Bulimic Symptoms Amongst College Women: Examining the Roles of Upward Social Comparison Tendency, Body Envy, and Negative Urgency

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Abstract

In a sample of female university students (N = 228), this cross-sectional study examined a moderated mediation model where body envy mediates the relationship of upward social comparison tendency (USCT) and bulimic symptoms with negative urgency moderating this indirect effect. Participants completed self-report measures assessing these variables and the data were analysed using the Hayes Process Macro in SPSS, employing bootstrapping with 5000 resamples for estimating standard errors. The hypothesized moderated mediation model was not supported. However, the results indicated significant correlations between the variables. USCT was positively associated with body envy, which, in turn, was positively associated with bulimic symptoms. Negative urgency demonstrated positive associations with both body envy and bulimic symptoms. Furthermore, a significant indirect effect was found suggesting that USCT influenced bulimic symptoms indirectly through body envy. The effect existed over and above the BMI of the participants. These findings contribute to understanding the psychological factors related to body image concerns and disordered eating behaviours among female university students. Implications for interventions and future research as well as limitations are discussed.

Keywords: upward social comparison tendency, body envy, impulsivity, negative urgency, bulimic symptoms

Bulimic symptoms among college women: examining the roles of upward social comparison tendency, body envy, and negative urgency.

Eating disorders are an important public health issue and affect more than 9% of the population worldwide (Arcelus et al., 2011), with being the most prevalent amongst female individuals. One of these eating disorders is bulimia nervosa with a lifetime prevalence among females up to 3%, where particularly young western women are a high-risk factor group and have a more than five times increased mortality risk (Van Eeden, 2021). It has been shown that social comparison processes, where women compare their bodies to thinner women, play a key role and have an influence on bulimic symptomatology (Puccio et al., 2016; Lewallen & Behm-Morawitz, 2016). Furthermore, recent research addressed the emotional impact on weight loss dieting and bulimic symptomatology, especially for negative emotions (Pinkasavage et al., 2015; Puccio et al., 2016). One of these powerful negative emotions of humans is body envy, sp building on this research it is suggested that body envy will mediate the relationship between upward social comparison tendency (USCT) and bulimic symptoms. In addition, since negative urgency has been shown to promote bulimic symptomatology through its moderating effect (Dalley et al., 2020), this author predicts a moderated mediation model with body envy mediating the relationship between (USCT) and bulimic symptoms, and where negative urgency moderates the relationship between body envy and bulimic symptoms.

On a social level, people compare themselves upwards or downwards to similar others in order to evaluate themselves across various domains (Festinger, 1954). More recent research showed that people make comparisons not only to similar others but also to targets from diverse origins (Fisher, Dunn, & Thompson, 2002). Hereby, upward social comparison means, to compare oneself to a person who has a higher status along the dimension of interest, so it tells you what the ideal is, and how far people are away from it while also serving the function to give a direction how to get there (Smith, 2000). Following that, upward social comparison in

the body image domain means comparing oneself to women who are thinner or slimmer than oneself. Recent research has been shown that upward social comparison processes regarding the own body can have negative consequences (Fitzsimmons-Craft, 2017) and are subsequently related to negative body emotions (Pinkasavage et al., 2015). Therefore, the author of this study will focus on (USCT) of one's own body shape and appearance, which is discussed as one of the most frequent triggers of negative emotions such as envy in young women (Pila et. al, 2014).

Emotions have a social function on an individual as well as on a cultural level to solve issues in social relationships and interactions (Keltner & Haidt, 1999). Emotions such as envy, which is a complex emotion involving feelings of inferiority and the desire to get rid of that pain by narrowing the gap with the envied other, can have significant consequences for human behaviour in this context (Crusius et al., 2020). There are qualitative subtypes of envy, which are consequences of upward social comparison, namely benign envy and malicious envy. Benign envy relates to the motivation and thoughts to improve oneself in order to lower the discrepancy to the comparison target, whereas malicious envy relates to the thoughts of taking the comparison target down in order to lower the discrepancy to the target (Van de Veen et al., 2009). Both subtypes emphasize the motivation or consequence component of envy, however in our study we want to focus on the feeling and cognitive component, which is indicated by measuring episodic envy. Episodic envy is conceptualized as an irritating or displeasing emotion which arises in a person after an upward social comparison and is different from dispositional envy, which is meant to be a personality characteristic (Cohen-Charash, 2009). By focusing on episodic envy, we follow the recommendation of Cohen-Charash and Larson (2017), who argue that envy should be studied as a unitary emotion construct because this emotion can lead to various outcomes. Therefore, the differentiation in benign and malicious envy intertwines the core emotion with its outcomes (Cohen-Charash & Larson, 2017) and

