



Body image in emerging adults: The protective role of self-compassion



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ABSTRACT

Self-compassion is thought to protect from body image concerns. However, the mechanisms of this effect remain unclear. This study examined three positive dimensions of self-compassion as moderators of the mediated relationship between perceived overweight status, appearance comparison, and appearance esteem. A sample of 232 youth aged 13–18 years, mean = 18.36 ($SD = 1.5$) years, reported on appearance esteem, appearance comparison, perceived weight status, and self-compassion dimensions including self-kindness, common humanity, and mindfulness. Among boys, mindfulness and common humanity moderated the perceived weight status to appearance comparison pathway of the mediation ($ps = .01$), such that this relationship was weaker among boys with higher levels of these dimensions of self-compassion. These findings were not replicated among girls. None of the self-compassion dimensions moderated the appearance comparison to appearance esteem pathway. Self-compassion dimensions that decrease the focus on the self may protect against body image concerns among boys.

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1. Introduction

Western society has been described as highly appearance-focused and characterized by the adoption of unrealistic body ideals emphasizing slenderness and leanness (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Simultaneously, Western society is highly stigmatizing of overweight status (Rodgers, 2016). This standard of extreme thinness and stigmatization of overweight status has in turn been associated with body shape and weight concerns, particularly among youth who perceive themselves as overweight and failing to meet society's criteria for attractiveness (Hadland, Austin, Goodenow, & Calzo, 2014; Sonnevile et al., 2016; Strauss, 1999).

Appearance comparison, which is the tendency to engage in mostly unfavorable comparisons of one's physical appearance compared to others', has been identified as a critical mechanism in the maintenance of body image concerns (Thompson, Heinberg, & Tantleff-Dunn, 1991). Recently, self-compassion has been explored as a useful framework within which to ground interventions aiming to reduce body image concerns related to appearance pressures

to achieve unrealistic ideals and the stigma surrounding overweight status (Ferreira, Pinto-Gouveia, & Duarte, 2013; Wasylkiw, MacKinnon, & MacLellan, 2012). To date, however, the capacity of self-compassion to buffer the effects of perceived overweight on appearance comparison and subsequent body image concerns has undergone few formal examinations.

Sociocultural theory posits that appearance ideals are communicated to individuals through agents such as the media as well as family members and peers (Thompson et al., 1999). Central to these unrealistic appearance standards is the maintenance of a very low body weight (principally among females) and a very lean physique (among males). In addition to these ideals, Western society promotes the idea that body shape and weight are highly controllable through healthy eating and exercise practices, despite increasing evidence supporting the role of genetics in determining weight (Rodgers, 2016). Given this sociocultural context, the perception of being overweight, whether correct or not, may be perceived as a personal failure and would likely be associated with decreased body esteem. Indeed, perceived overweight status in adolescents has been shown to be associated with a number of indices of poor body image and lower self-esteem (e.g., Tiggemann, 2005).

Appearance esteem, specifically, is one facet of body image that captures the positive feelings of an individual related to their appearance (Mendelson, Mendelson, & White, 2001). In the last decade, the usefulness of considering the positive aspects of body

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image, as well as the factors that promote positive body image (in contrast to a model focused on risk and pathology) has been increasingly emphasized (Avalos, Tylka, & Wood-Barcalow, 2005; Swami, Hadji-Michael, & Furnham, 2008). In addition, appearance esteem, as well as other indices of positive body image, has been found to be lower among higher weight male and female young adults (Streeter, Milhausen, & Buchholz, 2012; Swami et al., 2008). Thus, examining the factors that can help protect and foster positive body image in youth across weight status is an important direction for research.

One of the principal mechanisms highlighted by sociocultural theory that accounts for the effect of unrealistically thin appearance ideals, i.e. the thin-ideal, on body esteem is appearance comparison, which is the process of comparing one's appearance to that of others (van den Berg, Thompson, Obremski-Brandon, & Covert, 2002). Social identity theory, from which the theory of appearance comparison is derived, would posit that heavier individuals are thought to engage in more numerous appearance comparisons due to heavier weight, potentially constituting a threat to appearance esteem in a context that places a high value on thinness (Festinger, 1954). Unfortunately, the majority of social appearance comparisons are unfavorable which likely in turn leads to greater concerns regarding appearance (Fitzsimmons-Craft et al., 2012).

Consistent with this, appearance comparison has been found to be associated with self-reported weight as well as lower body satisfaction among adolescents and adults (Rodgers, Paxton, & Mclean, 2014; Schaefer & Thompson, 2014). In addition, appearance comparison has been found to be associated with lower levels of weight esteem among adolescents (Tiggemann & Miller, 2010). Thus, appearance comparisons seem to be more frequent among individuals with lower levels of body satisfaction and who perceive themselves as having a higher weight status. In addition, and in support of the role of appearance comparison as a mechanism in the maintenance of low body satisfaction, appearance comparison has been found to mediate the relationship between weight status and body dissatisfaction (van den Berg et al., 2007). To date, the protective factors that might buffer from the negative effects of appearance comparison on body esteem are not well understood.

Self-compassion has been defined as being open to and non-avoidant of one's experiences, being caring towards and non-judgmental of oneself, particularly in times of distress, and recognizing that experiences of oneself as inadequate are intrinsic to the human experience (Neff, 2003). As defined by Neff (2003) self-compassion incorporates three core components: mindfulness, self-kindness, and common humanity. Self-compassion is thought to foster self-kindness, nurturance, and a compassionate view of one's self and body, as well as the capacity to respond to environmental threats or stressors (such as appearance pressures) in a non-reactive and non-judgmental way (Ferreira et al., 2013). It is also described as decreasing self-absorption and self-criticism (Neff, 2003). Thus, self-compassion provides a promising framework for disrupting the pathways described within sociocultural theory as leading to the development of low body esteem. Critically, acceptance-based frameworks such as self-compassion seek to disrupt the associations between private events such as thoughts and feelings, rather than attempting to modify the form or frequency of such events (Hayes, Strosahl, & Wilson, 1999). These approaches aim to help individuals cultivate a different relationship to their thoughts, feeling and sensations, in a way that is accepting and non-judgmental. In the context of body image, and the pathways described above, this would imply that self-compassion would interrupt the mediated pathways, rather than for example decreasing the frequency of appearance comparison.

