 1.2.2. predicted that women whose self-worth is highly contingent on body weight would eat significantly less than would women whose self-worth is less contingent on body weight across conditions. In hypothesis 1.2.4., it was expected that women in the rejection condition would eat significantly more than would women who were unexposed to rejection. Hypothesis 1.2.5. predicted that women with higher body weight contingent self-worth and who were rejected would eat significantly less than would women unexposed to rejection, whereas women with lower body weight contingent self-worth would eat significantly more following rejection relative to control.

Three participants who reported allergies to ingredients contained in M&M® candies during the laboratory portion of the study were excluded from this analysis, and the total

N for the regression was 135. To account for their demonstrated relationships with the dependent variable, BMI and dietary restraint were tested as covariates. Neither BMI (p = .278) nor dietary restraint (p = .426) contributed significantly to the model, and thus both were removed from subsequent analysis (refer to Table 15 for a summary of the final model).

Table 15

Final Regression Model for Candy Consumed (N = 135)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.11	0.01	(Constant)	30.66	3.63	-	8.46	.000	23.49	37.83
			BWCSWS	1.37	1.82	0.07	0.75	.452	-2.23	4.97
			Condition	-4.73	4.62	-0.09	-1.02	.309	-13.87	4.42
2	0.11	0.01	(Constant)	30.66	3.64	-	8.43	.000	23.47	37.86
			BWCSWS	1.90	3.33	0.09	0.57	.570	-4.69	8.48
			Condition	-4.73	4.64	-0.09	-1.02	.310	-13.91	4.45
			BWCSWS x Condition	-0.75	3.98	-0.03	-0.19	.851	-8.63	7.13

Note. Dependent variable: Candy consumed (g)
BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was not significant, $F(1,132) = 0.79$, p = .455, accounting for 1.19% of the variance in candy consumed. Contrary to predictions, body weight contingent self-worth did not significantly contribute to the model, β = 0.07, $t(134)$ = 0.75, p = .452, and experimental condition also was not significant, β = -0.09, $t(134)$ = -1.02, p = .309. The squared partial correlation between experimental condition and candy consumed was r^2 = .01, which is a small effect size (Cohen, 1988).

Contrary to expectations, the interaction term was not significant, β = -0.03, $t(134)$ = -0.19, p = .851, and its addition to the model did not significantly improve the prediction of candy consumed, $\Delta F(1,131) = 0.04$, p = .658, accounting for an additional 0.03% of the variance. As depicted in Figure 7, simple slopes analysis showed that there were no

significant differences in candy consumed between conditions for women with higher (*M* + 1*SD*) body weight contingent self-worth, $t(134) = -0.76$, $p = .448$, or for women with lower (*M* - 1*SD*) body weight contingent self-worth, $t(137) = -0.57$, $p = .573$ (see Study 1 "Descriptives" for mean candy consumed in each condition). The effect size of the correlation between the interaction term and candy consumed was $r^2 < .01$, which is a negligible effect size (Cohen, 1988). The complete model accounted for 1.21% of the variance in candy consumed.

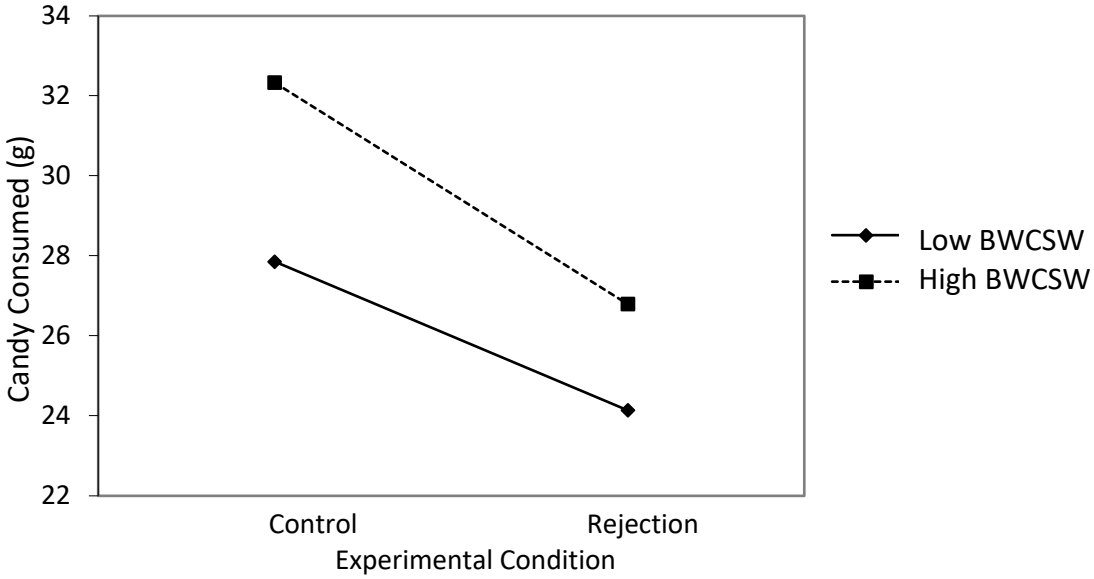

Figure 7. Effect of experimental condition on candy consumed at low and high levels of body weight contingent self-worth.

Secondary analyses. Because past literature suggests that restrained eaters tend to increase their food consumption in high compared to low stress conditions, whereas unrestrained eaters eat less when under stress (e.g., Baucom & Aiken, 1981; Heatherton, Herman, & Polivy, 1991; Herman & Polivy, 1975; Herman et al., 1987; Ruderman, 1985), additional analyses were conducted to determine whether dietary restraint would

moderate the impact of experimental condition and body weight contingent self-worth on eating behaviour.

To test the significance of potential two- and three-way interaction effects, significant covariate variables were entered in the first step, the main effects represented by the independent variable (coded as 1 = rejection, 0 = control) and the moderator variables (BWCSWS and RRS) were entered in the second step, two-way interaction terms (BWCSWS x experimental condition, BWCSWS x RRS, and experimental condition x RRS) were entered in the third step, and the three-way interaction term (BWCSWS x experimental condition x RRS) was entered in the final step of the model. The dependent variable (candy consumed) was regressed on this equation. Continuous moderator and covariate variables were centred prior to analysis (Aiken & West, 1991), and simple slopes were probed using three-way interaction procedures outlined by Dawson and Richter (2006). An alpha level of $p < .05$ was adopted for all data analyses.

Three participants who reported allergies to ingredients contained in M&M® candies during the laboratory portion of the study were excluded, and the total *N* for the regression was 135. BMI did not contribute to the prediction of candy consumed and therefore was removed from these analyses ($p = .420$). There was no significant main effect of dietary restraint on the quantity of candy consumed, $\beta = 0.03$, $t(134) = 0.29$, $p = .775$, $r^2 < .01$, 95% CI [-0.90, 1.20]. In addition, results did not reveal any significant interaction effects between body weight contingent self-worth and dietary restraint on candy consumed, $\beta = 3.74^{-3}$, $t(134) = -0.04$, $p = .968$, 95%, $r^2 < .01$, 95% CI [-0.67, 0.65], or between experimental condition and dietary restraint on candy consumed, $\beta = -0.09$, $t(134) = -509$, $p = .612$, $r^2 < .01$, 95% CI [-2.58 , 1.53]. The three-way interaction effect between condition, body weight contingent self-worth, and dietary restraint was

not significant, β = -0.20, $t(134) = -1.27$, $p = .205$, $r^2 < .01$, 95% CI [-2.20 , 0.48]. Furthermore, simple slopes analysis of the three-way interaction effect showed that there were no significant differences between pairs of slopes on the quantity of candy consumed (ps > .228).

Supplementary Analyses

In this study, candy was presented to all participants prior to administration of the remaining dependent variables. It therefore is possible that candy consumption may have impacted the effects of experimental condition and body weight contingent self-worth on participants' responses on the remaining body image-related dependent variables. To test this possibility, supplementary MMRAs were performed on each of the remaining body image-related dependent variables of interest (state body satisfaction, state appearance self-esteem, and implicit weight identity), testing the three-way interaction between body weight contingent self-worth, experimental condition, and candy consumed.

To test the significance of the three-way interaction effect, significant covariate variables were entered in the first step, the main effects represented by the independent variable (coded as 1 = rejection, 0 = control) and the moderator variables (BWCSWS and candy consumed) were entered in the second step, two-way interaction terms (BWCSWS x experimental condition, BWCSWS x candy consumed, and experimental condition x candy consumed) were entered in the third step, and the three-way interaction term (BWCSWS x experimental condition x candy consumed) was entered in the final step of the model. Each dependent variable, state self-esteem (SSES-Appearance), body satisfaction (BISS), and implicit weight identity (IAT-Fat + Self) was separately regressed on this equation. The continuous moderator and covariate variables were centred prior to analysis (Aiken & West, 1991), and simple slopes were probed using

three-way interaction procedures outlined by Dawson and Richter (2006). An alpha level of $p < .05$ was retained for all analyses.

Three participants who reported allergies to ingredients contained in M&M® candies during the laboratory portion of the study were excluded from the analyses for state body satisfaction and appearance self-esteem ($N = 135$), and an additional nine participants who did not complete the IAT were excluded from the analysis for implicit weight identity ($N = 126$). To account for their demonstrated relationships with the dependent variables, BMI, depressive symptoms, and global trait self-esteem were tested as covariates. Global trait self-esteem did not significantly contribute as a covariate to the model for state body satisfaction ($p = .068$) or state appearance self-esteem ($p = .233$), and depressive symptoms ($p = .534$) and global trait self-esteem ($p = .148$) did not significantly contribute as a covariate to the model for implicit weight identity and thus were removed from subsequent analysis. There were no significant main effects of candy consumed on state body satisfaction or appearance self-esteem (ps > .323). A significant main effect of candy consumed was detected on implicit weight identity, $\beta = -0.17$, $t(125) = -2.00$, $p = .048$, $r^2 = .03$, 95% CI [-0.01, 0.00], such that those who consumed more candy demonstrated lower implicit fat identity. There were no significant two-way interaction effects (BWCSWS x experimental condition, BWCSWS x candy consumed, and experimental condition x candy consumed) on body satisfaction, appearance self-esteem, or implicit weight identity (ps > .237).

As depicted in Table 16, results revealed no significant three-way interaction effects between experimental condition, body weight contingent self-worth, and candy consumed for state body satisfaction, state appearance self-esteem, or implicit weight identity (ps > .216). Furthermore, simple slopes analysis of the three-way interaction

effects showed that there were no significant differences between pairs of slopes on any of the dependent variables (*p*s > .167).

Table 16

BWCSW x Condition x Candy Consumed as Predictors of Body Evaluation Variables

								95% CI	
Dependent variable	*N*	*b*	*SE b*	β	*t*	*Sig.*	r^2	Min	Max
BISS	135	-0.01	0.01	-0.15	-1.24	.216	.01	-0.02	0.01
SSES-Appearance	135	-0.01	0.02	-0.09	-0.84	.404	.01	-0.05	0.02
IAT-Fat + Self	126	0.00	0.00	0.10	0.58	.565	.00	-0.00	0.01

Note. Predictor variable: Contingencies of Self-Worth Scale-Virtue subscale (CSWS-Virtue) x Condition (rejection vs. control) x Body Mass Index (BMI)
Dependent variables: Body Image States Scale (BISS), controlling for Body Mass Index (BMI) and Beck Depression Inventory (BDI); State Self-Esteem Scale-Appearance subscale (SSES-Appearance), controlling for Body Mass Index (BMI) and Beck Depression Inventory (BDI); IAT effect difference score (*D*), with greater positive scores reflecting associations between Fat + Self (and/or Thin + Other) and more negative scores reflecting associations between Thin + Self (and/or Fat + Other), controlling for Body Mass Index (BMI).

Exploratory Analyses

Because results from the main analyses revealed that the interaction between body weight contingent self-worth and rejection did not affect women's body image evaluation as expected, and because virtue contingent self-worth had an unexpected interactive impact with rejection on state appearance self-esteem, exploratory analyses were conducted to further examine whether any of the domains of contingent self-worth moderated the effect of experimental condition on alternative dependent variables included in this study. Separate MMRAs were conducted on state self-esteem domains unrelated to body image (state performance self-esteem and state social self-esteem), and on implicit/automatic measures of body image evaluation (implicit weight identity and candy consumed), using experimental condition and each of the seven self-worth contingency domains (academics, appearance, approval, competition, family support, God's love, and virtue) as predictors.

To test the significance of moderation effects, the covariate variables were entered in the first step, the main effects represented by the independent variable (coded as 1 = rejection, 0 = control) and the moderator variable were entered in the second step, and the interaction term was entered in the third and final step of the model. Each dependent variable, state self-esteem (SSES-Performance and SSES-Social), implicit weight identity (IAT-Fat + Self), and eating behaviour (candy consumed), was separately regressed on this equation. Continuous moderator and covariate variables were centred prior to analysis (Aiken & West, 1991), and interaction effects were examined using simple slopes analysis (Aiken & West, 1991; Dawson, 2014). Because seven separate MMRAs were conducted for each of the dependent variables post-hoc, a Bonferroni adjusted alpha levels of $p < .0071$ was used on all analyses to account for familywise error. [3]

State performance and social self-esteem. The full sample ($N = 138$) was included in the analyses for both state performance and social self-esteem. To account for their demonstrated relationships with the dependent variables, global trait self-esteem and depressive symptoms were tested as covariates. Depressive symptoms did not significantly contribute as a covariate to the model for state performance self-esteem ($p = .097$) or social self-esteem ($p = .411$), and thus was removed from subsequent analyses.

There were no significant main effects of any of the domains of contingent self-worth on state performance self-esteem (ps > .082). Significant main effects were detected for the following contingencies of self-worth: appearance, $\beta = -0.24$, $t(137) = -3.29$, $p = .001$, $r^2 = .08$, 95% CI [-2.42, -0.61], approval, $\beta = -0.33$, $t(137) = -4.73$, $p < .001$, r^2

[3] A less conservative Holm-Bonferroni adjustment (Holm, 1979) also was attempted. Across all exploratory regression analyses, this adjustment did not change the interpretation of the primary outcomes and all findings remained comparable to those using the Bonferroni adjustment. Holm-Bonferroni adjusted p values are reported for comparison purposes where they are significant.

= .14, 95% CI [-1.95, -0.80], and family support, β = -0.26, $t(137) = -3.65$, $p < .001$, r^2 = .09, 95% CI [-2.54, -0.75]. Specifically, those who based their self-worth to a greater extent on these domains reported significantly lower state social self-esteem.

Results revealed no significant interaction effects between experimental condition and any of the contingencies of self-worth domains at the Bonferroni adjusted alpha level for state performance self-esteem or state social self-esteem (refer to Table 17 and Table 18 for summaries of interaction effects). Furthermore, simple slopes analysis showed that there were no significant differences in state performance or social self-esteem between conditions at lower (*M* - 1*SD*) or higher (*M* +1*SD*) levels of any of the domains of contingent self-worth (*p*s > .083).

Table 17

CSW x Condition as Predictors of State Performance Self-Esteem (N = 138)

							95% CI	
Predictor	*b*	*SE b*	β	*t*	*Sig.*	r^2	Min	Max
CSWS-Academics x Condition	1.93	0.79	0.28	2.45	.016	.04	0.37	3.48
CSWS-Appearance x Condition	-0.15	0.81	-0.02	-0.19	.852	.00	-1.75	1.45
CSWS-Approval x Condition	0.47	0.51	0.11	0.93	.356	.01	-0.53	1.47
CSWS-Competition x Condition	-0.23	0.63	-0.04	-0.36	.719	.00	-1.46	1.01
CSWS-Family Support x Condition	-0.20	0.80	-0.03	-0.26	.799	.00	-1.79	1.38
CSWS-God's Love x Condition	-0.25	0.37	-0.08	-0.68	.498	.00	-0.97	0.48
CSWS-Virtue x Condition	0.65	0.82	0.11	0.79	.428	.00	-0.97	2.26

Note. Dependent variable: State Self-Esteem Scale-Performance subscale (SSES-Performance), controlling for Rosenberg State Self Esteem Scale (RSES)
CSWS-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSWS-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSWS-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSWS-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSWS-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSWS-God = Contingencies of Self-Worth Scale, God's Love subscale; CSWS-Virtue = Contingencies of Self-Worth Scale, Virtue subscale.
A Bonferroni adjusted alpha level of $p < .0071$ was adopted for all analyses.

Table 18

CSW x Condition as Predictors of State Social Self-Esteem (N = 138)

							95% CI	
Predictor	*b*	*SE b*	β	*t*	*Sig.*	r^2	Min	Max
CSWS-Academics x Condition	1.70	0.96	0.20	1.78	.077	.02	-0.19	3.60
CSWS-Appearance x Condition	0.09	0.95	0.01	0.09	.926	.00	-1.78	1.96
CSWS-Approval x Condition	0.07	0.58	0.01	0.12	.903	.00	-0.07	1.21
CSWS-Competition x Condition	0.12	0.76	0.02	0.16	.873	.00	-1.38	1.63
CSWS-Family Support x Condition	0.63	0.94	0.08	0.67	.503	.00	-1.22	2.48
CSWS-God's Love x Condition	0.06	0.45	0.14	1.22	.223	.01	-0.34	1.43
CSWS-Virtue x Condition	2.04	0.98	0.27	2.09	.039	.03	0.11	3.97

Note. Dependent variable: State Self-Esteem Scale-Social subscale (SSES-Social), controlling for Rosenberg State Self Esteem Scale (RSES)
CSWS-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSWS-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSWS-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSWS-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSWS-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSWS-God = Contingencies of Self-Worth Scale, God's Love subscale; CSWS-Virtue = Contingencies of Self-Worth Scale, Virtue subscale.
A Bonferroni adjusted alpha level of $p < .0071$ was adopted for all analyses.

Implicit weight identity and eating behaviour. Nine participants who did not complete the IAT were excluded from this analysis, and the total *N* for regressions on the IAT was 129. Three participants who reported allergies to ingredients contained in M&M® candies during the laboratory portion of the study were excluded from this analysis, and the total *N* for the regressions on candy consumed was 135. To account for their demonstrated relationships with the dependent variable, BMI, depressive symptoms, and global trait self-esteem were tested as covariates for the IAT. Depressive symptoms did not significantly contribute significantly and therefore was removed as a covariate for the IAT ($p = .578$). Both BMI and dietary restraint were tested as potential covariates for candy consumed. Neither BMI ($p = .278$) nor dietary restraint ($p = .426$) contributed significantly and thus were removed as covariates for candy consumed. In addition, there

were no significant main effects of any of the contingencies of self-worth on implicit weight identity (*p*s > .144) or candy consumed (*p*s > .162).

Results for implicit weight identity revealed no significant interactive effects between experimental condition and any of the contingencies of self-worth domains at the Bonferroni adjusted alpha level (refer to Table 19 for a summary of interaction effects). Results for candy consumed revealed no significant interaction effects between experimental condition and any of the contingencies of self-worth domains at the Bonferroni adjusted alpha level, with the exception of a near significant interaction effect for virtue contingent self-worth (refer to Table 20 for a summary of interaction effects). Furthermore, simple slopes analysis showed that there were no significant differences at the Bonferroni adjusted alpha level in implicit weight identity or candy consumed between conditions at higher (M + 1SD) or lower (M - 1SD) levels of any of the domains of contingent self-worth (*p*s > .038), with the exception of a near significant effect on candy consumed for women with lower virtue contingent self-worth, as described below.

Table 19

CSW x Condition as Predictors of Implicit Weight Identity (N = 129)

Predictor	*b*	*SE b*	β	*t*	*Sig.*	r^2	*95% CI*	
							Min	Max
CSWS-Academics x Condition	-0.06	0.08	-0.11	-0.77	.445	.00	-0.22	0.10
CSWS-Appearance x Condition	-0.05	0.07	-0.10	-0.69	.494	.00	-0.19	0.09
CSWS-Approval x Condition	-0.04	0.05	-0.13	-0.92	.359	.01	-0.14	0.05
CSWS-Competition x Condition	-0.04	0.06	-0.09	-0.68	.500	.00	-0.15	0.07
CSWS-Family Support x Condition	-0.04	0.07	-0.07	-0.47	.639	.00	-0.18	0.11
CSWS-God's Love x Condition	0.06	0.03	0.23	1.66	.100	.02	-0.01	0.12
CSWS-Virtue x Condition	-0.06	0.07	-0.12	-0.79	.431	.01	-0.21	0.09

Note. Dependent variable IAT effect difference score (*D*), with greater positive scores reflecting associations between Fat + Self (and/or Thin + Other) and more negative scores reflecting associations between Thin + Self (and/or Fat + Other), controlling for Rosenberg State Self Esteem Scale (RSES) and Body Mass Index (BMI)
CSWS-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSWS-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSWS-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSWS-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSWS-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSWS-God = Contingencies of Self-Worth Scale, God's Love subscale; CSWS-Virtue = Contingencies of Self-Worth Scale, Virtue subscale.
A Bonferroni adjusted alpha level of $p < .0071$ was adopted for all analyses.

Table 20

CSW x Condition as Predictors of Candy Consumed (N = 135)

Predictor	*b*	*SE b*	β	*t*	*Sig.*	r^2	*95% CI* Min	Max
CSWS-Academics x Condition	-3.97	5.17	-0.11	-0.77	.445	.00	-14.20	6.27
CSWS-Appearance x Condition	-1.92	5.72	-0.06	-0.34	.738	.00	-13.24	9.40
CSWS-Approval x Condition	-0.41	3.39	-0.02	-0.13	.900	.00	-6.91	6.08
CSWS-Competition x Condition	-4.94	4.01	-0.17	1.23	.220	.01	-12.87	2.98
CSWS-Family Support x Condition	1.43	5.22	0.04	0.28	.784	.00	-8.89	11.76
CSWS-God's Love x Condition	0.08	2.40	0.01	0.03	.974	.00	-4.66	4.82
CSWS-Virtue x Condition	13.92	5.06	0.41	2.75	.007	.05	3.91	23.93

Note. Dependent variable: Candy consumed (g)
CSWS-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSWS-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSWS-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSWS-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSWS-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSWS-God = Contingencies of Self-Worth Scale, God's Love subscale; CSWS-Virtue = Contingencies of Self-Worth Scale, Virtue subscale.
A Bonferroni adjusted alpha level of $p < .0071$ was adopted for all analyses.

For candy consumed, there were no significant main effects of virtue contingent self-worth, β = 0.06, $t(134) = 0.65$, $p = .516$, $r^2 < .01$, 95% CI [-3.20, 6.34], or condition, β = -0.09, $t(134) = -1.04$, $p = .301$, $r^2 = .01$, 95% CI [-13.98, 4.35]. The interaction term between virtue contingent self-worth and condition was significant at the Bonferroni adjusted alpha level, β = 0.41, $t(134) = 2.75$, $p = .007$, and it significantly improved the prediction of this variable, $\Delta F(1,131) = 7.57$, $p = .007$ (Holm-Bonferroni adjusted $p = .048$), accounting for 5.40% of the variance. As depicted in Figure 8, simple slopes analysis revealed that the quantity of candy consumed did not differ significantly between conditions for women with higher ($M + 1SD$) virtue contingent self-worth, $t(134) = 1.30$, $p = .196$. For women with lower ($M - 1SD$) virtue contingent self-worth, candy consumed approached the Bonferroni adjusted alpha level, $t(134) = -2.71$, p

= .008, such that these women consumed less candy in the rejection condition relative to control. The effect size of the correlation between the interaction term and candy consumed was r^2 = .05, which is a small to medium effect size (Cohen, 1988). The complete model accounted for 6.48% of the variance in candy consumed.

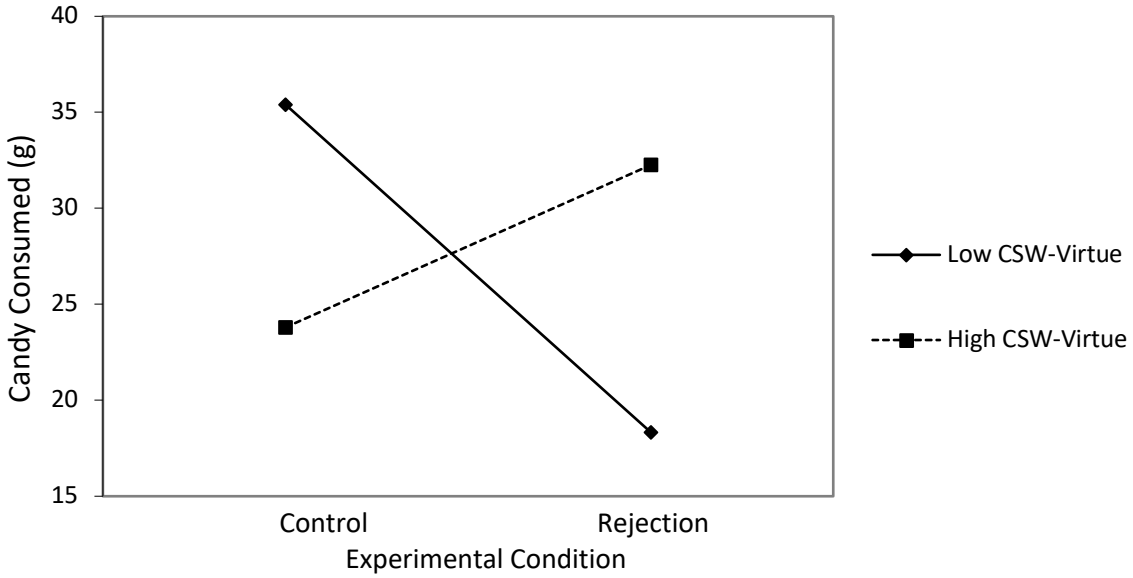

Figure 8. Effect of experimental condition on candy consumed at low and high levels of virtue contingent self-worth.

Discussion

The purpose of the Study 1 was to examine women's body image evaluations within the context of the contingencies of self-worth and sociometer theories of self-esteem, and to extend upon research by O'Driscoll and Jarry (2015) by examining the moderating effect of body weight contingent self-worth on the impact of interpersonal rejection on women's body image evaluations. This study investigated the proposition that the body image self-enhancement exhibited by women with elevated body weight contingent self-worth may represent a defensive compensatory response to social threat. To summarise, O'Driscoll and Jarry (2015) showed that women with higher body weight contingent self-

worth generally reported more negative appraisals of their body than did those who based their self-worth on this domain to a lesser extent. Whereas there was no impact of rejection on women with lower levels of body weight contingent self-worth, women who based their self-worth highly on this domain responded to rejection by reporting more positive body image evaluations relative to those who were unexposed to rejection. Furthermore, these authors found that the effect of rejection for women with higher body weight contingent self-worth was specific to the body image domain, and that no other contingencies of self-worth moderated the impact of rejection on women's body image evaluations. These paradoxical results were interpreted using Steele's (1988) self-affirmation theory, which posits that, to maintain an overall sense of self-worth, threats to specific domains can be dealt with effectively by affirming within a self-important domain. O'Driscoll and Jarry (2015) suggested that, as a defensive and self-protective response against self-esteem threat, women with elevated body weight contingent self-worth attempted to compensate for the general threat to their self-worth posed by rejection by self-enhancing within the valued domain of body image.

In Study 1, women of varying levels of body weight contingent self-worth were exposed to either rejection from peers or to a neutral condition that involved no relational feedback. To examine the moderating effect of body weight contingency self-worth on the impact of rejection, all participants then completed measures of explicit body image evaluation (state body satisfaction and appearance self-esteem) and state social and performance self-esteem. To assess the defensive self-enhancement hypothesis posited by O'Driscoll and Jarry (2015), participants also were administered indirect measures of body image evaluation, in the forms of implicit measure of weight identity and of appearance management in the form of eating behaviour. Body mass index, depressive

symptoms, global trait self-esteem, and dietary restraint were examined as potential covariates (refer to Appendix X for a summary of hypotheses, statistical procedures, and results).

Interpersonal Rejection and Body Weight Contingent Self-Worth

Consistent with O'Driscoll and Jarry (2015), women with higher body weight contingent self-worth reported significantly more negative body image self-appraisals, as indicated by lower state body satisfaction and appearance self-esteem, than did those whose self-worth was less contingent on this domain. This finding corroborates previous research, which has shown that body weight contingent self-worth is associated with negative body image-related outcomes **(**e.g., Clabaugh, 2008; Clabaugh et al., 2008; O'Driscoll & Jarry, 2015). As suggested by Crocker and Park (2004), the domains on which individuals base their self-worth are not necessarily the same domains in which people regard themselves to be successful, but rather they reflect the areas of life areas in which they experience the greatest pressure to succeed. It therefore is understandable that women whose self-worth is highly based on their body weight would regard themselves as inadequate in this domain.

The finding that there were no interactive effects between body weight contingent self-worth and experimental condition on self-esteem domains unrelated to body image (i.e., performance and social) is consistent with O'Driscoll and Jarry (2015), and suggests that rejection is unlikely to affect these domains in women who base their self-worth on their weight. Unexpectedly, however, body weight contingent self-worth also did not moderate the impact of rejection on explicit or indirect measures of body image evaluation. These results stand in contrast to O'Driscoll and Jarry's (2015) finding that women with higher body weight contingent self-worth reacted to rejection by self-

enhancing on explicit measures of body image evaluation, and they also indicate that predictions regarding the combined impact of rejection and body weight contingent self-worth on implicit weight identity and eating behaviour were unsupported. Although the research design used in the present study was very similar to O'Driscoll and Jarry, there were methodological differences that may help to explain these discrepancies. Whereas O'Driscoll and Jarry administered only explicit measures of body image evaluation, in the present study M&M® candies were administered to all participants prior to measurement of their explicit and implicit body image evaluation. Though supplementary analyses determined that the quantity of candy consumed did not impact any of the remaining body image-related variables, it is entirely possible that the presentation of fattening food such as candy may have posed a body image threat for women whose self-worth is highly based on their weight.

Literature on the impact of food-related cues on body image helps to support this possibility. Research has shown that that food intake positively predicts body dissatisfaction, and particularly when the food consumed is of high caloric value (Hayes, D'Anci, & Kanerek, 2011; Thompson, Coovert, Pasman, & Robb, 1993). This effect is attributed to the fact that food intake stimulates expectations regarding the potential consequences of eating on weight gain (Bruch, 1973). The adverse impact of eating on body satisfaction has been shown to occur in unrestrained eaters (Wardle & Foley, 1989), but tends to be stronger in restrained eaters and women concerned about weight and shape (Vocks, Legenbauer, & Heil, 2007). In addition, research has demonstrated that exposure to fattening food, even when this food is not consumed, leads to decreases in body satisfaction, and that this effect is stronger in restrained as opposed to unrestrained eaters (Fett, Lattimore, Roefs, Geschwind, & Jansen, 2009; Geschwind et al., 2008).

This finding is consistent with evidence suggesting that the mere thought of food can induce body dissatisfaction, through a distorted cognitive process termed *thought-shape fusion.* Women with and without eating disorders who are induced to imagine eating fattening food have been shown to feel fatter, perceive that they have gained weight, and believe that they have done something morally wrong (Shafran, Teachman, Kerry, & Rachman, 1999; Coelho, Carter, McFarlane, & Polivy, 2007; Coelho, Roefs, & Janson, 2010). Shafran and Robinson (2004) suggest that thought-shape fusion itself can be considered as a manifestation of an overevaluation of body shape and weight. It therefore is reasonable to expect that exposure to fattening foods may be perceived as a body image threat for women whose self-worth is highly based on their body weight, regardless of the quantity they consumed. For women with body weight contingent self-worth exposed to rejection, the direct threat to the domain of body image posed by the presentation of candy may have augmented their dissatisfaction with their body and rendered the domain of body image an unsuitable source for compensatory self-enhancement. Although the foregoing represents a promising explanation for the unexpected lack of body image-related self-enhancement effects for women with higher body contingent self-worth, it is important to note that the impact of the presentation of candy on participants' body image evaluations could not definitively be determined because all participants were presented with candy prior to administration of the other measures.

Contrary to predictions, there was no significant main effect of body weight contingent self-worth on indirect measures of body image evaluation, as assessed by implicit weight identity and eating behaviour. It should be noted that these nonsignificant effects were unlikely due to low sample size or insufficient power, given that the effect

sizes were negligible. That there were no apparent effects of body weight contingent self-worth on implicit weight identity was somewhat unexpected, given that body weight contingent self-worth is related to both greater objective and subjective weight on explicit measures (Clabaugh et al., 2008). Although the association between explicit and implicit weight identity has yet to be investigated, it is posited that explicit and implicit self-esteem represent unrelated constructs (Jordan, Spencer, & Zanna, 2009; Karpinski & Hilton, 2001). It therefore is possible that implicit weight identity measures a separate construct that is distinct from objective or subjective body weight as assessed using explicit measures. Another important consideration is that the implicit weight identity IAT does not provide a straightforward assessment of implicit self-evaluations regarding body weight. Research by Karpinski (2005) indicates that IAT methodologies that contrast self- with unspecified other-related categorisations produce scores that reflect a combination of implicit self-attributions and of attitudes related to other people. Because implicit weight identity IAT scores do not discriminate fat- and self-related associations from thin- and other-related associations, implicit responses may be reflective of affect related to the self, affect related to others, or a combination of both. In this study, greater positive *D* scores may indicate greater implicit associations between *self* and *fat* and/or between *other* and *thin* adjectives, whereas more negative *D* scores may be indicative of greater associations between *self* and *thin* and/or between *other* and *fat* adjectives. Given these challenges with interpretation, it is apparent that further investigation into the measurement of implicit body image attitudes would be greatly informative. Further research also is required to determine whether there are any detectable associations between body weight contingent self-worth and implicit measures of body image evaluation.

Given that women with higher body weight contingent self-worth report tendencies toward dietary restraint (Clabaugh et al., 2008), it was expected that these women would restrict their intake of the candy presented in this study. This was not the case, as women high and low in body weight contingent self-worth ate nearly identical amounts. These null findings are consistent with Clabaugh (2008), who also did not find that body weight contingent self-worth was predictive of candy consumption. It is also important to note that measures of dietary restraint, such as the Revised Restraint Scale (RRS; Herman & Polivy, 1980), assess general concerns about dieting and propensities toward weight fluctuation, as opposed to effective dieting behaviour and consistent weight control. It therefore is possible that any attempts at dietary restraint associated with body weight contingent self-worth may not be detectable during a single episode of eating.

In addition, the prediction that women in the rejection condition would eat more than those exposed to neutral feedback also was unsupported. Whereas research has demonstrated that the impact of threat or stress induction on food consumption can vary according to dietary restraint (e.g., Baucom & Aiken, 1981; Heatherton, Herman, & Polivy, 1991; Herman & Polivy, 1975; Herman et al., 1987; Ruderman, 1985), secondary analyses did not indicate any main or interactive effects of dietary restraint and experimental condition on candy consumption. It is important to note that research on the effects of relational feedback on eating behaviour has tended to compare the impact of exclusion with that of inclusion (Baumeister et al., 2005; Oaten et al., 2008; Salvy et al., 2011). Because these studies did not incorporate neutral comparison groups, it was not possible to determine whether the impact of relational feedback on food consumption was attributable to feelings of rejection or to feelings of acceptance. One study that compared rejection, acceptance, and neutral feedback did not find a significant main

effect of relational feedback on ice cream consumption (Spoesser et al., 2004). More research is required to establish whether the effects of relational feedback on eating behaviour are detectable when rejection is compared to nonrelational or neutral feedback.