Crusius et al (2020) argue that for measuring envy as a unitary construct the operationalization of episodic envy should be used. Envy is often triggered by social comparisons, particularly when there is a perceived difference in appearance or thinness compared to others, as this is self-relevant especially to young women (Pila, 2014). When comparing upwards, people make the discrepancy between the comparison target and themselves salient. Therefore, we claim in line with Van de Ven & Zeelenberg (2020) upward social comparison being a cognitive process and hereby the comparison target in our study is meant to be of higher status regarding body shape and thinness. According to Smith's (2000) theoretical model, the reactions or consequences of the cognitive process of upward social comparison can be classified along certain dimensions. He states that if people compare themselves upwards to a target and reaching the status of the target seems difficult, the consequence of feeling envy is more likely. That is because envy is considered an upward contrastive emotion and has low perceived control (Smith, 2000). As we consider that changing one's own body shape is indeed difficult, we can apply Smith's (2000) theoretical framework regarding upward social comparison and envy. Following this line of argumentation as well as looking at previous research indicating the association between USCT and envy (Alicke & Zell, 2008) we predict that the more frequent people compare themselves upwards in the domain of body shape and appearance, the more frequently they will feel body envy.

The consequences of experiencing envy can manifest in various ways, including attempts to lower the perceived gap with the envied other through self-promotion or other-demotion, as well as additional cognitive, emotional, and regulatory reactions (Crusius et al., 2020). In the context of body image and appearance, research has shown that body envy can mediate the relationship between upward social comparison and engagement in cosmetic surgery (Nabi & Keblusek, 2014), or predict willingness to make use of facial cosmetics and risky dieting (Arnocky et al., 2015). These findings suggest that body envy can be linked to

both moderate and extreme body-enhancing strategies. However, it is important to note that the operationalization of body envy can vary in research, and in our study, we use the concept of episodic envy, rather than inducing state envy or measuring dispositional envy. Episodic envy refers to temporary episodes of feeling envious, and we believe that this specific type of envy can be linked to engagement in bulimic behaviours, which involve overeating, loss of control of food intake, and thoughts of purging (Garner et al., 1983). We draw on the theory of (Heatherton & Baumeister, 1991) and see Binge eating as a way to escape from self-awareness. Those who engage in binge eating often set high standards for themselves and are sensitive to others' demands. When they can't meet these standards they become overly self-aware, with negative self-views and worry about others' perceptions. This heightened self-awareness is often accompanied by emotional distress, anxiety, and depression. As a coping mechanism, individuals attempt to limit their focus to their immediate environment and avoid engaging in deeper thoughts. This disengagement from normal inhibition patterns against eating can result in irrational beliefs and behaviours associated with bulimia like overeating (Heatherton & Baumeister, 1991). In our theoretical framework we propose that the negative pattern of high self-awareness and concerns about how one is perceived by others, which is accompanied by emotional distress, can be akin to the unpleasant emotional state of feeling body envy that can be triggered by an upward social comparison. Envy, being a negative and unpleasant emotion, may lead individuals to engage in bulimic behaviours to escape from this unpleasant emotional state. This is consistent with findings from Dalley et al. (2020) who demonstrated a relationship between body shame, another unpleasant emotion related to body image, and engagement in bulimic symptoms. Therefore, based on the presented arguments, we predict that the more frequent episodes of body envy the individuals feel, the more likely they are to show bulimic symptoms. Subsequently we propose that envy will mediate the relationship between USCT

and bulimic symptomatology in a way that the more USCT women show, the more frequently they experience body envy and the more bulimic symptoms they show.

