

**Disentangling the influence of body-admiration, thin-ideal internalization and
Upward Body Comparison Tendency on Dieting behaviour in a Sample of
College Women: A moderated mediation analysis**

Leonie Dost

S4370228

Department Psychology, Rijksuniversiteit Groningen

PSB3N-BT15: Bachelor Thesis

Group number 24

Supervisor: Simon Dalley

Second evaluator: Ayca Aksu

In collaboration with: Masha Garcia Keinanen, Jacqueline Karge, Puck de Boer, Hana
Vauda Lorenčič, and Xuanbo Xi

7 July 2024

Abstract

This study examined the role of body admiration tendency on the relationship between upward social comparison (USC) and weight loss dieting (WLD) in college women. A moderation mediation analysis is utilized to test this effect. WLD is the predictor variable in this model, USC the independent variable, body admiration tendency the mediator and thin ideal internalization the moderator. Based on the moderation mediation model two hypothesis were conducted. The first hypothesis stated that body admiration tendency mediates the relationship between USC and WLD. The second hypothesis stated that thin ideal internalization moderates between USC and body admiration tendency. The mediation pathway is stronger for those women high in thin ideal internalization. It was expected these effects occurred while controlling for BMI. A survey was conducted with a sample of 171 college women. They completed measures about: USC, body admiration tendency, thin ideal internalization, WLD, and BMI. The bootstrap analysis through PROCESS (Hayes, 2022) did not support evidence for the moderation model. However, support for exploratory analysis of two mediation models is found. Those findings suggest targeting women high in USC, thin ideal internalization, and body admiration tendency in prevention strategies.

Keywords: upward social comparison, body admiration tendency, weight loss dieting, BMI.

**Disentangling the influence of body-admiration, thin-ideal internalization and
Upward Body Comparison Tendency on Dieting behaviour in a Sample of
College Women: A moderated mediation analysis.**

Young women do not want to gain body weight (Landt et al., 2017). Among them 43% engage in dieting behaviour and 32% avoid weight gain despite having a normal BMI value (Fayet et al., 2012). This is concerning because weight loss dieting (WLD) is a possible trigger for the development of eating pathology (Grigg et al., 1996; Polivy & Herman, 2002). Therefore, it is important to understand the motivations of why young women engage in WLD. A plausible explanation of WLD lies in the social cultural model. This model emphasizes the influence of the sociocultural environment on the individual (Tiggeman, 2012). The social cultural environment contains of social scripts that regulate the people in this environment and are products of human functioning in the social world (Chirkov, 2019). Those scripts inform women what the current beauty value in society is (Fallon, 1990). Nowadays, social media informs women what the western beauty standard is, and that is thinness (McKay et al., 2018). Body comparison with those females on Instagram elicits WLD (Thøgersen-Ntoumani et al., 2018; Leahey et al., 2011; Piccoli et al., 2021). In particular upward body comparison (comparison with thinner girls) (Rancourt et al., 2014).

Numerous studies demonstrate the influence of body comparison on WLD. However, there is less research on the possible mediation mechanisms of this relationship. Even less is about the role of positive emotions as a mediator (Tchanturia et al., 2015). This study aims to demonstrate that role of body admiration mediates the relationship between upward comparison and dieting in a sample of college women. The second aim examines whether internalization of the thin ideal moderates the mediation pathway from upward social comparison through body admiration on dieting behaviour. Thin ideal

internalization is a disposition associated with dieting behaviour and eating pathology (Cusumano & Thompson, 1997; Thompson & Stice, 2001).

Social comparison derives from the social cultural theory. Festinger (1954) introduced the social comparison theory, stating that humans have a fundamental drive for self-evaluation through comparison with others. When humans are not able to make an appropriate judgement about themselves then they rely on a comparison with others. Buunk & Gibbons (2000) described social comparison as how we use others to make sense of ourselves in the world. Social media provides women with information about what kind of female body is valued and thus women compare and evaluate themselves with those bodies (McKay et al., 2018). Younger women are more sensitive for this information about these beauty ideals (Clay et al., 2005). This current study focuses on upward social comparison (USC) because when body comparisons were made, they are more likely to be upward (Fitzsimmons-Craft, 2017). Upward social comparison is comparing oneself with someone “better” (Collins, 1996). For instance, comparison with a thinner female body (McCarthy et al., 2023). Women tend to compare themselves with those who embody the western body ideal of thinness and a low BMI (MacNeill & Best, 2015). However, this western beauty ideal is unrealistic and hard to achieve (McComb et al., 2023). Furthermore, those bodies on social media are unrealistic because women post idealized versions of themselves (Tiggemann & Anderberg, 2019). In reality their looks are less perfect. Women perceive that their body do not align with this ideal, and so they feel discrepancy (Lin et al., 2015). This feeling of discrepancy motivates women to shape their body (Knobloch-Westerwick & Crane, 2011; Papageorgiou et al., 2022), for instance shaping through dieting (Thøgersen-Ntoumani et al., 2018; Leahey et al., 2011; Piccoli et al., 2021). However, even when dieting shapes the body in a desired manner, women experience a feeling their body is never thin enough (Bertilsson & Gillberg, 2017). The

idealised bodies they compare themselves with are unrealistic, and hard to achieve. Consequently, women are more valuable to develop an eating disorder when they compare themselves with other female bodies on social media (Dondzilo et al., 2024). Following out of this argument, women are more likely to engage in WLD when they make upward comparisons with other women.