A small body of emerging research has started to explore the relationship between self-compassion and body image, finding support for the role of self-compassion as a protective factor (Braun,

Park, & Gorin, 2016). Two of the main pathways for this protective factor that have been considered include (1) that self-compassion may have a direct relationship with positive body image, in that it increases positive thoughts about and acceptance of one's appearance, and (2) that self-compassion may buffer against the effects of risk factors, such as appearance comparison, on body image. As the majority of the research to date has been cross-sectional, unsurprisingly, evidence to support both of these mechanisms has been found (Braun et al., 2016).

Specifically, with regard to the moderating hypothesis, it has been shown that self-compassion buffered the relationship between media pressure to be thin and internalization of the thin-ideal among a community sample of women, such that self-compassion protected against the effects of experiencing high levels of pressure to be thin on thin-ideal internalization (Tylka, Russell, & Neal, 2015). Similarly, among Canadian female undergraduates, self-compassion was shown to decrease the strength of the relationship between body weight and weight concerns, such that among young women with high body weight, those with higher levels of self-compassion reported fewer weight concerns (Kelly, Vimalakanthan, & Miller, 2014). In addition, self-compassion was found to buffer the relationship between family influences and body image among U.S. undergraduate women, such that it protected against the effects of critical messages from caregivers (Daye, Webb, & Jafari, 2014). Thus, there is some evidence for the buffering role of self-compassion in the pathways described within sociocultural models of body image concerns; however, all of these studies have been conducted among adult women, and studies including younger populations and males are absent from the literature.

Very few studies have examined the protective role of self-compassion as related to appearance comparison. One study among young women from the U.S. revealed that self-compassion moderated the relationship between body comparison and body appreciation, such that women with higher self-compassion were protected from the effects of appearance comparison on body appreciation (Homan & Tylka, 2015). The findings from this study supported the theory that women with higher levels of self-compassion might engage in appearance comparisons but be protected from the detrimental effects of these comparisons on their body image. The current study sought to replicate and extend these findings by testing this hypothesis in both male and female emerging adults, and examining the moderating effect of the positive dimensions of self-compassion on the relationship between appearance comparison and appearance esteem. The current study differs from this previous study in that it specifically seeks to examine the protective effect of self-compassion on *appearance esteem*, as opposed to body appreciation, which captures a broader dimension of positive body image, including an acceptance of perceived flaws and a lack of overvaluation of appearance as part of identity (Avalos et al., 2005).

In addition to the moderating relationship explored by Homan and Tylka (2015), however, it is also possible that self-compassion buffers from engaging in appearance comparison, for example by moderating the relationship between weight perceptions and engagement in appearance comparison. If this second pathway were correct, self-compassion would protect from engaging in appearance comparisons. In this way, youth who perceive themselves to be divergent from the thin-ideal, through a capacity for self-compassion, may not engage in appearance comparisons. The current study sought to extend previous findings by also examining this hypothesis.

In this way, the aim of the current study was to extend previous research on the protective role of self-compassion by examining these two moderation hypotheses among a sample of U.S. youth aged 13–19 years, primarily emerging adults. Specifically, given the role of appearance comparison as a mediator in the relation-

ship between perceived overweight status and body esteem, we sought to examine the moderating role of the three positive dimensions of self-compassion: mindfulness, common humanity, and self-kindness, on the predictor to mediator pathway (between perceived overweight status and appearance comparison).

While the pathways described above have been to a large extent supported in both male and female youth, a number of gender differences in the magnitude of the relationships have been suggested. Thus, for example, the negative association between appearance esteem and weight has been found to differ between boys and girls (Mendelson et al., 2001; Streeter et al., 2012). Furthermore, appearance comparison processes are less well understood among males to date (Schaefer & Thompson, 2014). Therefore, while we expected to find similar patterns among males and females in our study, we chose to conduct our analyses separately by gender. We thus hypothesized that among both girls and boys:

- (1) The three dimensions of self-compassion (mindfulness, common humanity, and self-kindness) would be positively related to appearance esteem and negatively related to appearance comparison;
- (2) Consistent with previous findings, a significant negative indirect effect of perceived weight status on appearance esteem via appearance comparison would be present;
- (3) The three dimensions of self-compassion would moderate the positive pathway between perceived weight status and appearance comparison in the mediation model, such that the overall negative indirect effect of perceived weight status on appearance esteem would be non-significant among individuals with high levels of self-compassion;
- (4) The three dimensions of self-compassion would moderate the negative pathway between appearance comparison and appearance esteem in the mediation model, such that the overall negative indirect effect of perceived weight status on appearance esteem would be non-significant among individuals with high levels of self-compassion.

2. Method

2.1. Participants & procedures

The present study utilizes the baseline data from participants recruited as part of a larger intervention study. A sample of 232 youth, aged 13–18 years, mean age = 18.36 ($SD = 1.5$) years, 26% male, were recruited from the campus of a large and diverse urban university (68%), as well as two high schools and two local youth organizations (32%).

Participants were recruited through posters, advertisement, leaflets, and emails. The study was approved by the Northeastern University Institutional Review Board. All participants under the age of 18 provided assent in addition to parental consent. Participants 18 years old and over provided informed consent. Participants were provided with a \$15 gift card for their time.