Interpersonal Rejection and Virtue Contingent Self-Worth

Although it was predicted that there would be no effects of rejection on the body image evaluations of women whose self-worth was contingent on domains other than body weight, results revealed that the impact of rejection on state appearance self-esteem and eating behaviour was influenced by virtue contingent self-worth. Specifically, whereas there was no significant impact of rejection on state appearance self-esteem for women with lower virtue contingent self-worth, women who based their self-worth to a greater extent in this domain reported significantly higher levels of state appearance self-esteem following rejection relative to their counterparts in the control condition. In addition, supplementary analyses revealed a significant interactive effect between virtue contingent self-worth and experimental condition on eating behaviour, such that women who based their self-worth on virtue to a lesser extent consumed near-significantly more candy following rejection compared to those in the control condition. The impact of rejection on candy consumption for those with higher virtue contingent self-worth did not approach significance. It should be noted that the overall interaction term between condition and virtue contingent self-worth on state appearance self-esteem did not reach significance, and that the simple slope for women with lower virtue contingent self-worth on candy consumed fell short of the familywise adjusted alpha level. That said, a post-hoc power analysis (Faul et al., 2009) indicated there was not enough power to detect a significant effect for state appearance self-esteem (observed power = 0.48), and that the Bonferroni correction applied to the eating behaviour analysis should be considered as

conservative. The effect sizes of both interaction effects were within the small to medium range, which suggests that these results are interpretable.

Virtue contingent self-worth is described by Crocker and colleagues (2003b) as an internal contingency of self-worth, whereby self-esteem is based upon one's ethical or moral adequacy. For someone higher in virtue contingent self-worth, self-esteem is dependent upon adherence to moral standards, leading to the overall valuation that one is a good person (Crocker et al., 2003b). Though there is no research on the impact of rejection for individuals with varying levels of virtue contingent self-worth, there is some evidence to suggest that social threat may be regarded as particularly threatening for those whose self-worth is highly contingent on this domain. An individual's moral standards are considered a reflection of internalised social norms and conventions (Tangney, Stuewig, & Mashek, 2007). As suggested by van der Lee, Ellemers, Scheepers, and Bastiaan (2016), because behaving in a moral and pro-social manner is instrumental to establishing and maintaining positive social relations, moral integrity is a major determinant of one's perceived relational value. In addition, the experience of social exclusion has been linked to so-called moral emotions, such as guilt and shame (Leary, Koch, & Hechenbleikner, 2001), which function to provide feedback regarding one's own moral and social acceptability (Tangney et al., 2007). It consequently is possible that that individuals whose self-worth is highly contingent on being a moral and virtuous person may be particularly threatened by cues indicative of relational devaluation, to the extent that such information poses a threat to their overall sense of self-worth as good person.

Because women who based their self-worth highly on virtue responded to rejection by self-reporting greater state appearance self-esteem relative to control, this suggests that

these women may have attempted to defensively compensate for the impact of social threat on their global self-worth by self-enhancing in the domain of physical appearance. The possibility that this body image self-enhancement represented a defensive response to rejection is supported by the fact that no self-enhancement was detected on an implicit measure of these women's body image evaluations. Though it initially was expected that women would tend toward self-enhancing within domains on which their self-worth is most highly contingent, Steele (1988) suggests that following ego threat, individuals can affirm their self-worth in any domain, and that they are inclined to self-affirm in domains that are most salient. Because appearance is a domain of central importance for women in general (Harter, 1999), and due to the fact that the majority of measures administered in this study were focussed on body image, this domain represented a conspicuous and available source of compensatory self-enhancement. These results also may be explained by the association between virtue and physical attractiveness, as captured by the 'what is beautiful is good' stereotype (Dion, Berscheid, & Walster, 1972). It is suggested that this stereotype is related to a desire to discern an individual's inner attributes based on what is externally observable (Dion et al., 1972), within a culture that associates attractiveness with good things and unattractiveness with bad things (Eagly, Ashmore, Makhijani, & Longo, 1991). Given the pervasiveness of this stereotype, and the fact that physical appearance represents a socially desirable trait that is externally apparent to others, it is possible that the claimed appearance self-esteem of women with higher virtue contingent self-worth may have represented an attempt to reinstate a sense of 'goodness,' and thus restore their overall self-esteem and relational value, after their sense of virtue was threatened by interpersonal rejection.

Unexpectedly, for those who based their self-worth to a lesser extent on virtue, exposure to rejection resulted in marginally less candy consumed compared those who received no relational feedback. Although there was no significant difference between conditions for those higher in virtue contingent self-worth, a pattern was evident whereby these women ate slightly more in response to rejection relative to control. The eating behaviour of women with varying levels of virtue contingent self-worth following social threat may be partially understood by the association between morality and consumption. Cultural messages habitually associate virtuousness with body weight and food consumption, such that restraint and thinness are associated with moral integrity, whereas overindulgence and overweight are linked to moral failure (e.g., Cassell, 1995; Gronning, Scambler, & Tjora, 2012; Saguy & Gruys, 2010). Given this association, it is possible that the eating behaviour of women who vary according to virtue contingent self-worth may be consistent with that of women who vary according to dietary restraint. Whereas restrained eaters typically increase their food consumption in high compared to low stress conditions, unrestrained eaters eat less under stress (e.g., Baucom & Aiken, 1981; Herman & Polivy, 1975; Herman et al., 1987; Ruderman, 1985). In addition, Spoesser and colleagues (2014) demonstrated that eating behaviour following rejection is similar to that in response to stress, such that people who habitually eat more in stressful situations also consume more following rejection, and those who habitually eat less in response to stress similarly consume less after rejection. It therefore may be speculated that women who base their self-worth to a greater extent on virtue may tend toward dietary restraint, and therefore would eat more following exposure to interpersonal rejection, whereas those who based their self-worth to a lesser extent on virtue may be

more similar to unrestrained eaters, and therefore would eat less after experiencing rejection.

It initially was predicted that individuals would tend to behaviorally compensate following defensive self-enhancement, such that women who respond to rejection by claiming more positive appraisals of their body in turn would eat less to reduce cognitive dissonance and align their behaviour with their stated body satisfaction. However, even though women with higher virtue contingent self-worth reported greater appearance self-esteem following social threat, their eating behaviour was not significantly impacted by rejection. Although this effect was not in line with expectations, it is supported by research suggesting that engaging in one form of self-enhancement can replace the need to use any additional self-esteem maintenance measures (McQueen & Klein, 2006). It is possible that claiming greater appearance self-esteem may have helped to repair the impact of rejection for women with higher virtue contingent self-worth, and therefore they did not feel the need to further compensate by restricting their candy intake. Unlike their counterparts with higher virtue contingent self-worth, women with lower virtue contingent self-worth did not self-enhance on explicit measures of appearance self-esteem. As such, it is possible that their restricted candy intake may have represented an attempt to behaviourally compensate for the threat of rejection, in the absence of self-esteem maintenance in the form of appearance self-enhancement. It is important to note that because these effects were relatively unexpected, these interpretations remain speculative and further research on the behavioural effects of rejection on individuals with varying levels of virtue contingent self-worth is required. To further shed light on these effects, virtue contingent self-worth will be explored further in the supplementary analyses for Study 2.

Strengths and Limitations

There are several methodological strengths and limitations of this study that should be considered. The first strength was the use of the demarcated rejection manipulation. Compared to indirect rejection manipulations, such as imagined or relived rejection, the rejection feedback in this study was conducted in a direct and face-to-face manner. This type of manipulation is more likely to be similar to instances of social threat that individuals experience in everyday life. Manipulation checks confirmed that the rejection procedure employed in this study was effective at raising negative affect and feelings of rejection, as well as lowering feelings of acceptance. Another strength of the manipulation was the inclusion of a neutral control group. Whereas the majority of past research on interpersonal rejection has tended to compare the effect of rejection to acceptance, the neutral control condition used in this study functioned as a baseline against which the rejection outcomes could be evaluated (Gerber & Wheeler, 2009). Though the use of a comparison group represents a methodological asset, it should be noted that the feedback provided in the control condition may still have been interpreted as somewhat rejecting, given that participants still were told that they would be working alone for the remainder of the study (Rieger, Dolan, Thomas, & Bell, 2017). It therefore is conceivable that providing feedback that did not involve any social implications would have been considered more neutral. As mentioned previously, it also is possible that greater differences between conditions might have been observed if rejection was compared to acceptance (e.g., Blackhart et al., 2009).

A further strength of this study was the utilisation of a variety of both direct and indirect measures to assess women's body image evaluations. Given that explicit self-report measures tend to be more susceptible to response bias and self-presentational

styles (Jordan et al., 2009), the inclusion of indirect and behavioural measures allowed for measurement of participants' more subconscious implicit and behavioural reactions. Although no significant effects were detected on the IAT and only a small effect of rejection was detected on candy consumption in supplementary analyses, researchers still would benefit from incorporating a variety of measurement techniques.

As above-mentioned, a major limitation of this research pertained to the fact that candy was administered to all participants prior to measuring the remaining dependent variables. It therefore is possible that exposure to candy may have been experienced as an additional threat, particularly for women who based their self-worth on their weight. In addition, it is conceivable that eating behaviour may have been attenuated by distraction associated with completing computerised measures simultaneous to eating candy. A 'bogus taste test' methodology that is administered following administration of the other dependent variables (e.g., Aubie & Jarry, 2009; Baumeister et al., 2005; Spoesser et al., 2014) should be considered a more straightforward and effective measure of eating behaviour.

A final limitation of this study relates to the fact that discrepancies in study methodologies compromise direct comparisons between this study and O'Driscoll and Jarry (2005). Differences consisted of the administration of an implicit weight identity IAT as opposed to a lexical decision task and visual dot-probe, inclusion of the Revised Self-Monitoring Scale and Self-Consciousness Scale as additional distractor measures, and the presentation of candy to assess eating behaviour prior to administration of the other dependent variables. Because of these modifications, it cannot be ascertained whether discrepant findings were reflective of real-world differences or methodological discrepancies between these two studies. This challenge underscores the value of direct

replication in psychology research.

III. STUDY 2

As discussed previously, although defensive responses serve the function of protecting global self-integrity, using self-enhancement to compensate for threat can be potentially problematic. For women whose self-worth is highly contingent on body weight, and who respond to rejection by declaring themselves more satisfied with their body than their nonrejected counterparts, this may entail engaging in unhealthy appearance modification strategies, such as restricted eating, as a means to align their appearance with their claimed body image satisfaction. Therefore, Study 2 was designed to further investigate the defensiveness hypothesis posited by O'Driscoll and Jarry (2015), and to examine the possibility that providing the opportunity to respond to rejection by self-affirming within an alternative intrinsic and relational alternative domain may have beneficial effects, such as increased social self-esteem as well as decreased reliance on body shape and weight for self-worth, as discussed below.

Sources of Self-Affirmation

Self-affirmation theory posits that, to maintain an overall positive sense of self-integrity, threats can be managed by affirming alternative self-resources that are unrelated to the original threat itself (McQueen & Klein, 2006; Steele, 1988; Tesser et al., 1996). Although Steele's (1988) principle of fluid compensation suggests that threats can be effectively dealt with by affirming the self within *any* alternative domain that is unrelated to the original threat itself (Steele, 1988; Tesser et al., 1996**),** research has demonstrated that not all types of self-affirmation are equally effective for managing exposure to threatening information. In particular, the effectiveness of self-affirmation for maintaining global self-esteem depends on whether the threat is social or nonsocial in

nature, and on whether an individual self-affirms within extrinsic or intrinsic self-worth domains.

Interpersonal Rejection and Relational Affirmations

Research suggests that the effectiveness of self-affirmations depends on whether the initial threat is social or nonsocial in nature. Because one's sense of belonging is considered a fundamental and unique source of self-esteem (Leary, 2005a), it has been posited that threats to social connectedness represent a distinct kind of threat (Knowles, Lucas, Molden, Gardner, & Dean, 2010). Consistent with this argument, research indicates that threats to people's perceived relational value have a substantial effect on their overall feelings of self-esteem (Leary, 2005a). In addition, feelings of social inclusion predict overall self-esteem above and beyond what is accounted for by perceived success in other domains (Gailliot & Baumeister, 2007), and positive feedback regarding one's social acceptance has a stronger effect on people's overall sense of self-esteem than does positive feedback in other areas (Koch & Shepperd, 2008).

Therefore, Knowles and colleagues (2010) propose the *belongingness maintenance hypothesis*, which suggests that, because belongingness represents a distinct and basic need, threats to social connectedness require specific repair. Knowles and colleagues posit that whereas self-affirmations of nonsocial sources of self-worth can function relatively interchangeably and substitute for one another in response to nonsocial threats, the negative impact of social threats on self-esteem cannot effectively be attenuated by affirming the self within alternative nonsocial domains. The belongingness maintenance hypothesis therefore posits that threats to one's sense of belonging are best managed by directly affirming social resources rather than through affirmations of alternative nonsocial aspects of the self (Knowles et al., 2010).

In support of this proposition, Knowles and colleagues (2010) exposed participants to failure feedback pertaining to either their social or intellectual competence, by informing them that they performed poorly on a test predicting either the establishment of meaningful social bonds or intelligence, respectively. Participants then were presented with a list of threat-relevant and threat-irrelevant personal traits, and asked to write short essays about why they found the traits that were particularly important to them as desirable. Results showed that, for participants who were exposed to an intellectual threat, threat-irrelevant (i.e., nonintellectual) affirmations were effective at restoring self-integrity, as indicated by reductions in the subsequent use of defensive self-enhancement strategies, such as derogation of the threatening intellectual task. Conversely, for those exposed to the belongingness threat, threat-irrelevant (i.e., nonsocial) affirmations were relatively ineffective at restoring self-integrity, as indicated by only marginal increases in the subsequent use of defensive self-enhancement strategies, such as derogation of the social aptitude task. Therefore, Knowles and colleagues postulate that threats to one's perceived belongingness can only truly be repaired by affirming one's relational value.

Taken together, the foregoing literature suggests that threats to one's sense of belongingness are best managed by affirming the self within social domains, as opposed to relatively nonsocial domains. Therefore, for women who are exposed to interpersonal rejection and whose self-worth is highly contingent on body weight, defensively affirming the self within the domain of body image is likely to be ineffective at truly repairing their self-esteem. For these women, it was posited that affirming more directly within a relational domain may be more effective for repairing the ego-depleting consequences of negative relational feedback.

Extrinsic versus Intrinsic Self-Affirmations

In addition, self-affirmations of extrinsic aspects of the self have differential effects on people's reactions to threatening information in comparison to self-affirmations of intrinsic self-aspects. *Extrinsic self-worth* refers to self-esteem that is derived from socially imposed standards, achievements, or conditionally accepting relationships. Conversely, *intrinsic self-worth* refers to self-esteem that stems from core personal values or unconditional relationships (Schimel, Arndt, Banko, & Cook, 2004). In general, research confirms that, when confronted with threatening information, people who self-affirm extrinsic aspects show a tendency toward increased defensive behaviour, whereas those who affirm intrinsic aspects demonstrate a reduced tendency to respond defensively (Arndt, Schimel, Greenberg & Pyszczynski, 2002; Schimel, Arndt, Pyszczynski, & Greenberg, 2001; Sherman, Nelson, & Steele, 2000; Siegel, Scillitoe, & Parks-Yancy, 2005).

For example, Schimel and colleagues (2004) either activated an extrinsic self-domain by having participants focus on their most valued self-definition in a manner that highlighted the contingent nature of this domain, or activated an intrinsic self-domain by having participants focus on their most valued self-definition in a manner that was unconnected to socially imposed domains, prior to receiving a threat in the form of a challenging intellectual task. Individuals who were extrinsically affirmed before experiencing an academic threat in turn demonstrated increased defensive self-handicapping (i.e., attributing poor performance to external factors such as time pressure, the difficulty of the task, and situational pressure) and social rejection accessibility (i.e., cognitive accessibility of thoughts about social rejection on a word-stem completion task), as well as deficits in performance on academic tasks. Conversely, those who were

intrinsically affirmed before experiencing an academic threat demonstrated reduced defensiveness, as well as improved cognitive and social functioning. To explain this effect, Schimel and colleagues (2004) suggested that because extrinsic self-worth is greatly influenced by socially imposed standards of success and failure, affirming extrinsic contingencies increases an individual's focus on the perceived need to meet these external standards. This in turn exacerbates defensiveness and the need to conform to social expectations to avoid rejection or social disapproval. Conversely, because intrinsic self-worth is less reliant on externally imposed standards, shifting attention to these domains diminishes rejection concerns and reduces the need to respond defensively to threatening information.

Not only do intrinsic self-affirmations reduce tendencies toward defensive responding, they also reduce social conformity following threat. Arndt and colleagues (2002) either activated the extrinsic self-domain by having participants visualise an individual who liked them contingently or by writing about an achievement, or alternatively activated an intrinsic self-domain by having participants visualise a person who liked them noncontingently or by writing about a value or core personal characteristic, prior to engaging in a challenging mental arithmetic task. The results indicated that, when compared to extrinsic self-affirmations, intrinsic self-affirmations reduced defensive self-handicapping, as indicated by a lower tendency to attribute poor performance to external factors, and also decreased the tendency to conform to others' judgments regarding aesthetic preferences. Arndt and colleagues argued that because self-esteem that is based on extrinsic aspects of the self is more fragile and requires constant defense to be sustained, drawing one's focus to extrinsic self-attributes leaves individuals vulnerable to social pressure and conformity. Conversely, focusing on

intrinsic aspects of the self creates freedom to rely on one's own judgments or preferences, rather than those that are externally imposed.

Of relevance to the present research, some evidence indicates that intrinsic self-affirmations can reduce reliance on external standards of appearance for individuals with extrinsically-based contingent self-worth. Although research in this area is limited, Williams and colleagues (2014) showed that, when compared to viewing products alone, men with higher extrinsic contingent self-worth who were exposed to idealised body images in turn reported greater intention to exercise. Self-affirmation within an intrinsic domain (i.e., writing about a personally important value), eliminated the tendency of men with higher extrinsic contingent self-worth to pursue the social ideal conveyed by advertisements, such that those who were given the opportunity to intrinsically self-affirm in turn reported lower intentions to exercise than did those who were unaffirmed.

In summary, extrinsic domains of self-worth are considered less stable and more reliant on external validation than are intrinsic domains. Research demonstrates that whereas extrinsic self-affirmations increase defensiveness and social conformity in response to threat, intrinsic affirmations diminish these tendencies (e.g., Arndt et al., 2002; Schimel et al., 2004). Furthermore, evidence suggests that intrinsic self-affirmations can reduce behaviours designed to align appearance with social standards for men who are exposed to body image threat and whose self-worth is highly contingent on extrinsic domains (Williams et al., 2014). Therefore, for women whose self-worth is highly contingent on body weight and who respond to rejection by using the extrinsic domain of body image as a source of self-enhancement, providing an opportunity to affirm within a more intrinsic domain of self-worth may reduce the tendency to respond in a defensive and socially conforming manner to rejection.

Self-Affirmation and Reliance on Body Shape and Weight for Self-Esteem

In addition to the aforementioned benefits of relational and intrinsic self-affirmations, evidence suggests that the positive effects associated with such self-affirmations can at least partially be accounted for by reducing the extent to which individuals rely on the threatened domain for self-worth. As suggested by Sherman and Hartson (2011), self-affirmations serve to remind people that their self-worth is not exclusively contingent on the domain under threat. In this way, relational and intrinsic self-affirmations allow individuals to focus on their global sense of self-worth, rather than on the specific threatened domain. It therefore was posited that such self-affirmations may exert their effects, at least partially, by shifting domains in which individuals derive their self-esteem away from the threatened domain and toward other areas of self-worth (Armitage, 2012).

To test this proposition, Armitage (2012) exposed adolescent girls to a self-affirmation manipulation that required them to recall past acts of kindness and compassionate behaviour. Kindness self-affirmations were chosen based on previous pilot studies, which indicated that this domain is commonly considered a highly important personal value (see Reed & Aspinwall, 1998). Results indicated that girls who affirmed the value of kindness perceived less threat from having to rate their body shape and weight, they rated their own current body shape as smaller, and they reported greater body satisfaction relative to those who were unaffirmed.

Armitage (2012) demonstrated that these results were due to both increases in self-esteem, as well as a reduction in the extent to which these girls derived their self-esteem from their body shape and weight relative to other domains of self-worth. Specifically, in addition to completing a measure of state global self-esteem, participants completed the

Geller, Johnson, and Madsen (1997) Shape and Weight Based Self-Esteem Inventory (SAWBS). Participants were presented with seven domains on which their self-esteem might be based, and were asked to indicate the proportion of their self-esteem that was derived from body weight and shape relative to other domains of self-worth by dividing a circle into segments corresponding to each of the seven domains. The results indicated that girls who were given the opportunity to affirm the intrinsic and relational value of kindness reported deriving a smaller proportion of their self-esteem from shape and weight than did those who were not given the opportunity to self-affirm.

Furthermore, using a multiple mediation model, Armitage (2012) demonstrated that both global self-esteem and deriving self-esteem from shape and weight mediated the effects of self-affirmation on body satisfaction. Specifically, self-affirming the value of kindness increased global state self-esteem and reduced the proportion of self-esteem derived from shape and weight, which in turn contributed to greater body satisfaction. Armitage therefore concluded that self-affirmations of kindness helped to protect girls' body image by improving their global sense of self-worth and by reducing the extent to which these women derived their self-worth from their body shape and weight relative to other domains.

Belongingness threats and reliance on body shape and weight for self-esteem. Armitage's (2012) findings suggest that affirming alternative intrinsic self-resources unrelated to the original threat is effective at least partially because it reduces the extent to which one's self-worth is reliant on the threatened domain. As previously discussed, however, belongingness threats are likely to be more effectively repaired by directly affirming social resources rather than alternative domains (Knowles et al., 2010). As posited by O'Driscoll and Jarry (2015), interpersonal rejection should affect women with

higher body weight contingent self-worth most strongly within this particular domain. Therefore, it is reasonable to expect that providing the opportunity for women whose self-worth is highly contingent on body weight to self-affirm within an intrinsic and relational domain may help to repair the impact of rejection on their body image evaluation by shifting their self-worth away from the domain of body weight and shape, which also would result in a reduced need for these women to defensively self-enhance in the domain of body image following rejection.

The Present Research

Based on the literature reviewed above, the purpose of Study 2 was to investigate the defensiveness hypothesis put forth by O'Driscoll and Jarry (2015), and furthermore to determine whether allowing women to self-affirm within the intrinsic and relational domain of interpersonal kindness would protect them against the general threat to their self-esteem caused by rejection and thus, reduce any body image self-enhancement response. In Study 2, women of varying levels of body weight contingent self-worth all were exposed to rejection from peers. They then were assigned to either complete a self-affirmation task requiring them to recall their own past acts of kindness, or to a control condition consisting of a neutral opinion survey. Participants subsequently completed explicit measures of body image evaluation (state body satisfaction and appearance self-esteem) and state social and performance self-esteem. Similar to Study 1, implicit weight identity and automatic eating behaviour also were measured. Participants also completed a measure of the proportion of self-esteem that they derived from shape and weight relative to other self-worth domains. Additionally, global trait self-esteem, depressive symptoms, restrained eating status, and body mass index (BMI) were examined as

potential covariates, because of their demonstrated association with the dependent variables.

Research Questions

Study 2 was designed to address several research questions: First, can affirming the value of kindness reduce defensive responding to interpersonal rejection for women whose self-worth is contingent on body weight? Second, can kindness self-affirmations positively affect women's social self-esteem? Third, for women whose self-worth is generally highly contingent on body weight, can self-affirming the value kindness reduce the extent to which these women derive their self-esteem from body shape and weight relative to other domains?

Research Aims and Hypotheses

Aim 1. The first aim of Study 2 was to further examine the defensiveness hypothesis put forth by O'Driscoll and Jarry (2015). As aforementioned, evidence suggests that belongingness threats are most effectively dealt with by affirming the self within social domains, as opposed to alternative nonsocial self-definition domains (Knowles et al., 2010). In addition, consistent with research that has shown that intrinsic self-affirmations can reduce defensiveness (e.g., Schimel et al., 2004) and conformity with social standards (Arndt et al., 2002; Williams et al., 2014), it was expected that affirming the intrinsic and relational value of interpersonal kindness would repair the impact of rejection on body image evaluation, and therefore reduce the need for women whose self-worth is contingent on body weight to defensively self-enhance in the domain of body image following rejection. It was expected that this effect would be seen on measures of explicit body image evaluation, as well as on measures of implicit weight identity and automatic eating behaviour, as described below.

Because women whose self-worth is highly contingent on body weight typically demonstrate low levels of body satisfaction (O'Driscoll & Jarry, 2015), and due to the fact that the body image self-enhancement of these women in response to rejection is posited to be an ego-defensive response, it was expected that providing women with elevated body weight contingent self-worth with the opportunity to self-affirm within an intrinsic and relational domain would reduce their tendency to respond to rejection with defensive body image self-enhancement, as assessed using explicit measures of body satisfaction and appearance self-esteem. Specifically, it was predicted that affirming the value of kindness would attenuate these women's reported body image satisfaction, such that they would explicitly report lower levels of state body satisfaction and appearance self-esteem compared to those who were exposed to rejection but unaffirmed.

As above-discussed, Armitage (2012) demonstrated that adolescent girls showed greater body satisfaction after self-affirming the value of kindness prior to exposure to body image threat. For the purposes of this study, it was expected that kindness self-affirmations would attenuate the negative impact of rejection on the actual body image evaluation of women whose self-worth is contingent on body weight, and that this would be evident on measures of their implicit weight identity. Specifically, it was expected that women with higher body weight contingent self-worth who self-affirmed the value of kindness would implicitly identify themselves as less fat than would those who were exposed to rejection but unaffirmed.

Furthermore, it was expected that kindness self-affirmation would help to alleviate the effects of social threat on eating behaviour. Because interpersonal rejection has been shown to increase unhealthy food consumption as a result of disruptions in self-regulation (Baumester et al., 2005; Oaten et al., 2008; Salvy et al., 2011; Sproesser et al., 2014), it

was expected that women in general who self-affirm the value of kindness following rejection would eat less than those who were unaffirmed. However, it was anticipated that, for women whose self-worth is highly contingent on body weight and who tend to self-enhance in the domain of body image following rejection, the remedial effect of kindness self-affirmation would result in lower levels of perceived obligation to decrease their eating behaviour to align their appearance with their claimed body image satisfaction. It therefore was expected that, following exposure to rejection, women with higher body weight contingent self-worth who were given the opportunity to self-affirm would eat more than those who were unaffirmed. Specific hypotheses are outlined below:

Hypothesis 2.1.1. Following exposure to rejection, body weight contingent self-worth would moderate the impact of kindness self-affirmations on reported body image evaluation. Women higher in body weight contingent self-worth who self-affirmed the value of kindness would self-report significantly lower state body satisfaction and appearance self-esteem than would their unaffirmed counterparts. Among women with lower body weight contingent self-worth, reports of state body satisfaction and appearance self-esteem would not differ significantly across experimental conditions.

Hypothesis 2.1.2. Following exposure to rejection, body weight contingent self-worth would moderate the impact of kindness self-affirmations on implicit weight identity. Women higher in body weight contingent self-worth who self-affirmed the value of kindness would demonstrate significantly lower implicit fat identity, indicated by significantly slower implicit associations between *self* and *fat* relative to *self* and *thin,* than would their unaffirmed counterparts. Among women with lower body weight

contingent self-worth, implicit weight identity would not differ significantly across experimental conditions.

Hypothesis 2.1.3. Following exposure to interpersonal rejection, women in the kindness self-affirmation condition would eat significantly less than those who were unaffirmed.

Hypothesis 2.1.4. Following exposure to rejection, body weight contingent self-worth would moderate the impact of kindness self-affirmations on eating behavior. Women higher in body weight contingent self-worth who self-affirmed the value of kindness would eat significantly more than would their unaffirmed counterparts, whereas women with lower body weight contingent self-worth who self-affirmed the value of kindness would eat significantly less than those who were unaffirmed.

Aim 2. The second aim of Study 2 was to examine potential positive impacts of an intrinsic and relational self-affirmation on women's sense of self-worth. Because interpersonal rejection damages people's perception of their relational value to others (Leary & Downs, 1995), it was anticipated that self-affirming an intrinsic and relational value would help to repair the negative impact of social threat on individuals' perceptions of their interpersonal self-worth. Therefore, it was expected that providing women with the opportunity to self-affirm the value of kindness following rejection would result in greater state social self-esteem, relative to those women who were rejected but unaffirmed.

As discussed previously, it has been theorised that self-affirmations function to shift the domains in which individuals derive their self-esteem away from the threatened domain and toward other areas of self-worth (Armitage, 2012). Further, cues denoting relational devaluation are posited to most strongly affect women whose self-worth is

highly contingent on body weight within this particular domain. Therefore, it was anticipated for women with elevated body weight contingent self-worth and who were exposed to rejection, providing the opportunity to self-affirm the intrinsic and relational value of kindness would lessen the extent to which these women rely on body shape and weight for self-esteem, such that they would report deriving a smaller proportion of their self-esteem from body shape and weight relative to other self-worth domains, compared to women who were rejected but unaffirmed. Specific hypotheses are outlined below:

Hypothesis 2.2.1. Following exposure to interpersonal rejection, women in the kindness self-affirmation condition would demonstrate significantly greater state social self-esteem than would those who were unaffirmed.

Hypothesis 2.2.2. Following exposure to rejection, body weight contingent self-worth would moderate the impact of kindness self-affirmations on the reliance on body shape and weight as a source of self-esteem. Women higher in body weight contingent self-worth who self-affirmed the value of kindness would derive a smaller proportion of self-esteem from body shape and weight relative to other domains, than would their unaffirmed counterparts. Among women with lower body weight contingent self-worth, the proportion of self-esteem derived from body weight would not significantly differ across experimental conditions.

Method

Design

This study utilised a controlled experimental design and used moderated multiple regression analysis (MMRA) to test the research hypotheses. The independent variable was experimental condition (self-affirmation versus control) and the moderator variable was body weight contingent self-worth. The dependent variables were state body

satisfaction, state global self-esteem (comprised of appearance, performance, and social subscales), implicit weight identity, eating behaviour, and shape- and weight-based self-esteem. In addition, global trait self-esteem, depressive symptoms, dietary restraint, and BMI were tested as covariates due to their demonstrated relationships with the dependent variables.

Participants

Recruitment. Similar to Study 1, inclusion criteria were female gender, absence of a past or present eating disorder diagnosis, and lack of dietary allergies or restrictions. Additionally, individuals who previously participated in Study 1 or any other laboratory-based studies at the SPA laboratory were excluded. An advertisement titled "Pilot Testing for Future Research" was posted online and was visible to eligible participants (refer to Appendix Y). Participants volunteered for this study by means of an advertisement posted on an online Psychology Participant Pool and received course credit for their participation. The online survey was worth 0.5 bonus credits for 30 minutes, and the laboratory session was worth 2 bonus credits for 90 minutes of participation. Due to challenges with slow recruitment using the Participant Pool advertisement system, the principal investigator e-mailed additional participants who were registered on the Psychology Participant Pool and who met the screening criteria to invite them to participate (refer to Appendix Z).

Current sample. In total, 144 participants completed the online survey (22 on FluidSurveys and 132 on Qualtrics). A total of 112 participants volunteered after viewing the study advertisement posted online, and 32 participants volunteered in response to recruitment e-mails sent by the principal investigator. Of those 144 participants, 105 (72.92%) also completed the laboratory component of this study. Of

participants who attended the laboratory component, 50 were assigned randomly to the self-affirmation condition and 55 were assigned randomly to the control condition.

In terms of demographics, all participants self-identified as female. The mean age of participants was 21.30 years (*SD* = 4.41, range = 18–43 years). Reported ethnic background was as follows: 52.88% European, 18.27% Arab or West Asian, 10.58% South Asian, 4.85% Mixed, 4.81% African, 3.85% Aboriginal, 2.88% South or Central American, and 1.92% Caribbean. The average BMI of participants, based on their weight and height measured in the laboratory, was 27.08 kg/m^2 (*SD* = 8.22), which is in the overweight (25.00 to 29.90) range (Centre for Disease Control, 2011). The average BMI of participants, based on their reported weight and height, was 23.75 kg/m^2 (*SD* = 6.03), which falls within the normal weight (18.50 to 24.90) range. In terms of years of university education, 11.54% were in their first year, 24.04% in second year, 28.85% in third year, 24.04% in fourth year, and 11.54% had attended university for more than four years. Additionally, 75.00% of participants were psychology majors, and 97.09% reported that they had taken at least one psychology course.

Power analysis. For the purposes of power analysis, effect sizes were obtained from past literature on self-affirmation. A study by Armitage (2012), indicated a medium to large effect size of self-affirmation on body satisfaction ($\eta^2 = .12$) and proportion of self-esteem derived from body shape and weight ($\eta^2 = .07$). The number of predictors (including covariates, independent and moderator variables, and interaction effects) included in in this study ranged from three to six. Therefore, power analysis calculated by G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009), assuming a medium effect size and power = 0.8, indicated that a sample size of approximately 70 (with 3 predictors) to 98 (with 6 predictors) participants would be sufficient for the purposes of this study.

Materials

Eating behaviour assessment materials. Eating behaviour was assessed by the quantity of candies consumed, in the form of candy weight in grams. Pre-weighed packages of plain M&M® candies (492 kcal, 71.21g CHO, 21.13g fat, 4.33g protein per 100 g) containing 135g of candies were prepared prior to each experimental session.

Measures

Sample demographics. The demographics questionnaire was administered to obtain information such as gender identity, age, ethnicity, and educational background (refer to Appendix B).

Moderator variable measures. Similar to Study 1 (see Study 1 "Measures" for details), body weight contingent self-worth was assessed using the BWCSWS (Clabaugh, 2008; Clabaugh et al., 2008; refer to Appendix C). To disguise the body weight-related aspects of the research, the BWCSWS was administered following the CSWS (Crocker et al., 2003a; refer to Appendix D).

Manipulation and debriefing checks.

Self-affirmation manipulation check questionnaire. To assess the effectiveness of the self-affirmation manipulation, participants were asked to answer the following two questions by indicating their response on a 9-point Likert-type scale: "Right now, how do you feel about yourself?" (1 = *extremely negative*, 9 = *extremely positive*) and "How meaningful did you find this exercise?" (1 = *not at all*, 9 = *very much*; refer to Appendix AA). Although there are no well-established manipulation checks for self-affirmation tasks (McQueen & Klein, 2006), results from these questions have shown significant differences between self-affirmed versus control participants in terms of reported feelings of self-affirmation (e.g., Cohen, Aronson, & Steele, 2000; Harris, Mayle, Mabbott, &

Napper, 2007; Sherman et al., 2000; Siegel et al., 2005). In this study, higher scores on these questions in the self-affirmation condition compared to control were taken to indicate that the manipulation was effective.

Positive and Negative Affect Schedule (PANAS). Similar to Study 1, the PANAS was administered to assess the effectiveness of the debriefing procedure (see Study 1 "Measures" for details; refer to Appendix BB).

Dependent variable measures. Several of the measures used in Study 2 to assess the dependent variables were identical to those used in Study 1 (see Study 1 "Measures" for details). State body satisfaction was measured using the BISS (Cash et al., 2002; refer to Appendix F), state self-esteem was assessed using the SSES (Heatherton & Polivy, 1991; refer to Appendix G), and implicit weight identity was assessed using the IAT (Grover et al., 2003; refer to Appendix H and Appendix I).