Through USC women get an impression of what kind of body is valued in society. Women may experience positive emotions such as admiration while they contrast themselves with ideal female bodies. Emotions in general have a responsive and an informational function, it facilitates an individual to respond to others and gather information about them. On a social level emotions create awareness of desirable behaviour (Keltner & Haidt, 1999). Admiration has several social functions: It serves as a motivator for imitating others, social learning, cultural transmission (Onu et al. 2016), proximity seeking to the admired other (Algoe & Haidt, 2009), and improvement of oneself (Van de Ven, 2017). In the context of body image, women want to reach the thin body they admire. Smith (2000, as cited in Onu et al. 2016) stated that USC elicits feelings of admiration. Increased attention to thin female targets predicts the amount of body admiration episodes (Onu et al. 2016). For instance, female Facebook users experience feelings of body admiration after USC with other women on this platform (Tosun & Kaşdarma, 2020). This increase in body admiration could be attributed to the characteristic of admiration as a positive emotion that reacts to outstanding people (Schindler et al., 2013). Women experience body admiration towards thin women, not only because these thin women embody the western beauty ideal but also because those thin bodies are associated with positive attributes. Those attributes fit in the sociocultural perspective because western social scripts link thinness with happiness, desirability, and status (Tiggeman, 2012). As well, with life success (Evans, 2003). By achieving a thin body

women think it will obtain them with these attributes, like being more optimistic (Chin, 2002) and gaining more happiness (Paxton et al., 1991). USC elicits body admiration because women not only admire the beauty of thinness, but they also admire the positive attributes associated with thinness.

Thin women become “role models” because they possess those positive attributes, women admire this and try to reach this ideal through imitation like WLD (Schindler et al., 2013). However, having a thin body does not guarantee that someone is truly happy or possess other positive attributions (Swami et al., 2014). The association between positive attributions and thinness is often an illusion (Viken et al., 2005). This may result in a situation where, even after the achievement of the thin ideal, women do not experience improvement in their positive attributes. This could probably increase the likelihood of further WLD, or even development of eating pathology. To summarize, women engage in WLD behaviour because they admire the thin ideal. They believe being thin will not only enhance their appearance, but they also think it will enhance their life in a positive way. Thus, women who experience more episodes of body admiration tendency are more likely to engage in WLD.

This study predicts that body admiration tendency will mediate the relationship between USC and WLD, body admiration tendency strengthens the relationship between USC and WLD. This mediation pathway is expected to be stronger for women high in thin ideal internalization. Internalization in general refers to the extent which values become guiding principles for individuals (Thompson et al., 2004). In particular, internalization of the thin ideal is the extent in which societal ideas of thinness become a guiding principle for an individual, and they want to achieve it (Thompson & Stice, 2001). USC informs women about the western societal ideas of thinness (MacNeill & Best, 2015). Those women who are high in thin ideal internalization may experience a higher tendency to body

admiration. They are more committed to the idea that thinness is associated with positive attributes like happiness, desirability, and status (Tiggeman, 2012). Thus, they are also more committed to the idea they will be happy and optimistic if they reach the thin ideal (Chin, 2002; Paxton et al., 1991). When women are more committed to the goal to be thin, they are more likely to admire thin women (Van de Ven, 2017). But this commitment is also dependent on the admirer's reaction to outstanding individuals with positive qualities and characteristics. These admiring women have respect for women who embody the thin ideal. (Smith, 2000, as cited in Onu et al. 2016). Women who are high value of thin ideal internalization have a greater drive to be thin (Low et al., 2003), and those women are more likely to engage in WLD (Stice et al., 1998; Homan, 2010). Thereby, they are more at risk to develop eating pathology (Chithambo, 2018). To conclude, thin ideal internalization may moderate the relationship between USC and body admiration tendency because thinness is a guiding principle and women are committed to this ideal. Thereby, women also feel respect for thin women.