However, we assume that this mediation effect will be dependent on personality differences among the women. Reacting in a harsh and rash way is generally considered impulsive behaviour, hereby negative urgency focuses on rash reaction when faced with negative emotions (Whiteside & Lynam, 2001). It has been established that impulsiveness is linked to disordered eating behaviour (Waxman, 2009) and recent research showed that especially negative urgency seems to play a role in the engagement of bulimic symptomatology like binging or purging behaviour (Fischer et al., 2012). In clinical samples, negative urgency was established as a predictive risk factor for the development of bulimia (Anestis et al., 2009) and negative urgency was negatively related to the recovery from bulimic symptomatology (Bardone-Cone et al., 2016). Considered the previously explained escape theory of bulimia (Heatherton & Baumeister, 1991) and the fact that negative urgency emphasizes the harsh reactions to negative emotions, the author argues that with an increasing feeling of body envy, the following escape behavior from this unpleasant state or negative emotion will be more intense when having a higher amount of negative urgency. Recent research showed this interaction for negative emotions such as body shame in a sample of college women (Dalley et al., 2021), however no research addressed the possible mediating role of body envy in these associations. Therefore, the researcher proposed that the higher the women's score on negative urgency the stronger the relationship between the frequency of experiencing body envy and the manifestation of bulimic symptomatology.

Furthermore, the author controls for the women's BMI to examine effects over and above the influence of individual differences such as body weight. Taken all together, a significant moderated mediation model is predicted over and above BMI and age, where body

envy mediates the relationship between USCT and bulimic symptoms and where negative urgency moderates the relationship of body envy and bulimic symptomatology (see figure 1).

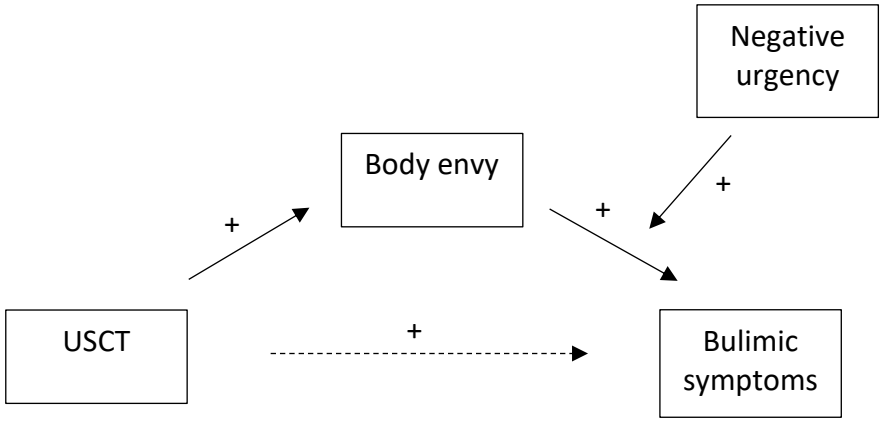

Figure 1: Predicted moderated mediation model

Methods

Participants

Three hundred and forty-seven female students volunteered to participate in this cross-sectional study and started the survey. The participants were recruited through convenience sampling via personal and university networks and at the university library and cafeteria. One hundred and thirteen participants were excluded from the study because they did not complete the questionnaire, had missing data, or did not pass the validating questions. Outliers were checked via casewise diagnostics and a total of six participants were excluded because their residual between the predicted and observed value of the dependent variable exceeded three standard deviations. For statistical analysis a total of 228 participants were left, with ages ranging from 18 to 30 years, with a mean age of 22.00 (SD=2.156).

Measures

Upward social comparison tendency

To operationalize USCT the UPACS (O'Brien et al., 2009) was used. This was adapted to ensure USCT in the body image domain. This 10-item scale measures the frequency of

engagement in physical appearance comparison with individuals who are viewed as better looking (i.e., "I tend to compare myself to people I think look better than me."). Responses are made on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The participants respond to a total of 10 questions and a higher total score indicates more frequent engagement in upward social comparison. The internal reliability of the UPACS has previously been reported with a Chronbach's-alpha of .93 (O'Brien et al., 2009). The UPACS used in the current study had a reliability of Cronbach's alpha 0.91.

Body envy

Envy was assessed in our sample using the 9-item episodic envy scale of Cohen-Charash (2009). This was adapted to ensure the experience of envy was specific to the body image domain. Answers were recorded on a five-point likert scale ranging from 1 (not characteristic) to 5 (extremely characteristic) and items like "I tend feel envious towards the women (e.g., peers, fashion models, actresses, etc.) who are thinner/slimmer than me" or "I tend to feel bitter towards the women (e.g., peers, fashion models, actresses, etc.) who are thinner/slimmer than me." The internal reliability of the scale has previously been reported with Chronbach's-alpha of 0.86 (Cohen-Charash, 2009). In our sample the scale had a Chronbach's-alpha of 0.86.