2.2. Measures

2.2.1. Demographics

Participants provided their age, gender, and race and ethnicity.

2.2.2. Perceived weight status

Participants were asked to rate their current body weight on a 5-point Likert-type scale ranging from “very underweight” to “obese.”

2.2.3. Self-compassion

The Self-Compassion Scale (SCS; Neff, 2003) is a 26-item questionnaire that assesses participants' feelings of self-compassion.

The SCS comprises six subscales that measure distinct components of self-compassion. The current study only utilized the three positive subscales, given the research question: self-kindness (five items, e.g., “I try to be understanding and patient towards those aspects of my personality I don't like”), common Humanity (four items, e.g., “I try to see my failings as part of the human condition”), and Mindfulness (four items, e.g., “When I'm feeling down I try to approach my feelings with curiosity and openness”). Items are rated on a 5-point Likert-type scale, ranging from 1 (almost never) to 5 (almost always), with higher scores reflecting greater self-compassion and negative items reverse coded. The scale has been previously used to effectively measure self-compassion and demonstrates adequate psychometric properties (Neff, 2003). In the current sample, internal reliability was acceptable ranging from $\alpha = .74$ to $\alpha = .80$.

2.2.4. Physical appearance comparison

The Physical Appearance Comparison Scale (Thompson et al., 1991) is a five-item measure of tendencies to compare one's physical appearance with others' (e.g., “At parties or other social events, I compare how I am dressed to how other people are dressed”). Items are rated on a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores reflecting greater tendencies to compare oneself to others. This scale has been previously used to effectively measure physical appearance comparison and demonstrates adequate internal consistency and test-retest reliability (Thompson et al., 1991). In the current sample, $\alpha = .90$.

2.2.5. Appearance esteem

The appearance esteem subscale of the Body Esteem Scale for adults and adolescents (Mendelson et al., 2001) is a 10-item questionnaire used to assess appearance concerns among youth (e.g., “I like what I look like in pictures”). Items are rated on a 5-point Likert-type scale, ranging from 0 (never) to 4 (always), with higher scores reflecting greater body esteem and negatively phrased items reverse coded. The scale has been previously used to effectively measure body esteem for adults and adolescents and demonstrates high internal consistency and test-retest reliability (Mendelson et al., 2001). In the current sample, $\alpha = .91$.

2.3. Data analyses

Descriptive statistics are presented. Little's MCAR test confirmed that the missing data were randomly distributed ($p = .163$), therefore total scores were calculated using mean substitution for the missing items (Parent, 2013). Analyses were conducted for each gender separately. A correlation matrix was obtained to examine the association between the variables. Correlations with perceived weight status were conducted using Spearman's rho to account for the 5-point single item; all others were conducted using Pearson's coefficient. The magnitude of the relationships in both genders suggested that the risk of multicollinearity was low. The indirect effect of perceived weight status on appearance esteem via appearance comparison was first tested using the PROCESS macro (Hayes, 2013). Hayes (2013) notes that such indirect effects may exist in the absence of significant bivariate relationships between the variables involved. In addition, it has been suggested that indirect effects may be examined in samples as small as $n = 60$ (Creedon & Hayes, 2015). The moderated mediation pathways were then also examined using the PROCESS macro (Models 7 and 14; Hayes, 2013) that examines the conditional effects of the moderator on specific pathways within the mediation model. Conditional effects were reported for the mean of the moderator, as well as plus/minus on standard deviation from the mean.

3. Results

3.1. Descriptive statistics

In total, 232 participants (62 boys and 170 girls) provided their perceived weight status, of whom 74% ($n=171$) classified themselves as normal weight or less, and 26% classified themselves as somewhat overweight or higher. Table 1 presents the descriptive statistics and correlations between the study variables. A little over half of the sample was White (59.5%, $n=138$), another 20% ($n=47$) was Asian, 10% was Black ($n=23$), 8% was Hispanic ($n=19$) and the remainder of the sample (2.5%) reported other racial/ethnic backgrounds. Significant gender differences were found for all the variables such that boys reported higher levels of appearance esteem, $t(230) = -5.42, p < .001$, Cohen's $d = 0.82$, self-kindness, $t(230) = -2.57, p = .011$, Cohen's $d = 0.38$, and mindfulness, $t(230) = -2.59, p = .01$, Cohen's $d = 0.38$, and lower levels of appearance comparison, $t(230) = 4.05, p < .001$, Cohen's $d = 0.62$ (Table 1).

Among girls, and consistent with Hypothesis 1, higher perceived weight status was associated with lower appearance esteem ($\rho = -.33, p < .001$), higher appearance comparison ($\rho = .21, p < .01$), and at a trend-level lower self-kindness ($\rho = -.14, p = .07$), and lower scores on common humanity ($\rho = -.15, p = .05$). In addition, greater appearance esteem was associated with higher levels of all three subscales of self-compassion including self-kindness ($r = .43, p < .001$), mindfulness ($r = .29, p < .001$), and common humanity ($r = .22, p < .001$). Finally, of note, higher levels of self-kindness and mindfulness were associated with lower levels of appearance comparison ($r = -.32, p < .001$, and $r = -.18, p = .022$, respectively). Among boys, higher perceived weight status was not associated with any of the other variables. Greater appearance esteem was associated with higher levels of self-kindness ($r = .34, p = .07$). In addition, although non-significant due to the smaller sample size, the relationship between higher appearance esteem and mindfulness revealed a small effect size ($r = .20, p = .116$). However, none of the self-compassion variables were associated with levels of appearance comparison. Thus, Hypothesis 1 was only supported in girls.