Shape and Weight Based Self-Esteem Inventory (SAWBS; Geller et al., 1997). The SAWBS presents respondents with seven domains from which they might derive their self-esteem (i.e., body shape and weight, intimate or romantic relationships, competence at school, personality, friendships, face, personal development, and competence at activities other than school), and instructs them to rank order these domains in terms of the extent to which their self-esteem is based on each attribute. Participants then are asked to indicate the proportion of their self-esteem that was derived from each of the ranked domains by dividing a circle into segments. The relative contribution of body shape and weight, in the context of other domains, to overall feelings of self-esteem is determined by the size of the angle of the segment devoted to shape and weight, ranging from 0 to 360 degrees. Higher scores indicate greater shape- and weight-based self-esteem relative to other domains (refer to Appendix CC). Although the SAWBS initially

was designed as a trait measure, it is sensitive to changes in shape- and weight-based self-esteem as a result of experimental manipulation (e.g., Armitage, 2012).

Research by Geller and colleagues (1997) indicates that one-week test-retest reliability for the SAWBS was $r = .81$. Tests of concurrent validity indicate that the SAWBS positively correlates with a measure of shape and weight schema, $r = .44$, as assessed using the word recognition task (Geller et al., 1997).

Covariate measures. Variables that were theoretically associated with the dependent variables of interest were considered as potential covariates (Field, 2009; Stevens, 2009). The measures used in Study 2 to assess the covariate variables were identical to those used in Study 1 (see Study 1 "Measures" for details). Global trait self-esteem was measured using the RSES (Rosenberg, 1965, 1979; refer to Appendix J), depressive symptoms was assessed using the BDI-II (Beck et al., 1996; refer to Appendix K), dietary restraint was assessed using the RRS (Herman & Polivy, 1980; refer to Appendix L), and BMI was calculated by dividing body weight (kilograms) by height (metres) squared (see Study 1 "Measures").

Procedure

This study observed Tri-council ethical guidelines and received clearance from the University of Windsor's REB (REB# 16-114). A summary of the research procedure is presented in Table 21.

Table 21

Summary of Research Procedure – Study 2

Study Component	Procedure
1. Registration via online Psychology Participant Pool	a. Pre-screening: Participants screened for female gender, absence of past or present eating disorder diagnosis, lack of dietary allergies or restrictions, and prior participation in SPA laboratory research
2. Online survey (30 minutes, 0.5 bonus credits)	a. Informed consent b. Online survey: Moderator (Body Weight Contingency of Self-Worth Scale and Contingencies of Self-Worth Scale) and covariate measures (Rosenberg Self-Esteem Scale, Beck Depression Inventory-II, Revised Restraint Scale), followed by demographics questionnaire
3. Laboratory session (90 minutes, 2.0 bonus credits)	a. Informed consent b. Demarcated rejection procedure: Conversation task, group member selection, distractor measure (Marlowe-Crowne Social Desirability Scale), and all participants receive rejection feedback c. Self-affirmation task: Personal Attributes Inventory (self-affirmation) versus Personal Opinions Survey (control) d. Manipulation check: Self-affirmation manipulation check questionnaire e. Dependent measures: Eating behaviour assessment, Shape and Weight Based Self-Esteem Inventory; State Self-Esteem Scale, Body Image States Scale, and Implicit Association Test, and distractor measures (Self-Consciousness Scale and Revised Self-Monitoring Scale) f. Suspicion probe and debriefing g. Debriefing check: Positive and Negative Affect Schedule h. Body mass index measurement: Informed consent and measurement of height and weight

This study consisted of two components: an online survey followed by a laboratory session. Participants registered for both the online survey and laboratory components simultaneously after viewing an advertisement posted on the online Psychology Participant Pool (see Study 1 "Method – Recruitment" for details). To minimise demand characteristics, participants were instructed that they would be participating in a series of pilot studies assessing questionnaires and experimental tasks for future research. They were provided with a list of potential time slots, with the laboratory session taking place 7 to 14 days after the online survey. Participants who registered for this study were sent an e-mail including a link to the online survey and details regarding their appointment time and the location of the laboratory session.

Online survey component. The first part of the study was an online survey consisting of a series of questionnaires comprised of the covariate and the moderator measures. The survey was administered using FluidSurveys, and subsequently Qualtrics after FluidSurveys discontinued its services. The online survey was competed at participants' convenience in a location of their choice. Before completing the online survey, participants were presented with an informed consent form (refer to Appendix DD), and they indicated their consent to participate by selecting "Yes" at the bottom of the screen.

After giving informed consent, participants completed the CSWS, BWCSWS, RSES, BDI-II, and RRS on FluidSurveys or Qualtrics. To ensure that they read the items presented in the online questionnaires, the BDI-II and RRS each included an additional item that asked them to indicate a specific response (e.g., on the RRS "Please select *Yes*"). To reduce the likelihood of order effects, the CSWS/BWCSWS, RSES, and BDI-II questionnaires were presented in random order. The RRS was administered following

the other measure to reduce the likelihood that questions regarding participants' own body weight would bias subsequent responding. To maintain consistency, in all cases the demographics questionnaire was presented last. Following the survey, participants were given the contact information for the principal investigator and were provided community resources.

Laboratory session component. After completing the online survey, participants were invited to participate in the laboratory component of the study. Similar to Study 1, participants were booked on weekdays between the hours of 11:00am and 5:30pm (Robillard, 2004, 2007). Participants who agreed to attend the laboratory session were sent an e-mail reminder prior to their appointment.

Informed consent. Upon arriving at the laboratory, participants were given an informed consent form, and were asked to indicate their consent using paper-and-pencil (refer to Appendix EE). They were told that they would be completing a series of pilot studies for future research, consisting of a conversation task, a series of short questionnaires, and a group-based decision-making task.

Rejection manipulation. The first part of the laboratory session consisted of a relational devaluation experimental manipulation, which was a demarcated rejection procedure modelled after the method originally designed by Nezlek and colleagues (1997). Because the effectiveness of the rejection manipulation was established in O'Driscoll and Jarry (2015) and was replicated by the manipulation checks administered in Study 1, all participants in this study were exposed to rejection and there was no neutral control group.

Participants first met in groups of four in the main laboratory room. They were provided with nametags and the experimenter facilitated a discussion of topics unrelated

to body image, such as places to meet new people on campus, most interesting courses, places to study on or off campus for 10 minutes (refer to Appendix O). In situations in which less than four participants attended the laboratory session, undergraduate research assistants trained as confederates acted as participants in the initial group conversation.

After the group conversation, participants were placed into individual rooms where they sat at a table in front of a computer. They were instructed to write the name of two other participants with whom they wished to work during an alleged group decision-making task that was purported to follow (refer to Appendix P). Each was told that she would be working with at least one other participant of her choice. Once participants completed their selection, the experimenter left the room under the pretense of assigning groups for a later decision-making task. During this time, participants completed the MCSDS-Form C (Crowne & Marlowe, 1960; refer to Appendix Q) on FluidSurveys or Qualtrics as a distractor. After 5 minutes, participants were given feedback regarding their assignment. All participants received rejection feedback as follows:

"I need to talk to you about your participation in the final decision-making task. This is unusual, but no other participant chose to work with you. This means that you will be completing the rest of the pilot studies alone."

Self-affirmation manipulation. Next, self-affirmation was manipulated according to procedures designed by Reed and Aspinwall (1998). As previously discussed, research has consistently demonstrated that reflecting on a personally important value is an effective means of inducing self-affirmation (Sherman & Cohen, 2006). Reed and Aspinwall's (1998) self-affirmation manipulation is focussed specifically on kindness, because their research demonstrates that this attribute is generally rated as a highly important personal value to college students. In the present study, each participant was assigned randomly to a self-affirmation or a neutral control condition.

Participants in the experimental group were presented with a Personal Attributes Inventory on FluidSurveys or Qualtrics. For 10 kindness-related behaviours such as "Have you ever been considerate of another person's feelings," participants in the self-affirmation condition were asked to indicate whether they agreed by endorsing either "yes" or "no." For endorsed behaviours, participants provided a brief written example (Reed & Aspinwall, 1998; refer to Appendix FF).

Alternatively, participants in the control group were presented with a Personal Opinion Survey[4] on FluidSurveys or Qualtrics. This survey was designed to have many of the same properties as the survey administered to the experimental group, without items related to kindness. For 10 statements such as "I think that the subway is the best form of public transportation," participants in the neutral control condition were asked to indicate whether they agreed by endorsing either "yes" or "no." For endorsed statements, participants were asked to provide a brief reason for their answer (Reed & Aspinwall, 1998; refer to Appendix GG).

To assess the effectiveness of the experimental manipulation, participants completed the self-affirmation manipulation check questionnaire on FluidSurveys or Qualtrics immediately following the self-affirmation task (refer to Appendix AA). Participants were asked to indicate their responses to two questions on a 9-point Likert-type scale: "how meaningful did you find the writing exercise you just complete?" ranging from 1 (*not at all*) to 9 (*very much*), and "in general, how do you feel about yourself?" ranging from 1 (*extremely negative*) to 9 (*extremely positive*). It was expected that participants in

[4] To avoid priming participants, three items from Reed and Aspinwall's (1998) original survey were altered to remove references to eating or food (e.g., "I think that chocolate is the best flavor of ice cream" was changed to "I think that Friday is the best day of the week").

the self-affirmation condition would demonstrate higher scores on these items compared to those in the control condition.

Dependent measures. Participants then completed the dependent measures, consisting of the BISS, SSES, the implicit weight identity IAT, eating behaviour assessment, and SAWBS. The SCS and the RSMS also were included as distractor measures, as described below.

The following eating behaviour assessment was administered by an experimenter who was blind to the experimental condition to which each participant was assigned. At this point, the experimenter entered the room holding a bowl and an open bag of pre-weighed M&M®s. To help keep track of the amount of M&M®s consumed by each participant, the bottom of each bowl was inconspicuously labeled with a number matched to one of the individual laboratory rooms. To reduce concerns about hygiene, the experimenter also carried a pair of scissors to give the impression that the bag of M&M®s was just opened. She notified the participant that:

"these M&M®s were left over from an experiment on taste preference that was cancelled yesterday, so now we have plenty of them left over and you are welcome to help yourself."

The experimenter then poured the M&M®s into a bowl for each participant. The amount of M&M®s was large enough that participants could eat as much as they wished with the amount remaining inconspicuous. The experimenter then began the computerised administration of the dependent and distractor measures and told each participant that another experimenter would return in 15 minutes. Experimenters used a stop-watch to ensure that each participant was given the same amount of time to consume the candy.

Participants then complete the dependent and distractor measures. They were asked to complete a paper-and pencil version of the SAWBS, an online version of the IAT, and

the remaining dependent (BISS, SSES) and distractor measures (SCS, RSMS) were administered using FluidSurveys or Qualtrics. The SCS (refer to Appendix R) and RSMS (refer to Appendix S) were administered as distractor measures because they are relatively brief and they do not contain items related to rejection, body image, or food/eating (see Study 1 "Measures"). To reduce the likelihood of order effects, administration of the SAWBS was counterbalanced with presentation of the other computerised measures. Specifically, half of the participants completed the SAWBS prior to completion of the computerised measures, and the other half of the participants completed the SAWBS following completion of the computerised measures. The order in which the computerised dependent variable measures (BISS, SSES, and IAT) and the distractor measures (RSMS, SCS) were presented was randomised. To ensure that participants were reading the items presented in the questionnaires, the BISS and RSMS each included an additional item that asked participants to indicate a specific response (e.g., on the RSMS "Please select *1, "Generally False*"). After 15 minutes, the experimenter returned to collect the bowl containing the remaining M&M®s. The M&M®s were weighed to calculate the amount consumed.

Suspicion probe and debriefing. To determine the credibility of the deception, participants were probed for suspicion using a funnel debriefing procedure. They then were debriefed thoroughly about the purpose of the deception and of the rejection and self-affirmation manipulations, and they were asked to read and sign an information and debriefing form confirming their consent to retain their data (refer to Appendix HH). At this stage, participants also were asked whether they knew any of the other participants in the laboratory session. If a participant indicated that she knew another participant, she

was asked to describe the nature of their relationship. The experimenter recorded their responses.

To assess the effectiveness of the debriefing procedures in ameliorating any negative affect, participants were administered a paper-and-pencil version of the PANAS. It was expected that, after debriefing, positive and negative affect would be comparable in participants from the self-affirmation and control groups. At this stage, the experimenter reviewed participants' responses on the PANAS to ensure that they were not reporting high levels of distress prior to being excused from the experiment.

Weight and height measurement. Participants were told that obtaining measures of their height and weight was an important component of the study. Those who agreed to be measured were asked to read and sign an additional paper-and-pencil informed consent form (refer to Appendix U). Participants were asked to remove their jackets and shoes. To obtain an accurate measure of their BMI, the experimenter measured participants' weight using a precise scale and measured their height using a measuring tape. Reported height and weight from the RRS was used for any participants who did not consent to having their height or weight measured, as research suggests that self-reports of height and weight are reliable and reasonably accurate across a wide range of subgroups (e.g., Jeffrey, 1996; Stunkard & Albaum, 1981), and that self-report is highly correlated with measured height and weight in young adult populations (e.g., Kuczmarski et al., 2001). Finally, participants were thanked for their participation and excused.

Results

Approach to Data Analysis

All statistical analyses were performed using SPSS for Mac (Version 22.0). Similar to Study 1, items on each measure first were inspected for out of range values, and

reliability analyses were conducted on all continuous variables. Validity checks and missing values analyses then were performed on all variables. Next, descriptive analyses were conducted for measures in each of the experimental conditions. A series of analyses then were completed to assess the effectiveness of the methodology (i.e., random assignment, credibility of the cover story, manipulation and debriefing, and implicit responding). Finally, after the assumptions of multiple regression were assessed, separate moderated hierarchical multiple regressions were conducted for each dependent variable, body satisfaction (BISS), state self-esteem (SSES-Appearance and SSES-Social), implicit weight identity (IAT-Fat + Self), eating behaviour (candy consumed), and shape- and weight-based self-esteem (SAWBS).

Data Inspection

Validity check. The data first were inspected for invalid cases. One participant was removed from subsequent analyses because the computer froze during testing, as it was determined that this would have disrupted the timing of subsequent experimental procedures and that her data would be uninterpretable as a result. In addition, ten participants failed one or more validity check item, and closer inspection of their data indicated that they engaged in seemingly random patterns of responding. A series of nonparametric Mann-Whitney U tests comparing participants retained and those that were excluded did not reveal any significant differences on any of the variables of interest. After these cases were removed, 94 were retained for subsequent analyses.

Missing values check. The data then were inspected for missing values. Missing values analysis (MVA) was first performed. Little's MCAR test was not significant, $\chi^2(2272) = 1673.97$, $p = 1.00$, indicating that the data were missing completely at random (MCAR) and thus considered ignorable. Overall, 1.71% of values were missing.

Closer inspection of the data revealed that data were missing on several measures due to technical errors or participants choosing to not to respond: one participant did not complete the SAWBS (1.1% missing); two participants did not complete the SSES (2.1% missing) and BISS (2.1% missing); two participants were not available to assess suspicion regarding the cover story (2.1% missing); six participants did not complete the PANAS (6.38% missing); and 21 did not complete the IAT (21.33% missing). Despite prior screening, three participants who came to the laboratory reported to experimenters that they had allergies to the ingredients contained in M&M® candies (two reported lactose intolerance and one reported a nut allergy). Additionally, an experimenter neglected to measure a final candy weight for one participant. Data for these cases were excluded from analyses that involved these respective variables (refer to Study 2 "Results – Main Analyses").

Imputation of missing values. On questionnaire variables, less than 1.00% of values were missing overall. Missing values ranged from 0.00% to 2.1% on all measures, with the exception of the PANAS on which data was missing for several cases, as described above. Therefore, imputation of missing values was determined to be an acceptable solution (Schafer & Graham, 2002). Because of the small proportion of missing values, and to maintain an internally consistent set of results, missing values were imputed on questionnaire measures using mean substitution (Tabachnik & Fidell, 2007).

In total, five participants declined to have their weight and height measured in the laboratory. For these participants, BMI was calculated using reported weight and height from the RRS. In the total sample, measured and reported weight, $r(87) = .88$, $p < .001$, and height, $r(87) = .55$, $p < .001$, were significantly positively correlated, as were

calculated BMIs based on measured and reported weight and height, $r(87) = .78$, $p < .001$.

Descriptive Analysis

Descriptive statistics for measures according to experimental condition are presented in Table 22 below.

Table 22

Descriptive and t-test Statistics for Measures by Condition (N = 94)

	Control condition (n = 50)		Affirmation condition (n = 44)			
Variable	Mean	*SD*	Mean	*SD*	*t*	Sig.
BWCSWS	4.92	1.07	4.70	1.40	0.86	.393
BDI	13.10	10.66	11.27	8.88	0.90	.373
BMI	27.33	7.34	26.97	9.03	0.21	.832
RSES	19.72	4.65	20.92	6.21	-1.07	.288
RRS-Total	13.24	4.72	13.34	6.58	-0.09	.931
RRS-CD	7.64	3.12	7.57	3.91	0.10	.921
RRS-WF	5.60	2.81	5.77	3.38	-0.27	.787
SSES-Total	74.47	12.67	70.62	17.14	1.35	.180
SSES-Appearance	20.24	4.83	19.58	5.80	0.60	.551
SSES-Performance	27.71	4.20	25.88	5.91	1.73	.088
SSES-Social	26.51	5.13	24.70	7.23	1.33	.188
BISS	5.42	1.38	5.36	1.69	0.21	.837
IAT-Fat + Self	-0.38	0.38	-0.42	0.34	0.49	.623
Candy consumed	30.32	28.59	27.91	22.76	0.45	.657
SAWBS	44.42	40.74	32.51	29.71	1.59	.116

Note. BWCSWS = Body Weight Contingent Self-Worth Scale; BDI-II = Beck Depression Inventory-II; BMI = Body Mass Index; RSES = Rosenberg Self-Esteem Scale; RRS-Total = Revised Restraint Scale, Total Score; RRS-CD = Revised Restraint Scale, Concern for Dieting scale; RRS-WF = Revised Restraint Scale, Weight Fluctuation scale; SSES-Total = State Self-Esteem Scale, Total scale; SSES-Performance = State Self-Esteem Scale, Performance subscale; SSES-Social = State Self-Esteem Scale, Social subscale; SSES-Appearance = State Self-Esteem Scale, Appearance subscale; BISS = Body Image States Scale; IAT-Fat + Self = implicit weight identity (*D* IAT effect); Candy consumed = amount of candy consumed in grams (g); SAWBS = Shape and Weight Based Self-Esteem Inventory.

Methodology Checks

Equivalence of groups. A series of analyses first were conducted to determine whether participants assigned to the rejection and control conditions were equivalent with regard to demographics, covariate and moderator variables, laboratory conditions, and relationships between participants.

Random assignment. A series of independent *t* tests were conducted to determine whether random assignment of participants to the affirmation versus control conditions was effective. Results indicated that participants in the affirmation condition did not differ significantly from those in the control condition (*p*s > .460) across demographics (i.e., age, ethnicity, number of psychology courses taken, relationship status, or employment status). Participants also did not differ significantly (*p*s > .288) on any of the covariate and moderator variables (i.e., contingencies of self-worth domains, body weight contingent self-worth, trait global self-esteem, depressive symptoms, dietary restraint, reported or measured BMI). Thus, random assignment was considered effective.

Laboratory conditions. A series of ANOVAs were conducted to ascertain whether there were any effects of room assignment, primary experimenter, experimenter providing candy, or confederate on participants' responses on the dependent variables. Room assignments did not appear to have a significant impact on any of the dependent variables (*p*s > .193). As can be seen in Table 23, results also indicated that participants did not differ significantly between the five experimenters conducting the study or providing candy on any of the dependent variables. The results also indicated that the dependent variables were not significantly affected by which experimenter acted as a

confederate. Accordingly, it was assumed that there were no differences on participant outcomes based on room assignment, experimenter, or confederate.

Table 23

Effects of Experimenters and Confederates on Dependent Variables

	Primary experimenter		Candy provider		Confederate	
Dependent Variable	*F*	*Sig.*	*F*	*Sig.*	*F*	*Sig.*
SSES-Appearance	2.12	.085	1.74	.148	1.73	.135
SSES-Performance	1.37	.250	0.46	.767	0.63	.160
SSES-Social	2.21	.074	2.10	.088	1.25	.293
BISS	1.61	.180	0.89	.476	0.95	.453
IAT	0.58	.628	0.63	.598	0.32	.899
Candy consumed	1.29	.279	1.74	.148	1.04	.401
SAWBS	0.54	.704	0.44	.779	1.51	.196

Note. SSES-Appearance = State Self-Esteem Scale, Appearance subscale; SSES-Performance = State Self-Esteem Scale, Performance subscale; SSES-Social = State Self-Esteem Scale, Social subscale; BISS = Body Image States Scale; IAT-Fat + Self = implicit weight identity (*D* IAT effect); Candy consumed = amount of candy consumed in grams (g); SAWBS = Shape and Weight Based Self-Esteem Inventory.

Relationships between participants. During the suspicion probe, participants were asked whether they knew any of the other participants taking part in the laboratory session. In total, one participant in the control condition and three participants in the self-affirmation reported that they had a prior relationship with another participant. A chi-square analysis was conducted to determine whether the proportion of participants who reported that they knew another participant (no prior relationship or prior relationship) differed according to experimental condition (self-affirmation or control). Results indicated that there was no significant association between reported prior relationship and experimental condition, $\chi^2(1) = 1.33$, $p = .248$. In addition, a series of nonparametric Mann-Whitney U tests indicated that there were no significant differences between

participants who reported a prior relationship and those who did not on any of the dependent variables.

Implicit responding. The extent to which participants implicitly identified their weight identity on the IAT also was examined. The difference score (*D*) for the IAT is considered to be a measure of effect size that is closely related to Cohen's *d*, which can be computed as a *d* value using the formula $D = 2d/\sqrt{(4+d^2)}$ (Nosek & Sriram, 2007). The average difference score for the IAT used in this study converted to Cohen's *d* was .39, which can be interpreted as a small to medium effect size (Cohen, 1988).

Credibility of the cover story. The credibility of the cover story was assessed during a suspicion probe prior to debriefing. All participants were able to accurately describe the cover story that was presented at the beginning of the laboratory portion of the study. That said, 47.52% of participants described some degree of suspicion regarding the cover story. Specifically, 52.48% (55.10% in the control group and 53.49% in the affirmation condition) stated that they believed the cover story, 28.71% (28.57% in the control group and 25.58% in the affirmation condition) suspected that the study was about body image, 6.93% (6.12% participants in the control group and 9.30% in the affirmation condition) suspected that the study was about rejection, and 11.88% (10.20% participants in the control group and 11.63% in the affirmation condition) suspected that the study was about body image and rejection. None of the participants suspected that the study was about self-affirmation.

A chi-square analysis was conducted to determine whether participants' reported suspicion regarding the cover story (no suspicion, suspicious of body image, suspicious of rejection, or suspicious of body image and rejection) differed according to experimental condition (self-affirmation or control). Results indicated that there was no

significant association between reported suspicion and experimental condition, $\chi^2(3) = 0.43$, $p = .933$. The proportion of participants who reported suspicion regarding the cover story did not differ according to experimental condition.

Manipulation check. To test the effectiveness of the self-affirmation manipulation, independent *t* tests first were performed. Descriptive statistics for manipulation check items are presented in Table 24.

Table 24

Descriptive and t-test Statistics for Manipulation and Debriefing Variables (N = 94)

	Control condition (n = 50)		Affirmation condition (*n* = 44)			
Variable	Mean	*SD*	Mean	*SD*	*t*	Sig.
MC1-Meaningful	37.94	23.50	60.32	18.59	-5.07	.000
MC2-Feel about self	65.94	21.43	68.39	22.23	-0.54	.589
PANAS-PA_D	12.71	3.60	13.85	5.09	2.29	.024
PANAS-NA_D	30.83	5.35	27.59	7.83	-1.23	.222

Note. MC1-Meaningful = "How meaningful did you find the writing exercise that you just completed?"; MC2-Feel About Self = "In general, how do you feel about yourself?"; PANAS-PA_D = Positive and Negative Affect Schedule, Positive Affect subscale (post-debriefing); PANAS-NA_D = Positive and Negative Affect Schedule, Negative Affect subscale (post-debriefing).

Manipulation checks indicated that participants in the affirmation condition rated the experimental manipulation task as significantly more meaningful relative to those in the control condition. Conversely, there was no significant difference between conditions in terms of how positively participants rated their feelings about themselves. It therefore appears that the affirmation generally was considered meaningful, though it did not affect participants' self-related feelings.

Debriefing check. To assess the effectiveness of the debriefing procedure, independent *t* tests were conducted on the PANAS-NA and PANAS-PA subscales administered post-debriefing. Descriptive statistics and *t*-test results for PANAS

debriefing check subscales also can be found in Table 24. There were no significant differences between conditions in terms of reported negative affect after debriefing, and participants in the affirmation condition reported greater levels of positive affect following debriefing relative to control. It therefore appears that debriefing was successful in ameliorating any negative affect across conditions.

Assumptions of Multiple Regression

Prior to the main analysis, assumptions of multiple regression were evaluated. First, the assumption of adequate sample size was assessed. Harris (1985) recommends that, for regression equations with five or fewer predictors, the number of participants should exceed the number of predictors by at least 50 (e.g., $N = 53$ for three predictors). For regression equations with 6 or more predictors, a minimum number of 10 participants per predictor is recommended (e.g., $N = 60$ for six predictors). In the present study, the total number of predictors (including covariates, independent and moderator variables, and interaction effects) included each regression ranged from three to six. Therefore, given that the number of cases in each regression exceeded the requisite number for all analyses, the sample size was deemed adequate.

The assumption of independence of errors then was assessed separately for each regression. As none of the Durban-Watson statistics were less than 1 or greater than 3 (Field, 2009), this assumption was considered met. The data then were inspected for homoscedasticity of errors and linearity (Field, 2009). Homoscedasticity of errors was directly tested using the Koenker-Bassett test, which showed no violated for any of the dependent variables (ps > .074) except for the IAT-Fat + Self data, which showed heteroscedasticity ($p = .002$). That said, visual inspection of standardised residual versus predicted residual scatterplots for each regression showed that the residuals were

distributed in a straight horizontal fashion, and that they were randomly scattered with an almost equal number of residuals above and below the zero-residual line. In addition, the scatterplots did not demonstrate any wave or a megaphone patterns. As such, the assumptions of independent errors and homoscedasticity were assumed.

The assumption of normality was assessed by visual inspection of histograms and Q-Q plots, standardised scores for skewness and kurtosis, as well as Shapiro-Wilk (*S-W*) statistics (Field, 2009). Although univariate normality is not an explicit assumption of multiple regression, Tabachnick and Fidell (2007) suggest that nonnormal distributions of individual variables can degrade the solution of a regression model. Examination of normality diagnostics for each continuous variable indicated that RSES, RRS, BISS, SSES-Appearance, and IAT-Fat + Self passed *S-W*, with skewness and kurtosis statistics within the normal range (i.e., not exceeding ±3*SD*). That said, variables BWCSWS and SSES-Social violated *S-W*, with skewness and kurtosis within the normal range. Candy consumed violated *S-W* and was positively skewed with kurtosis within the normal range. Finally, BMI, BDI, and SAWBS violated *S-W* and were negatively skewed with positive kurtosis.

After outliers were identified and their impact was reduced (refer to discussion of outliers below), normality of residuals for BDI, BMI, candy consumed, and IAT-Fat + Self were greatly improved. Though *S-W* continued to be violated for these variables, skewness and kurtosis was found to be within the normal range for all variables. Furthermore, examination of normal probability plots for these variables did not indicate any considerable violations from normality on any of these variables. Because multiple regression analysis is fairly robust to violations of normally distributed errors (Osborne & Waters, 2002) when sample size is adequate (Schmidt & Finan, 2018), all variables were

left un-transformed to avoid problems associated with introducing unnecessary bias to standard errors and slope coefficients (Schmidt & Finan, 2018).

As recommended by Tabachnik and Fidell (2007), the assumption of absence of outliers was examined after normality was inspected. The data first were inspected for univariate outliers within each variable, where extreme cases were detected using scatter plots and *z* scores. Based on a cut-off value of $z = |3.29|$, six univariate outliers were identified. To reduce their impact, extreme values were replaced with raw scores one unit larger than the next most extreme score present in the distribution of the respective variable (Tabachnik & Fidell, 2007). The data subsequently were examined for multivariate outliers separately for each regression analysis. First, outliers on the dependent variables were detected using studentized deleted residual values. Though outliers on the dependent variables were detected for all regression models, their removal did not appreciably impact the final solutions, and as a result they were retained. Next, influential observations were examined using Cook's distance. As no influential observations were detected for any of the regressions, all cases were retained. Next, outliers on independent variables were inspected using leverage and Mahalanobis distance. Two outliers were identified using both statistics, and these cases were removed from subsequent analyses (Tabachnik & Fidel, 2007). Examination of the demographic characteristics of these outliers did not reveal any discernable pattern of association, and a series of nonparametric Mann-Whitney U tests comparing participants retained and those that were excluded did not reveal any significant differences on any of the variables of interest. After multivariate outliers were removed, the total sample consisted of 92 cases.

The assumption of absence of multicollinearity was assessed by examining variance inflation factors (VIF), tolerance, and intercorrelations among predictor variables. None of the variables approached the cut-offs of VIF > 10 or tolerance < 0.1 (Field & Miles, 2010), and none of the predictor variables shared a correlation that exceeded $r = |.90|$ (Tabachnik & Fidell, 2007). Accordingly, absence of multicollinearity was assumed (refer to Table 25 for all zero-order correlations).

In addition to the aforementioned assumptions of MRA, inclusion of covariates in the analysis requires that the covariates are measured without error. The covariate measures in the present study were chosen based on their wide use in body image and rejection research. In addition, only measures with at least acceptable levels of internal consistency and test-retest reliability were selected and all had acceptable to excellent internal consistency in the present study (see Study 2 “Measures” section for details).

Table 25

Zero-Order Correlations (Pearson) Between Variables (N = 92)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. BWCSWS	1												
2. BDI	.36**	1											
3. BMI	.03	.05	1										
4. RRS-Total	.29**	.15	.31**	1									
5. RSES	-.37**	-.66**	-.02	-.05	1								
6. SSES-Total	-.41**	-.60**	-.02	-.07	.61**	1							
7. SSES-Appearance	-.47**	-.59**	-.23*	-.19	.60**	.88**	1						
8. SSES-Performance	-.21	-.52**	.14	.01	.50**	.85**	.61**	1					
9. SSES-Social	-.40**	-.49**	.04	-.01	.52**	.92**	.73**	.69**	1				
10. BISS	-.40**	-.46**	-.19	-.24*	.56**	.72**	.86**	.51**	.54**	1			
11. IAT-Fat + Self	.00	.15	.48**	.19	-.09	-.09	-.20	.04	-.07	-.16	1		
12. Candy consumed	.11	-.03	-.08	-.07	-.04	-.03	-.06	.06	-.08	-.09	-.15	1	
13. SAWBS	.51**	.26*	.16	.12	-.21*	-.23*	-.38**	-.05	-.19	-.33**	-.03	.05	1

* Indicates statistical significance at the $p < .05$ level, ** indicates statistical significance at the $p < .01$ level.

Note. BWCSWS = Body Weight Contingent Self-Worth Scale; BDI = Beck Depression Inventory-II; BMI = Body Mass Index; RRS-Total = Revised Restraint Scale, Total Score; RSES = Rosenberg Self-Esteem Scale; SSES-Total = State Self-Esteem Scale, Total scale; SSES-Performance = State Self-Esteem Scale, Performance subscale; SSES-Social = State Self-Esteem Scale, Social subscale; SSES-Appearance = State Self-Esteem Scale, Appearance subscale; BISS = Body Image States Scale; IAT-Fat + Self = implicit weight identity (*D* IAT effect); Candy consumed = amount of candy consumed in grams (g); SAWBS = Shape and Weight Based Self-Esteem Inventory.

Main Analyses

To test the research hypotheses, separate moderated multiple regression analyses (MMRA) were conducted for each of the dependent variables: state self-esteem (SSES-Appearance and SSES-Social), state body satisfaction (BISS), implicit weight identity (IAT-Fat + Self), eating behaviour (candy consumed), and shape- and weight-based self-esteem (SAWBS). Prior to analysis, the continuous moderator and covariate variables were centred to eliminate the possibility of multicollinearity between the independent variable and the moderator with the interaction term (Aiken & West, 1991).

As mentioned above, covariates in the present study included depressive symptoms (BDI), body mass index (BMI), global trait self-esteem (RSES), and dietary restraint (RRS-Total). For each regression, covariates that were theoretically associated or moderately correlated ($r \geq |0.30|$) with the dependent variable were entered into the analysis, and were retained only if they contributed significantly to the model (Field, 2005). To test the significance of the moderation effect, the significant covariate variables, the independent variable (experimental condition: self-affirmation versus control) and the moderator variable (BWCSWS), as well as the interaction term variable (BWCSWS x experimental condition) were entered into the regression equation in a hierarchical fashion (Baron & Kenny, 1986; Holmbeck, 1997). Specifically, the covariate variables were entered in the first step, the main effects represented by the independent variable (coded as 1 = affirmation, 0 = control) and the moderator variable were entered in the second step, and the interaction term was entered in the final step of the model. Each dependent variable, state self-esteem (SSES-Appearance and SSES-Social), body satisfaction (BISS), implicit weight identity (IAT-Fat + Self), eating behaviour (candy consumed), and shape- and weight-based self-esteem (SAWBS) was

separately regressed on this equation. Significant moderation effects were indicated by significance of the interaction term variable when the independent and moderator variables were controlled (Baron & Kenny, 1986). Interaction effects were examined using simple slopes analysis (Aiken & West, 1991; Dawson, 2014). An alpha level of $p < .05$ was adopted for all main analyses. Also reported are squared partial correlation coefficients (r^2), which indicate the proportion of variance accounted for by the effect of the independent variable on the dependent variable after controlling for the effects of other variables included in the model (small effect = .01, medium effect = .09, large effect = .25).

As stated previously, several participants reported suspicion about the cover story during the suspicion probe procedure. As such, regression analyses were conducted on the full sample ($N = 92$), as well as on a sample ($N = 75$) that excluded participants who reported suspicion about rejection ($n = 7$) and those who closely guessed the purpose of the study ($n = 10$). Across all regressions, removal of suspicious participants did not change the primary outcomes and all findings remained comparable to those from the full sample. Therefore, only results from analyses on the full sample are presented below (refer to Appendix II for regression summary tables with suspicious cases removed).

State Body Satisfaction and Appearance Self-Esteem

Hypothesis 2.1.1. The first regression analysis examined predictors of state body satisfaction and state appearance self-esteem. It was predicted that following exposure to rejection, women higher in body weight contingent self-worth who self-affirmed the value of kindness would self-report significantly lower state body satisfaction and appearance self-esteem than would their unaffirmed counterparts. Among women with lower body weight contingent self-worth, it was expected that reports of state body

satisfaction and appearance self-esteem would not differ significantly across experimental conditions.