Bulimic Symptoms

Bulimic symptoms were assessed with the seven-item bulimic subscale of the Eating Disorder Inventory (EDI) in our sample (Garner, 1983). Answers were recorded on a six-point likert scale ranging from 1 (never) to 6 (always) with items like "I stuff myself with food" or "I eat or drink in secrecy." The internal reliability of the scale has previously been reported with Chronbach's-alpha of 0.85 (Raciti & Norcross, 1987). In our sample the scale had a Chronbach's-alpha of 0.87.

Negative Urgency

Impulsive Behavior Scale (UPPS-P) was used to operationalize impulsivity and to measure negative urgency among the participants. This subscale was a Likert-scale and had answer options ranging from 1 (strongly disagree) to 4 (strongly agree) with items like “When I feel rejected, I will often say things that I later regret” or “Sometimes when I feel bad, I can't seem to stop what I am doing even though it is making me feel worse.” The internal reliability of the scale has previously been reported with Chronbach’s-alpha of 0.78 (Cyders MA, 2014). In our sample the scale had a Chronbach’s-alpha of 0.75.

Body mass index

The body mass index (BMI) was calculated for each participant based on their self-reported body weight and height. It has previously been shown that self-reported weight and height does have an adequate variation between self-reported and actual values (Bowman & DeLucia (1992).

Procedure

The study was approved by The Ethics Committee of the Department of Psychology at the University of Groningen. After providing informed consent, a set of demographic questions, a language proficiency check, and psychological self-report measures of the variables of interest were combined into an online test questionnaire which was implemented in the online survey tool Qualtrics.

Statistical analysis

The Hayes Process Macro was used in SPSS (V29) to analyse the predicted moderated mediation model. Instead of relying on theoretical assumptions of the sampling distributions of our estimates using central limit theorem, bootstrapping technique was used to empirically generate the sampling distributions. This was done by resampling with replacement 5000 times

from our sample with the same initial sample size in order to derive a bootstrap distribution which we used to calculate standard errors for the confidence intervals and hypothesis testing. It has been shown that bootstrapping technique is robust against possible non-normality of the residuals and better accounts for irregularities of the sampling distributions than a normal theory approach (Hayes, 2013; Jose, 2013; Wright et al., 2011; MacKinnon et al., 2004). Subsequently this results in more accurate estimates of the standard error and therefore the inference done by the confidence intervals and hypothesis testing of simulations studies with bootstrapping tends to be more accurate and tend to have higher power than normal theory approach (Hayes, 2013; Jose, 2013; Wright et al., 2011; MacKinnon et al., 2004).

The predicted moderated mediation model 14 (Hayes, 2013) was analysed. The models included USCT as independent variable, body envy as mediator, negative urgency as moderator and bulimic symptoms as the dependent variable.

Results

Assumptions

Normality assumption was visually inspected by running three different regressions with first USCT as independent and bulimic symptoms as dependent variable, USCT as independent and body envy as dependent variable, and third a regression with USCT, body envy, negative urgency and the interaction body envy*negative urgency as predictors and bulimic symptoms as dependent variable. For all three regressions a P-P Plot of regression standardized residuals was examined to check the normality assumption (Ernst & Albers, 2017). For all three regressions normality assumption was sufficiently met. For homoscedasticity assumption a scatter plot of standardized predicted values against standardized residuals was examined (Ernst & Albers, 2017). For the first regression, USCT predicts bulimic symptoms, the homoscedasticity assumption was met. However, for the other two regression models a low pattern in the residuals was found. For the analysis the decision

was made to proceed with the heteroscedasticity-inference HC4 when using Hayes Process Macro, because this HC4 estimator is considered conservative and an adequate alternative (Cribari-Neto & Lima, 2014). Independence of errors was considered less restrictive because of the cross-sectional design of the study.

Descriptive and correlational analysis

Zero-order correlations and descriptive statistics were calculated and summarized in table 1.