3.2. Moderated mediation analyses

3.2.1. Examination of the mediation model

Fig. 1 presents the non-moderated direct and indirect effects among girls. Findings from 5000 bootstrap samples revealed that the negative indirect effect of perceived weight status on appearance esteem via appearance comparison was significant, coefficient = $-1.61, 95\% \text{ CI} [-4.03; -1.11]$. In addition, the direct positive pathway between perceived weight status and appearance comparison was significant, coefficient = $2.03, 95\% \text{ CI} [0.58; 3.48]$, as was the direct negative pathways between appearance comparison and appearance esteem, coefficient = $-0.79, 95\% \text{ CI} [-0.94; -0.64]$. Finally, the direct negative pathway between perceived weight status and body esteem remained significant, coefficient = $-2.57, 95\% \text{ CI} [-4.03; -1.11]$. Thus, among girls, Hypothesis 2 was supported.

Fig. 2a presents the non-moderated direct and indirect effects among boys. Findings from 5000 bootstrap samples revealed that the indirect effect of perceived weight status on appearance esteem via appearance comparison was not significant, coefficient = $-0.47, 95\% \text{ CI} [-1.89; 0.72]$. However, the direct negative pathway between appearance comparison and appearance esteem was significant, coefficient = $-0.58, 95\% \text{ CI} [-0.89; -0.27]$. In addition, the direct negative pathway between perceived weight status and body esteem remained significant, coefficient = $-2.72, 95\% \text{ CI} [-5.11; -0.33]$. Thus, among boys, Hypothesis 2, that a significant

Table 1 Means, standard deviations, and correlations between variables.

	Perceived weight status		Appearance esteem		Appearance comparison		Self-kindness		Mindfulness		Common humanity	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Appearance esteem	-.33***	-.18										
Appearance comparison	.21**	.09	-.65***	-.45***								
Self-kindness	-.14	.05	.43***	.34*	-.32***	-.09						
Mindfulness	-.09	-.05	.29***	.20	-.18	.02	.70***	.57***				
Common humanity	-.15	-.09	.22*	.15	-.07	.06	.56***	.50***	.56***	.63***		
N			170	62	202	73	202	73	202	73	202	73
M (SD)			21.11 (7.61) ^a	27.10 (6.95) ^a	18.00 (5.81) ^a	14.61 (5.06) ^a	14.51 (3.89) ^b	16.00 (3.92) ^b	13.29 (2.98) ^b	14.45 (3.07) ^b	12.15 (3.35)	13.10 (3.33)

Note: Significant gender differences in means are indicated such that: ^a means differ at the $p < 0.001$ level; ^b means differ at the $p < 0.05$ level.

* $p < .05$.

** $p < .01$

*** $p < .001$.

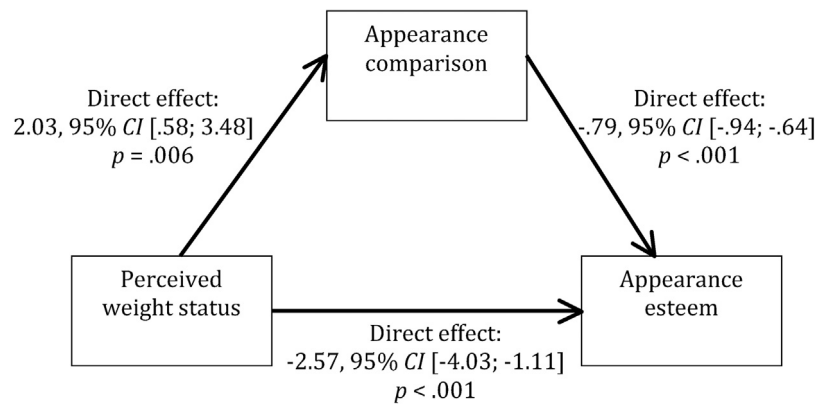


Fig. 1. The direct pathway coefficient in the mediation model among girls.

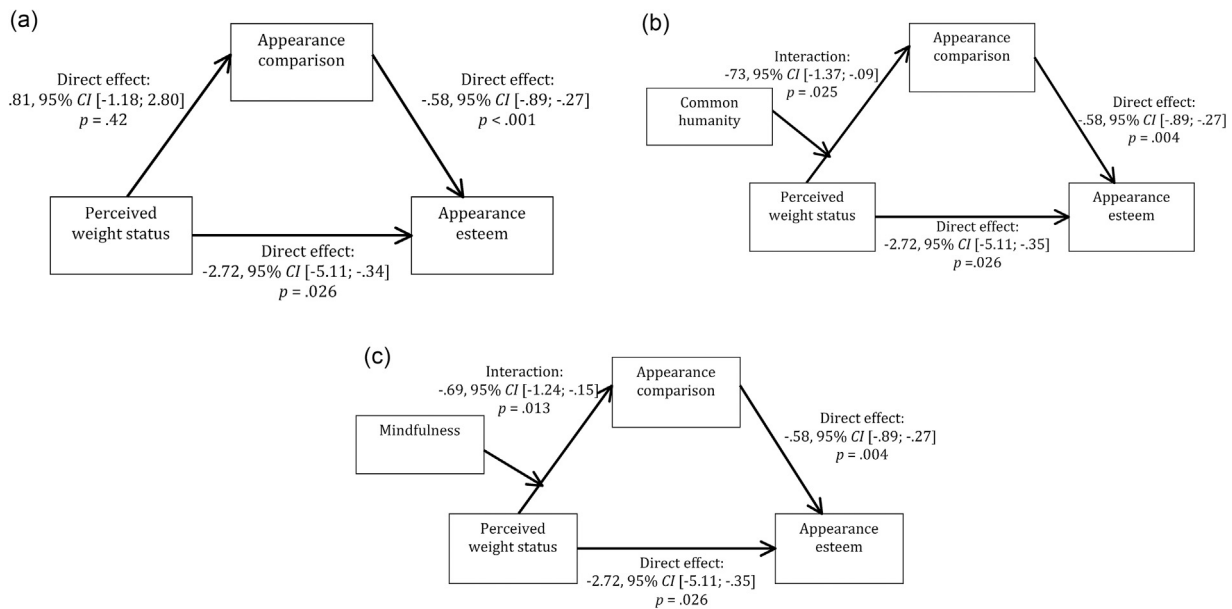


Fig. 2. (a) Mediation model among boys; (b) common humanity as a moderator of mediated relationship between perceived overweight and appearance esteem via appearance comparison; (c) mindfulness as a moderator of mediated relationship between perceived overweight and appearance esteem via appearance comparison.

indirect effect of perceived weight status on appearance esteem via appearance comparisons, would be found, was not supported.