State body satisfaction. After excluding two cases that did not complete the BISS, the total *N* for the regression analysis was 90. To account for their demonstrated relationships with the dependent variable, global trait self-esteem, depressive symptoms, and BMI were tested as covariates. Depressive symptoms did not significantly contribute as a covariate to the model ($p = .199$), and thus was removed from subsequent analysis (refer to Table 26 for a summary of the final model).

Table 26.

Final Regression Model for State Body Satisfaction (N = 90)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.58	0.34	(Constant)	5.40	0.12	-	43.33	.000	5.16	5.65
			RSES	0.16	0.02	0.55	6.34	.000	0.11	0.20
			BMI	-0.04	0.02	-0.17	-2.00	.049	-0.07	0.00
2	0.63	0.39	(Constant)	5.52	0.17	-	32.96	.000	5.19	5.86
			RSES	0.14	0.03	0.49	5.27	.000	0.09	0.19
			BMI	-0.04	0.02	-0.17	-2.01	.048	-0.07	0.00
			BWCSWS	-0.27	0.11	-0.23	-2.49	.015	-0.48	-0.05
			Condition	-0.27	0.25	-0.09	-1.09	.280	-0.76	0.22
3	0.63	0.39	(Constant)	5.52	0.17	-	32.62	.000	5.19	5.86
			RSES	0.14	0.03	0.49	5.24	.000	0.08	0.19
			BMI	-0.04	0.02	-0.17	-2.00	.049	-0.07	0.00
			BWCSWS	-0.27	0.17	-0.23	-1.56	.122	-0.61	0.07
			Condition	-0.27	0.25	-0.09	-1.08	.283	-0.77	0.23
			BWCSWS x Condition	-0.00	0.21	-0.00	-0.01	.993	-0.42	0.42

Note. Dependent variable: Body image States Scale (BISS)
RSES = Rosenberg Self-Esteem Scale; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(2,87) = 22.33$, $p < .001$, and accounted for 33.92% of the variance in state body satisfaction. At this step, global trait self-esteem

significantly contributed to the model, β = 0.55, $t(89) = 6.34$, $p < .001$, with participants who scored higher on this variable reporting greater state body satisfaction. BMI also contributed significantly, β = -0.17, $t(89) = -2.00$, $p = .049$, with those with higher BMIs reporting lower state body satisfaction.

In Step 2, adding body weight contingent self-worth and experimental condition significantly improved the prediction of state body satisfaction, $\Delta F(2,85) = 3.54$, $p = .033$, accounting for an additional 5.08% of the variance. Body weight contingent self-worth significantly contributed, β = -0.23, $t(89) = -2.49$, $p = .015$, with participants who scored higher on this variable reporting lower state body satisfaction. Conversely, experimental condition was not significant, β = -0.09, $t(89) = -1.09$, $p = .280$. The squared partial correlation between experimental condition and state body satisfaction was $r^2 = .01$, which is a small effect size (Cohen, 1988).

Contrary to predictions, the interaction term was not significant, $\beta = -1.31^{-3}$, $t(89) = -0.01$, $p = .993$, and its addition to the model did not significantly improve the prediction of state body satisfaction, $\Delta F(1,84) = 8.60^{-5}$, $p = .993$, accounting for an additional 6.28^{-7}% of the variance. As depicted in Figure 9, simple slopes analysis showed that there were no significant differences in state body satisfaction between conditions for women with higher ($M + 1SD$) body weight contingent self-worth, $t(89) = -0.77$, $p = .443$, or for women with lower ($M - 1SD$) body weight contingent self-worth, $t(89) = -0.74$, $p = .464$. The effect size of the correlation between the interaction term and state body satisfaction was $r^2 < .01$, which is a negligible effect size (Cohen, 1988). The complete model accounted for 39.01 % of the variance in state body satisfaction.

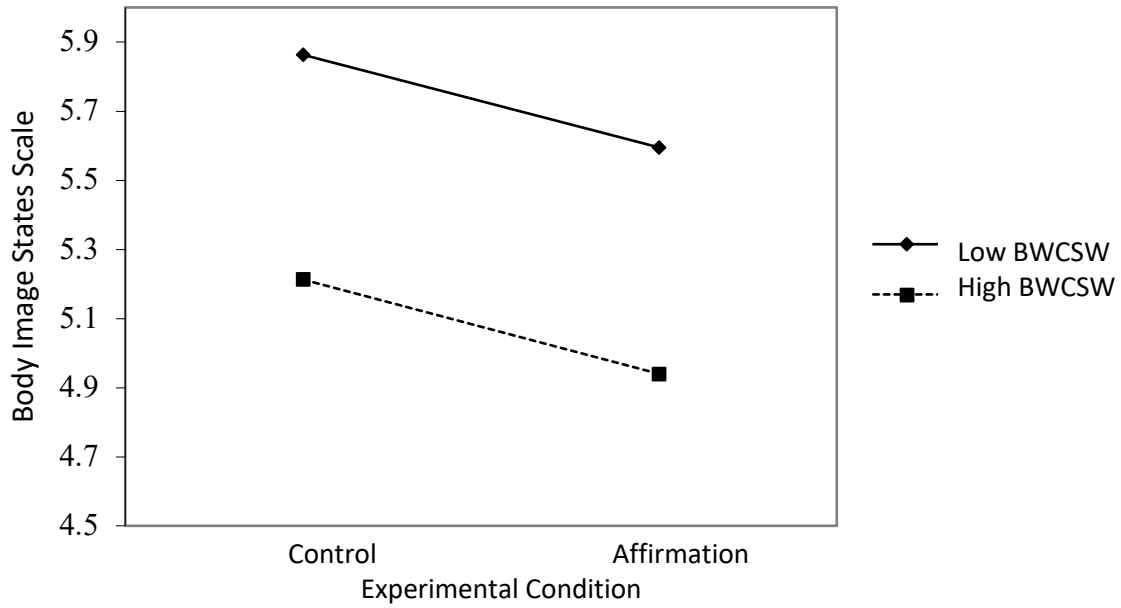

Figure 9. Effect of experimental condition on state body satisfaction at low and high levels of body weight contingent self-worth.

State appearance self-esteem. After excluding two cases that did not complete the SSES, the total *N* for the regression analysis was 90. To account for their demonstrated relationships with the dependent variable, global trait self-esteem, depressive symptoms, and BMI were included as significant covariates (refer to Table 27 for a summary of the final model).

Table 27

Final Regression Model for State Appearance Self-Esteem (N = 90)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.69	0.47	(Constant)	20.13	0.40	-	50.31	.000	19.22	20.80
			RSES	0.37	0.10	0.37	3.55	.001	0.16	0.58
			BDI	-0.21	0.07	-0.33	-3.16	.002	-0.34	-0.08
			BMI	-0.15	0.06	-0.21	-2.65	.010	-0.27	-0.04
2	0.74	0.54	(Constant)	20.76	0.52	-	40.14	.000	19.73	21.76
			RSES	0.35	0.10	0.35	3.45	.001	0.15	0.55
			BDI	-0.18	0.06	-0.28	-2.75	.007	-0.30	-0.05
			BMI	-0.15	0.05	-0.21	-2.83	.006	-0.26	-0.05
			BWCSWS	-1.03	0.34	-0.25	-3.05	.003	-1.70	-0.36
			Condition	-1.65	0.75	-0.16	-2.16	.034	-3.17	-0.13
3	0.74	0.54	(Constant)	20.75	0.52	-	39.72	.000	19.71	21.79
			RSES	0.34	0.10	0.35	3.34	.001	0.14	0.55
			BDI	-0.18	0.07	-0.28	2.72	.008	-0.31	-0.05
			BMI	-0.15	0.05	-0.21	-2.81	.006	-0.26	-0.05
			BWCSWS	-0.96	0.54	-0.23	-1.75	.083	-2.04	0.13
			Condition	-1.65	0.77	-0.16	-2.14	.035	-3.18	-0.12
			BWCSWS x Condition	-0.12	0.66	-0.02	-0.18	.862	-1.43	1.20

Note. Dependent variable: State Self-Esteem Scale-Physical Appearance subscale (SSES-Appearance) RSES = Rosenberg Self-Esteem Scale; BDI = Beck Depression Inventory; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(3,86) = 25.41$, $p < .001$, and accounted for 46.99% of the variance in state appearance self-esteem. At this step, global trait self-esteem significantly contributed, $\beta = 0.37$, $t(89) = 3.55$, $p < .001$, with participants who scored higher on this variable reporting greater state appearance self-esteem. Depressive symptoms contributed significantly, $\beta = -0.33$, $t(89) = -3.16$, $p = .002$, with those with depressive symptoms reporting lower state appearance self-esteem. BMI also contributed significantly to the model, $\beta = -0.21$, $t(89) = -2.65$, $p = .010$, with those with higher BMIs reporting lower state appearance self-esteem.

In Step 2, adding body weight contingent self-worth and experimental condition significantly improved the prediction of state appearance self-esteem, $\Delta F(2,84) = 6.62$, $p < .001$, accounting for an additional 7.22% of the variance. Body weight contingent self-worth significantly contributed, $\beta = -0.25$, $t(39) = -3.05$, $p = .003$, with participants who scored higher on this variable reporting lower state appearance self-esteem. Experimental condition also was significant, $\beta = -0.16$, $t(89) = -2.16$, $p = .034$, such that participants in the self-affirmation condition reported significantly lower state appearance self-esteem than did those in the control condition. The squared partial correlation between experimental condition and state appearance self-esteem was $r^2 = .05$, which is a small to medium effect size (Cohen, 1988).

Contrary to predictions, the interaction term was not significant, $\beta = -0.02$, $t(89) = -0.18$, $p = .862$, and its addition to the model did not significantly improve the prediction of state appearance self-esteem, $\Delta F(1,83) = 0.03$, $p = .862$, accounting for an additional 0.02% of the variance. As depicted in Figure 10, simple slopes analysis showed that there were no significant differences in state appearance self-esteem between conditions for women with higher ($M + 1SD$) body weight contingent self-worth, $t(89) = -1.63$, $p = .107$, or for women with lower (M - 1SD) body weight contingent self-worth, $t(89) = -1.33$, $p = .188$. The effect size of the correlation between the interaction term and state appearance self-esteem was $r^2 < .01$, which is a negligible effect size (Cohen, 1988). The complete model accounted for 54.22% of the variance in state appearance self-esteem.

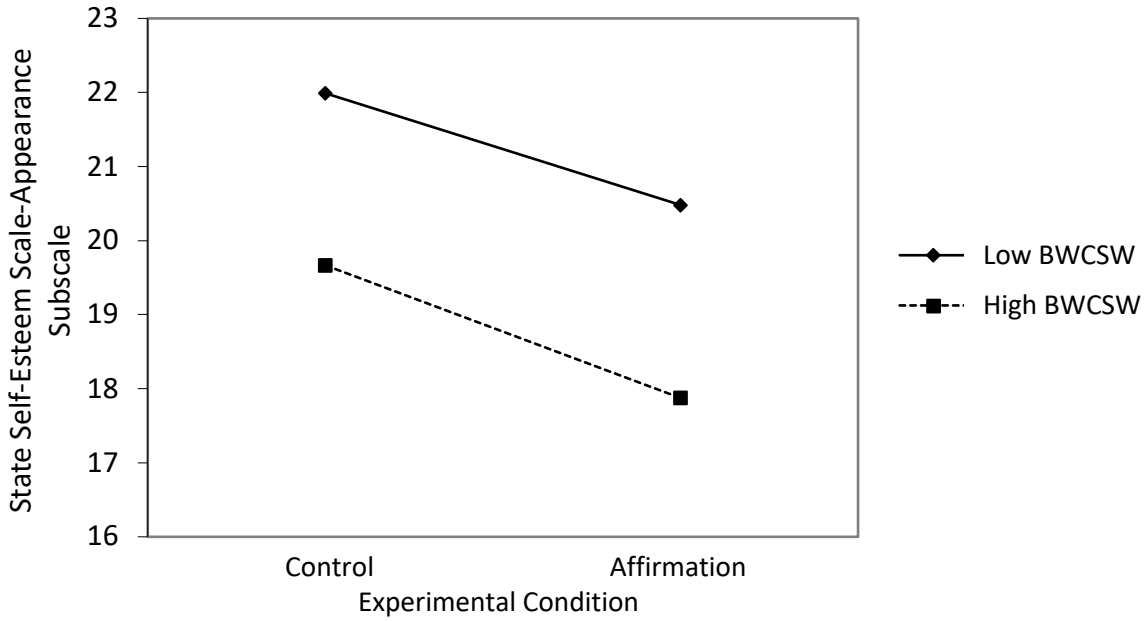

Figure 10. Effect of experimental condition on state appearance self-esteem at low and high levels of body weight contingent self-worth.

Implicit Weight Identity

Hypothesis 2.1.2. The next regression examined predictors of implicit weight identity, as measured by the IAT effect difference score (*D*). It was predicted that following exposure to rejection, body weight contingent self-worth would moderate the impact of kindness self-affirmations on implicit weight identity, such that women higher in body weight contingent self-worth who self-affirmed the value of kindness would demonstrate significantly lower implicit fat identity, indicated by significantly faster implicit associations between *self* and *thin* relative to *self* and *fat* (i.e., more negative *D* scores), than would their unaffirmed counterparts. Among women with lower body weight contingent self-worth, it was expected that implicit weight identity would not differ significantly across experimental conditions.

A total of 21 participants who did not complete the IAT were excluded from this analysis, and the total *N* for the regression was 71. To account for their potential relationships with the dependent variable, global trait self-esteem, depressive symptoms, and BMI were tested as covariates. Global trait self-esteem ($p = .992$) and depressive symptoms ($p = .267$) did not significantly contribute to the model, and thus was removed from subsequent analysis (refer to Table 28 for a summary of the final model).

Table 28

Final Regression Model for Implicit Weight Identity (N = 71)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.48	0.23	(Constant)	-0.41	0.03	-	-10.73	.000	-0.48	-0.33
			BMI	0.02	0.08	0.48	4.51	.000	0.01	0.03
2	0.48	0.23	(Constant)	-0.38	0.05	-	-7.21	.000	-0.49	-0.28
			BMI	0.02	0.01	0.48	4.46	.000	0.01	0.03
			BWCSWS	-0.02	0.03	-0.05	-0.48	.636	-0.08	0.05
			Condition	-0.05	0.08	-0.07	-0.66	.514	-0.20	0.10
3	0.52	0.27	(Constant)	-0.40	0.05	-	-7.50	.000	-0.50	-0.29
			BMI	0.02	0.01	0.48	4.52	.000	0.01	0.03
			BWCSWS	0.06	0.05	0.19	1.08	.284	-0.05	0.16
			Condition	-0.04	0.08	-0.05	-0.47	.643	-0.19	0.12
			BWCSWS x Condition	-0.22	0.06	-0.30	-1.72	.091	-0.24	0.02

Note. Dependent variable: IAT effect difference score (*D*), with greater positive scores reflecting associations between Fat + Self (and/or Thin + Other) and more negative scores reflecting associations between Thin + Self (and/or Fat + Other)
BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(1,69) = 20.35$, $p < .001$, and accounted for 22.77% of the variance in implicit weight identity. At this step, BMI contributed significantly, $\beta = 0.48$, $t(70) = 4.51$, $p < .001$, with the responses of those with higher BMIs indicating greater levels of implicit fat identity.

In Step 2, adding body weight contingent self-worth and experimental condition did not significantly improve the prediction of implicit weight identity, $\Delta F(2, 67) = 0.30$, $p = .746$, accounting for an additional 0.67% of the variance. Body weight contingent self-worth did not significantly contribute, $\beta = -0.05$, $t(70) = -0.48$, $p = .636$, and the addition of experimental condition also was not significant, $\beta = -0.07$, $t(70) = -0.66$, $p = .514$. The squared partial correlation between experimental condition and implicit weight identity was $r^2 = .01$, which is a small effect size (Cohen, 1988).

The interaction term was not significant, $\beta = -0.30$, $t(70) = -1.72$, $p = .091$, and its addition to the model did not significantly improve the prediction of implicit weight identity, $\Delta F(1,66) = 2.94$, $p = .091$, accounting for an additional 3.27% of the variance. As depicted in Figure 11, simple slopes analysis showed that there were no significant differences in implicit weight identity between conditions for women with lower (M - 1SD) body weight contingent self-worth, $t(71) = 0.80$, $p = .425$. Consistent with predictions, however, women with higher (M + 1SD) body weight contingent self-worth demonstrated lower implicit fat self-identity (or greater implicit thin other identity) in the affirmation condition relative to control, though this difference did not reach statistical significance, $t(71) = -1.69$, $p = .096$. The effect size of the correlation between the interaction term and implicit weight identity was $r^2 = .04$, which is a small to medium effect size (Cohen, 1988). The complete model accounted for 26.71% of the variance in implicit weight identity.

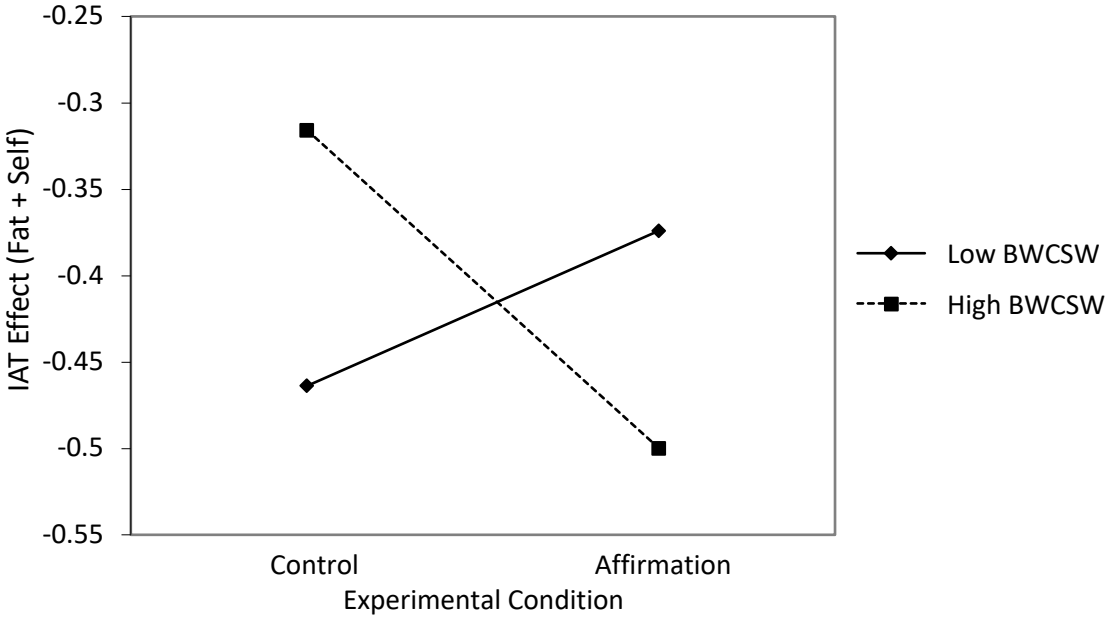

Figure 11. Effect of experimental condition on state appearance self-esteem at low and high levels of body weight contingent self-worth.

Eating Behaviour

Hypotheses 2.1.3 and 2.1.4. The next regression examined predictors of eating behavior, as measured by amount of candy consumed. In hypothesis 2.1.3., it was predicted that following exposure to rejection, women in the kindness self-affirmation condition would eat significantly less than would those who were unaffirmed. In hypothesis 2.1.4., it was predicted that following exposure to rejection, body weight contingent self-worth would moderate the impact of kindness self-affirmations on eating behavior. Specifically, it was expected that women higher in body weight contingent self-worth who self-affirmed the value of kindness would eat significantly more than would their unaffirmed counterparts. It was predicted that women with lower body weight contingent self-worth who self-affirmed the value of kindness would eat significantly less than those who were unaffirmed.

Three participants who reported allergies to ingredients contained in M&M® candies during the laboratory portion of the study and one participant without final candy weight data were excluded from this analysis, and the total *N* for the regression was 88. To account for their relationships with the dependent variable, BMI and dietary restraint were tested as covariates. Neither BMI (p = .431) nor dietary restraint (p = .969) contributed significantly, and thus both were removed from subsequent analysis (refer to Table 29 for a summary of the final model).

Table 29

Final Regression Model for Candy Consumed (N = 88)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.10	0.01	(Constant)	29.58	3.56	-	8.31	.000	22.50	36.66
			BWCSWS	2.08	2.17	0.10	0.96	.342	-2.24	6.39
			Condition	0.43	5.03	0.01	0.08	.935	-10.11	10.97
2	0.13	0.02	(Constant)	29.88	3.59	-	8.32	.000	22.74	37.02
			BWCSWS	-0.03	3.55	-0.00	-0.01	.994	-7.08	7.02
			Condition	0.33	5.32	0.01	0.06	.951	-10.25	10.90
			BWCSWS x Condition	3.38	4.49	0.13	0.75	.454	-5.56	12.31

Note. Dependent variable: Candy consumed (g)
BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was not significant, $F(1,85) = 0.48$, p = .635, accounting for 1.06% of the variance in candy consumed. Body weight contingent self-worth did not significantly contribute to the model, β = 0.10, $t(87) = 0.96$, p = .342. Contrary to predictions, experimental condition also was not significant, β = 0.01, $t(87) = 0.08$, p = .935. The squared partial correlation between experimental condition and candy consumed was $r^2 < .01$, which is a negligible effect size (Cohen, 1988).

Contrary to predictions, the interaction term was not significant, β = 0.13, $t(87) = 0.75$, p = .454, and its addition to the model did not significantly improve the prediction

of candy consumed, $\Delta F(1,84) = 0.07$, $p = .454$, accounting for an additional 0.66% of the variance. As depicted in Figure 12, simple slopes analysis showed that there were no significant differences in candy consumed between conditions for women with higher (M + 1SD) body weight contingent self-worth, $t(87) = 0.59$, $p = .555$, or for women with lower (M - 1SD) body weight contingent self-worth, $t(137) = -0.49$, $p = .626$ (see Study 2 "Descriptives" for mean candy consumed in each condition). The effect size of the correlation between the interaction term and candy consumed was $r^2 = .01$, which is a small effect size (Cohen, 1988). The complete model accounted for 1.72% of the variance in candy consumed.

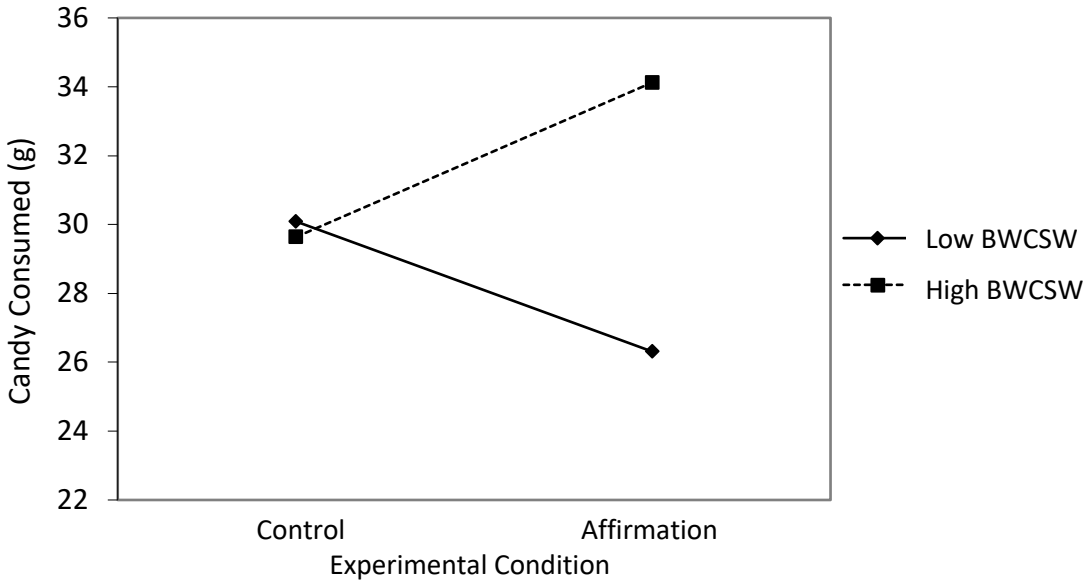

Figure 12. Effect of experimental condition on candy consumed at low and high levels of body weight contingent self-worth.

State Social Self-Esteem

Hypothesis 2.2.1. The next regression examined predictors of state social self-esteem. It was hypothesised that following exposure to rejection, women in the kindness

affirmation condition would demonstrate significantly greater state social self-esteem than would those who were unaffirmed.

After excluding two cases that did not complete the SSES, the total *N* for the regression analysis was 90. To account for their demonstrated relationships with the dependent variable, global trait self-esteem and depressive symptoms were included as significant covariates (refer to Table 30 for a summary of the final model).

Table 30

Final Regression Model for State Social Self-Esteem (N = 90)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.55	0.30	(Constant)	25.18	0.53	-	49.22	.000	24.77	26.86
			RSES	0.39	0.14	0.34	2.85	.005	0.12	0.67
			BDI	-0.19	0.09	-0.26	-2.15	.034	-0.36	-0.14
2	0.58	0.34	(Constant)	26.91	0.71	-	38.00	.000	25.50	28.31
			RSES	0.43	0.14	0.38	3.19	.002	0.16	0.70
			BDI	-0.19	0.09	-0.26	-2.21	.030	-0.36	-0.02
			Condition	-2.34	1.05	-0.20	-2.23	.028	-4.42	-0.26

Note. Dependent variable: State Self-Esteem Scale-Social subscale (SSES-Social)
RSES = Rosenberg Self-Esteem Scale; BDI = Beck Depression Inventory; Condition = experimental condition (self-affirmation vs. control)

Step 1 of the model was significant, $F(2,87) = 18.85$, $p < .001$, and accounted for 30.23% of the variance in state social self-esteem. At this step, global trait self-esteem significantly contributed, $\beta = 0.34$, $t(89) = 2.85$, $p = .005$, with participants who scored higher on this variable reporting greater levels of state social self-esteem. Depressive symptoms also contributed significantly, $\beta = -0.26$, $t(89) = -2.15$, $p = .034$, with those with greater depressive symptoms reporting lower levels of state social self-esteem.

In Step 2, the addition of experimental condition was significant, $\beta = -0.20$, $t(89) = -2.23$, $p = .028$. Its inclusion in the final step of the model significantly improved the prediction of state social self-esteem, $\Delta F(1,86) = 4.99$, $p = .028$, accounting for an additional 3.83% of the variance. Contrary to predictions, participants in the self-affirmation condition reported significantly lower levels of state social self-esteem, relative to their unaffirmed counterparts (refer to Figure 13). The squared partial correlation between experimental condition and state social self-esteem was $r^2 = .05$, which is a small to medium effect size (Cohen, 1988). The complete model accounted for 34.06% of the variance in state social self-esteem.

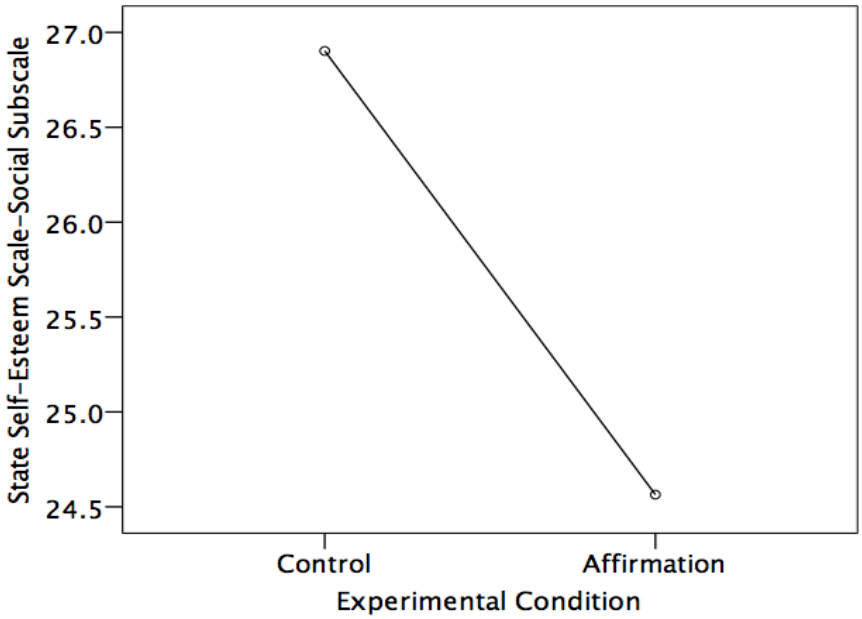

Figure 13. Effect of experimental condition on state social self-esteem.

Shape- and Weight-Based Self-Esteem

Hypothesis 2.2.2. The final regression examined predictors on shape- and weight-based self-esteem. It was predicted that following exposure to rejection, body weight contingent self-worth would moderate the impact of kindness self-affirmations on reliance on body shape and weight as a source of self-esteem, such that women higher in body weight contingent self-worth who self-affirmed the value of kindness would derive a smaller proportion of self-esteem from body shape and weight relative to other domains, than would their unaffirmed counterparts. Among women with lower body weight contingent self-worth, it was predicted that the proportion of self-esteem derived from body weight would not significantly differ across experimental conditions.

As one participant who did not complete the SAWBS was excluded from this analysis, the total *N* for the regression was 91. To account for their potential relationships with the dependent variable, global trait self-esteem, depressive symptoms, and BMI were tested as covariates. Global trait self-esteem (p = .992) and BMI (p

= .267) did not significantly contribute to the model, and thus was removed from subsequent analysis (refer to Table 31 for a summary of the final model).

Table 31

Final Regression Model for Shape- and weight-based Self-Esteem (N = 91)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.26	0.07	(Constant)	37.06	3.15	-	11.77	.000	30.80	43.32
			BDI	0.99	0.39	0.26	2.54	.013	0.21	1.76
2	0.54	0.29	(Constant)	40.80	3.82	-	10.70	.000	33.22	48.38
			BDI	0.29	0.37	0.08	0.78	.440	-0.45	1.02
			BWCSWS	11.90	2.47	0.47	4.82	.000	6.99	16.82
			Condition	-7.90	5.65	-0.13	-1.40	.164	-19.15	3.30
3	0.55	0.30	(Constant)	40.26	3.81	-	10.57	.000	32.68	47.83
			BDI	0.23	0.37	0.06	0.62	.535	-0.51	0.97
			BWCSWS	16.38	3.98	0.65	4.12	.000	8.48	24.29
			Condition	-7.85	5.62	-0.13	-1.40	.166	-19.01	3.31
			BWCSWS x Condition	-6.87	4.80	-0.22	-1.43	.156	-16.41	2.66

Note. Dependent variable: Shape and Weight Based Self-Esteem Inventory (SAWBS)
BDI = Beck Depression Inventory-II; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Step 1 of the model was significant, $F(1, 89) = 6.43$, $p = .013$, and accounted for 6.73% of the variance in shape- and weight-based self-esteem. At this step, depressive symptoms contributed significantly, $\beta = 0.26$, $t(90) = 2.54$, $p = .013$, with the responses of those with higher depressive symptoms indicating greater shape- and weight-based self-esteem.

In Step 2, adding body weight contingent self-worth and experimental condition significantly improved the prediction of shape- and weight-based self-esteem, $\Delta F(2, 87) = 13.31$, $p < .001$, accounting for an additional 21.85% of the variance. Body weight contingent self-worth significantly contributed, $\beta = 0.47$, $t(90) = 4.82$, $p < .001$, such that those with higher body weight contingent self-worth reported greater levels of shape- and

weight-based self-esteem. Experimental condition was not significant, β = -0.13, $t(90) = -1.40$, $p = .164$. The squared partial correlation between experimental condition and shape- and weight-based self-esteem was $r^2 = .02$, which is a small to medium effect size (Cohen, 1988).

The interaction term was not significant, β = -0.22, $t(90) = -1.43$, $p = .156$, and its addition to the model did not significantly improve the prediction of shape- and weight-based self-esteem, $\Delta F(1,86) = 2.05$, $p = .156$, accounting for an additional 1.67% of the variance. Whereas simple slopes analysis showed that there were no significant differences in shape- and weight-based self-esteem between conditions for women with lower (*M* - 1SD) body weight contingent self-worth, $t(91) = 0.07$, $p = .941$, there were significant differences between conditions for women with higher (*M* + 1*SD*) body weight contingent self-worth, $t(90) = -2.01$, $p = .047$. Consistent with predictions, for women with higher body weight contingent self-worth, those in the self-affirmation condition reported significantly lower levels of shape- and weight-based self-esteem relative to control (refer to Figure 14). The effect size of the correlation between the interaction term and shape- and weight-based self-esteem was $r^2 = .02$, which is a small to medium effect size (Cohen, 1988). The complete model accounted for 30.25% of the variance in shape- and weight-based self-esteem.

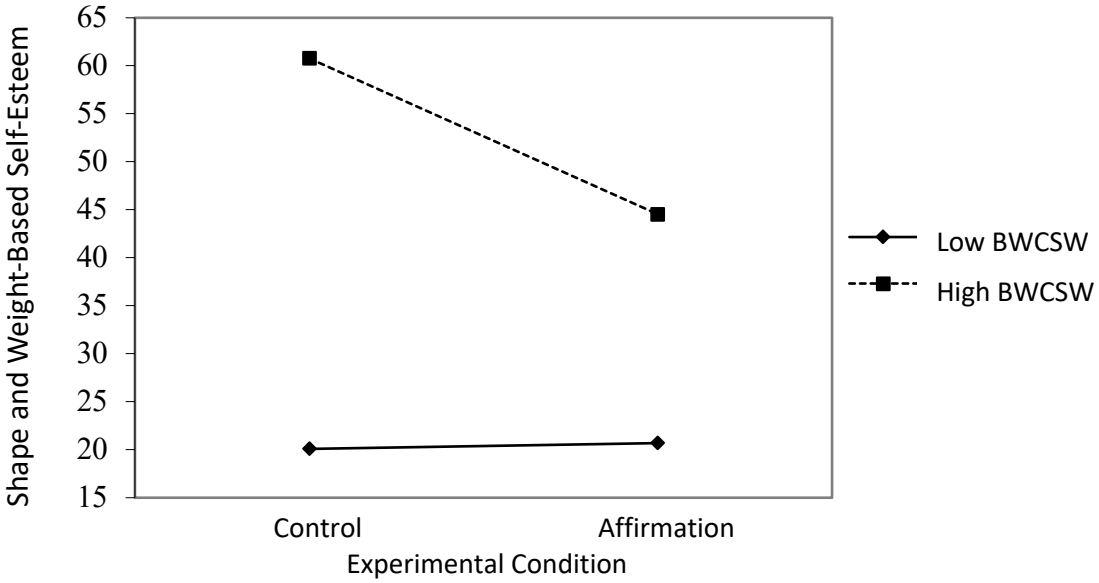

Figure 14. Effect of experimental condition on shape- and weight-based self-esteem at low and high levels of body weight contingent self-worth.