Table 1

Pearson correlations, means and standard deviations of the measured variables

	1.	2.	3.	4.	5.
1. USCT	-				
2. Body envy	0.539**	-			
3. Bulimic Symptoms	0.261**	0.456**	-		
4. Negative urgency	0.148*	0.291**	0.506**	-	
5. BMI	-0.005	0.058	0.181**	0.009	-
Mean	3.648	1.708	2.107	2.240	21.993
SD	0.819	0.567	0.811	0.674	3.350

Note. The unstandardized Pearson correlation coefficients are reported for each variable

* $p < 0.05$

** $p < 0.01$

Moderated-mediation analysis

The analysis examined the predicted moderated mediation model, which consists of the indirect effect of USCT on bulimic symptoms through body envy and the moderator negative

urgency, which acts on the relationship between body envy and bulimic symptoms. The moderated mediation model was controlled for BMI. All variables were centered to reduce multicollinearity for the following analyses and bootstrapping with 5000 resamples was used to calculate confidence intervals for the moderated mediation index, which is the slope coefficient of the regression of the indirect effect on the moderator variable negative urgency (Hayes, 2013). The effect was not significant (B = 0.058, SE = 0.038, 95% CI [-0.020, 0.127]).

Exploratory mediation analysis

After inspecting the correlation and suspecting the presence of a significant mediation model, a simple mediation analysis (Hayes Model 4) was performed to further explore the indirect effect of USCT on bulimic symptoms via the mediator body envy, while controlling for BMI. All variables were centered to reduce multicollinearity for the following analyses and heteroscedasticity-inference HC4 was used for heteroscedasticity consistent standard error. A regression revealed that 23.25% of the variance in bulimic symptoms was explained by all of the predictors, which results in a significant overall model [$F(3,224) = 21.03$, $p < 0.001$]. Furthermore, significant direct effects of USCT on body envy (B = 0.373, SE = 0.037, 95% CI [0.301, 0.445], $p < 0.001$), body envy on bulimic symptoms (B = 0.616, SE = 0.113, 95% CI [0.394, 0.839], $p < 0.001$), and BMI on bulimic symptoms (B = 0.038, SE = 0.014, 95% CI [0.010, 0.066], $p = 0.009$) were found. In addition, the total effect of USCT on bulimic symptoms was significant as well (B = 0.259, SE = 0.066, 95% CI [0.129, 0.389], $p < 0.001$). The direct effects of USCT on bulimic symptoms (B = 0.029, SE = 0.078, 95% CI [-0.125, 0.183], $p = 0.712$) was not significant. Bootstrapping with 5000 resamples was used to calculate confidence intervals for the indirect effect of USCT on bulimic symptoms through body envy, which revealed a significant effect (B = 0.230, SE = 0.049, 95% CI [0.141, 0.333]).