3.3. Self-compassion as a moderator of the pathways between perceived weight status and appearance comparison

First, we examined the moderated mediation analysis among girls in which common humanity was posited to moderate the relationship between perceived weight status and appearance comparison. Findings from 5000 bootstrap samples revealed that the interaction between perceived overweight status and common humanity was not significant, coefficient = -0.29 , 95% CI $[-0.71; 0.14]$, $p = .18$. Thus, the negative indirect effect of perceived weight status on appearance esteem via appearance comparison remained significant at all values of the moderator.

Second, we examined the moderated mediation analysis among girls in which mindfulness was posited to moderate the relationship between perceived weight status and appearance comparison. Findings from 5000 bootstrap samples revealed that the interaction between perceived overweight status and mindfulness was not significant, coefficient = -0.30 , 95% CI $[-0.80; 0.19]$, $p = .23$. Thus, the negative indirect effect of perceived weight status on appear-

ance esteem via appearance comparison remained significant at all values of the moderator.

Last, we examined the moderated mediation analysis among girls in which self-kindness was posited to moderate the relationship between perceived weight status and appearance comparison. Findings from 5000 bootstrap samples revealed that the interaction between perceived weight status and self-kindness was not significant, coefficient = -0.10 , 95% CI $[-0.48; 0.29]$, $p = .63$. Thus, the negative indirect effect of perceived weight status on appearance esteem via appearance comparison remained significant at all values of the moderator. Therefore, among girls, Hypothesis 3 was not supported.

Fig. 2b presents the findings from the moderated mediation analysis among boys in which common humanity was posited to moderate the relationship between perceived overweight status and appearance comparison. Findings from 5000 bootstrap samples revealed that the interaction between perceived overweight status and common humanity was significant, coefficient = -0.73 , 95% CI $[-1.38; -0.09]$, such that the negative indirect effect of perceived weight status on appearance esteem via appearance comparison became significant when levels of common humanity were low. Specifically, at the mean value and above of the moderator, here common humanity, the indirect effect of perceived weight status

on appearance esteem via appearance comparison was non significant, coefficient (mean) = -0.09 , 95% CI [-1.32 ; 1.20], coefficient (mean + 1 SD) = 1.33 , 95% CI [-0.02 ; 3.81]. However, among boys whose scores of common humanity were one SD below the group mean, a significant negative indirect effect emerged, with higher perceived weight status associated with lower levels of appearance esteem via appearance comparison, coefficient (mean – 1 SD) = -1.51 , 95% CI [-3.92 ; -0.31].

Fig. 2c presents the findings from the moderated mediation analysis among boys in which mindfulness was posited to moderate the relationship between perceived overweight status and appearance comparison. Findings from 5000 bootstrap samples revealed that the interaction between perceived overweight status and mindfulness was significant, coefficient = -0.69 , 95% CI [-1.24 ; -0.15], such that the negative indirect effect of perceived weight status on appearance esteem via appearance comparison became significant when levels of mindfulness were low. Specifically, at the mean value and above of the moderator, here mindfulness, the indirect effect of perceived weight status on appearance esteem via appearance comparison was non significant, coefficient (mean) = -0.11 , 95% CI [-1.26 ; 1.33], coefficient (mean + 1 SD) = 1.13 , 95% CI [-0.46 ; 3.17]. However, among boys whose scores of mindfulness were one SD below the group mean, a significant negative indirect effect emerged, with higher perceived weight status associated with lower levels of appearance esteem via appearance comparison, coefficient (mean – 1 SD) = -1.35 , 95% CI [-3.97 ; -0.29].

A parallel analysis was conducted examining the moderated mediation model in which self-kindness was posited to moderate the relationship between perceived overweight status and appearance comparison. However, the findings from this analysis revealed that the interaction was not significant, coefficient = -0.18 , 95% CI [-0.68 – 0.33], indicating that self-kindness did not serve as a moderator. Therefore, among boys, Hypothesis 3 was partially supported.

3.4. Self-compassion as a moderator of the pathways between appearance comparison and appearance esteem

Three similar moderated mediation models were tested separately for girls and boys to examine the buffering effects of the three dimensions of self-compassion on the pathway between appearance comparison and appearance esteem. Among girls, findings from 5000 bootstrap samples revealed that the interaction between appearance comparison and common humanity was not significant, coefficient = -0.01 , 95% CI [-0.04 ; 0.05], $p = .83$. Similarly, the interaction between appearance comparison and mindfulness was not significant, coefficient = -0.01 , 95% CI [-0.05 ; 0.03], $p = .70$, and neither was the interaction between appearance comparison and self-kindness, coefficient = -0.01 , 95% CI [-0.04 ; 0.03], $p = .75$. Thus at all the values of the three dimensions of self-compassion, examined as a moderator of the negative pathway between appearance comparison and appearance esteem, the negative indirect relationship between perceived weight status and appearance esteem remained significant. Therefore, among girls, Hypothesis 4 was not supported.