Content Analysis

Additional analyses were conducted to determine whether participants' level of domain-specific contingent self-worth was related to the likelihood of writing about appearance-related acts of kindness in the self-affirmation condition. As discussed, participants in the self-affirmation condition were asked to reflect upon, and write about, their own past acts of kindness. The content of these narratives was coded by the principal investigator regarding whether participants referred to physical appearance in their kindness narratives (coded 0 = no mention of appearance, 1 = mention of appearance). Of those in the self-affirmation condition, three participants (6.98%) wrote about kindness acts related to physical appearance (e.g., helping someone find an effective beauty product, intentionally not pointing out others' physical insecurities, complimenting another person on their appearance), whereas 40 participants (93.02%) wrote about kindness acts unrelated to appearance (e.g., volunteering at a homeless

shelter, forgiving someone for a past transgression, cancelling plans to help another person). A series of chi-square analyses were conducted to determine whether those who mentioned appearance acts of kindness and those who did not differed according to whether they were high or low (determined by a median split) on each of the contingencies of self-worth. Results indicated that there was no significant association between level of any of the contingent self-worth domains and writing about appearance-related acts of kindness ($ps < .115$). This indicates that that those with high levels of any of the domain-specific contingencies of self-worth were not more likely to write about appearance-related acts of kindness compared to those with low levels of domain-specific contingent self-worth.

Exploratory Analyses

To follow-up on results from Study 1, in which virtue contingent self-worth had unexpected interactive effects with rejection on state appearance self-esteem and eating behaviour, supplementary analyses were conducted to determine whether virtue contingent self-worth moderated the effects of self-affirmation on any of the dependent variables of interest in this study. A series of analyses were conducted on state appearance self-esteem, state body satisfaction, implicit weight identity, and shape- and weight-based self-esteem, using virtue contingent self-worth and experimental condition as predictors.

To test the significance of moderation effects, the significant covariate variables, the independent variable (experimental condition: self-affirmation versus control), and the moderator variable (BWCSWS), as well as the interaction term variables were entered into the regression equation in a hierarchical fashion (Baron & Kenny, 1986; Holmbeck, 1997). Specifically, significant covariate variables were entered in the first step, the main

effects represented by the independent variable (coded as 1 = affirmation, 0 = control) and the moderator variable were entered in the second step, and the interaction term (CSWS-Virtue x experimental condition) was entered in the final step of the model. Each dependent variable, state appearance self-esteem (SSES-Appearance), state body satisfaction (BISS), implicit weight identity (IAT-Fat + Self), eating behavior (candy consumed), and shape- and weight-based self-esteem (SAWBS) was separately regressed on this equation. The continuous moderator and covariate variables were centred prior to analysis (Aiken & West, 1991). Interaction effects were examined using simple slopes analysis (Aiken & West, 1991; Dawson, 2014). An alpha level of $p < .05$ was adopted for all data analyses.

In total, two people who did not complete the BISS and the SSES were removed from analyses for state body satisfaction and state appearance self-esteem (*N*s = 90); 21 participants who did not complete the IAT were removed from the analysis for implicit weight identity ($N = 71$); three participants who reported allergies to M&M® candies and one participant without final candy weight data were excluded from the analysis for eating behavior ($N = 88$); and one participant who did not complete the SAWBS was excluded from this analysis ($N = 91$). To account for their demonstrated relationships with the dependent variables of interest, BMI, depressive symptoms, and global trait self-esteem were tested as covariates for state body satisfaction, state appearance self-esteem, implicit weight identity, and shape- and weight-based self-esteem. BMI and dietary restraint were tested as covariates for candy consumed. BMI was removed from the models for candy consumed ($p = .449$) and shape- and weight-based self-esteem ($p = .140$); depressive symptoms was removed as a nonsignificant covariate for body satisfaction ($p = .373$) and implicit weight identity ($p = .373$); global trait self-esteem did

not contribute as a covariate for implicit weigh identity (p = .992) or shape- and weight-based self-esteem (p = .628); and dietary restraint was not a significant covariate for candy consumed (p = .964).

As depicted in Table 32, results revealed that no significant interaction effects between experimental condition and virtue contingent self-worth were detected for state body satisfaction, state appearance self-esteem, implicit weight identity, candy consumed, or shape- and weight-based self-esteem (ps > .127). Furthermore, simple slopes analysis showed that there were no significant differences on the dependent variables between conditions at lower (M - 1SD) or higher (M +1SD) levels of virtue contingent self-worth (ps > .392), with the exception of a significant effect for women with higher virtue contingent self-worth on state appearance self-esteem, as well as a near significant effect of this variable on shape- and weight-based self-esteem, as described below.

Table 32

Virtue CSW x Condition as Predictors of Body Image Evaluation Variables

								95% CI	
Dependent variable	*N*	*b*	*SE b*	β	*t*	*Sig.*	r^2	Min	Max
BISS	90	-0.53	0.35	-0.19	-1.54	.127	.03	-1.22	0.16
SSES-Appearance	90	-0.35	1.10	-0.14	-1.22	.225	.02	-3.55	0.85
IAT-Fat + Self	71	-0.02	0.10	-0.02	-0.15	.884	.00	-0.22	0.19
Candy consumed	88	8.58	7.27	0.18	1.18	.241	.02	-5.89	23.05
SAWBS	91	-6.86	5.14	-0.11	1.24	.217	.02	-17.82	4.11

Note. Predictor variable: Contingencies of Self-Worth Scale-Virtue subscale (CSWS-Virtue) x Condition (self-affirmation vs. control)
Dependent variables: Body Image States Scale (BISS), controlling for Body Mass Index (BMI) and Rosenberg State Self Esteem Scale (RSES); State Self-Esteem Scale-Appearance subscale (SSES-Appearance), controlling for Beck Depression Inventory-II (BDI-II), Body Mass Index (BMI), and Rosenberg State Self Esteem Scale (RSES); IAT effect difference score (*D*), with greater positive scores reflecting associations between Fat + Self (and/or Thin + Other) and more negative scores reflecting associations between Thin + Self (and/or Fat + Other), controlling for Body Mass Index (BMI); Candy consumed (g); Shape and Weight Based Self-Esteem Inventory (SAWBS), controlling for Beck Depression Inventory-II (BDI-II).

For state appearance self-esteem, the interaction term between virtue contingent self-worth and condition was not significant, β = -1.35, $t(90) = -1.22$, $p = .225$, and its addition to the model did not significantly improve the prediction of this variable, $\Delta F(1,83) = 1.50$, $p = .225$, accounting for 0.90% of the variance. Simple slopes analysis (refer to Figure 15), revealed that state appearance self-esteem did not differ significantly between conditions for women with lower (M - 1SD) virtue contingent self-worth, $t(89) = -0.45$, $p = .651$. However, for women with higher (M + 1SD) virtue contingent self-worth, women in the self-affirmation condition reported significantly lower levels of state appearance self-esteem relative to control, $t(89) = -2.20$, $p = .030$. The effect size of the correlation between the interaction term and state appearance self-esteem was $r^2 = .02$, which is a small to medium effect size (Cohen, 1988). The complete model accounted for 50.04% of the variance in state appearance self-esteem.

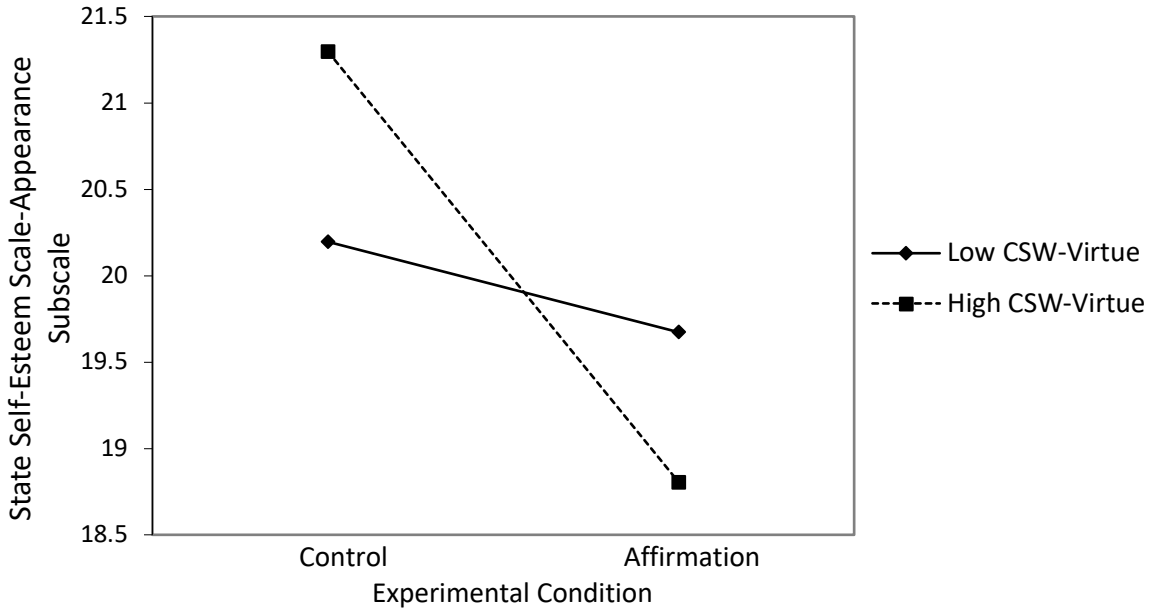

Figure 15. Effect of experimental condition on state appearance self-esteem at low and high levels of virtue contingent self-worth.

For shape- and weight-based self-esteem, the interaction term between virtue contingent self-worth and condition was not significant, β = -6.86, $t(90) = -1.24$, $p = .217$, and its addition to the model did not significantly improve the prediction of this variable, $\Delta F(1,86) = 1.55$, $p = .217$, accounting for 1.26% of the variance. Simple slopes analysis (refer to Figure 16) revealed that shape- and weight-based self-esteem did not differ significantly between conditions for women with lower (M - 1SD) virtue contingent self-worth, $t(90) = 0.05$, $p = .961$. However, for women with higher (M + 1SD) virtue contingent self-worth, there was a near significant effect, $t(90) = -1.86$, $p = .067$, such that women in the self-affirmation condition reported lower levels of shape- and weight-based self-esteem relative to control. The effect size of the correlation between the interaction term and shape- and weight-based self-esteem was $r^2 = .02$,

which is a small to medium effect size (Cohen, 1988). The complete model accounted for 29.85% of the variance in shape- and weight-based self-esteem.

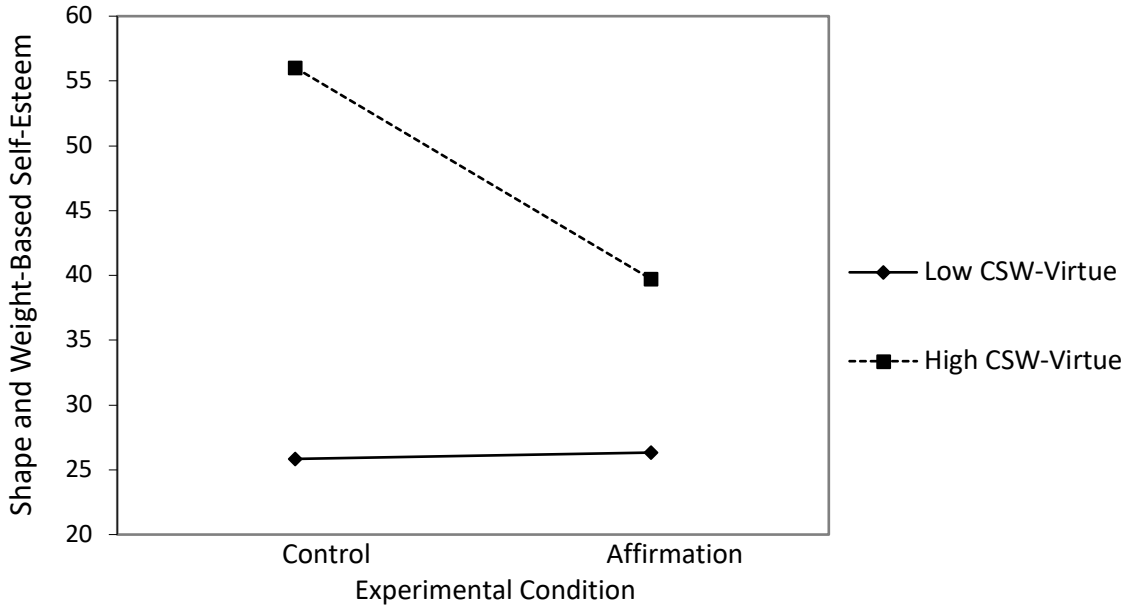

Figure 16. Effect of experimental condition on shape- and weight-based self-esteem at low and high levels of virtue contingent self-worth.

Discussion

The general purpose of Study 2 was to extend upon the research of O'Driscoll and Jarry (2015), by examining the effects of self-affirmation on the body image evaluations of women exposed to interpersonal rejection. The first aim was to further examine the defensive compensatory self-enhancement hypothesis suggested by O'Driscoll and Jarry (2015). As discussed, evidence suggests that belongingness threats are most effectively managed by self-affirming within social domains (Knowles et al., 2010), and research has shown that self-affirmation of intrinsic domains can reduce defensiveness (e.g., Schimel et al., 2004) and conformity with social standards (Arndt et al., 2002; Williams et al., 2014). It therefore was anticipated that affirming the intrinsic and relational value of

interpersonal kindness would help repair the effects of social threat on the body image evaluations of women whose self-worth is highly contingent on body weight, consequently reducing the need for these women to defensively self-enhance within the domain of body image. To test this proposition, this study examined the moderating role of body weight contingent self-worth in the impact of kindness self-affirmations following rejection on explicit and indirect measures of body image evaluation. The second aim of Study 2 was to investigate the possibility of additional positive effects of an intrinsic and relational self-affirmation on women's sense of self-worth. It was predicted that interpersonal kindness self-affirmations would help to ameliorate the impacts of rejection by improving women's state social self-esteem and reducing the extent to which self-worth is based on shape and weight relative to other domains for women whose self-worth is typically highly contingent on their body weight.

In this study, women with varying levels of body weight contingent self-worth were exposed to interpersonal rejection from peers. They then were assigned to either complete a self-affirmation task that required them to recall their own past acts of kindness, or to a control condition consisting of a neutral opinion survey. Participants subsequently completed explicit measures of body image evaluation (state body satisfaction and appearance self-esteem) and state social and performance self-esteem. Measures of implicit weight identity and eating behaviour also were administered. Participants additionally completed a measure of the proportion of self-esteem that they derived from shape and weight relative to other self-worth domains. Global trait self-esteem, depressive symptoms, restrained eating status, and BMI were tested as potential covariates, to account for their demonstrated association with the dependent variables (refer to Appendix X for a summary of hypotheses, statistical procedures, and results).

Self-Affirmation and Body Weight Contingency of Self-Worth

Taken together, results did not support the prediction that body weight contingent self-worth would moderate the impact of self-affirmation on explicit body image evaluations in women exposed to rejection. The nonsignificant interaction effects between experimental condition and body weight contingent self-worth on state body satisfaction and appearance self-esteem were unlikely due to a low sample size or insufficient power, given that the effect sizes were negligible. These null findings share a resemblance with those of Study 1, which demonstrated that the effect of rejection on explicit body image evaluation did not vary according to body weight contingent self-worth. Even though the kindness self-affirmation used in this study was selected to repair the impact of social threat, it remains a possibility that exposure to candy prior to completion of the remaining body-image related measures continued to pose an additional threat to the body image of women whose self-worth was based highly on their weight. For women with elevated body weight contingent self-worth and who were rejected but unaffirmed, this added threat may have intensified their body dissatisfaction and rendered the domain of body image an unavailable source for self-enhancement. Accordingly, for women with higher body weight contingent self-worth who were rejected and had the chance to self-affirm the value of kindness, this potential additional threat to their body image may also have diminished any reparative effects of self-affirmation on their explicit body image evaluations. Again, it should be noted that the exact effects of the presentation of candy on participants' body image evaluations could not definitively be determined, as all participants were presented with candy prior to administration of the remaining dependent variable measures.

Whereas women higher in body weight contingent self-worth did not differ in their explicit reports of state body satisfaction or appearance self-esteem depending on study conditions, results for implicit weight identity and eating behaviour revealed a pattern of results consistent with predictions. Specifically, women who based their self-worth highly on their weight and who were given the chance to self-affirm the value of interpersonal kindness following rejection felt marginally implicitly less fat and felt free to eat slightly more, than did those who were exposed to rejection but were left unaffirmed. Even though food cues likely continued to pose a threat to the body image domain for women with higher body weight contingent self-worth, thereby attenuating any positive impact of self-affirmation on their explicit body image evaluations, these results suggest that self-affirmation was effective at somewhat improving these women's body image on an implicit and automatic level. Although the overall interaction term for implicit weight identity and eating behaviour and the associated simple slopes for women with higher body weight contingent self-worth did not reach significance, a post-hoc power analysis (Faul et al., 2009) indicated that these analyses did not have enough power to detect significant effects for implicit weight identity (observed power = 0.42) or eating behaviour (observed power = 0.12). Though not statistically significant, the fact that the effect size was within the small to medium range for implicit weight identity and was considered small for eating behaviour points to the value of the results for these implicit and behavioural measures.

In addition to the prediction that self-affirmation would reduce defensiveness, body weight contingent self-worth was expected to moderate the impact of self-affirmation on shape- and weight-based self-esteem. Because contingencies of self-worth are suggested to represent contingencies of relational value (MacDonald & Leary, 2012), and are

theorised to reflect the domains in which people are most vulnerable to failure or rejection (Crocker, 2002a), it was posited that social threat would affect women with elevated body weight contingent self-worth most strongly within the self-important domain of body image. In addition, self-affirmation of alternative valued resources has been shown to reduce the extent to which people derive their self-esteem from the threatened domain (Armitage, 2012), by reminding them that their self-worth is not exclusively contingent on the domain under threat (Sherman & Hartson, 2011). It therefore was expected that self-affirming the alternative intrinsic and relational value of kindness would help to repair the impacts of rejection on the body image of women whose self-worth was highly contingent on their weight, thereby also reducing shape- and weight-based self-worth for these women. Consistent with these expectations, for women higher in body weight contingent self-worth, those who had the chance to self-affirm after experiencing rejection reported significantly lower shape- and weight-based self-esteem relative to other domains, in comparison to their rejected but unaffirmed counterparts. There was no significant effect of affirmation on shape- and weight-based self-esteem for women with lower body weight contingent self-worth. Though the overall interaction term was not statistically significant, a post-hoc power analysis (Faul et al., 2009) indicated that these analyses did not have enough power to detect a significant effect (observed power = 0.24) and the size of the effect was in the small to medium range. These results are consistent with Armitage (2012), who demonstrated that girls who were given the opportunity to affirm the value of kindness reported deriving a significantly smaller proportion of their self-esteem from shape and weight than did those who were not given the opportunity to self-affirm. Taken together, these findings lend support to the proposition that self-affirmation within an intrinsic and social

domain can have the beneficial effect of reducing the extent to which self-worth is based on an external and contingent domain such as body shape and weight.

In terms of the more general effects of self-affirmation, results revealed that women who self-affirmed after experiencing rejection reported significantly lower state social self-esteem than did those who were rejected but unaffirmed. Although this effect was inconsistent with the prediction that self-affirmation would have a positive impact on women's interpersonal self-worth, it suggests the possibility that the ego-protective effect of self-affirmation may have reduced the need for defensive attempts at self-esteem maintenance and allowed participants to respond more authentically. As previously described, research suggests that social affirmations help to repair the impact of social threat (Knowles et al., 2010), and that self-affirmations that focus on intrinsic aspects of the self reduce defensiveness (Schimel et al., 2004). It therefore is possible that self-affirmation of an intrinsic and social domain, such as interpersonal kindness, helped to restore women's overall self-integrity after experiencing social threat, thereby reducing defensiveness and allowing them to report on their genuine feelings about themselves. Furthermore, it has been posited that self-affirmations within the same domain as the threat can result in increased feelings of dissonance (Blanton et al., 1997; Stone & Cooper, 2003), due to the fact that that attempts to self-affirm within a domain that has just been threatened can magnify one's awareness of personal shortcomings in that domain (Knowles et al., 2010). Self-affirming within the domain of kindness following rejection may have also helped to draw additional attention to women's perceived interpersonal deficits, which was reflected in their responses on a measure of their state social self-esteem. Because this effect was relatively unexpected, it is apparent that

additional research on the effects of self-affirmation following social threat on various facets of self-esteem would be greatly informative.

Self-Affirmation and Virtue Contingency of Self-Worth

Given that Study 1 demonstrated that the impact of rejection on state appearance self-esteem and eating behaviour varied as a function of virtue contingent self-worth, supplementary analyses were conducted to determine whether this particular self-worth contingency would moderate the impacts of self-affirmation following rejection. Study 2 results revealed that, for women with higher virtue contingent self-worth, those who self-affirmed following rejection reported significantly lower state appearance self-esteem and slightly lower shape- and weight-based self-esteem than did their rejected but unaffirmed counterparts. Taken in combination with Study 1, these results suggest the possibility that the opportunity to repair the threat of rejection by affirming the value of kindness may have reduced the need for defensive compensatory self-enhancement for women who based their self-worth highly on virtue, therefore allowing for more genuine responding and lower reported appearance self-esteem. In addition to reducing what appeared to be appearance compensatory self-enhancement on explicit appearance self-esteem, the reparative effect of self-affirmation also seemed to have reduced any associated need for these women to invest in the domain of appearance in order to maintain their self-worth. It should be noted that the overall interaction term did not reach significance for either state appearance self-esteem or shape- and weight-based self-worth, and the simple slope for higher virtue contingent self-worth on shape- and weight-based self-worth reached only marginal significance. However, a post-hoc power analysis (Faul et al., 2009) indicated that the sample size was not sufficient to detect significant effects for state appearance self-esteem (observed power = 0.25) or shape- and weight-based self-esteem

(observed power = 0.24). That both effect sizes fell in the small to medium range suggests that these effects are likely meaningful. Given the potential association between these results and those from Study 1, these findings will be examined further in the General Discussion.

Strengths and Limitations

Several of the strengths pertaining to Study 1 apply to Study 2. These strengths include the use of an in vivo rejection manipulation and of a neutral nonaffirmation control group. An additional unique strength of this study pertains to the self-affirmation manipulation, which allowed participants to reflect and elaborate on their own experiences of interpersonal kindness. Manipulation checks indicated that participants who wrote about past acts of kindness in this study felt that the writing task was relatively more meaningful compared to those who wrote about neutral topics; however, there were no differences between experimental conditions in terms of how positively participants rated themselves. A review of the research on the effects of self-affirmation manipulations on mood has shown mixed results, with some studies reporting lower mood ratings following self-affirmation and other studies indicating that affirmation improved affect (refer to review by McQueen & Klein, 2006).

Research suggests that the impact of self-affirmation varies according to the type of manipulation administered (McQueen and Klein, 2006). As noted by McQueen and Klein (2006), it may be preferable to allow participants to choose a highly-valued personal attributes on which to self-affirm. According to Steele's (1988) principle of fluid compensation, individuals can effectively compensate for threats to one domain by self-affirming within any alternative domain. Furthermore, because self-affirmation theory states that individuals tend to self-affirm within domains that are the most salient

and available (Sherman & Cohen, 2006; Steele, 1988), and given the centrality of contingencies of self-worth to self-esteem (Crocker & Wolfe, 2001), it may be posited that individuals would choose to self-affirm within the domains on which their self-worth is most contingent. Though a brief content analysis indicated that those with high body weight contingent self-worth were no more likely to write about appearance-related acts of kindness compared to those with low body weight contingent self-worth, participants in this study were not given the choice of domains on which to self-affirm and were instructed to reflect on past acts of kindness. As such, researchers may wish to further investigate whether contingencies of self-worth influence the type of affirmation chosen following rejection, and whether self-chosen self-affirmations have differential effects on individuals' self-evaluations depending on their contingencies of self-worth.

Similar to Study 1, an additional strength of this study pertained to the incorporation of a variety of both direct and indirect measures. In this study, interactive effects between self-affirmation and body weight contingent self-worth were detected only on the implicit weight identity IAT and the Shape and Weight Based Self-Esteem Inventory (SAWBS). Although there is limited research on the impact of self-affirmation within the context of body image, a meta-analysis by McQueen and Klein (2006) demonstrated that a positive association between self-affirmation and self-esteem was found in only one out of five studies, and that this effect was found on an implicit measure of self-esteem (Koole, Smeets, van Knippenberg, and Dijksterhuis 1999). These results suggest the possibility that the beneficial effects of self-affirmation may occur at least partially outside of conscious awareness, though it is clear that further research on the impact of self-affirmation on implicit and explicit body image evaluation is needed. Taken together, these results again point to the utility of incorporating a range of measurement

techniques, and particularly to the use of indirect measures in the context of self-affirmation research.

Similar to Study 1, a major limitation in this study was the administration of candy prior to administration of the other dependent variables. Because candy was given to all participants, the potential threat of food cues presented a challenge to interpretation of the results. These results could be clarified by the addition of a no candy control condition, or by administering candy following the measurement of the other dependent variables.

As mentioned in Study 1, it is important to note that the implicit weight identity IAT does not provide a direct assessment of implicit fat or thin identity, because IAT difference scores do not discriminate associations between fat- and self-related words from thin- and other-related words. It has been suggested that more straightforward interpretations may be achieved by employing neutral self-words as opposed to 'other' words (e.g., Farnham et al., 1999; Farnham & Greenwald, 2000). In addition, there exist several alternative implicit measures of self-esteem (see Jordan et al., 2009 for a review) that could be modified in order to assess implicit body image evaluation. Researchers interested in assessing implicit body image evaluation could consider these alternatives.

A final important limitation pertains to difficulties with recruitment and the small sample size obtained in this study. Although this study was advertised in a very similar manner to Study 1, there was a notable decrease in participant sign-ups. Though the cause of this change is unknown, it may be due to the large number of more convenient online studies available on the Psychology Participant Pool during recruitment, or to a reduction in student interest in participating in laboratory research. After taking additional steps to facilitate recruitment, which consisted of e-mail recruitment and an additional 0.5 bonus credit offered to account for travel time to and from the laboratory,

the sample size in this study met the minimum requirement for multiple regression analysis. That said, power analyses indicated that there was not enough power to detect significance for several of the research hypotheses, particularly those pertaining to indirect measures of boy image evaluation. Due to the negative association between power and risk of Type II error, it is possible that significant findings may have emerged with a larger sample size.

IV. GENERAL DISCUSSION

The overarching purpose of the present studies was to experimentally investigate the body weight contingency of self-worth within the context of the sociometer theory. These studies were designed specifically to expand upon O'Driscoll and Jarry's (2015) research, by further examining the potential moderating role of body weight contingent self-worth in the impact of interpersonal rejection on women's body image evaluations. Sociometer theory suggests that self-esteem functions as an internal monitor of the quality of one's interpersonal relationships (Leary & Baumeister, 2000; Leary & Downs, 1995), and contingencies of self-worth theory posits that people's global self-esteem is dependent on success and failure within the domains in which their self-worth is most contingent (Crocker, 2002a). As contingencies of self-worth are conceptualised as contingencies of relational value (MacDonald & Leary, 2012), and are theorised to reflect the domains in which people are most vulnerable to failure or rejection (Crocker, 2002a), O'Driscoll and Jarry posited that rejection would most strongly affect the body image evaluations of women whose self-worth is highly contingent on body weight. Consistent with these predictions, this research demonstrated that women with higher body weight continent self-worth generally reported lower state body satisfaction and appearance self-esteem relative those lower in body weight contingent self-worth across experimental conditions. Furthermore, as predicted, the effect of rejection on women with higher body weight contingent self-worth was specific to the body image domain and did not generalise to other dimensions of self-esteem, and no other contingencies of self-worth interacted with rejection to impact body image evaluation. Contrary to expectations, however, whereas there was no effect of rejection on body image evaluation for women with lower body weight contingent self-worth, women higher in body weight contingent

self-worth reported greater state body satisfaction and appearance self-esteem following rejection than did their counterparts unexposed to rejection. This paradoxical finding was interpreted by O'Driscoll and Jarry (2015) as a compensatory self-enhancement response to social threat within a self-important domain.

To extend upon these findings, two experimental studies were conducted. Study 1 was designed to examine whether the claimed body image satisfaction of women whose self-worth is highly contingent on body weight indeed represents a defensive self-enhancement response against interpersonal rejection. After completing an online survey comprised of covariate and moderator measures, female undergraduate students (N = 159) were invited to the laboratory and assigned to either a peer rejection or a neutral control condition, after which they completed measures to assess their body image evaluation. To remedy O'Driscoll and Jarry's (2015) exclusive reliance on explicit self-report measures, this study utilised both explicit measures of body image evaluation, as well as the indirect measures of implicit weight identity and eating behaviour. It was expected that if the claimed body image satisfaction of women whose self-worth is highly contingent on body weight represents a defensive response to rejection, indirect measures would not show self-enhancement and would be at odds with their explicitly stated body image satisfaction. Study 2 was designed to determine whether providing women with an opportunity to self-affirm within an intrinsic and relational alternative domain following rejection would ameliorate the tendency of those with higher body weight contingent self-worth to defensively self-enhance in the domain of body image. It was expected that self-affirming within the domain of interpersonal kindness would protect these women against the general threat to their self-esteem caused by rejection, thereby diminishing body image compensatory self-enhancement. It furthermore was predicted that self-

affirmation would have additional benefits, such that it would help to repair the negative impact of social threat on women's social self-esteem, and that it would lessen the extent to which self-worth was based on body weight relative to other domains for women with higher body weight contingent self-worth. Following completion of an online survey comprised of covariate and moderator measures, female undergraduates ($N = 105$) were invited to the laboratory where they all were exposed to rejection, assigned to either a kindness self-affirmation or a neutral control condition, and completed measures to assess their body image evaluation. In Study 2, explicit self-report measures of body image evaluation and of implicit weight identity and eating behaviour were incorporated, as well as a measure of shape- and weight-based self-esteem (refer to Appendix X for a summary of hypotheses, statistical procedures, and results).

Overall, results from Study 1 did not support the general prediction that body weight contingent self-worth would moderate the impact of rejection on body image evaluation. Corroborating O'Driscoll and Jarry (2015), women with higher body weight contingent self-worth reported significantly lower state body satisfaction and appearance self-esteem on explicit measures than did those who based their self-worth on this domain to a lesser extent. However, the expectation that these women would explicitly self-report more positive appraisals of their body following rejection relative to their counterparts in the control condition was not verified. In addition, there were no main or interactive effects of body weight contingent self-worth on indirect measures of body image evaluation, as assessed by implicit weight identity and eating behaviour. Manipulation checks and post-hoc power analyses indicated that the lack of significant findings could not be accounted for by manipulation failure or insufficient power. As discussed previously (refer to Study 1 "Discussion"), the most apparent explanation for these null results pertains to the candy

presented before administration of the remaining dependent variables. Although supplementary analyses indicated that the amount of candy consumed by participants did not moderate the effects of body weight contingent self-worth and rejection on explicit body image evaluation or implicit weight identity, it is probable that the mere exposure to candy posed an additional body image threat to women who based their self-worth on their weight, therefore increasing body dissatisfaction and rendering body image an unsuitable source for compensatory self-enhancement. In addition, because individuals with low self-esteem have fewer resources to draw upon when faced with threat (Campbell & Lavalee, 1993), they often are unable to successfully cope with strong ego threats (vanDellen, Campbell, Hoyle, & Bradfield, 2011). vanDellen and colleagues (2011) demonstrated that when an ego threat is considered high, instead of compensating or otherwise resisting the threat, people with low self-esteem show a 'breaking' response characterised by accepting the threat as valid and/or lowering their self-expectations. The combined impact of rejection and the possibility of a direct threat to body image associated with candy exposure may have rendered women whose self-worth is highly contingent on their body weight and who have low global trait self-esteem (Crocker et al., 2002) unable to effectively compensate. Importantly, because the potential threat to women's body image evaluations posed by the presentation of candy in these studies represents a challenge to interpreting the impact of rejection, the defensiveness hypothesis put forth by O'Driscoll and Jarry cannot definitively be ruled out. Further research on the reactions of women whose self-worth is highly contingent on body weight to social threat is needed to clarify these discrepant findings.

Unexpectedly, Study 1 results indicated that virtue contingent self-worth was the only contingency of self-worth domain to moderate the impact of interpersonal rejection on

women's body image evaluations. Women with higher virtue contingent self-worth who were exposed to rejection reported significantly greater state appearance self-esteem relative to those who were unexposed to rejection. Further, whereas women with lower virtue contingent self-worth ate marginally less candy following rejection than did their counterparts in the control condition, the eating behaviour of women with higher virtue contingent self-worth was consistent across conditions. As discussed previously (refer to Study 1 "Discussion"), the elevated appearance self-esteem of women with higher virtue contingent self-worth appears consistent with appearance compensatory self-enhancement, such that these women attempted to compensate for the threat to their global self-worth posed by rejection by explicitly claiming greater satisfaction with their physical appearance. The possibility that the claimed higher levels of appearance self-esteem represented a defensive response to social threat is supported by the fact that no body image self-enhancement was evident on an implicit measure of their weight identity. Furthermore, these women's stable candy consumption across conditions is in line with the proposition that one form of self-esteem maintenance can effectively replace the need to use additional measures to repair one's global self-esteem (see review by McQueen & Klein, 2006). At first glance, the apparent defensive reaction of women with greater virtue contingent self-worth is surprising, given that virtue contingent self-worth is based on internal characteristics, and has been categorised as a relatively 'stable' self-esteem domain. As discussed by Jordan and colleagues (2003), stable contingencies of self-worth, such as family support, God's love, and virtue tend to be less vulnerable to variability and defensiveness, relative to unstable contingencies of self-worth, such as social approval, physical appearance, academics, and competition. Nonetheless, as moral integrity is considered a major determinant of one's perceived relational value (van der

Lee et al., 2016), this suggests that individuals whose self-worth is highly contingent on virtue may be particularly sensitive to cues indicative of relational devaluation, and that they may be inclined to use of self-protective strategies, such as compensatory self-enhancement, to repair the impact of social threat.

Furthermore, contrary to the initial expectation that individuals would compensate for the impact of rejection within the domains in which their self-worth is most contingent, women with elevated virtue contingent self-worth demonstrated self-enhancement within the alternative domain of physical appearance. Though not in line with predictions, this effect is corroborated by Steele's (1988) principle of fluid compensation, which suggests that because the focus of the self-system is on maintaining global self-worth, individuals can effectively compensate for threats to one domain by emphasising their success in alternative domains (Sherman & Cohen, 2006). Interestingly, the results of Study 1 furthermore demonstrated that the moderating effect of virtue contingent self-worth on the impact of rejection was unique to appearance, and did not generalise to social or performance dimensions of self-esteem. As discussed previously (refer to Study 1 "Discussion"), these results are consistent with the proposition that people tend to self-affirm in domains that are salient or readily available (Steele, 1988). Physical appearance is an externally observable trait that was prominent within the measures administered in this study. Additionally, given the pervasiveness of the association between virtue and physical attractiveness, as captured by the 'what is beautiful is good' stereotype (Dion, Berscheid, & Walster, 1972), the claimed body image satisfaction of women with higher virtue contingent self-worth may represent an attempt to repair their self-esteem by reinstating a sense of 'goodness' following social threat. Viewed in the context of sociometer theory, it may be posited that these women endeavoured to defend against the

consequences of rejection and repair their relational value by magnifying qualities, such as physical appearance, that they perceive to be socially significant.