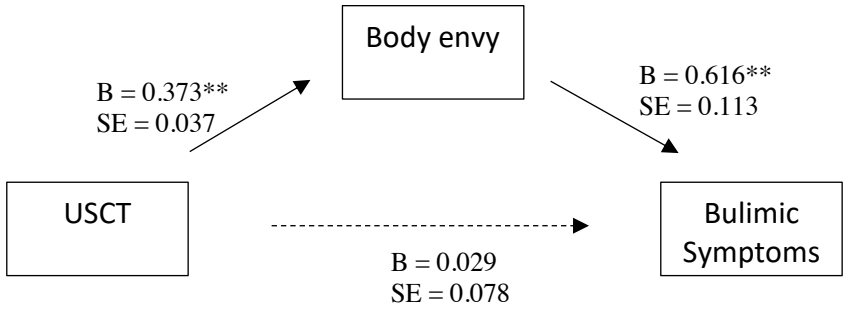

Figure 2: Simple mediation model

Note. The unstandardized regression slopes are reported for each path

* $p < 0.05$

** $p < 0.01$

Exploratory moderation analysis

Because body envy as well as negative urgency showed significant correlations with bulimic symptoms (see table 1) and previous research showed a moderation effect of negative urgency on the relationship between negative body emotions and bulimic symptoms (Dalley et al., 2021), the simple moderation analysis (Hayes Model 1) further explored the influence of negative urgency as a moderator on the relationship between body envy and bulimic symptoms while controlling for BMI. All variables were centred for the following analyses to reduce multicollinearity and heteroscedasticity-inference HC4 was used for heteroscedasticity consistent standard error. A regression revealed that 39.01 % of the variance in bulimic symptoms was explained by all of the predictors, which results in a significant overall model [$F(4,223) = 39.59$, $p < 0.001$]. Furthermore, significant direct effects of body envy on bulimic symptoms ($B = 0.465$, $SE = 0.081$, 95% CI [0.305, 0.624], $p < 0.001$), and negative urgency on bulimic symptoms ($B = 0.500$, $SE = 0.067$, 95% CI [0.369, 0.632], $p < 0.001$) was found. However, the interaction effect of body envy and negative urgency on bulimic symptoms was not significant ($B = 0.149$, $SE = 0.106$, 95% CI [-0.061, 0.358], $p = 0.163$).

Discussion

In our sample of college women, it was predicted that body envy mediates the relationship between USCT and bulimic symptoms such that the more women compare their body upwards, the more frequently they experience body related envy and thus the more bulimic symptoms will manifest. Furthermore, negative urgency was predicted to moderate this mediating pathway where with increasing negative urgency the mediating pathway is stronger. Unfortunately, no evidence was found for the predicted moderated mediation pathway.

One explanation for the non-significant moderated mediation model could be the low mean of body envy. This might result in a floor effect of the body envy measure, where the scale and the subsequent moderated mediation model cannot sufficiently distinguish participants in terms of their frequency of experiencing body related envy (Šimkovic & Träuble, 2019). This differentiation of participants in their body envy scores is needed to create enough variability for negative urgency to act on as a moderator (Šimkovic & Träuble, 2019). Furthermore, the floor effect can increase bias and uncertainty in the statistical tests of the analyses (Šimkovic & Träuble, 2019). The low mean score of body envy could be caused by the nature of the scale. A self-reported measure of body envy, which is considered a negative emotion with low social desirability (Smith, 2000), is likely to result in a low mean due to people being biased in a more socially desirable way. That means the participant answering the body envy scale with a lower tendency to more adhere to what is socially desired (Smith, 1999). A high score of items of the envy scale used in the data collection such as 'I feel hatred towards women who are thinner/slimmer than me' are suspected to be experienced as not socially desirable and subsequently participants might be given biased answers lower than they experience it. Therefore, future research could use a clinical sample, to prevent a floor effect, with higher potential for feeling body envy and subsequently resulting in a mean score of body

envy which is more located around the centre of the scale. Furthermore, future research could control for social desirability to further explore its role in this moderated mediation model.

Another reason for the non-significance of the moderated mediation model could be that body envy was not enough of a powerful negative emotion to show a moderated mediation effect together with negative urgency. Previous research showed that negative emotions like body shame can elicit that (Dalley et al., 2021), which is considered a more negative and more powerful emotion than body envy being and resulting in stronger reactions to it (Berke, 1986; Tangney & Salovey, 1999). Future research should address that by examining the model with a measure of body shame instead of body envy to further explore the nature of negative body emotions in this moderated mediation model.

However, support was found for the simple mediation model where the relationship of USCT on bulimic symptoms is mediated by body envy, such that the more participants tend to compare their body upwards the more frequently they experience body related envy and subsequently more bulimic symptoms will manifest. This provides evidence for the reasoning that the social cultural standard of a thin body is the ideal women compare to, and this process can result in the negative body emotion of envy (Pila et al., 2014). Hereby the upward social comparison process points out the gap between the body of the women and the social cultural thinness ideal. Subsequently the emotion of envy arises because envy is considered a negative contrast emotion, which can show the individual how far she is from the ideal and how to get there (Smith, 2000; Salovey, 1991; Alicke & Zell. 2008). This is in line with previous research on upward social comparison processes and negative emotions where the more women compared themselves the more they experienced envy (Arnocky et al. 2016). Furthermore, our significant simple mediation model could be said to provide evidence for the escape model of bulimia in a way that it shows the role of body envy as a driving factor of the manifestation of bulimic symptomatology. Women who experience body related envy, due to the contrast

between themselves and an ideal thin body, in the upward social comparison process trying to escape this unpleasant negative emotional state (Heatherton & Baumeister, 1991). Due to that escape process and an attention shift away from the self towards the immediate environment, the natural inhibition mechanisms of eating behaviour, such as overeating, get diminished (Heatherton & Baumeister, 1991). This is in line with previous research on escape theory and negative emotions (Blackburn et al., 2006), such as women showed more frequent bulimic behaviour the more they experienced negative affect (Higgins Neyland & Bardone-Cone, 2017). Taken together our simple mediation analysis provided evidence for the mediating role of body envy in the relationship between USCT and bulimic symptomatology.