Among boys, findings from 5000 bootstrap samples revealed that the interaction between appearance comparison and common humanity was not significant, coefficient = 0.02 , 95% CI [-0.08 ; 0.12], $p = .68$. Similarly, the interaction between appearance comparison and mindfulness was not significant, coefficient = -0.01 , 95% CI [-0.11 ; 0.10], $p = .91$, and neither was the interaction between appearance comparison and self-kindness, coefficient = -0.01 , 95% CI [-0.08 ; 0.06], $p = .78$. Thus at all the values of the three dimensions of self-compassion, examined as a moderator of the negative pathway between appearance com-

parison and appearance esteem, the negative indirect relationship between perceived weight status and appearance esteem remained significant. Therefore, among boys, Hypothesis 4 was not supported.

4. Discussion

The aim of the current study was to examine, among a sample of emerging adults, whether self-compassion would buffer the mediated relationship between perceived overweight status and decreased appearance esteem, via appearance comparison. Overall, our findings provide additional support for the role of self-compassion as a protective factor against appearance concerns, and suggest that it might do so *both* by being directly protective, as evident here among girls, and by buffering against the effects of certain risk factors among boys. These findings highlight the usefulness of continuing to clarify the mechanisms through which self-compassion can contribute to the development of positive body image, healthy eating behaviors, and overall wellbeing among youth, and the importance of developing interventions that are grounded within this framework. Our findings suggest that developing self-compassion skills may be helpful for promoting positive body image among both gender, albeit through different pathways.

Consistent with previous research (Braun et al., 2016), our findings revealed that dimensions of self-compassion were associated with higher levels of appearance esteem and lower levels of perceived overweight status and appearance comparison, mainly among girls. To our knowledge, only one previous study has examined the relationship between self-compassion and body image among adolescents, in a sample of female athletes (Mosewich, Kowalski, Sabiston, Sedgwick, & Tracy, 2011). Thus, this is the first study to examine these relationships among emerging adult males, and reveal that the direct relationships between aspects of self-compassion and positive body image that were replicated here among girls were not present among boys. These gender differences constitute an important contribution to the literature and suggests that the mechanisms underlying the emerging protective role of self-compassion on body image might vary according to gender.

Previous authors have described a number of different ways in which self-compassion might be related to positive body image outcomes (Braun et al., 2016). The first of these is that self-compassion may have a direct relationship with positive body image, while the second proposes that self-compassion may buffer against the effects of risk factors, including sociocultural factors, on body image. Our findings suggest that both of these pathways might exist. Thus, in our data, all three dimensions of self-compassion were associated with appearance esteem among girls, although among males the magnitudes of these relationships were smaller, with only self-kindness revealing a significant positive relationship with appearance esteem. In addition, both mindfulness and common humanity were found to moderate the mediated relationship between perceived overweight status and lower appearance esteem via appearance comparison among boys, such that the strength of the relationship between perceived overweight status and appearance comparison was decreased by these moderators. This finding is consistent with previous work (Kelly et al., 2014; Tylka et al., 2015), and suggests that in this context, mindfulness and common humanity might serve to decrease the tendency to react to perceived overweight status through appearance comparisons with others among males. Mindfulness has been described as a non-judgmental capacity to observe thoughts and feelings with kind awareness, including feelings about one's weight and shape (Ferreira et al., 2013). Thus, such a mechanism would be in line with its proposed mode of action. Similarly, common humanity describes a capacity to characterize one's experience as being

intrinsic to being human and belonging to a wider community, including the understanding that perceptions of failure or flaws, such as failing to embody appearance ideals, are shared by others (Neff, 2003). In other words, self-compassion may increase boys' capacity to observe and tolerate body-image experiences without reacting through self-criticism and social comparison (Gilbert & Choden, 2014), especially through skills that cultivate positive emotions, such as self-kindness and a sense of belonging. In this way, higher levels of this dimension might allow youth to tolerate the perception of overweight status without engaging in appearance comparisons.

Interestingly, we did not replicate these moderation findings among girls. Given that we found gender differences in the baseline levels of the dimensions of self-compassion, such that these levels were higher among boys, and that the un-moderated mediation model was not a good fit among boys, it may be that this lack of replication is in part accounted for by gender differences in levels in appearance esteem and self-compassion. It might be that a larger proportion of boys maintain appearance esteem due to high levels of self-compassion, and that only those with lower levels of self-compassion experience the negative effects of appearance comparisons on appearance esteem. In contrast, the overall lower levels of self-compassion among girls may not allow for the moderating effect to emerge.

In addition, even among males, our findings provided no support for the moderating role of self-kindness on the mediated pathways examined. From a developmental perspective, this may perhaps be related to fact that late adolescence and emerging adulthood is still a time of construction of the self, and body image, and that self-kindness may not be sufficient to buffer against social prescriptions regarding appearance (Eisenberg, Neumark-Sztainer, & Paxton, 2006). However, again consistent with previous work (Braun et al., 2016), our results did point to a direct relationship between self-kindness and increased appearance esteem and lower perception of overweight status and appearance comparison among both genders. Thus, youth who are able to extend kindness towards themselves may also have greater positive self-perceptions. Furthermore, the magnitude of the direct relationships between self-kindness and appearance esteem were somewhat larger than those present between the other two dimensions of self-compassion (i.e., mindfulness and common humanity) and the body image outcomes among both genders. Thus, these findings suggest that self-kindness may exert a protective role on body image through a slightly different pathway to mindfulness and common-humanity, not by disrupting the relationships between sociocultural risks factors and body image outcomes, but perhaps by protecting from the development of such risks factors, including appearance comparison. In this way, emerging adults with higher levels of self-kindness may display more resilience in terms of body image, regardless of social and individual risk factors (Neff & McGehee, 2010). Longitudinal investigations of the development of the different dimensions of self-compassion, as well as body image, are warranted to further confirm and clarify these different pathways.