Although the above represent promising explanations for their self-enhancement within the specific domain of appearance for women with higher virtue contingent self-worth, it is important to note that the dependent measures administered were related only to physical appearance, general performance/abilities, and social self-evaluations. These women were not given any opportunities to directly self-affirm within the domain of virtue. What is yet to be established is whether individuals with elevated virtue contingent self-worth would prioritise more direct self-enhancement within the domain of virtue if provided with this opportunity. Given that these findings were unanticipated and that there is little research on the virtue contingency of self-worth, further examination of the impact of social threat for individuals with varying levels of virtue contingent self-worth would be valuable.

In Study 2, it was anticipated that the opportunity to self-affirm within the social and intrinsic domain of kindness would help to repair the impact of interpersonal rejection, which would be evident in reduced body image compensatory self-enhancement and lower shape- and weight-based self-esteem for women with elevated body weight contingent self-worth. Consistent with the lack of interactive effects on explicit measures for body weight contingent self-worth in Study 1, body weight contingent self-worth did not moderate the impact of kindness self-affirmation following rejection on explicit measures of state appearance self-esteem or body satisfaction. Nevertheless, for women higher in body weight contingent self-worth, those who affirmed the value of kindness following rejection demonstrated marginally lower implicit fat identity, ate slightly more candy, and reported significantly lower shape- and weight-based self-esteem and relative

to those who were unaffirmed. This suggests that affirming an intrinsic and relational domain such as interpersonal kindness lessens the extent to which self-worth is based on body weight for women who typically base their self-worth on this domain, and that this type of affirmation can help to improve the body image of these women on an implicit level. Unexpectedly, Study 2 results also revealed additional interaction effects for women with elevated virtue contingent self-worth. For these women, those who affirmed the value of kindness following rejection reported significantly lower state appearance self-esteem and marginally lower shape- and weight-based self-esteem than did those who were rejected but unaffirmed. Taken together with the findings for women with higher virtue contingent self-worth in Study 1, these results suggest that the opportunity to self-affirm within the domain of kindness may have ameliorated the need for defensive body image self-enhancement following rejection, therefore allowing these women to report on their genuine feelings about themselves. Eliminating the need for appearance compensatory self-enhancement for women with higher virtue contingent self-worth also apparently reduced any associated need for these women to invest in the domain of appearance to maintain their self-worth. Although not exactly as predicted, this pattern of results for women with elevated body weight and virtue contingent self-worth is consistent with the tenets of self-affirmation theory, which posits that self-affirmations that make salient an important core aspect of identity can render a threatening situation less threatening, thereby repairing the impact of threat on self-esteem and eliminating the need for further defensive self-esteem maintenance (Sherman & Cohen, 2006).

Importantly, the results of Study 2 results also help to clarify the effects of threat-relevant self-affirmations following social threat on self-esteem. Although Steele's (1988) self-affirmation theory posited that domains of self-worth are interchangeable, this

theory emphasised that self-affirmation should be most successful when it occurs in alternative domains that are unconnected to the original threat. Indeed, most of the research in this area has focussed on the effects of threat-irrelevant affirmations (refer to review by McQueen & Klein, 2006), indicating that people tend to favour affirmations that are not directly related to the threat itself (Tesser, 2000; 2001). Furthermore, it also has been posited that self-affirmation within the same domain as the threat can have negative effects, such as reaffirming an individual's personal failings in the domain that has just been threatened (Knowles et al., 2010) and increasing feelings of dissonance (Blanton et al., 1997; Stone & Cooper, 2003). On the other hand, Knowles and colleagues' (2010) belongingness maintenance hypothesis suggests that, because belongingness represents a distinct and fundamental need (Leary, 2005; Leary & Baumeister, 2000), threats to social connectedness require specific and direct repair. As above-mentioned, kindness self-affirmations had some beneficial effects within the domain of body image, such as improving weight identity on an implicit level and reducing shape- and weight-based self-esteem for women with body weight contingent self-worth, as well as diminishing defensive body image self-enhancement for women with virtue contingent self-worth. Yet, though it was expected that kindness self-affirmation would help to repair the impacts of social threat by improving women's interpersonal self-worth, results revealed findings in the opposite direction. Regardless of contingences of self-worth, women who self-affirmed within the interpersonal domain of kindness following rejection reported *lower* levels social self-esteem relative to those who were unaffirmed. Taken together, these effects substantiate the proposition that attempts to self-affirm within a domain that has just been threatened can magnify one's awareness of personal shortcomings, and that the damaging effects of this awareness may

be most evident within the threatened domain itself. These results also provide preliminary evidence that threat-relevant self-affirmations following social threat can have beneficial effects on individual's self-evaluations, with these positive effects occurring in domains that are unrelated to the original threat. Furthermore, the positive effects of kindness self-affirmations on women's body image evaluation were evident only for individuals with higher body weight and virtue contingent self-worth, which suggests that the impact of threat-relevant self-affirmations depend at least partially on the domains in which individuals most highly base their self-worth. These results, combined with the fact that there has been little research on the impact of self-affirmations on self-esteem (McQueen & Klein, 2006), indicate that additional research on the moderating effects of contingencies of self-worth on the impact of threat-relevant affirmations on various facets of self-esteem would prove beneficial.

Strengths and Limitations

Together, results from these studies further underscore the importance of using varied forms of measurement. In Study 1, no interactive effects between interpersonal rejection and body weight contingent self-worth were detected on any of the measures administered, and in Study 2 interaction effects between self-affirmation and body weight contingent self-worth were detected only on the implicit weight identity IAT and SAWBS. It should be noted that although the SAWBS is not considered to be an implicit measure, its focus on body image is notably less transparent and more indirect than that of standard self-report measures of body image evaluation, which suggests that its scores may be less subject to reactivity or participants' response bias. For researchers interested in studying the effects of various factors on body image, the present results highlight the

utility of employing varied measurement techniques, and particularly the value of indirect measures of body image evaluation.

As previously discussed, a major limitation of these studies pertains to the possibility of an additional body image threat related to the presentation of candy prior to the administration of other dependent variables. As aforementioned, this potential threat resulted in an additional challenge to the interpretation of results. Given that candy was administered to women across conditions, the exact impact of this additional threat could not be determined. Though the effects of food exposure have been investigated in restrained eaters (e.g., Fett, Lattimore, Roefs, Geschwind, & Jansen, 2009; Geschwind, Roefs, Lattimore, Fett, & Jansen, 2008) and in women with eating disorders (Shafran, Teachman, Kerry, & Rachman, 1999; Coelho, Carter, McFarlane, & Polivy, 2007; Coelho, Roefs, & Janson, 2010), the impact of food-related cues on women with varying levels of body weight contingent self-worth has yet to be examined.

Another limitation is related to the length of data collection for these two studies. Together, data collection for Study 1 and Study 2 occurred over the course of three years (i.e., six university semesters between October 2015 and February 2018). This protracted recruitment period was related to difficulties recruiting participants for laboratory-based studies. Although the debriefing procedure used in both studies instructed participants not to disclose any information to other students, it should be noted that the procedures used in this study were distinctive and the university's Psychology Participant Pool is relatively small. These factors support the possibility that participants may have shared information about these studies with other students, and that expectancy effects related to prior knowledge of the study aims or procedures could have contaminated the results.

Furthermore, the extended recruitment period could entail that the sample represented participants from different populations, such that participants who took part in these studies at the beginning of recruitment may have responded differently than those who participated near the end. As discussed by Boersma (2017), societal messages about body image continue to change, with a recent trend toward body appreciation and outwardly displaying positive body image. It therefore is conceivable that participants from the sample collected in 2012 to 2013 by O'Driscoll and Jarry (2015) would have held different conceptions of body image relative to those collected in the present studies. For example, for women who have been immersed in the body positivity movement, the knowledge that one is supposed to project a positive body image may result in conflicting feelings for those who nonetheless are dissatisfied with their body, and also may result in a decreased willingness to report on body dissatisfaction. Researchers may be interested in examining the impact of this body positivity movement on explicit and indirect measures of body image evaluation, and particularly for women whose self-worth is highly contingent on their body weight.

Practical Implications

Results from these studies suggest potential implications for prevention and intervention programmes aimed at addressing body image disturbances in women. Given that the present studies provide further confirmation that body weight contingent of self-worth is associated with vulnerability toward negative body image outcomes, interventions designed to reduce the extent to which self-worth is contingent on this external domain would be valuable. Study 2 results suggest that kindness self-affirmations following interpersonal rejection helped to reduce body shape- and weight-based self-worth for women who tend to base their self-worth on this domain. Likewise,

Armitage (2012) demonstrated that, relative to unaffirmed girls, adolescent girls who completed a kindness affirmation task showed lower body shape- and weight-based self-esteem, and in turn demonstrated lower body image disturbance. Together, these studies suggest that a relatively brief self-affirmation interventions aimed at reflecting on social and intrinsic qualities that are unrelated to body image have the potential to reduce the extent to which self-worth is based on the external domain of body shape and weight, and that it also can have positive effects on body image evaluations. Intervention programmes aimed at improving body image may benefit from integrating similar brief self-affirmation interventions.

Furthermore, given that the present investigation confirms that self-affirmation processes are effective at reducing some of the negative body image-related consequences associated with social threat, this points to the utility of addressing interpersonal challenges for women vulnerable to body image disturbances. Knowles and colleagues (2010) suggest that probably the most effective means for repairing social threats is through reinstating feelings of social acceptance by directly affirming the strength of one's relationships with others (Knowles & Gardner, 2008). As such, individuals designing prevention and interventions programmes for women who are vulnerable to body image disturbances also may wish to incorporate training in effectively navigating social challenges and cultivating positive relationships, as well as opportunities for facilitating interpersonal connections.

Directions for Future Research

Findings from the present investigation suggest several promising avenues for future research. These results, in combination with O'Driscoll and Jarry (2015), suggest that it would be worthwhile for investigators to examine further the moderating effects of

contingencies of self-worth within the context of interpersonal rejection on various facets of self-esteem. Whereas these authors demonstrated that women with higher body weight contingent self-worth engaged in self-enhancement within the same domain as their self-worth contingency, in the present studies women with higher virtue contingent self-worth appeared to self-enhance within a domain unrelated to their self-worth contingency. Additional research assessing self-esteem outcomes representing a variety of domains would help to elucidate the circumstances under which compensatory self-enhancement occurs in the same versus other domains as the original threat.

Relatedly, participants in Study 2 were given the opportunity to self-affirm only within the domain of interpersonal kindness. Although kindness is a value that is considered important to most people (Reed & Aspinwall, 1998), self-affirmation has been shown to be most effective when it occurs in domains that are considered personally relevant (McQueen & Klein, 2006). In the future, researchers may be interested in examining whether contingencies of self-worth influence the domains in which individuals choose to self-affirm in response to social threat, as well as the impact of these decisions. To this end, researchers may consider providing participants with a variety of domains on which they may choose to self-affirm (refer to McQueen & Klein, 2006 for a review of self-affirmation methodologies).

Researchers also may consider varying the extent to which relational feedback and self-evaluations occur in a public versus private. Studies have shown compensatory self-enhancement to occur under public conditions, such that individuals respond to public knowledge of failure in a given domain by inflating their public self-descriptions in alternative domains (Baumeister & Jones, 1978; Greenberg & Pyszczynsk, 1985). On the other hand, research also has shown that the perception of public accountability for one's

self-evaluations following ego threat can deter self-enhancement (Sedikides, Herbst, Hardin & Dardis, 2002). In addition to the consideration that one's peers may have access to information that is not consistent with an individual's self-enhancing claims (Brown & Gallagher, 1990), the expectation that one will be evaluated is associated with an increased focus on personal failings related to the domain under scrutiny (Sedikides et al., 2002). In O'Driscoll and Jarry (2015) and the present studies, both the relational feedback and self-evaluations occurred in a relatively private manner. Though participants interacted with one another at the outset of the study, the rejection feedback was provided by the experimenter in private and participants were informed that they no longer would be interacting with other participants for the remainder of the study. In addition, participants were under the impression that only the researchers would have access to their responses on the measures that were administered. Given that physical appearance is an external trait that is subject to scrutiny by others, it would be interesting to examine body image compensatory self-enhancement under circumstances where the rejection and subsequent self-evaluation occurs in public or where individuals anticipate further evaluation by their peers.

Conclusion

Drawing upon sociometer and contingencies of self-worth theories, these studies were designed to experimentally investigate the moderating role of the body weight contingency of self-worth in the impact of interpersonal rejection on women's body image evaluations. Research in this area is particularly relevant, given that body weight preoccupation and body image disturbances and associated with numerous negative psychological outcomes. It was expected that women with higher body weight contingent self-worth would demonstrate defensive self-enhancement in the domain of

body image in response to rejection, and that self-affirmation in the domain of interpersonal kindness would help to reduce this defensiveness in addition to having other beneficial effects on self-esteem. In support of previous research, results indicated that elevated body weight contingent self-worth predicted significantly more negative appraisals of their body. Contrary to expectations, however, body weight contingent self-worth did not moderate the impact of interpersonal rejection or kindness self-affirmations on explicit body image evaluation. Due to the possibility of body image threat posed by the presentation of candy in both studies, the potential for body image compensatory self-enhancement in women with higher body weight contingent self-worth could not be evaluated. In line with predictions, women with higher body weight contingent self-worth who self-affirmed within the domain of kindness following rejection demonstrated marginally lower implicit fat identity, consumed slightly more candy, and reported significantly lower shape- and weight-based self-esteem relative to those who were rejected but unaffirmed. Unexpectedly, results also provide preliminary evidence that individual differences in virtue contingent self-worth can also impact women's body image evaluations in response to both social threat and self-affirmation. Women with higher virtue contingent self-worth who experienced rejection reported significantly greater appearance self-esteem relative to those who were not rejected. However, when given the chance to self-affirm the value of kindness following rejection, these women demonstrated significantly lower appearance self-esteem and marginally lower shape- and weight-based self-esteem relative to those who were rejected but unaffirmed. These results extend upon past literature on the impact of interpersonal rejection and self-affirmation, and suggest that their effects depend at least partially upon the domains in which women's self-worth is most contingent.

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APPENDICES

Appendix A: Participant Pool Recruitment Advertisement – Study 1

Title: Pilot Studies for Future Research
Researchers: Lauren O'Driscoll, Dr. Josée Jarry
Duration: Study 1: 30 minutes / Study 2: 60 minutes
Credits: Study 1: 0.5 credits / Study 2: 1 credit

The following pilot studies are being offered together to facilitate recruitment and to make it convenient for students to gather their research bonus credit allotment. Part 1 consists of an online survey, and Part 2 consists of a laboratory session.

The purpose of Part 1 is to pilot test questionnaires to be used in future research. Part 1 is completed in an online survey format. You were asked to complete a series of questionnaires related to mood and personality. This study would take approximately 30 minutes to complete and were done in one session.

The purpose of Part 2 is to pilot test questionnaires and experimental tasks to be used in future research. Part 2 were conducted in the lab. You would complete a group conversation exercise, a battery of questionnaires, and group decision-making task. Part 2 would take approximately 60 minutes to complete and were done in one session.

Participants who complete Part 1 and Part 2 would receive 1.5 bonus credit for 90 minutes of participation towards the Psychology Participant Pool, if registered in the pool and enrolled in one or more eligible courses.

Appendix B: Demographics Questionnaire

Age: _____ Gender Identity: _____

Ethnic Background:

Aboriginal	☐	South Asian	☐	Arab or West Asian	☐
African	☐	European	☐	Caribbean	☐
East Asian	☐	South or Central American	☐		

Other (please specify):_____

Have you ever been diagnosed with an eating disorder?
Yes ☐ No ☐

Do you have any dietary allergies or restrictions?
Yes ☐ (please specify): _____No ☐

School enrolment: Full time student ☐ Part time student ☐

Years in University:

First year	☐	Third year	☐	More than 4 years	☐
Second year	☐	Fourth year	☐		

Including your current psychology course, how many psychology courses have you taken so far? _____

What is/are your university major(s)? _____

What is/are your university minor(s)? _____

Your occupation:

Full time	☐	**and**	Clerical	☐	Labourer	☐
Part time	☐		Professional	☐	Self-employed	☐
			Owner/manager	☐	Unemployed	☐
			Other: _____			

Appendix C: Body Weight contingency of Self-Worth Scale

INSTRUCTIONS: Please respond to each of the following statements by circling your answer using the scale from "1 = Strongly disagree" to "7 = Strongly agree." If you haven't experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

1) My sense of self-worth suffers whenever I think I am not at an ideal body weight.
2) My self-esteem does not depend on whether or not I feel I am at an ideal body weight.
3) My self-esteem is influenced by my body weight.
4) My self-esteem would suffer if my body weight was not ideal.
5) My self-esteem is unrelated to how I feel about my body weight.
6) When I am at an ideal body weight, I feel good about myself.
7) it was important to my self-respect that I am at an ideal body weight.
8) Knowing that I am at an ideal body weight raises my self-esteem.

Appendix D: Contingencies of Self-Worth Scale

INSTRUCTIONS: Please respond to each of the following statements by circling your answer using the scale from "1 = Strongly disagree" to "7 = Strongly agree." If you haven't experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

		Strongly Disagree	Disagree	Disagree Somewhat	Neutral	Agree Somewhat	Agree	Strongly Agree
1.	When I think I look attractive, I feel good about myself.	1	2	3	4	5	6	7
2.	My self-worth is based on God's love.	1	2	3	4	5	6	7
3.	I feel worthwhile when I perform better than others on a task or skill.	1	2	3	4	5	6	7
4.	My self-esteem is unrelated to how I feel about the way my body looks.	1	2	3	4	5	6	7
5.	Doing something I know is wrong makes me lose my self-respect.	1	2	3	4	5	6	7
6.	I don't care if other people have a negative opinion about me.	1	2	3	4	5	6	7
7.	Knowing that my family members love me makes me feel good about myself.	1	2	3	4	5	6	7
8.	I feel worthwhile when I have God's love.	1	2	3	4	5	6	7
9.	I can't respect myself if others don't respect me.	1	2	3	4	5	6	7
10.	My self-worth is not influenced by the quality of my relationships with my family members.	1	2	3	4	5	6	7
11.	Whenever I follow my moral principles, my sense of self-respect gets a boost.	1	2	3	4	5	6	7

12.	Knowing that I am better than others on a task raises my self-esteem.	1	2	3	4	5	6	7
13.	My opinion about myself isn't tied to how well I do in school.	1	2	3	4	5	6	7
14.	I couldn't respect myself if I didn't live up to a moral code.	1	2	3	4	5	6	7
15.	I don't care what other people think of me.	1	2	3	4	5	6	7
16.	When my family members are proud of me, my sense of self-worth increases.	1	2	3	4	5	6	7
17.	My self-esteem is influenced by how attractive I think my face or facial features are.	1	2	3	4	5	6	7
18.	My self-esteem would suffer if I didn't have God's love.	1	2	3	4	5	6	7
19.	Doing well in school gives me a sense of self-respect.	1	2	3	4	5	6	7
20.	Doing better than others gives me a sense of self-respect.	1	2	3	4	5	6	7
21.	My sense of self-worth suffers whenever I think I don't look good.	1	2	3	4	5	6	7
22.	I feel better about myself when I know I'm doing well academically.	1	2	3	4	5	6	7
23.	What others think of me has no effect on what I think about myself.	1	2	3	4	5	6	7
24.	When I don't feel loved by my family, my self-esteem goes down.	1	2	3	4	5	6	7
25.	My self-worth is affected by how well I do when I am competing with others.	1	2	3	4	5	6	7
26.	My self-esteem goes up when I feel that God loves me.	1	2	3	4	5	6	7

27.	My self-esteem is influenced by my academic performance.	1	2	3	4	5	6	7
28.	My self-esteem would suffer if I did something unethical.	1	2	3	4	5	6	7
29.	It is important to my self-respect that I have a family that cares about me.	1	2	3	4	5	6	7
30.	My self-esteem does not depend on whether or not I feel attractive.	1	2	3	4	5	6	7
31.	When I think that I'm disobeying God, I feel bad about myself.	1	2	3	4	5	6	7
32.	My self-worth is influenced by how well I do on competitive tasks.	1	2	3	4	5	6	7
33.	I feel bad about myself whenever my academic performance is lacking.	1	2	3	4	5	6	7
34.	My self-esteem depends on whether or not I follow my moral/ethical principles.	1	2	3	4	5	6	7
35.	My self-esteem depends on the opinions others hold of me.	1	2	3	4	5	6	7

Appendix E: Positive and Negative Affect Schedule and Manipulation Check

This scale consists of a number of words that describe different feeling and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way *right now*, that is, *at the present moment*. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

_____interested

_____ accepted*

_____distressed

_____excited

_____upset

_____strong

_____ rejected*

_____guilty

_____scared

_____hostile

_____enthusiastic

_____proud

_____ unwanted*

_____irritable

_____alert

_____ashamed

_____inspired

_____included*

_____nervous

_____determined

_____attentive

_____unwelcome*

_____jittery

_____active

_____afraid

*Rejection manipulation check questionnaire items modelled after Gaertner, Luzzini, and O'Mara (2008).

Appendix F: Body Image States Scale

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 describes how you feel right now.

1. Right now I feel...

☐ ***Extremely dissatisfied*** with my physical appearance
☐ ***Mostly dissatisfied*** with my physical appearance
☐ ***Moderately dissatisfied*** with my physical appearance
☐ ***Slightly dissatisfied*** with my physical appearance
☐ ***Neither dissatisfied nor satisfied*** with my physical appearance
☐ ***Slightly satisfied*** with my physical appearance
☐ ***Moderately satisfied*** with my physical appearance
☐ ***Mostly satisfied*** with my physical appearance
☐ ***Extremely satisfied*** with my physical appearance

2. Right now I feel...

☐ ***Extremely dissatisfied*** with my body size and shape
☐ ***Mostly dissatisfied*** with my body size and shape
☐ ***Moderately dissatisfied*** with my body size and shape
☐ ***Slightly dissatisfied*** with my body size and shape
☐ ***Neither dissatisfied nor satisfied*** with my body size and shape
☐ ***Slightly satisfied*** with my body size and shape
☐ ***Moderately satisfied*** with my body size and shape
☐ ***Mostly satisfied*** with my body size and shape
☐ ***Extremely satisfied*** with my body size and shape

3. Right now I feel...

☐ ***Extremely dissatisfied*** with my weight
☐ ***Mostly dissatisfied*** with my weight
☐ ***Moderately dissatisfied*** with my weight
☐ ***Slightly dissatisfied*** with my weight
☐ ***Neither dissatisfied nor satisfied*** with weight
☐ ***Slightly satisfied*** with my weight
☐ ***Moderately satisfied*** with my weight
☐ ***Mostly satisfied*** with my weight
☐ ***Extremely satisfied*** with my weight

4. Right now I feel...

☐ ***Extremely*** physically ***attractive***
☐ ***Very*** physically ***attractive***
☐ ***Moderately*** physically ***attractive***
☐ ***Slightly*** physically ***attractive***
☐ ***Neither attractive nor 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
☐ ***Justly 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 that I look...

☐ ***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
☐ ***Justly 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 G: State Self-Esteem Scale

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you RIGHT NOW.

1 = not at all 2 = a little bit 3 = somewhat 4 = very much 5 = extremely

1. I feel confident about my abilities. _____
2. I am worried about whether I am regarded as a success or failure. _____
3. I feel satisfied with the way my body looks right now. _____
4. I feel frustrated or rattled about my performance. _____
5. I feel that I am having trouble understanding things that I read. _____
6. I feel that others respect and admire me. _____
7. I am dissatisfied with my weight. _____
8. I feel self-conscious. _____
9. I feel as smart as others. _____
10. I feel displeased with myself. _____
11. I feel good about myself. _____
12. I am pleased with my appearance right now. _____
13. I am worried about what other people think of me. _____
14. I feel confident that I understand things. _____
15. I feel inferior to others at this moment. _____
16. I feel unattractive. _____
17. I feel concerned about the impression I am making. _____
18. I feel that I have less scholastic ability right now than others. _____
19. I feel like I’m not doing well. _____
20. I am worried about looking foolish. _____

Appendix H: Implicit Weight Identity IAT Target Words

Evaluative Category[a]		Self/Other Category[b]	
Thin	Fat	Unspecified Other	Self
skinny	chubby	other	self
thin	fat	people	myself
slender	plump	them	me
lightweight	heavy	they	I
slim	wide	theirs	mine

a. Thin and fat words modelled after Wojtiwicz and von Ranson (2007)

b. Self and unspecified other words modelled after Karpinksi (2004)

Appendix I: Implicit Weight Identity IAT Instructions

In this task, you were presented with a set of words or images to classify into groups. This task requires that you classify items as quickly as you can while making as few mistakes as possible. Going too slow or making too many mistakes would result in an un-interpretable score. This part of the study would take about 5 minutes. The following is a list of category labels and the items that belong to each of those categories.

Category	Items
Other	other, people, them, they, theirs
Self	self, myself, me, I, mine
Fat	chubby, fat, plump, heavy, wide
Thin	skinny, thin, slender, lightweight, slim

Keep in mind
Keep your index fingers on the ‘e’ and ‘i’ keys to enable rapid response.
Two labels at the top would tell you which words or images go with each key.
Each word or image has a correct classification. Most of these are easy.
Please try to go as fast as possible.
Expect to make a few mistakes because of going fast. That’s OK.
For best results, avoid distractions and stay focused.

I am ready to begin

Stage 1:

Put your middle or index fingers on the E and I keys of your keyboard. Words or images representing the categories at the top of the screen would appear one-by-one in the middle of the screen. When the item belongs to a category on the left, press the E key; when the item belongs to a category on the right, press the I key. Items belong to only one category. If you make an error, an X would appear – fix the error by hitting the other key.

This is a timed task. GO AS FAST AS YOU CAN while making as few mistakes as possible.

Press the space bar to begin.

Stage 2:

See above, the categories have changed. The items for sorting have changed as well. The rules, however, are the same.

When the item belongs to the category on the left, press the E key; when the item belongs to the category on the right, press the I key. Items belong to only one category. An X appears after an error – fix the error by hitting the other key. GO AS FAST AS YOU CAN.

Press the space bar to begin.

Stage 3:

See above, the four categories you saw separately now appear together. Remember, each item belongs to only one category.

The green and white labels at the top of the screen may help to identify the appropriate category. Use the E and I keys to categorise items into the four categories left and right, and correct errors by hitting the other key.

Press the space bar to begin.

Stage 4:

Sort the same four categories again. Remember, each item belongs to only one category.

The green and white labels at the top of the screen may help to identify the appropriate category. Use the E and I keys to categorise items into the four categories left and right, and correct errors by hitting the other key.

Press the space bar to begin.

Stage 5:

Notice above, there are only two categories, and they have switched positions. The concept that was previously on the left is now on the right, and the concept that was previously on the right is now on the left.

When the item belongs to the category on the left, press the E key; when the item belongs to the category on the right, press the I key. Items belong to only one category. If you make an error, an X would appear – fix the error by hitting the other key.

This is a timed task. GO AS FAST AS YOU CAN while making as few mistakes as possible.

Press the space bar to begin.

Stage 6:

See above, the four categories now appear in a new configuration. Remember, each item belongs to only one category.

The green and white labels at the top may help to identify the appropriate category. Use the E and I keys to categorise items into the four categories left and right, and correct errors by hitting
the other key.
Press the space bar to begin.

Stage 7:

Sort the same four categories again. Remember, each item belongs to only one category.

The green and white labels at the top may help to identify the appropriate category. Use the E and I keys to categorise items into the four categories left and right, and correct errors by hitting the other key.
Press the space bar to begin.

Appendix J: Rosenberg Self-Esteem Scale

Please record the appropriate answer per item, depending on whether you strongly agree, agree, disagree, or strongly disagree with it.

3	2	1	0
strongly agree	agree	disagree	strongly disagree

_____1. I feel that I am a person of worth, at least on an equal plane with others.

_____2. I feel that I have a number of good qualities.

_____3. All in all, I am inclined to feel that I am a failure.

_____4. I am able to do things as well as most people.

_____5. I feel that I do not have much to be proud of.

_____6. I take a positive attitude toward myself.

_____7. On the whole, I am satisfied with myself.

_____8. I wish I could have more respect for myself.

_____9. I certainly feel useless at times.

_____10. At times I think that I am no good at all.

Appendix K: Beck Depression Inventory-II

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today.** Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness
0 I do not feel sad.
1 I feel sad much of the time.
2 I am sad all the time.
3 I am so sad or unhappy that I can't stand it.

2. Pessimism
0 I am not discouraged about my future.
1 I feel more discouraged about my future than I used to be.
2 I do not expect things to work out for me.
3 I feel my future is hopeless and would only get worse.

3. Past Failure
0 I do not feel like a failure.
1 I have failed more than I should have.
2 As I look back, I see a lot of failures.
3 I feel I am a total failure as a person.

4. Loss of Pleasure
0 I get as much pleasure as I ever did from the things I enjoy.
1 I don't enjoy things as much as I used to.
2 I get very little pleasure from the things I used to enjoy.
3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings
0 I don't feel particularly guilty.
1 I feel guilty over many things I have done or should have done.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6. Punishment Feelings
0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7. Self-Dislike
0 I feel the same about myself as ever.
1 I have lost confidence in myself.
2 I am disappointed in myself.
3 I dislike myself.

8. Self-Criticalness
0 I don't criticize or blame myself more than usual.
1 I am more critical of myself than I used to be.
2 I criticize myself for all my faults.
3 I blame myself for everything bad that happens.

9. Suicidal Thought or Wishes
0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. Crying
0 I don't cry anymore than I used to.
1 I cry more than I used to.
2 I cry over every little thing.
3 I feel like crying, but I can't.

11. Agitation
0 I am no more restless or wound up than usual.
1 I feel more restless or wound up than usual.
2 I am so restless or agitated that it's hard to stay still.
3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest
0 I have not lost interest in other people or activities.
1 I am less interested in other people or things than before.
2 I have lost most of my interest in other people or things.
3 It's hard to get interested in anything.

13. Indecisiveness
0 I make decisions about as well as ever.
1 I find it more difficult to make decisions than usual.
2 I have much greater difficulty in making decisions than I used to.
3 I have trouble making any decisions.

14. Worthlessness
0 I do not feel I am worthless.
1 I don't consider myself as worthwhile and useful as I used to.
2 I feel more worthless as compares to other people.
3 I feel utterly worthless.

15. Loss of Energy
0 I have as much energy as ever.
1 I have less energy than I used to have.
2 I don't have enough energy to do very much.
3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern
0 I have not experienced any change in my sleeping pattern.
1a I sleep somewhat more than usual.
1b I sleep somewhat less than usual.
2a I sleep a lot more than usual.
2b I sleep a lot less than usual.
3a I sleep most of the day.
3b I wake up 1-2 hours early and can't get back to sleep.

17. Irritability
0 I am no more irritable than usual.
1 I am more irritable than usual.
2 I am much more irritable than usual.
3 I am irritable all the time.

18. Changes in Appetite
0 I have not experienced any change in my appetite.
1a My appetite is somewhat less than usual.
1b My appetite is somewhat greater than usual. .
2a My appetite is much less than before.
2b My appetite is much greater than usual. .
3a I have no appetite at all.
3b I crave food all the time.

19. Concentration Difficulty
0 I can concentrate as well as ever.
1 I can't concentrate as well as usual.
2 It's hard to keep my mind on anything for very long.
3 I find I can't concentrate on anything.

20. Tiredness or Fatigue
0 I am no more tired or fatigued than usual.
1 I get more tired or fatigued more easily than usual.
2 I am too tired or fatigued to do a lot of the things I used to do.
3 I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex
0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

Appendix L: Revised Restraint Scale

The following questions refer to your *normal* eating patterns and weight fluctuations. Please answer accordingly.

Height: _____ Weight:_____

1. How often are you dieting?

____ Never ____ Rarely ____ Sometimes ____ Often ____ Always

2. What is the maximum amount of weight (in pounds) that you have ever lost within one month?

_____ 0-4 _____ 5-9 _____ 10-14 _____15-19 _____ 20+

3. What is your maximum weight gain within a week (in pounds)?

_____ 0-1 _____ 1.1-2 _____ 2.1-3 _____ 3.1-5 _____ 5.1+

4. In a typical week, how much does your weight fluctuate (in pounds)?

_____ 0-1 _____ 1.1-2 _____ 2.1-3 _____ 3.1-5 _____ 5.1+

5. Would a weight fluctuation of 5 lbs. affect the way you live your life?

_____Not at all _____ Slightly _____ Moderately _____ Very much

6. Do you eat sensibly in front of others and splurge alone?

_____Never _____ Rarely _____ Often _____ Always

7. Do you give too much time and thought to food?

_____Never _____ Rarely _____ Often _____ Always

8. Do you have feelings of guilt after overeating?

_____Never _____ Rarely _____ Often _____ Always

9. How conscious are you of what you're eating?

_____Not at all _____ Slightly _____ Moderately _____ Very much

10. What is your maximum weight ever?_____

11. How many pounds over your desired weight were you at your maximum weight?

_____ 0-1 _____ 1-5 _____ 6-10 _____11-20 _____ 21+

12. When you break your diet do you react by:

_____ Going right back on the diet
_____ Compensating by eating less for a while
_____ Continuing to eat nondiet foods and start the diet another day
_____ Getting rid of the food by vomiting or taking laxatives
_____ Not applicable

Appendix M: Online Survey Informed Consent Form – Study 1

LETTER OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Pilot Studies for Future Research**

You are asked to participate in a research study conducted by Lauren O'Driscoll, supervised by Dr. Josée Jarry, from the Department of Psychology at the University of Windsor. The results of this study were used to facilitate future research.

If you have any questions or concerns about this research, please feel to contact the primary investigator, Lauren O'Driscoll at [redacted] or the faculty supervisor, Dr. Josée Jarry at [redacted].

PURPOSE OF THE STUDY

The purpose of this study is to pilot test questionnaires for future research. These pilot studies are being offered together to facilitate recruitment and to make it convenient for students to gather their research bonus credit allotment.

PROCEDURES

If you volunteer to participate in this study, you were asked to do the following things. By consenting below you are indicating that you wish to participate in the present study. Upon reading and endorsing this consent form, you were directed to an online survey that consists of several questionnaires. After completing the online survey, you were directed to a subsequent form where you can fill in your personal information for verifying your bonus credit.

The entire study would take approximately 30 minutes of your time. The study must be completed in one online session. If you volunteer to participate, please set aside one uninterrupted half hour and complete the study in a quiet area without distractions. To receive your bonus credits, you would need to complete this study prior to the deadline at the end of the semester set by the University of Windsor's Psychology Participant Pool.

POTENTIAL RISKS AND DISCOMFORTS

During the course of your participation, you were asked some questions that may be personal in nature. A risk associated with this study is the possibility of thinking about personal issues that may cause some emotional and psychological concerns for you. If you do experience discomfort, you are welcome to contact the primary investigator (Lauren O'Driscoll), the faculty advisor (Dr. Josée Jarry), or the Student Counselling Centre at 519-253-3000 ext. 4616.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

The benefit of participating in this research is the opportunity to learn about and contribute to psychological research. As well, you may find that you learn more about yourself through participating in this research.

COMPENSATION FOR PARTICIPATION

Participants would receive 0.5 bonus credits for 30 minutes of participation towards the Psychology Participant Pool, if registered in the pool and enrolled in one or more eligible courses.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you would remain confidential and were disclosed only with your permission. Note that we must collect your name and student number at the end of the study in order for you to receive bonus credit for your participation. Your data were kept separate from your name and student number. Both files were password-protected and encrypted, and were stored in the University of Windsor data servers. Your data were retained for 10 years, after which point it were securely deleted from the servers.