Furthermore, the simple moderation analysis revealed that negative urgency has a direct effect on bulimic symptoms, such that the higher women score in negative urgency the more bulimic symptomatology will manifest. This is in line with previous research on negative urgency and bulimic symptoms indicating that negative urgency is positively correlated with bulimic symptomatology (Fahy & Eisler, 1993; Fischer et. al, 2003). However, no significant interaction effect for body envy and negative urgency on bulimic symptoms was found. This contradicts the predicted model, that negative urgency will moderate the relationship of body envy and bulimic symptoms. A reason for that could be the discussed floor effect of the body envy scale created by self-presentational reasons of social desirability or the nature of envy itself. It might be that body envy is just not powerful enough to show an interaction with negative urgency, interestingly body shame does show this interaction (Dalley et al., 2021). Shame might be more toxic than envy (Morrison & Lansky, 2011), might play a more important role in bulimia (Blythin et al., 2020) and among people high in negative urgency and could be the reason why the predicted moderated mediation model was not significant. Future research could include shame and other negative emotions in their analysis to further examine the differences of certain emotions and negative urgency in the escape theory paradigm of bulimia.

All the statistical analyses were controlled for BMI, so the mediating effect of body envy in the relationship between USCT and bulimic symptomatology exists over and above BMI. In the sample the mean of BMI was normal, so body envy had a mediating role for a sample with normal body mass index. Therefore, body image concerns are so strong even among women with normal body mass that the body comparison processes can lead to body envy and subsequently the manifestation of bulimic symptoms independently of the women's BMI. This points out that the social cultural ideal of thinness is out of reach for most women and not only for women with a non-normal body mass.

The significant mediation pathway has applications for interventions and suggests that women higher in USCT should be targeted, because they are at higher risk of body envy and thus at a higher risk for bulimia. Researchers, who design interventions, should be aware that women high in USCT are a potential high-risk group. Furthermore, interventions should focus on body related envy or in general on negative body emotions and how to target them to provide better regulation mechanisms for individuals. Applying the current research one could think about interventions or training related to self-compassion to provide a healthy coping mechanism or buffer to inhibit the negative feelings of body envy and subsequently reducing the engagement in bulimic behaviour. Self-compassion could act as a buffer for body envy and help women to cope with persons who are superior to them on the valued dimension of body shape. It does this by reducing and coping with the experience of envy and subsequently lowering its negative outcomes. Recent research showed the buffer function of self-compassion on envy and subsequently the better health outcomes through this buffer (Beshai et al., 2022) as well as the buffer function of self-compassion for body-related self-conscious emotions (Pila et al., 2022). Therefore, future research on the buffer function of self-compassion for body envy in the discussed mediation pathway is highly recommended.

The significant findings of this study should be treated with caution because the findings can be interpreted as an association claim between the variables and but not as causality. The cross-sectional design of the study does not establish causality (Kesmodel, 2018), however future research could address causality by using a longitudinal design while controlling for more confounding factors to establish causality (VanderWeele et al., 2020) for the relationship between USCT, body envy and bulimic symptomatology. Furthermore, the study used a student sample, so it is not generalizable to a broader population and therefore external validity is limited (Stroebe et al., 2018). Finally, the model was not controlled for ethnicity, which again limits the generalizability to certain ethnic groups and reduces the application and external validity (Tebes, 2000). Future research could address that by using a more representative sample from a broader population and by including ethnicity as a control variable.

Taken together the study could not provide evidence for the predicted moderated mediation model in the sample of college women, however evidence was found for the mediating effect of body envy on the relationship of USCT and bulimic symptomatology. This suggests that the more frequent women engage in upward social comparison with other women who are thinner, the more frequent they experience body related envy and subsequently the more bulimic symptoms will manifest. The effects existed over and above the women's BMI. This mediation model was part of our predicted theoretical framework and is in line with previous research on escape theory of bulimia and the role of negative emotions as well as social comparison processes.

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