Furthermore, our findings failed to replicate those of Homan and Tylka (2015), and found no evidence of a moderating effect of self-compassion on the pathway between appearance comparison and appearance esteem. A number of differences between the two studies may contribute to explaining this lack of replication. First the Homan and Tylka (2015) study utilized a measure of self-compassion that included both the positive dimensions assessed here, but also the negative dimensions of over-identification, self-judgment, and isolation. It may be that particularly among girls, experiencing lower levels of these negative dimensions, or experiencing them in conjunction with higher levels of the positive dimensions, may be more protective. In addition, Homan and Tylka

(2015) utilized body appreciation as an outcome as opposed to appearance esteem. Body appreciation is defined as holding a positive attitude towards one's body including a rejection of media-promoted ideals (Tylka & Wood-Barcalow, 2015), thus a more critical aware stance. In contrast, appearance esteem represents an appreciation of one's appearance that does not extend to the appreciation of other aspects of one's body, or a critically awareness of socially-promoted ideals. Thus, it may be that self-compassion is more strongly related to outcomes that go beyond the appreciation of one's appearance and constitute a broader-based conception of positive body image.

The current study presented a number of limitations. First, although it has been previously shown that subjective evaluation of body weight and shape may be a better predictor of body image and body change behaviors as compared to objective weight (Jampel, Murray, Griffiths, & Blashill, 2016; Sonnevile et al., 2016), our study lacked data on actual weight, which prevented us from examining how these relationships might differ when considering objectively-measured weight. In addition, the terms used to anchor the scale on which participants were invited to reported their perceived weight status may have been experienced as stigmatizing, which could have limited the validity of this measure. Second, data were cross-sectional, meaning that we were unable to explore temporal precedence in these data. It is possible that other sequencings of the variables examined here may be present in longitudinal data. Furthermore, while it has been suggested that 80% of the appearance comparisons made by young women are unfavorable (Fitzsimmons-Craft et al., 2012), our measure failed to capture the directionality of the comparisons being made by participants, which might have affected our findings. It would also be interesting to examine the pathways under investigation here in experimental research with state as opposed to trait measures. Finally, future research should aim to examine ethnic difference in these relationships.

Despite these limitations, our findings provide additional support for the protective role of self-compassion against body image and eating concerns and suggest that cultivating self-compassion may help shield individuals from sociocultural pressures to pursue unrealistic ideals. Further studies examining these pathways developmentally are warranted. In addition, interventions aiming to promote the development of positive body image and wellbeing among adolescents grounded in self-compassion have a high likelihood of success and should be developed and evaluated.

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References

- Avalos, L., Tylka, T. L., & Wood-Barcalow, N. (2005). The Body Appreciation Scale: Development and psychometric evaluation. *Body Image*, 2, 285–297. <http://dx.doi.org/10.1016/j.bodyim.2005.06.002>
- Braun, T. D., Park, C. L., & Gorin, A. (2016). Self-compassion, body image, and disordered eating: A review of the literature. *Body Image*, 17, 117–131. <http://dx.doi.org/10.1016/j.bodyim.2016.03.003>
- Creedon, P. J., & Hayes, A. F. (2015). Small sample mediation analysis: How far can you push the bootstrap? Presented at the *Annual conference of the Association for Psychological Science*. New York, NY.
- Daye, C. A., Webb, J. B., & Jafari, N. (2014). Exploring self-compassion as a refuge against recalling the body-related shaming of caregiver eating messages on dimensions of objectified body consciousness in college women. *Body Image*, 11, 547–556. <http://dx.doi.org/10.1016/j.bodyim.2014.08.001>
- Eisenberg, M. E., Neumark-Sztainer, D., & Paxton, S. J. (2006). Five-year change in body satisfaction among adolescents. *Journal of Psychosomatic Research*, 6, 521–527. <http://dx.doi.org/10.1037/0012-1649.42.5.888>
- Ferreira, C., Pinto-Gouveia, J., & Duarte, C. (2013). Self-compassion in the face of shame and body image dissatisfaction: Implications for eating disorders. *Eating Behaviors*, 14, 207–210. <http://dx.doi.org/10.1016/j.eatbeh.2013.01.005>