PARTICIPATION AND WITHDRAWAL

Your participation in this study is completely voluntary. If you decide to participate, you may withdraw at any time during the study by clicking on the “Discard” button without negative consequences of any kind. If you choose to withdraw from the study, any data provided were destroyed. However, if you choose to withdraw before completing the survey, you would not receive the bonus credit. You may refuse to answer any questions you do not want to answer by leaving the question blank, and still remain in the study. We encourage you to answer all questions with which you are comfortable answering, as your responses are important to our investigation. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Research findings for this study were available to participants, and were posted on the University of Windsor REB website.

Web address: www.uwindsor.ca/reb
Date when results are available: October 2016

SUBSEQUENT USE OF DATA

These data from this study may be used in subsequent studies, in publications and in presentations. If published, only group data were reported and no individual were identified in any publication of the results.

RIGHTS OF RESEARCH PARTICIPANTS

This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

CONSENT OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE

“I understand the information provided for the study, **“**Pilot Studies for Future Research” as described herein. The nature and purposes of the research have been clearly explained, and I understand what is being proposed and what my participation in this study would involve. I would print a copy of this consent form for my own reference.”

I have read the letter of information and consent, and I agree to participate in this study. By selecting 'Yes' below, I am providing my informed consent.

☐Yes
☐No

Before proceeding to the study, be sure to print a copy of this consent form for your own reference. Please click 'Next' to proceed to the study.

Appendix N: Laboratory Session Informed Consent Form – Study 1

CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Pilot Studies for Future Research**

You are asked to participate in a research study conducted by Lauren O'Driscoll, supervised by Dr. Josée Jarry, from the Department of Psychology at the University of Windsor. The results of this study were used to facilitate future research. If you have any questions or concerns about this research, please feel to contact the primary investigator, Lauren O'Driscoll at [redacted], or the faculty supervisor, Dr. Josée Jarry at [redacted].

PURPOSE OF THE STUDY

The purpose of this study is to pilot questionnaires and experimental tasks for future research. These pilot studies are being offered together to facilitate recruitment and to make it convenient for students to gather their research bonus credit allotment.

PROCEDURES

If you volunteer to participate in this study, you were asked to do the following things. By signing this consent form you are indicating that you wish to participate in the present research. Upon reading and endorsing this consent form, you were asked to complete a group conversation exercise with other participants in this study. You would complete several brief questionnaires on a computer. You also would complete a group decision-making task. The entire session would last approximately 60 minutes.

POTENTIAL RISKS AND DISCOMFORTS

During the course of your participation, you were asked some questions that may be personal in nature. You may also experience discomfort in response to your interactions with other participants. A risk associated with this study is the possibility of thinking about personal issues that may cause some emotional and psychological concerns for you. You were provided with the opportunity to discuss these concerns thoroughly with the experimenter. If you have any concerns you wish to discuss with an independent party, please feel free to contact the Student Counselling Centre at 519-253-3000 Ext. 4616.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

The benefit of participating in this research is the opportunity to learn about and contribute to psychological research. As well, you may find that you learn more about yourself through participating in this research.

COMPENSATION FOR PARTICIPATION

Participants would receive 1 bonus credit for 60 minutes of participation towards the psychology participant pool, if registered in the pool and enrolled in one or more eligible courses.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you would remain confidential and were disclosed only with your permission. To ensure confidentiality, you were identified by participant number only, and there were no identifying features on the questionnaires. Your data were kept separate from your name and student number. Computer data were encrypted and

password protected, and were stored on secure online data servers. Hard-copy data were securely stored in a locked filing cabinet. Your data were retained for 10 years, after which point computer data were securely deleted from the servers and hard-copy data were shredded.

PARTICIPATION AND WITHDRAWAL

Your participation in this study is completely voluntary. If you decide to participate, you are free to withdraw from further participation in the research at any time without having to give a reason, and without penalty. A decision not to participate would not affect your academic standing or your relationship with the university. You may refuse to answer any questions that you are not comfortable answering. Following your participation, you may exercise the option of removing your data from this study. The investigator may withdraw you from this research if circumstances arise which warrant doing so (e.g., very incomplete questionnaires).

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Research findings for this study were available and posted on the University of Windsor REB website.
Web address: www.uwindsor.ca/reb.
Date when results are available: October 2016

SUBSEQUENT USE OF DATA

These data may be used in subsequent studies, in publications and in presentations. If published, only group data were reported and no individual were identified in any publication of the results.

RIGHTS OF RESEARCH PARTICIPANTS

This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

SIGNATURE OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE

"I understand the information provided for the study, "Pilot Studies for Future Research" as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I would print a copy of this consent form for my own reference."

SIGNATURE OF PARTICIPANT

_____
Name of Participant

_____
Date

SIGNATURE OF INVESTIGATOR
"In my judgement, the participant is voluntarily and knowingly giving informed consent to participate in this research study. These are the terms under which I would conduct research."

_____. _____
Name of Investigator Date

Appendix O: Conversation Task Topics

Places to study on or off campus
- What are some places for students to study on or off campus?
- What places to study do students seem to like more than others?
- In your opinion, what is the best place for students to study on or off campus?

Interesting subjects or courses
- What are some interesting subjects or courses that students can take at UWindsor?
- What subjects or courses at UWindsor do students seem to enjoy more than others?
- In your opinion, what is the most interesting subject or course that students can take at the University of Windsor?

Appendix P: Group Member Selection Form

In the spaces below, please provide the names of two participants whom you would most like to work with during the final task of the experiment. Keep in mind that your selections are not rankings - the order that you list your preferred group members does not matter.

Group member 1_____

Group member 2_____

Appendix Q: Marlowe-Crowne Social Desirability Scale (Form C)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is ***true*** **or** ***false*** as it pertains to you personally.

1. It is sometimes hard for me to go on with my work if I am not encouraged. _____
2. I sometimes feel resentful when I don't get my way. _____
3. On a few occasions, I have given up doing something because I thought too little of my ability. _____
4. There have been times when I felt like rebelling against people in authority even though I knew they were right. _____
5. No matter who I'm talking to, I'm always a good listener. _____
6. There have been occasions when I took advantage of someone. _____
7. I'm always willing to admit when I make a mistake. _____
8. I sometimes try to get even rather than forgive and forget. _____
9. I am always courteous, even to people who are disagreeable. _____
10. I have never been irked when people expressed ideas very different from my own. _____
11. There have been times when I was quite jealous of the good fortune of others. _____
12. I am sometimes irritated by people who ask favors of me. _____
13. I have never deliberately said something that hurt someone's feelings. _____

Appendix R: Self-Consciousness Scale

Please rate each item in terms of how true it was of you. Please circle one and only one number for each question according to the following scale:

0 = extremely uncharacteristic; 4 = extremely characteristic

1. I am always trying to figure myself out	0	1	2	3	4
2. I'm concerned about my style of doing things	0	1	2	3	4
3. Generally, I'm not very aware of myself	0	1	2	3	4
4. It takes me time to overcome my shyness in new situations	0	1	2	3	4
5. I reflect about myself a lot	0	1	2	3	4
6. I'm concerned about the way I present myself	0	1	2	3	4
7. I'm often the subject of my own fantasies	0	1	2	3	4
8. I have trouble working when someone is watching me	0	1	2	3	4
9. I never scrutinize myself	0	1	2	3	4
10. I get embarrassed very easily	0	1	2	3	4
11. I'm self-conscious about the way I look	0	1	2	3	4
12. I don't find it hard to talk to strangers	0	1	2	3	4
13. I'm generally attentive to my inner feelings	0	1	2	3	4
14. I usually worry about making a good impression	0	1	2	3	4
15. I'm constantly examining my motives	0	1	2	3	4
16. I feel anxious when I speak in front of a group	0	1	2	3	4
17. One of the last things I do before I leave my house is look in the mirror	0	1	2	3	4
18. I sometimes have the feeling that I am off somewhere watching myself	0	1	2	3	4
19. I'm concerned about what other people think of me	0	1	2	3	4
20. I'm alert to changes in my mood	0	1	2	3	4
21. I'm usually aware of my appearance	0	1	2	3	4
22. I'm aware of the way my mind works when I work through a problem	0	1	2	3	4
23. Large groups make me nervous	0	1	2	3	4

Appendix S: Revised Self-Monitoring Scale

DIRECTIONS: The statements below concern your personal reactions to a number of different situations. No two statements are exactly alike, so consider each statement carefully before answering. Use the following scale to indicate the extent of your agreement with each item:

0 = Certainly, always false
1 = Generally false
2 = Somewhat false, but with exceptions
3 = Somewhat true, but with exceptions
4 = Generally true
5 = Certainly, always true

	Certainly, always false	Generally false	Somewhat false, but with exceptions	Somewhat true, but with exceptions	Generally true	Certainly, always true
1. In social situations, I have the ability to alter my behaviour if I feel that something else is called for	0	1	2	3	4	5
2. I am often able to read people's true emotions correctly through their eyes	0	1	2	3	4	5
3. I have the ability to control the way I come across to people, depending on the impression I wish to give them	0	1	2	3	4	5
4. In conversations, I am sensitive to even the slightest change in the facial expression of the person I am conversing with	0	1	2	3	4	5
5. My powers of intuition are quite good when it comes to understanding others' emotions and motives	0	1	2	3	4	5
6. I can usually tell when others consider a joke to be in bad taste, even though they may laugh convincingly	0	1	2	3	4	5
7. When I feel that the image I am portraying isn't working, I can readily change it to something that does	0	1	2	3	4	5
8. I can usually tell when I've said something inappropriate by reading it in the listener's eyes	0	1	2	3	4	5
9. I have trouble changing my behaviour to suit different people in different situations	0	1	2	3	4	5
10. I have found that I can adjust my behaviour to meet the requirements of any situation I find myself in	0	1	2	3	4	5
11. If someone is lying to me, I usually know it at once from the person's manner of expression	0	1	2	3	4	5
12. Even when it might be to my advantage, I have difficulty putting up a good front	0	1	2	3	4	5
13. Once I know what the situation calls for, it's easy for me to regulate my actions accordingly	0	1	2	3	4	5

Appendix T: Information and Debriefing Form – Study 1

LETTER OF INFORMATION FOR DEBRIEFING AND CONSENT TO DATA RETENTION

Body Image Self-Enhancement Following Interpersonal Rejection: Defensive Processes in Women Who Rely on Body Weight for Self-Worth

Thank you for your participation in this study. Before explaining the true purpose of this research, it was important that you understand why it was necessary for some kinds of psychological studies not to tell people all about the purpose of the study at the very beginning. In some kinds of studies, if we tell people what the purpose of the experiment is and what we predict about how they would react under particular conditions, they might deliberately do whatever they think we want them to do, just to help us out and give us the results that they think we want. If that happened, their reactions would not be a good indication of how they might react in a situation in everyday life, where they didn't think they were being studied. it was also possible that the opposite might occur and that people might think that if we predicted that they would do a certain thing, they might deliberately not do it to show us that we can't figure them out. This would also make the results invalid, because again, what people would be responding to is what they thought we were looking for rather than responding naturally.

You were told that that you have just participated in a study piloting questionnaires and experimental tasks for future research. This was untrue. In actual fact, the study that you just participated in is looking at how interpersonal rejection affects appearance self-esteem, body satisfaction, implicit weight identity, and eating behaviour. We are particularly interested in the reactions of women whose self-esteem is highly contingent on their body weight, this is also known as *body weight contingent self-worth*. Previous research has shown that women who base their self-worth highly on their body weight respond to rejection by claiming greater satisfaction with their physical appearance (O'Driscoll & Jarry, 2015). Therefore, this research is designed to assess whether the body image satisfaction of women whose self-worth is highly contingent on body weight represents a defensive response against the impact of rejection.

it was important for you to know that the group assignment feedback that you received this study is completely bogus. It really does not mean anything, and furthermore, the feedback I gave you is completely false. We told you that you would have to choose group members for a final decision-making task, in actual fact this task does not exist. Basically, after you selected whom you wanted to work with, we told all participants that they would have to work alone for the remainder of the experiment. Participants in the control condition were told that the experimenter made a mistake assigning them to a group. Participants in the rejection condition were told that all of the other participants chose not to work with them. None of this is true, we made that

up completely. In fact, I do not know how many of the other participants chose to work with you, and the information I gave you about the selections made by the other participants does not mean anything. So, don't give it a second thought, as I said, none of this means anything about you.

How people feel about their body is important because negative body image feelings are a major trigger for eating disorders. So, it was important for psychologists to have as much information as possible about that. That is why we are conducting this study. However, we were afraid that if we told you that we wanted to see how being rejected would influence your feelings about your body, you would not feel rejected. I hope you can see how it was important for people in this study to think it was about something else.

As in most psychological research, we are interested in how the average person reacts in this situation. We need to test many people and combine their results to get a good indication of how the average person reacts under the different conditions. In order for us to draw any conclusions, we have to combine the data we got from you with data we get from other people so that we have enough data to draw conclusions. What this means is that there were many people participating in this study. it was going to be necessary for us to ask you not to say anything about the study to anyone else. If you talked to someone else about the study and told them all the things I just told you and then they were in the study, their reactions wouldn't be spontaneous and natural, and their results couldn't be used and combined with your data and those from other people. If that happened, we wouldn't have enough data to make conclusions about the average person, so the whole study really would be for nothing. I hope you can see why it was extremely important that I ask you not to say anything about the study. You might think that it won't make a difference if you talk to your roommate about it because they'll never be in the study, but your roommate might say something to someone else who might be in the study. So, I would like to ask you not to say anything about the study, other than you did some cognitive tasks and filled out some questionnaires until at least the end of the semester.

We hope you found your experience of participating in this study interesting. I would be glad to answer any questions you might have. If you are interested in learning more about the current research, a good resources is: O'Driscoll, L. M. & Jarry, J. L. (2015). Interpersonal rejection results in increased body image satisfaction for women who rely on body weight for self-worth. *Body Image, 12,* 36 – 43.

CONTACT INFORMATION

If you have any concerns at all about the study itself, or are interested in receiving more information, please feel free to contact the primary investigator, **Lauren O'Driscol**l, at [redacted] or the faculty supervisor, **Dr. Josée Jarry** at [redacted]

If you wish to talk about any issues that came to your attention today, I encourage you to discuss your reactions with me. If you wish to talk to an outside party, please feel free to contact the **University of Windsor Student Counselling Centre** at 519-253-3000 Ext. 4616. Other helpful resources in the community include the **Community Crisis Centre of Windsor** at 519-973-4435, and the **Windsor-Essex County Distress Centre** at 519-256-5000.

This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may

contact the **Research Ethics Coordinator**, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca. Any complaint you make were treated in confidence and investigated, and you were informed of the outcome.

CONSENT TO DATA RETENTION

If you consent below, the data you have provided were used in this study. You are free to decide not to consent without having to give a reason and without penalty. If you do not consent, the data were destroyed.

"I have read and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to allow my data to be used in this research, knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep."

SIGNATURE OF PARTICIPANT

_____
Name of Participant

_____
Date

SIGNATURE OF INVESTIGATOR

_____

_____
Date

Appendix U: Weight and Height Measurement Informed Consent Form

LETTER OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH

You have just participated in a research study conducted by Lauren O'Driscoll, supervised by Dr. Josée Jarry, from the Department of Psychology at the University of Windsor entitled: **Body Image Self-Enhancement Following Interpersonal Rejection: Defensive Processes in Women Who Rely on Body Weight for Self-Worth**

As a component of the larger study you have just completed, you are being asked to allow this investigator to obtain a measure of your height and weight, so that your body mass index (BMI) can be calculated.

The information you provide would remain confidential and were disclosed only with your permission. To ensure confidentiality, you were identified by participant number only, and your data were kept separate from your name and student number. These data may be used in subsequent studies, in publications and in presentations. If published, only group data were reported and no individual were identified in any publication of the results.

Taking part in this final component of the study is completely voluntary. If you do not wish to be weighed and/or have your height measured, you are free to refuse without any penalty or loss of bonus credit.

This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

Again, if you have any questions or concerns about this research, please feel to contact the primary investigator, Lauren O'Driscoll at [redacted] or the faculty supervisor, Dr. Josée Jarry at [redacted].

If you are willing to participate in this component of the study and understand all that were asked of you in participating, please sign your name following this consent statement:

"I am willing to allow the investigator to measure my weight and height. I understand that all information I provide were used for research purposes only and that my confidentiality were assured. I also realize I am free to withdraw from this study at any time without penalty."

SIGNATURE OF PARTICIPANT

_____
Name of Participant

_____
Date

SIGNATURE OF INVESTIGATOR

_____. _____
Name of Investigator Date

Appendix V: Regression Tables with Suspicious Cases Removed – Study 1

Table 33

Final Regression Model for State Body Satisfaction Excluding Suspicious Cases (N = 120)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.62	0.38	(Constant)	5.15	0.10	-	49.86	.000	4.95	5.36
			BDI	-0.06	0.01	-0.40	-5.24	.000	-0.08	-0.03
			BMI	-0.10	0.02	-0.39	-5.15	.000	-0.14	-0.06
2	0.76	0.57	(Constant)	5.22	0.13	-	40.15	.000	4.96	5.47
			BDI	-0.04	0.01	-0.25	-3.81	.000	-0.05	-0.02
			BMI	-0.08	0.02	-0.32	-5.01	.000	-0.11	-0.05
			BWCSWS	-0.52	0.07	-0.47	-7.17	.000	-0.66	-0.37
			Condition	-0.13	0.18	-0.05	-0.73	.465	-0.48	0.22
3	0.76	0.57	(Constant)	5.22	0.13	-	39.93	.000	4.96	5.47
			BDI	-0.04	0.01	-0.25	-3.79	.000	-0.05	-0.02
			BMI	-0.08	0.02	-0.32	-4.99	.000	-0.11	-0.05
			BWCSWS	-0.51	0.12	-0.46	-4.38	.000	-0.74	-0.28
			Condition	-0.13	0.18	-0.05	-0.73	.467	-0.48	0.22
			BWCSWS x Condition	-0.01	0.14	-0.01	-0.05	.963	-0.29	0.27

Note. Dependent variable: Body image States Scale (BISS)
BDI = Beck Depression Inventory; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 34

Final Regression Model for State Appearance Self-Esteem Excluding Suspicious Cases (N = 120)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.73	0.53	(Constant)	19.74	0.30	-	66.10	.000	19.15	20.33
			RSES	0.53	0.06	0.62	9.53	.000	0.42	0.63
			BMI	-0.23	0.05	-0.27	-4.20	.000	-0.34	-0.12
2	0.79	0.63	(Constant)	19.89	0.40	-	49.81	.000	19.10	20.68
			RSES	0.42	0.05	0.49	7.85	.000	0.31	0.52
			BMI	-0.19	0.05	-0.22	-3.77	.000	-0.29	-0.09
			BWCSWS	-1.28	0.23	-0.35	-5.58	.000	-1.73	-0.82
			Condition	-0.28	0.54	-0.03	-0.51	.608	-1.35	0.80
3	0.79	0.63	(Constant)	19.90	0.40	-	49.56	.000	19.10	20.69
			RSES	0.41	0.05	0.49	7.76	.000	0.31	0.52
			BMI	-0.19	0.05	-0.22	-3.75	.000	-0.29	-0.09
			BWCSWS	-1.18	0.36	-0.32	-3.30	.001	-1.89	-0.47
			Condition	-0.28	0.54	-0.03	-0.53	.603	-1.36	0.79
			BWCSWS x Condition	-0.16	0.44	-0.03	-0.35	.724	-1.02	0.71

Note. Dependent variable: State Self-Esteem Scale-Physical Appearance Subscale (SSES-Appearance) RSES = Rosenberg Self-Esteem Scale; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 35

Final Regression Model for State Performance Self-Esteem Excluding Suspicious Cases (N = 120)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.56	0.32	(Constant)	26.66	0.37	-	72.95	.000	25.94	27.38
			RSES	0.49	0.07	0.56	7.37	.000	0.36	0.62
2	0.58	0.33	(Constant)	26.96	0.54	-	49.59	.000	25.88	28.04
			RSES	0.44	0.07	0.51	6.14	.000	0.30	0.58
			BWCSWS	-0.48	0.31	-0.13	-1.55	.123	-1.09	0.13
			Condition	-0.54	0.73	-0.06	-0.73	.465	-1.99	0.91
3	0.58	0.33	(Constant)	26.97	0.55	-	49.35	.000	25.89	28.05
			RSES	0.44	0.07	0.51	6.07	.000	0.30	0.58
			BWCSWS	-0.35	0.49	-0.09	-0.71	.477	-1.31	0.62
			Condition	-0.55	0.74	-0.06	-0.74	.461	-2.00	0.91
			BWCSWS x Condition	-0.21	0.60	-0.05	-0.72	.724	-1.40	0.97

Note. Dependent variable: State Self-Esteem Scale-Performance Subscale (SSES-Performance) RSES = Rosenberg Self-Esteem Scale; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 36

Final Regression Model for State Social Self-Esteem Excluding Suspicious Cases (N = 120)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.56	0.31	(Constant)	25.27	0.46	-	54.48	.000	24.35	26.19
			RSES	0.61	0.08	0.56	7.26	.000	0.44	0.78
2	0.63	0.40	(Constant)	25.40	0.65	-	38.99	.000	24.11	26.69
			RSES	0.47	0.09	0.43	5.44	.000	0.30	0.64
			BWCSWS	-1.54	0.37	-0.33	-4.17	.000	-2.28	-0.81
			Condition	-0.22	0.88	-0.02	-0.25	.801	-1.96	1.52
3	0.63	0.40	(Constant)	25.42	0.65	-	38.88	.000	24.12	26.71
			RSES	0.46	0.09	0.42	5.35	.000	0.29	0.63
			BWCSWS	-1.25	0.58	-0.27	-2.15	.033	-2.40	-0.10
			Condition	-0.24	0.88	-0.02	-0.27	.788	-1.98	1.51
			BWCSWS x Condition	-0.47	0.72	-0.08	-0.65	.518	-1.88	0.95

Note. Dependent variable: State Self-Esteem Scale-Social Subscale (SSES-Social)
RSES = Rosenberg Self-Esteem Scale; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 37

CSW x Condition as Predictors of State Body Satisfaction Excluding Suspicious Cases (N = 120)

						95% CI	
Predictor	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
CSW-Academics x Condition	0.09	0.23	0.04	0.41	.686	-0.37	0.55
CSW-Appearance x Condition	-0.18	0.22	-0.09	-0.82	.416	-0.61	0.25
CSW-Approval x Condition	-0.10	0.14	-0.07	-0.71	.480	-0.37	0.18
CSW-Competition x Condition	-0.12	0.19	0.07	-0.65	.518	-0.25	0.49
CSW-Family Support x Condition	-0.08	0.23	-0.04	-0.34	.735	-0.53	0.37
CSW-God's Love x Condition	-0.10	0.10	-0.10	-0.90	.370	-0.31	0.11
CSW-Virtue x Condition	0.06	0.23	0.03	0.27	.785	-0.40	0.53

Note. Dependent variable: Body Image States Scale (BISS), controlling for Beck Depression Inventory-II (BDI-II), and Body Mass Index (BMI)
CSW-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSW-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSW-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSW-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSW-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSW-God = Contingencies of Self-Worth Scale, God's Love subscale; CSW-Virtue = Contingencies of Self-Worth Scale, Virtue subscale.

Table 38

CSW x Condition as Predictors of State Appearance Self-Esteem Excluding Suspicious Cases (N = 120)

						95% CI	
Predictor	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
CSW-Academics x Condition	0.95	0.67	0.14	1.42	.157	-0.37	2.27
CSW-Appearance x Condition	-0.55	0.62	-0.08	-0.89	.377	-1.78	.681
CSW-Approval x Condition	0.01	0.41	0.00	0.02	.986	-0.80	0.81
CSW-Competition x Condition	0.42	0.54	0.07	0.78	.435	-0.64	1.48
CSW-Family Support x Condition	0.28	0.66	0.04	0.42	.677	-1.04	1.59
CSW-God's Love x Condition	-0.07	0.31	-0.02	-0.22	.820	-0.69	0.55
CSW-Virtue x Condition	1.05	0.68	0.17	1.55	.124	-0.29	2.39

Note. Dependent variable: State Self-Esteem Scale-Appearance subscale (SSES-Appearance), controlling for Rosenberg State Self Esteem Scale (RSES) and Body Mass Index (BMI)
CSW-Academics = Contingencies of Self-Worth Scale, Academics subscale; CSW-Appearance = Contingencies of Self-Worth Scale, Appearance subscale; CSW-Approval = Contingencies of Self-Worth Scale, Approval subscale; CSW-Competition = Contingencies of Self-Worth Scale, Competition subscale; CSW-Family = Contingencies of Self-Worth Scale, Family Support subscale; CSW-God = Contingencies of Self-Worth Scale, God's Love subscale; CSW-Virtue = Contingencies of Self-Worth Scale, Virtue subscale.

Table 39

Final Regression Model for Implicit Weight Identity Excluding Suspicious Cases (N = 111)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.43	0.19	(Constant)	-0.43	0.03	-	-12.54	.000	-0.50	-0.36
			RSES	-0.01	0.01	-0.19	-2.11	.037	-0.02	-0.00
			BMI	0.03	0.01	0.36	4.01	.000	0.01	0.04
2	0.45	0.20	(Constant)	-0.37	0.05	-	-7.05	.000	-0.48	-0.27
			RSES	-0.01	0.01	-0.20	-2.06	.042	-0.03	-0.00
			BMI	0.03	0.01	0.37	4.16	.000	0.01	0.04
			BWCSWS	-0.00	0.03	-0.01	-0.13	.900	-0.06	0.05
			Condition	-0.11	0.07	-0.14	-1.56	.123	-0.25	0.03
3	0.45	0.20	(Constant)	-0.37	0.05	-	-7.02	.000	-0.48	-0.27
			RSES	-0.01	0.01	-0.20	-2.07	.041	-0.03	-0.00
			BMI	0.03	0.01	0.37	4.15	.000	0.01	0.04
			BWCSWS	0.01	0.05	0.04	0.24	.807	-0.08	0.11
			Condition	-0.11	0.07	-0.14	-1.55	.124	-0.25	0.03
			BWCSWS x Condition	-0.02	0.06	-0.06	-0.41	.685	-0.14	0.09

Note. Dependent variable: IAT effect difference score (*D*), with greater positive scores reflecting associations between Fat + Self (and/or Thin + Other) and more negative scores reflecting associations between Thin + Self (and/or Fat + Other)
RSES = Rosenberg Self-Esteem Scale; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 40

Final Regression Model for Candy Consumed Excluding Suspicious Cases (N = 117)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.10	0.01	(Constant)	30.68	3.75	-	8.17	.000	22.24	38.12
			BWCSWS	1.74	1.97	0.08	0.88	.379	-2.17	5.65
			Condition	-2.87	5.04	-0.05	-0.57	.570	-12.85	7.11
2	0.11	0.01	(Constant)	30.68	3.77	-	8.14	.000	23.21	38.15
			BWCSWS	1.90	3.45	0.09	0.55	.584	-4.94	8.73
			Condition	-2.87	5.06	-0.05	-0.57	.571	-12.89	7.15
			BWCSWS x Condition	-0.23	4.22	-0.01	-0.05	.957	-8.58	8.12

Note. Dependent variable: Candy consumed (g)
BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Appendix W: Regression Tables with Experimenter 4 Removed – Study 1

Table 41

Final Regression Model for State Body Satisfaction Excluding Experimenter 4 Data (N = 126)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.57	0.33	(Constant)	5.26	0.10	-	51.96	.000	5.06	5.46
			RSES	0.10	0.02	0.38	5.01	.000	0.06	0.13
			BMI	-0.10	0.02	-0.39	-5.17	.000	-0.14	-0.06
2	0.70	0.50	(Constant)	5.32	0.14	-	36.99	.000	5.03	5.60
			RSES	0.05	0.02	0.20	2.88	.005	0.02	0.09
			BMI	-0.08	0.02	-0.31	-4.70	.000	-0.11	-0.05
			BWCSWS	-0.50	0.08	-0.45	-6.31	.000	-0.65	-0.34
			Condition	-0.10	0.18	-0.04	-0.54	.560	-0.46	0.26
3	0.70	0.50	(Constant)	5.32	0.14	-	36.87	.000	5.03	5.60
			RSES	0.05	0.02	0.21	2.90	.004	0.02	0.09
			BMI	-0.08	0.02	-0.31	-4.69	.000	-0.11	-0.05
			BWCSWS	-0.55	0.13	-0.50	-4.12	.000	-0.81	-0.28
			Condition	-0.10	0.18	-0.04	-0.53	.595	-0.46	0.27
			BWCSWS x Condition	0.08	0.16	0.06	0.48	.631	-0.23	0.38

Note. Dependent variable: Body image States Scale (BISS)
RSES = Rosenberg Self-Esteem Scale; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 42

Final Regression Model for State Social Self-Esteem Excluding Experimenter 4 Data (N = 126)

Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	*95% CI*	
									Min	Max
1	0.54	0.26	(Constant)	25.98	0.41	-	62.75	.000	25.16	26.80
			RSES	0.54	0.08	0.54	7.05	.000	0.39	0.69
2	0.60	0.36	(Constant)	25.51	0.64	-	39.78	.000	24.24	26.78
			RSES	0.43	0.08	0.43	5.37	.000	0.27	0.59
			BWCSWS	-1.26	0.35	-0.29	-3.65	.000	-1.94	-0.58
			Condition	-0.76	0.82	0.07	0.93	.353	-0.86	2.38
3	0.60	0.36	(Constant)	25.51	0.64	-	39.61	.000	24.23	26.78
			RSES	0.43	0.08	0.43	5.33	.000	0.27	0.59
			BWCSWS	-1.27	0.59	-0.29	-2.15	.034	-2.43	-0.10
			Condition	0.76	0.82	0.07	0.93	.355	-0.86	2.38
			BWCSWS x Condition	0.01	0.70	0.00	0.02	.988	-1.37	1.39

Note. Dependent variable: State Self-Esteem Scale-Social Subscale (SSES-Social)
RSES = Rosenberg Self-Esteem Scale; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 43

Final Regression Model for Implicit Weight Identity Excluding Confederate 4 Data (N = 118)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.32	0.10	(Constant)	-0.46	0.03	-	-14.27	.000	-0.52	-0.40
			BMI	0.02	0.01	0.32	3.59	.000	0.01	0.04
2	0.32	0.11	(Constant)	-0.43	0.05	-	-8.15	.000	-0.54	-0.33
			BMI	0.02	0.01	0.31	3.36	.001	0.01	0.04
			BWCSWS	0.01	0.03	0.05	0.51	.610	-0.04	0.07
			Condition	-0.04	0.07	-0.06	-0.63	.531	-0.18	0.09
3	0.33	0.11	(Constant)	-0.34	0.05	-	-8.13	.000	-0.54	-0.33
			BMI	0.02	0.01	0.30	3.28	.001	0.01	0.04
			BWCSWS	-0.00	0.05	-0.01	-0.06	.952	-0.10	0.09
			Condition	0.14	0.07	0.06	-0.61	.542	-0.18	0.09
			BWCSWS x Condition	0.02	0.06	0.07	0.42	.675	-0.09	0.14

Note. Dependent variable: IAT effect difference score (*D*), with greater positive scores reflecting associations between Fat + Self (and/or Thin + Other) and more negative scores reflecting associations between Thin + Self (and/or Fat + Other)
BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (rejection vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Appendix X: Summary of Hypotheses, Statistical Procedures, and Results

Table 44

Summary of Hypotheses, Statistical Procedures, and Results

Hypothesis	Statistical Procedure(s) – Hierarchical Regression			
	Dependent Variable	Significant Covariates	Predictor(s) of Interest	Results
Study 1 – Main Analyses				
1.1.1. Women with higher BWCSW would self-report lower state body satisfaction and appearance self-esteem than would those with lower BWCSW across conditions.	BISS	BMI, BDI, RSES	BWCSW	Women higher in BWCSW reported significantly lower state body satisfaction than those lower in BWCSW ($p < .001$, $r^2 = .28$).
	SSES-Appearance	BMI, RSES	BWCSW	Women higher in BWCSW reported significantly lower state appearance self-esteem than those lower in BWCSW ($p < .001$, $r^2 = .21$).
1.1.2. Following rejection, women higher in BWCSW would self-report greater state body satisfaction and appearance self-esteem than would control. Among women lower in BWCSW, self-reports of state body satisfaction and appearance self-esteem would not differ across conditions.	BISS	BMI, BDI, RSES	Condition (rejection vs. control) x BWCSW	Nonsignificant ($p = .925$, $r^2 < .01$)
	SSES-Appearance	BMI, RSES	Condition (rejection vs. control) x BWCSW	Nonsignificant ($p = .615$, $r^2 < .01$)
1.1.3. The self-enhancement effect of women with higher BWCSW in response to rejection would be unique to the domain of body image, such that other domains of state self-esteem (social and performance) would not be affected by this combination of predictors.	SSES-Performance	RSES	Condition (rejection vs. control) x BWCSW	Nonsignificant ($p = .853$, $r^2 < .01$)
	SSES-Social	RSES	Condition (rejection vs. control) x BWCSW	Nonsignificant ($p = .626$, $r^2 < .01$)

Hypothesis	Statistical Procedure(s) – Hierarchical Regression			
	Dependent Variable	Significant Covariates	Predictor(s) of Interest	Results
1.1.4. The effect of rejection on body image evaluation would be moderated specifically by BWCSW, such that other domains of contingent self-worth (achievement, appearance, other's approval, competition, family support, God's love, virtue) would not moderate the effect of rejection on reported state body satisfaction and appearance self-esteem.	BISS	BMI, BDI, RSES	Condition (rejection vs. control) x CSW (Academics, Appearance, Approval, Competition, Family Support, God's Love, Virtue)	Nonsignificant (ps > .358)
	SSES-Appearance	BMI, RSES	Condition (rejection vs. control) x CSW (academics, appearance, approval, competition, family, God's love, virtue)	Nonsignificant overall interaction term (p = .063, r^2 = .03). Women higher in virtue CSW reported significantly greater state appearance self-esteem in the rejection condition than control (p = .024). No significant difference between conditions for women lower in virtue CSW (p = .222).
1.2.1. Women whose self-worth is highly contingent on body weight would demonstrate greater implicit fat identity, indicated by faster implicit associations between *self* and *fat* relative to *self* and *thin*, than would women whose self-worth is less contingent on body weight across conditions.	Implicit weight identity	BMI, RSES	BWCSW	Nonsignificant (p = .903, r^2 < .01)
1.2.2. Women whose self-worth is highly contingent on body weight would eat less than would women whose self-worth is less contingent on body weight across conditions.	Candy consumed	None	BWCSW	Nonsignificant (p = .454, r^2 < .01)
1.2.3. Following rejection, women with higher BWCSW would demonstrate greater implicit fat identity, indicated by faster implicit associations between *self* and *fat* relative to *self* and *thin*, than would those not exposed to rejection. Among women lower in BWCSW, implicit weight identity would not differ across conditions.	Implicit weight identity	BMI, RSES	Condition (rejection vs. control) x BWCSW	Nonsignificant (p = .742, r^2 < .01)

Hypothesis	Statistical Procedure(s) – Hierarchical Regression			
	Dependent Variable	Significant Covariates	Predictor(s) of Interest	Results
1.2.4. Women in the rejection condition would eat more than would women who are unexposed to rejection.	Candy consumed	None	Condition (rejection vs. control)	Nonsignificant (p = .309, $r2$ = .01); no moderating effect of dietary restraint (p = .612, r^2 < .01)
1.2.5. Women with higher BWCSW would eat significantly less following rejection compared to control. Women with lower BWCSW would eat more following rejection relative to control.	Candy consumed	None	Condition (rejection vs. control) x BWCSW	Nonsignificant (p = .851, r^2 < .01); no moderating effect of dietary restraint (p = .205, r^2 = .01)
Study 1 – Supplementary Analyses				
Supplementary analyses were conducted to determine whether the impact of BWCSW and experimental condition on explicit or implicit body image evaluation (state body satisfaction, state appearance self-esteem, or implicit weight identity) varied as a function of the quantity of candy consumed.	BISS, SSES-Appearance, implicit weight identity	BMI (BISS, SSES-Appearance, implicit weight identity), BDI (BISS, SSES-Appearance)	Condition (rejection vs. control) x BWCSW x candy consumed	Nonsignificant (ps > .167)
Study 1 – Exploratory Analyses				
Exploratory analyses were conducted to examine whether any of the alternative domains of CSW (achievement, appearance, other's approval, competition, family support, God's love, virtue) moderated the effects of experimental condition on the remaining dependent variables included in this study (state performance and social self-esteem, implicit weight identity, or candy consumed).	SSES-Performance, SSES-Social implicit weight identity, candy consumed	BMI (implicit weight identity), RSES (SSES-Performance, SSES-Social, implicit weight identity)	Condition (rejection vs. control) x CSW (academics, appearance, approval, competition, family, God's love, virtue)	Significant overall interaction term for candy consumed (p = .007, r^2 = .05). Women lower in virtue CSW consumed less candy in the rejection condition than control (p = .008), approaching the Bonferroni adjusted alpha level of p < .0071. No significant difference between conditions for women higher in virtue CSW (p = .196).
Study 2 – Main Analyses				
2.1.1. Following rejection, women higher in BWCSW who self-affirmed the value of kindness would self-report lower state body satisfaction and appearance self-esteem than would control. Among women with lower BWCSW, state body satisfaction and appearance self-esteem would not differ across conditions.	BISS	BMI, RSES	Condition (affirmation vs. control) x BWCSW	Nonsignificant (p = .993, r^2 < .01)
	SSES-Appearance	BMI, BDI, RSES	Condition (affirmation vs. control) x BWCSW	Nonsignificant (p = .862, r^2 < .01)

Hypothesis	Statistical Procedure(s) – Hierarchical Regression			
	Dependent Variable	Significant Covariates	Predictor(s) of Interest	Results
2.1.2. Following rejection, women higher in BWCSW who self-affirmed the value of kindness would demonstrate lower implicit fat identity, indicated by slower implicit associations between self and fat relative to self and thin, than would control. Among women with lower BWCSW, implicit weight identity would not differ across conditions.	Implicit weight identity	BMI	Condition (affirmation vs. control) x BWCSW	Nonsignificant overall interaction term (p = .091, r^2 = .04). Women higher in BWCSW demonstrated nonsignificantly lower implicit fat identity in the affirmation condition than control (p = .096). No significant difference between conditions for women lower in BWCSW (p = .425).
2.1.3. Following rejection, women in the kindness affirmation condition would eat less than those who were unaffirmed.	Candy consumed	None	Condition	Nonsignificant (p = .935, r^2 < .01)
2.1.4. Following rejection, women higher in BWCSW who self-affirmed the value of kindness would eat more than would those who were unaffirmed, whereas women lower in BWCSW who self-affirmed would eat less than those who were unaffirmed.	Candy consumed	None	Condition (affirmation vs. control) x BWCSW	Nonsignificant (p = .454, r^2 = .01)
2.2.1. Following rejection, women in the kindness affirmation condition would demonstrate greater state social self-esteem than would those who were unaffirmed.	SSES-Social	BDI, RSES	Condition (affirmation vs. control)	Women in the affirmation condition reported significantly lower state social self-esteem than control (p = .028, r^2 = .05).
2.2.2. Following rejection, women higher in BWCSW who self-affirmed the value of kindness would derive a smaller proportion of self-esteem from body shape and weight relative to other domains, than would control. Among women with lower BWCSW, the proportion of self-esteem derived from body weight would not differ across conditions.	SAWBS	BDI	Condition (affirmation vs. control) x BWCSW	Nonsignificant overall interaction term (p = .156, r^2 = .02). For women higher in BWCSW, those in the affirmation condition reported significantly lower shape- and weight-based self-esteem than control (p = .047). No significant difference between conditions for women lower in BWCSW (p = .941).

Hypothesis	Statistical Procedure(s) – Hierarchical Regression			
	Dependent Variable	Significant Covariates	Predictor(s) of Interest	Results
Study 2 – Content Analysis				
Content analyses were conducted to determine whether there was a significant association between level of domain-specific CSW (body weight, achievement, appearance, other's approval, competition, family support, God's love, virtue) and writing about physical appearance-related acts of kindness during the self-affirmation task.	Appearance-related vs. nonappearance related content	-	CSW (body weight, academics, appearance, approval, competition, family, God's love, virtue), high vs. low median split	No significant association between level of (body weight, family, competition, appearance, approval, virtue, academics, or God's love) contingent self-worth and appearance-related content on the self-affirmation task (ps < .115).
Study 2 – Supplementary Analyses				
Supplementary analyses were conducted to determine whether virtue CSW moderated the effects of experimental condition on explicit or implicit body image evaluation (state body satisfaction, state appearance self-esteem, implicit weight identity, candy consumed, or shape- and weight-based self-esteem).	BISS, SSES-Appearance, implicit weight identity, candy consumed, SAWBS	BMI (BISS, SSES-Appearance, implicit weight identity), BDI (SSES-Appearance, SAWBS), RSES (BISS, SSES-Appearance)	Condition (affirmation vs. control) x virtue CSW	Nonsignificant overall interaction term for state appearance self-esteem (p = .225, r^2 = .02). For women higher in virtue CSW, those in the affirmation condition reported significantly lower state appearance self-esteem than control (p = .030). No significant difference between conditions for women lower in virtue CSW (p = .651).
				Nonsignificant overall interaction term for shape- and weight-based self-esteem (p = .217, r^2 = .02). For women higher in virtue CSW, those in the affirmation condition reported nonsignificantly lower shape- and weight-based self-esteem than control (p = .067). No significant difference between conditions for women lower in virtue CSW (p = .961).

Note. BISS = Body Image States Scale; BDI = Beck Depression Inventory-II; BMI = Body Mass Index; BWCSW = Body Weight Contingent Self-Worth Scale; Candy Consumed = amount of candy consumed in grams (g); CSWS = Contingencies of Self-Worth Scale; implicit weight identity = IAT *D* effect, Fat + Self ; RSES = Rosenberg Self-Esteem Scale; SSES-Performance = State Self-Esteem Scale, Performance subscale; SSES-Social = State Self-Esteem Scale, Social subscale; SSES-Appearance = State Self-Esteem Scale, Appearance subscale. Squared partial correlation coefficients (r^2), indicate the proportion of variance accounted for by the effect of the independent variable on the dependent variable, after controlling for the effects of other variables included in the model (small effect = .01, medium effect = .09, large effect = .25).

Appendix Y: Participant Pool Recruitment Advertisement – Study 2

Title: Pilot Testing for Future Research
Researchers: Lauren O'Driscoll, Dr. Josée Jarry
Duration: Study 1: 30 minutes / Study 2: 90 minutes
Credits: Study 1: 0.5 credits / Study 2: 2 credits

The following pilot studies are being offered together to facilitate recruitment and to make it convenient for students to gather their research bonus point allotment. Study 1 consists of an online survey, and Study 2 consists of a laboratory session.

The purpose of Study 1 is to pilot test questionnaires to be used in future research. Study 1 is completed in an online survey format. You will be asked to complete a series of questionnaires related to mood and personality. This study will take approximately 30 minutes to complete and will be done in one session.

The purpose of Study 2 is to pilot test questionnaires and experimental tasks to be used in future research. Study 2 will be conducted in the lab. You will complete a group conversation exercise, a battery of questionnaires, and group decision-making task. Study 2 will take approximately 90 minutes to complete and will be done in one session.

Participants who complete Part 1 and Part 2 will receive 2.5 bonus points for 120 minutes of participation towards the psychology participant pool, if registered in the pool and enrolled in one or more eligible courses.

Appendix Z: Sample Recruitment E-mail – Study 2

Subject: Invitation to Participate in Pilot Studies for Future Research

Dear [participant name],

We are reaching out to eligible participants registered in the psychology participant pool to take part in research that aims to test pilot studies for future research.

These pilot studies are being offered together to facilitate recruitment and to make it convenient for students to gather their research bonus point allotment. Participants who complete both studies will receive 2.5 bonus points for 120 minutes of participation towards the psychology participant pool, if registered in the pool and enrolled in one or more eligible courses.

The purpose of Study 1 is to pilot test questionnaires to be used in future research. Study 1 is completed in an online survey format. You will be asked to complete a series of questionnaires related to mood and personality. This study will take approximately 30 minutes to complete and will be done in one session.

The purpose of Study 2 is to pilot test questionnaires and experimental tasks to be used in future research. Study 2 will be conducted in the lab (CHS). You will complete a group conversation exercise, a battery of questionnaires, and group decision-making task. Study 2 will take approximately 90 minutes to complete and will be done in one session.

All participation for these studies is voluntary and confidential. If you are interested in participating, please contact me at [redacted] You will be sent a list of available time-slots, and will be registered for these studies on the psychology participant pool.

Best regards,

Lauren O'Driscoll

Appendix AA: Self-Affirmation Manipulation Check Questionnaire

Take a moment to think about how you are feeling. Please answer the following questions about how you are feeling at this moment:

1. How meaningful did you find the writing exercise that you just completed?

1- - - - -2- - - - -3- - - - -4- - - - -5- - - - -6- - - - -7- - - - -8- - - - -9

not at all *very much*

2. In general, how do you feel about yourself?

1- - - - -2- - - - -3- - - - -4- - - - -5- - - - -6- - - - -7- - - - -8- - - - -9

extremely negative *extremely positive*

Appendix BB: Positive and Negative Affect Schedule

This scale consists of a number of words that describe different feeling and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way *right now*, that is, *at the present moment*. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

_____interested

_____distressed

_____excited

_____upset

_____strong

_____guilty

_____scared

_____hostile

_____enthusiastic

_____proud

_____irritable

_____alert

_____ashamed

_____inspired

_____nervous

_____determined

_____attentive

_____jittery

_____active

_____afraid

Appendix CC: Shape and Weight Based Self-Esteem Inventory – Adult

OUR OPINION OF OURSELVES IS BASED ON HOW WE FEEL ABOUT OUR DIFFERENT PERSONAL ATTRIBUTES

STEP 1: Please read through the list below and PLACE AN "X" on the line next to each attribute that is important to how you feel about yourself at the present moment.

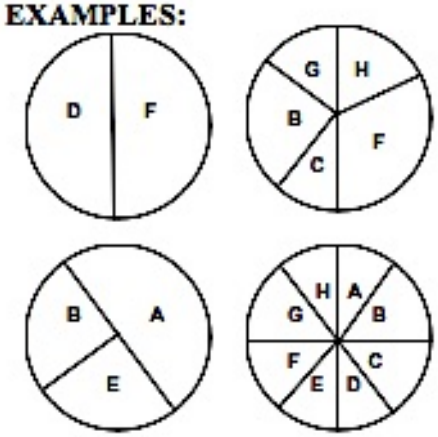
STEP 2: Now, look over the attributes you have selected, and RANK ORDER them in terms of how much your present opinion is based on each attribute. The numbers should not necessarily reflect how satisfied you are with the attribute, but rather how important the attribute is to how you feel about yourself right now.

STEP 3: Using the attributes you selected, DIVIDE THE CIRCLE below so that the size of each section is a reflection of how much your opinion of yourself at the present moment is based on the attribute (larger pieces should indicate that a greater part of yourself has been based on that attribute, for example). Place the letters corresponding to the attributes inside the pieces of the circle.

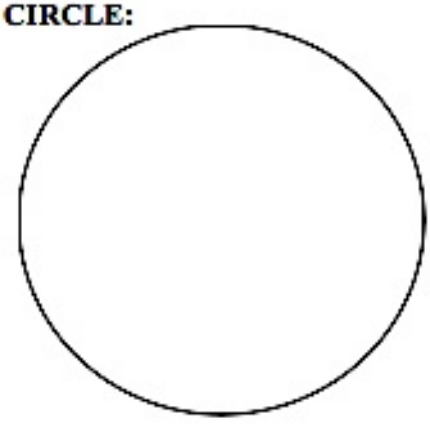
- ❒ _____ **A: Your intimate or romantic relationships**
  - e.g., as reflected in the level of closeness you feel in close relationships
- ❒ _____ **B: Your body shape and weight**
  - e.g., your actual current shape and weight
- ❒ _____ **C: Your competence at school/work**
  - e.g., as reflected by grades or work evaluation
- ❒ _____ **D: Your Personality**
  - e.g., warmth, level-headedness, openness, self-control
- ❒ _____ **E: Your Friendships**
  - e.g., as reflected by the number or quality of friendships
- ❒ _____ **F: Your Face**
  - e.g., how "good looking" you are
- ❒ _____ **G: Your Personal Development**
  - e.g., your sense of morality, ethics, or spirituality
- ❒ _____ **H: Your competence at activities other than school/work**
  - e.g., your competence in music, sports, hobbies
- ❒ _____ **I: OTHER**

  Please describe:_____

EXAMPLES:



YOUR CIRCLE:



Appendix DD: Online Survey Informed Consent Form – Study 2

LETTER OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Pilot Testing for Future Research**

You are asked to participate in a research study conducted by Lauren O'Driscoll, supervised by Dr. Josée Jarry, from the Department of Psychology at the University of Windsor. The results of this study will be used to facilitate future research.

If you have any questions or concerns about this research, please feel to contact the primary investigator, Lauren O'Driscoll at [redacted] or the faculty supervisor, Dr. Josée Jarry at [redacted].

PURPOSE OF THE STUDY

The purpose of this study is to pilot test questionnaires for future research. These pilot studies are being offered together to facilitate recruitment and to make it convenient for students to gather their research bonus point allotment.

PROCEDURES

If you volunteer to participate in this research, you will be asked to do the following things. By consenting below you are indicating that you wish to participate in the present study. Upon reading and endorsing this consent form, you will be directed to an online survey that consists of several questionnaires. After completing the online survey, you will be directed to a subsequent form where you can fill in your personal information for verifying your bonus credit.

The entire study will take approximately 30 minutes of your time. The study must be completed in one online session. If you volunteer to participate, please set aside one uninterrupted half hour and complete the study in a quiet area without distractions. In order to receive your bonus credits, you will need to complete this study prior to the deadline.

POTENTIAL RISKS AND DISCOMFORTS

During the course of your participation, you will be asked some questions that may be personal in nature. A risk associated with this study is the possibility of thinking about personal issues that may cause some emotional and psychological concerns for you. If you do experience discomfort, you are welcome to contact the primary investigator (Lauren O'Driscoll), the faculty advisor (Dr. Josée Jarry), or the Student Counselling Centre at 519-253-3000 ext. 4616.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

The benefit of participating in this research is the opportunity to learn about and contribute to psychological research. As well, you may find that you learn more about yourself through participating in this research.

COMPENSATION FOR PARTICIPATION

Participants will receive 0.5 bonus points for 30 minutes of participation towards the psychology participant pool, if registered in the pool and enrolled in one or more eligible courses.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Note that we must collect your name and student number at the end of the study in order for you to receive bonus credit for your participation. Your data will be kept separate from your name and student number. Both files will be password-protected and encrypted, and will be stored in the University of Windsor data servers. Your data will be retained for 10 years, after which point it will be securely deleted from the servers.

PARTICIPATION AND WITHDRAWAL

Your participation in this study is completely voluntary. If you decide to participate, you may withdraw at any time during the study by clicking on the "Discard and Exit" button without negative consequence. A decision not to participate will not affect your academic standing or your relationship with the university. If you choose to withdraw from the study, any data provided will be destroyed. You may refuse to answer any questions you do not want to answer by leaving the question blank, and still remain in the study. We encourage you to answer all questions with which you are comfortable answering, as your responses are important to our investigation. You will be awarded 0.5 psychology participant pool bonus points for your participation, so long as you complete at least 80% of the questions on the survey. The investigator reserves the right to withdraw you from this research if circumstances arise which warrant doing so. Failure to engage in the procedure or otherwise complete the study in good faith is ground for removal.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Research findings for this study will be available to participants, and will be posted on the University of Windsor REB website.

Web address: www.uwindsor.ca/reb
Date when results are available: October 2017

SUBSEQUENT USE OF DATA

Data from this study may be used in subsequent studies, in publications and in presentations. If published, only group data will be reported and no individual will be identified in any publication of the results.

RIGHTS OF RESEARCH PARTICIPANTS

This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

CONSENT OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE

"I understand the information provided for the study, **"**Pilot Testing for Future Research" as described herein. The nature and purposes of the research have been clearly explained, and I

understand what is being proposed and what my participation in this study will involve. I will print a copy of this consent form for my own reference."

I have read the letter of information and consent, and I agree to participate in this study. By selecting 'Yes' below, I am providing my informed consent.

☐Yes
☐No

Before proceeding to the study, be sure to print a copy of this consent form for your own reference. Please click 'Next' to proceed to the study.

Appendix EE: Laboratory Session Informed Consent Form – Study 2

CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: **Pilot Testing for Future Research**

You are asked to participate in a research study conducted by Lauren O'Driscoll, supervised by Dr. Josée Jarry, from the Department of Psychology at the University of Windsor. The results of this study will be used to facilitate future research. If you have any questions or concerns about this research, please feel to contact the primary investigator, Lauren O'Driscoll at [redacted], or the faculty supervisor, Dr. Josée Jarry at [redacted].

PURPOSE OF THE STUDY

The purpose of this study is to pilot questionnaires and experimental tasks for future research. These pilot studies are being offered together to facilitate recruitment and to make it convenient for students to gather their research bonus point allotment.

PROCEDURES

If you volunteer to participate in this study, you will be asked to do the following things. By signing this consent form you are indicating that you wish to participate in the present research. Upon reading and endorsing this consent form, you will be asked to complete a group conversation exercise with other participants in this study. You will complete several brief questionnaires on a computer. You also will complete a group decision-making task. The entire session will last approximately 90 minutes and will be done in one session.

POTENTIAL RISKS AND DISCOMFORTS

During the course of your participation, you will be asked some questions that may be personal in nature. You may also experience discomfort in response to your interactions with other participants. A risk associated with this study is the possibility of thinking about personal issues that may cause some emotional and psychological concerns for you. You will be provided with the opportunity to discuss these concerns thoroughly with the experimenter. If you have any concerns you wish to discuss with an independent party, please feel free to contact the Student Counselling Centre at 519-253-3000 Ext. 4616.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

The benefit of participating in this research is the opportunity to learn about and contribute to psychological research. As well, you may find that you learn more about yourself through participating in this research.

COMPENSATION FOR PARTICIPATION

Participants will receive 2 bonus points for 90 minutes of participation towards the psychology participant pool, if registered in the pool and enrolled in one or more eligible courses.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. To ensure confidentiality, you will be identified by participant number only, and there will be no identifying features on the questionnaires. Your data will be kept separate from your name and student number. Computer data will be encrypted and password protected, and will be stored on secure online data servers. Hard-copy data will be

securely stored in a locked filing cabinet. Your data will be retained for 10 years, after which point computer data will be securely deleted from the servers and hard-copy data will be shredded.

PARTICIPATION AND WITHDRAWAL

Your participation in this study is completely voluntary. If you decide to participate, you are free to withdraw from further participation in the research at any time without having to give a reason, and without penalty. A decision not to participate will not affect your academic standing or your relationship with the university. You may refuse to answer any questions you do not want to answer by leaving the question blank, and still remain in the study. We encourage you to answer all questions with which you are comfortable answering, as your responses are important to our investigation. If you choose to withdraw from the study, any data provided will be destroyed. If you decide to withdraw, you will be given bonus credits commensurate with the duration of your participation (i.e., 0.5 credits per 30 minutes of participation). The investigator may withdraw you from this research if circumstances arise which warrant doing so. Failure to engage in the procedure or otherwise complete the study in good faith is ground for removal.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS

Research findings for this study will be available and posted on the University of Windsor REB website.
Web address: www.uwindsor.ca/reb.
Date when results are available: October 2019

SUBSEQUENT USE OF DATA

These data may be used in subsequent studies, in publications and in presentations. If published, only group data will be reported and no individual will be identified in any publication of the results.

RIGHTS OF RESEARCH PARTICIPANTS

This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have questions regarding your rights as a research participant, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

SIGNATURE OF RESEARCH PARTICIPANT/LEGAL REPRESENTATIVE

“I understand the information provided for the study, “Pilot Testing for Future Research” as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I will print a copy of this consent form for my own reference.”

SIGNATURE OF PARTICIPANT

_____
Name of Participant

_____
Date

SIGNATURE OF INVESTIGATOR
“In my judgement, the participant is voluntarily and knowingly giving informed consent to participate in this research study. These are the terms under which I will conduct research.”

_____

_____
Date

Appendix FF: Self-Affirmation Condition Survey

Personal Attributes Inventory

1. Have you ever forgiven another person when they have hurt you?
2. Have you ever been considerate of another person's feelings?
3. Have you ever been concerned with the happiness of another person?
4. Have you ever looked out for another person's interests before your own?
5. Have you ever been generous and selfless to another person?
6. Have you ever attended to the needs of another person?
7. Have you ever tried <u>not</u> to hurt the feelings of another person?
8. Have you ever felt satisfied when you've helped another person?
9. Have you ever gone out of your way to help a friend even at the expense of your own happiness?
10. Have you ever found ways to help another person who less fortunate than yourself?

For each item: ____YES _____NO

IF YES, EXAMPLE:

Appendix GG: No Affirmation Control Condition Survey

Personal Opinion Survey

1. I think that the colour blue looks great on most people.
2. I think that Friday is the best day of the week.[5]
3. I think that winter is the most satisfying season during the year.
4. I think that the nicest smelling trees in the world are pine trees.
5. I think that computer literacy is an important skill to possess.[6]
6. I think that house plants help to brighten a home.
7. I think that sewing is an important skill to possess.
8. I think that the beach is a great place to vacation.
9. I think that the subway is the best form of public transportation.[7]
10. I think that dogs make the best pets.

For each item: ____YES ____NO

IF YES, WHY?

[5] Revised from "I think that chocolate is the best flavor of ice cream."
[6] Revised from "I think that cooking is an important skill to possess."
[7] Revised from "I think that fruit makes the best dessert."

Appendix HH: Information and Debriefing Form – Study 2

LETTER OF INFORMATION FOR DEBRIEFING AND CONSENT TO DATA RETENTION

Body Image Self-Enhancement Following Interpersonal Rejection: Defensive Processes in Women Who Rely on Body Weight for Self-Worth

Thank you for your participation in this study. Before explaining the true purpose of this research, it is important that you understand why it is necessary for some kinds of psychological studies not to tell people all about the purpose of the study at the very beginning. In some kinds of studies, if we tell people what the purpose of the experiment is and what we predict about how they would react under particular conditions, they might deliberately do whatever they think we want them to do, just to help us out and give us the results that they think we want. If that happened, their reactions would not be a good indication of how they might react in a situation in everyday life, where they didn't think they were being studied. It is also possible that the opposite might occur and that people might think that if we predicted that they would do a certain thing, they might deliberately not do it to show us that we can't figure them out. This would also make the results invalid, because again, what people would be responding to is what they thought we were looking for rather than responding naturally.

You were told that that you have just participated in a study piloting questionnaires and experimental tasks for future research. This was untrue. In actual fact, the study that you just participated in is looking at how interpersonal rejection affects appearance self-esteem, body satisfaction, implicit weight identity, and eating behaviour. We are particularly interested in the reactions of women whose self-esteem is highly contingent on their body weight, this is also known as *body weight contingent self-worth*. Previous research has shown that women who base their self-worth highly on their body weight respond to rejection by claiming greater satisfaction with their physical appearance (O'Driscoll & Jarry, 2015). Therefore, this research is designed to assess whether the body image satisfaction of women whose self-worth is highly contingent on body weight represents a defensive response against the impact of rejection.

It is important for you to know that the group assignment feedback that you received this study is completely bogus. It really does not mean anything, and furthermore, the feedback I gave you is completely false. We told you that you would have to choose group members for a final decision-making task, in actual fact this task does not exist. Basically, after you selected whom you wanted to work with, we told all participants that all of the other participants chose not to work with them and that they would have to work alone for the remainder of the experiment.. None of this is

true, we made that up completely. In fact, I do not know how many of the other participants chose to work with you, and the information I gave you about the selections made by the other participants does not mean anything. So, don't give it a second thought, as I said, none of this means anything about you.

How people feel about their body is important because negative body image feelings are a major trigger for eating disorders. So, it is important for psychologists to have as much information as possible about that. That is why we are conducting this study. However, we were afraid that if we told you that we wanted to see how being rejected would influence your feelings about your body, you would not feel rejected. I hope you can see how it was important for people in this study to think it was about something else.

As in most psychological research, we are interested in how the average person reacts in this situation. We need to test many people and combine their results to get a good indication of how the average person reacts under the different conditions. In order for us to draw any conclusions, we have to combine the data we got from you with data we get from other people so that we have enough data to draw conclusions. What this means is that there will be many people participating in this study. It is going to be necessary for us to ask you not to say anything about the study to anyone else. If you talked to someone else about the study and told them all the things I just told you and then they were in the study, their reactions wouldn't be spontaneous and natural, and their results couldn't be used and combined with your data and those from other people. If that happened, we wouldn't have enough data to make conclusions about the average person, so the whole study really would be for nothing. I hope you can see why it is extremely important that I ask you not to say anything about the study. You might think that it won't make a difference if you talk to your roommate about it because they'll never be in the study, but your roommate might say something to someone else who might be in the study. So, I would like to ask you not to say anything about the study, other than you did some cognitive tasks and filled out some questionnaires until at least the end of the semester.

We hope you found your experience of participating in this study interesting. I would be glad to answer any questions you might have. If you are interested in learning more about the current research, a good resources is: O'Driscoll, L. M. & Jarry, J. L. (2015). Interpersonal rejection results in increased body image satisfaction for women who rely on body weight for self-worth. *Body Image, 12,* 36 – 43.

CONTACT INFORMATION

If you have any concerns at all about the study itself, or are interested in receiving more information, please feel free to contact the primary investigator, **Lauren O'Driscol**l, at [redacted] or the faculty supervisor, **Dr. Josée Jarry** at [redacted]

If you wish to talk about any issues that came to your attention today, I encourage you to discuss your reactions with me. If you wish to talk to an outside party, please feel free to contact the **University of Windsor Student Counselling Centre** at 519-253-3000 Ext. 4616. Other helpful resources in the community include the **Community Crisis Centre of Windsor** at 519-973-4435, and the **Windsor-Essex County Distress Centre** at 519-256-5000.

This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may

contact the **Research Ethics Coordinator**, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca. Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

CONSENT TO DATA RETENTION

If you consent below, the data you have provided will be used in this study. You are free to decide not to consent without having to give a reason and without penalty. If you do not consent, the data will be destroyed.

"I have read and understand the information above and any questions I have asked have been answered to my satisfaction. I agree to allow my data to be used in this research, knowing that I can withdraw from further participation in the research at any time without consequence. I have been given a copy of this form to keep."

SIGNATURE OF PARTICIPANT

_____
Name of Participant

_____
Date

SIGNATURE OF INVESTIGATOR

_____

_____
Date

Appendix II: Regression Tables with Suspicious Cases Removed – Study 2

Table 45

Final Regression Model for State Body Satisfaction Excluding Suspicious Cases (N = 75)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.59	0.34	(Constant)	5.35	0.14	-	38.84	.000	5.08	5.60
			RSES	0.17	0.03	0.59	6.16	.000	0.11	0.22
2	0.62	0.38	(Constant)	5.50	0.19	-	29.76	.000	5.13	5.87
			RSES	0.16	0.03	0.54	5.32	.000	0.10	0.21
			BWCSWS	-0.21	0.12	-0.18	-1.81	.075	-0.44	0.02
			Condition	-0.31	0.28	-0.11	-1.13	.263	-0.87	0.24
3	0.62	0.39	(Constant)	5.50	0.19	-	29.63	.000	5.13	5.87
			RSES	0.16	0.03	0.55	5.34	.000	0.10	0.22
			BWCSWS	-0.30	0.18	-0.25	-1.63	.107	-0.66	0.07
			Condition	-0.32	0.28	-0.11	-1.14	.259	-0.87	0.24
			BWCSWS x Condition	0.14	0.23	0.09	0.61	.542	-0.32	0.60

Note. Dependent variable: Body image States Scale (BISS)
RSES = Rosenberg Self-Esteem Scale; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 46

Final Regression Model for State Appearance Self-Esteem Excluding Suspicious Cases (N = 75)

Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	*95% CI* Min	*95% CI* Max
1	0.69	0.48	(Constant)	19.67	0.44	-	44.83	.000	18.79	20.54
			RSES	0.47	0.12	0.46	3.89	.000	0.23	0.70
			BDI	-0.17	0.08	-0.26	-2.17	.034	-0.32	-0.01
			BMI	-0.15	0.06	-0.20	-2.38	.020	-0.27	-0.02
2	0.75	0.56	(Constant)	20.60	0.56	-	36.94	.000	19.49	21.71
			RSES	0.46	0.12	0.46	4.00	.000	0.23	0.69
			BDI	-0.13	0.07	-0.20	-1.80	.076	-0.27	0.01
			BMI	-0.15	0.06	-0.20	-2.52	.014	-0.26	-0.03
			BWCSWS	-0.91	0.36	-0.22	-2.57	.012	-1.62	-0.21
			Condition	-2.10	0.84	-0.20	-2.46	.017	-3.73	-0.39
3	0.75	0.57	(Constant)	20.63	0.56	-	39.82	.000	19.51	21.74
			RSES	0.49	0.12	0.48	4.05	.000	0.25	0.73
			BDI	-0.11	0.08	-0.18	-1.52	.133	-0.26	0.04
			BMI	-0.14	0.06	-0.20	-2.48	.016	-0.26	-0.03
			BWCSWS	-1.26	0.57	-0.30	-2.22	.030	-2.39	-0.13
			Condition	-2.09	0.84	-0.20	-2.49	.015	-3.77	-0.41
			BWCSWS x Condition	0.56	0.71	0.11	0.78	.439	-0.87	1.98

Note. Dependent variable: State Self-Esteem Scale-Physical Appearance subscale (SSES-Appearance)
RSES = Rosenberg Self-Esteem Scale; BDI = Beck Depression Inventory; BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 47

Final Regression Model for Implicit Weight Identity Excluding Suspicious Cases (N = 57)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.49	0.24	(Constant)	-0.41	0.04	-	-9.44	.000	-0.50	-0.33
			BMI	0.02	0.01	0.49	4.12	.000	0.01	0.04
2	0.49	0.24	(Constant)	-0.39	0.05	-	-6.47	.000	-0.51	-0.27
			BMI	0.02	0.01	0.49	4.10	.000	0.01	0.04
			BWCSWS	-0.02	0.04	-0.06	-0.49	.630	-0.09	0.05
			Condition	-0.02	0.09	-0.06	-0.47	.642	-0.22	0.14
3	0.53	0.28	(Constant)	-0.41	0.06	-	-6.77	.000	-0.52	-0.29
			BMI	0.02	0.01	0.49	4.20	.000	0.01	0.04
			BWCSWS	0.06	0.06	0.21	1.08	.283	-0.05	0.18
			Condition	-0.03	0.09	-0.03	-0.29	.775	-0.20	0.15
			BWCSWS x Condition	-0.12	0.07	-0.34	-1.75	.087	-0.27	0.02

Note. Dependent variable: IAT effect difference score (*D*), with greater positive scores reflecting associations between Fat + Self (and/or Thin + Other) and more negative scores reflecting associations between Thin + Self (and/or Fat + Other)
BMI = Body Mass Index; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 48

Final Regression Model for Candy Consumed Excluding Suspicious Cases (N = 72)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.16	0.03	(Constant)	28.85	3.80	-	7.60	.000	21.27	36.43
			BWCSWS	3.07	2.25	0.16	1.36	.178	-1.43	7.56
			Condition	1.07	5.70	0.02	0.19	.852	-10.31	12.44
2	0.21	0.04	(Constant)	29.01	3.80	-	7.64	.000	21.43	36.58
			BWCSWS	-0.10	3.70	-0.01	-0.03	.978	-7.40	7.19
			Condition	1.50	5.69	0.02	0.19	.854	-10.31	12.41
			BWCSWS x Condition	5.10	4.64	0.21	1.10	.276	-4.16	14.35

Note. Dependent variable: Candy consumed (g)
BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

Table 49

Final Regression Model for State Social Self-Esteem Excluding Suspicious Cases (N = 75)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.53	0.28	(Constant)	25.49	0.59	-	43.03	.000	24.31	26.67
			RSES	0.62	0.12	0.53	5.30	.000	0.39	0.85
2	0.57	0.33	(Constant)	26.69	0.79	-	33.91	.000	25.19	28.26
			RSES	0.67	0.12	0.57	5.77	.000	0.44	0.90
			Condition	-2.63	1.18	-0.22	-2.23	.029	-4.99	-0.28

Note. Dependent variable: State Self-Esteem Scale-Social subscale (SSES-Social)
RSES = Rosenberg Self-Esteem Scale; Condition = experimental condition (self-affirmation vs. control)

Table 50

Final Regression Model for Shape- and Weight-Based Self-Esteem Excluding Suspicious Cases (N = 74)

									95% CI	
Step	*R*	R^2	Variables entered	*b*	*SE b*	β	*t*	*Sig.*	Min	Max
1	0.23	0.05	(Constant)	38.82	3.45	-	11.25	.000	31.94	45.70
			BDI	0.87	0.43	0.23	2.02	.047	0.01	1.74
2	0.48	0.23	(Constant)	41.76	4.23	-	9.86	.000	33.31	50.20
			BDI	0.32	0.42	0.08	0.76	.453	-0.52	1.15
			BWCSWS	10.48	2.67	0.43	3.92	.000	5.16	15.81
			Condition	-6.38	6.35	-0.11	-1.00	.319	-19.05	6.29
3	0.51	0.26	(Constant)	41.64	4.19	-	9.94	.000	33.28	50.00
			BDI	0.23	0.42	0.06	0.55	.581	-0.60	1.06
			BWCSWS	15.83	4.27	0.66	3.71	.000	7.31	24.34
			Condition	-6.50	6.28	-0.11	-1.03	.305	-19.03	6.04
			BWCSWS x Condition	-8.30	5.21	-0.27	-1.59	.116	-18.69	2.09

Note. Dependent variable: Shape and Weight Based Self-Esteem Inventory (SAWBS)
BDI = Beck Depression Inventory-II; BWCSWS = Body Weight Contingent Self-Worth Scale; Condition = experimental condition (self-affirmation vs. control); BWCSWS x Condition = interaction between Body Weight Contingent Self-Worth Scale and experimental condition.

VITA AUCTORIS

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