- Festinger, L. (1954). *A theory of social comparison processes*. *Human Relations*, 7, 117–140.
- Fitzsimmons-Craft, E. E., Harney, M. B., Koehler, L. G., Danzi, L. E., Riddell, M. K., & Bardone-Cone, A. M. (2012). Explaining the relation between thin ideal internalization and body dissatisfaction among college women: The roles of social comparison and body surveillance. *Body Image*, 9, 43–49. <http://dx.doi.org/10.1016/j.bodyim.2011.09.002>
- Gilbert, P., & Choden. (2014). *Mindful compassion: How the science of compassion can help you to understand your emotions, live in the present, and connect deeply with others*. Oakland, CA: New Harbinger Publications, Inc.
- Hadland, S. E., Austin, S. B., Goodenow, C. S., & Calzo, J. P. (2014). Weight misperception and unhealthy weight control behaviors among sexual minorities in the general adolescent population. *Journal of Adolescent Health*, 54, 296–303. <http://dx.doi.org/10.1016/j.jadohealth.2013.08.021>
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York, NY: Guilford Press.
- Homan, K. J., & Tylka, T. L. (2015). Self-compassion moderates body comparison and appearance self-worth's inverse relationships with body appreciation. *Body Image*, 15, 1–7. <http://dx.doi.org/10.1016/j.bodyim.2015.04.007>
- Jampel, J. D., Murray, S. B., Griffiths, S., & Blashill, A. J. (2016). Self-perceived weight and anabolic steroid misuse among US adolescent boys. *Journal of Adolescent Health*, 58, 397–402. <http://dx.doi.org/10.1016/j.jadohealth.2015.10.003>
- Kelly, A. C., Vimalakanthan, K., & Miller, K. E. (2014). Self-compassion moderates the relationship between body mass index and both eating disorder pathology and body image flexibility. *Body Image*, 11, 446–453. <http://dx.doi.org/10.1016/j.bodyim.2014.07.005>
- Mendelson, B. K., Mendelson, M. J., & White, D. R. (2001). Body Esteem Scale for Adolescents and Adults. *Journal of Personality Assessment*, 76, 90–106. http://dx.doi.org/10.1207/S15327752JPA7601_6
- Mosewich, A. D., Kowalski, K. C., Sabiston, C. M., Sedgwick, W. A., & Tracy, J. L. (2011). Self-compassion: A potential resource for young women athletes. *Journal of Sport and Exercise Psychology*, 33, 103–123. <http://dx.doi.org/10.1123/jsep.33.1.103>
- Neff, K. D. (2003). The development and validation of a scale to measure self-compassion. *Self and Identity*, 2, 223–250. <http://dx.doi.org/10.1080/15298860309027>
- Neff, K. D., & McGehee, P. (2010). Self-compassion and psychological resilience among adolescents and young adults. *Self and Identity*, 9, 225–240. <http://dx.doi.org/10.1080/15298860902979307>
- Parent, M. C. (2013). Handling item-level missing data: Simpler is just as good. *The Counseling Psychologist*, 41, 568–600. <http://dx.doi.org/10.1177/0011000012445176>
- Rodgers, R. F. (2016). The role of the “Healthy Weight” discourse in body image and eating concerns: An extension of sociocultural theory. *Eating Behaviors*, 22, 194–198. <http://dx.doi.org/10.1016/j.eatbeh.2016.06.004>
- Rodgers, R. F., Paxton, S. J., & McLean, S. A. (2014). A biopsychosocial model of body image concerns and disordered eating in early adolescent girls. *Journal of Youth and Adolescence*, 43, 814–823. <http://dx.doi.org/10.1007/s10964-013-0013-7>
- Schaefer, L. M., & Thompson, J. K. (2014). The development and validation of the Physical Appearance Comparison Scale-Revised (PACS-R). *Eating Behaviors*, 15, 209–217. <http://dx.doi.org/10.1016/j.eatbeh.2014.01.001>
- Sonneville, K., Thurston, I., Milliren, C., Kamody, R., Gooding, H., & Richmond, T. (2016). Helpful or harmful? Prospective association between weight misperception and weight gain among overweight and obese adolescents and young adults. *International Journal of Obesity*, 40, 328–332. <http://dx.doi.org/10.1038/ijo.2015.166>
- Strauss, R. S. (1999). Self-reported weight status and dieting in a cross-sectional sample of young adolescents: National Health and Nutrition Examination Survey III. *Archives of Pediatrics & Adolescent Medicine*, 153, 741–747. <http://dx.doi.org/10.1001/archpedi.153.7.741>
- Streeter, V. M., Milhausen, R. R., & Buchholz, A. C. (2012). Body image, body mass index, and body composition: In young adults. *Canadian Journal of Dietetic Practice and Research*, 73, 78–83. <http://dx.doi.org/10.3148/73.2.2012.78>
- Swami, V., Hadji-Michael, M., & Furnham, A. (2008). Personality and individual difference correlates of positive body image. *Body Image*, 5, 322–325. <http://dx.doi.org/10.1016/j.bodyim.2008.03.007>
- Thompson, J. K., Heinberg, L., & Tantleff-Dunn, S. (1991). *The Physical Appearance Comparison Scale*. *The Behavior Therapist*, 14, 174.
- Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/10312-000>
- Tiggemann, M. (2005). Body dissatisfaction and adolescent self-esteem: Prospective findings. *Body Image*, 2, 129–135. <http://dx.doi.org/10.1016/j.bodyim.2005.03.006>
- Tiggemann, M., & Miller, J. (2010). The Internet and adolescent girls' weight satisfaction and drive for thinness. *Sex Roles*, 63, 79–90. <http://dx.doi.org/10.1007/s11199-010-9789-z>
- Tylka, T. L., Russell, H. L., & Neal, A. A. (2015). Self-compassion as a moderator of thinness-related pressures' associations with thin-ideal internalization and disordered eating. *Eating Behaviors*, 17, 23–26. <http://dx.doi.org/10.1016/j.eatbeh.2014.12.009>
- Tylka, T. L., & Wood-Barcalow, N. L. (2015). The Body Appreciation Scale-2: Item refinement and psychometric evaluation. *Body Image*, 12, 53–67. <http://dx.doi.org/10.1016/j.bodyim.2014.09.006>
- van den Berg, P., Paxton, S. J., Keery, H., Wall, M., Guo, J., & Neumark-Sztainer, D. (2007). Body dissatisfaction and body comparison with media images in males and females. *Body Image*, 4, 257–268. <http://dx.doi.org/10.1016/j.bodyim.2007.04.003>
- van den Berg, P., Thompson, J. K., Obremski-Brandon, K., & Coovert, M. (2002). The tripartite influence model of body image and eating disturbance: A covariance structure modeling investigation testing the mediational role of appearance comparison. *Journal of Psychosomatic Research*, 53, 1007–1020. [http://dx.doi.org/10.1016/S0022-3999\(02\)00499-3](http://dx.doi.org/10.1016/S0022-3999(02)00499-3)
- Wasylkiw, L., MacKinnon, A. L., & MacLellan, A. M. (2012). Exploring the link between self-compassion and body image in university women. *Body Image*, 9, 236–245. <http://dx.doi.org/10.1016/j.bodyim.2012.01.007>