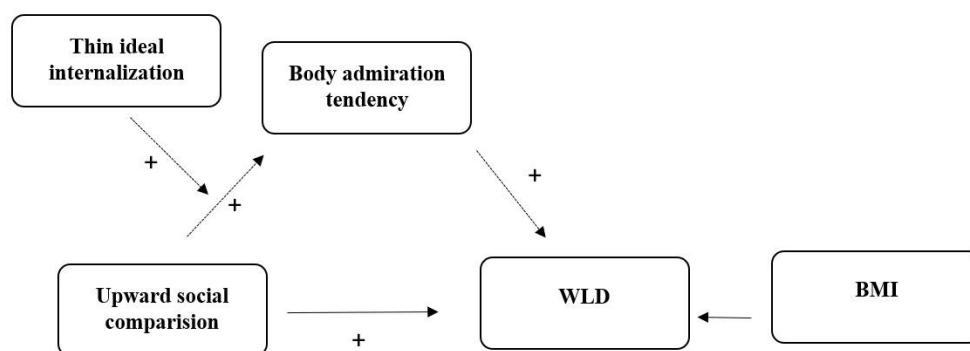
In summary, the aim of this study is to predict dieting behaviour in a sample of college women, and gain understanding about their WLD motivations. Two hypotheses are conducted. The first hypothesis states that admiration is a mediator between social comparison and WLD. More episodes of body admiration will strengthen this relationship. The second hypothesis states that the mediation pathway will be strengthened by higher levels of thin ideal internalization. Women will experience more body admiration when they have a higher value of thin ideal internalization.

In this study a control variable is taken in mind. The expectation is that the moderation/mediation effect will still occur while controlling for Body Mass Index (BMI). BMI measures the ratio of weight, and it is a measurement to estimate the risk of health problems and a correlation with body fat (Nihiser et al., 2007). This index is used world-

wide. When the moderation/mediation effect persists over and above the effects of BMI, it shows that the thin ideal is so extreme that it affects women regardless of their body size.

Figure 1:

Moderation mediation pathway



Method

Participants

A convenience sample of 206 female students from a university or other higher education institution volunteered to participate in the study with a mean age of $M = 21.35$, $SD = 2.69$. Among them 33 responses had missing values on two items of the admiration scale and two had problematic values in height and weight what caused problems with calculating the BMI values. The final sample is $N = 171$. From the acquired sample, the participants had a mean BMI of $M = 22.17$ with a standard deviation of $SD = 3.29$. 47% of participants were Du2, 18% were German and 34% indicated having another nationality (e.g., American, Belgian, Brazilian, British, Bulgarian, Canadian, Chinese, Croatian, Colombian, Filipino, Finnish, French, Greek, Indian, Iraqi, Irish, Italian, Lithuanian, Polish, Romanian, Serbian, Slovak, Spanish, Slovenian, Turkish, Venezuelan or mixed). Regarding ethnicities, 4% of the sample were Asian, 0.5% were Black or African American, 3% were Hispanic, 86% were White, 3% were Mixed, and 4% reported another ethnicity.

Measures

Upward Body Comparison tendency

Upward social comparison tendency of the body is operationalized using the Upward Physical Appearance Comparisons Scale (UPACS). Two item examples were: “I find myself comparing my appearance with people who are better looking than me.” And “At parties or other social events, I compare my physical appearance to the physical appearance of the very attractive people.” Ten items are answered on a five-point Likert scale from *1 = never* to *5 = always*. The higher the sum score indicates a higher tendency to compare upwards. The mean score of the scale was used to calculate the scores. The Cronbach's alpha for the female sample was $\alpha = .94$ (O'Brien et al, 2009). The Cronbach alpha in this study was $\alpha = .95$.

Body admiration tendency

Body admiration is measured through self-constructed items what are in line with the Admiration and Adoration Scales (ADMADOS) conducted by Schindler (2014). Two example questions are: “I tend to be impressed by women who are slimmer and more defined than me.” and “I tend to have positive feelings towards women who are slimmer and more defined”. Five items were answered on a five-point likert scale ranging from *1 = strongly disagree* to *5 = strongly agree*. A higher the sum score indicates a higher tendency to body admiration. The mean score of the scale was used to calculate the scores. The Cronbach's alpha in this study was $\alpha = .79$

Weight loss dieting

The Diet Intent Scale (DIT) made by Stice (1998) consists of 9 items that measures WLD. Two examples from this scale are: “I take small portions (of food) in an effort to control my weight” and “I count calories to try to prevent weight gain.” We use a 5-point scale that ranges from *1 = never* to *5 = always*. A higher the sum score indicates a higher

tendency to engage in WLD. The mean score of the scale was used to calculate the scores. It has an internal Cronbach's alpha of $\alpha=.94$ and temporal reliability of .92. The Cronbach's alpha in this study was $\alpha= 0.93$.

Thin ideal internalization

The Sociocultural Attitudes Toward Appearance Questionnaire-4 (SATAQ-4) conducted by Schaefer et al. (2016) is used to measure thin ideal internalization. This questionnaire measures internalization of appearance ideals and appearance pressures. The subscale Thin/Low Body which consists of four items is used to measure thin ideal internalization. Two questions out of the questionnaire are: "I want my body to look very thin" and ". I think a lot about having very little body fat.". Four questions are answered on a five-point likert scale ranging from 1= *definitely disagree* to 5= *definitely agree*. The higher the sum score indicates a higher tendency to internalize the thin ideal. The mean score of the scale was used to calculate the scores. The Cronbach's alpha of this subscale measured in a group of college women was $\alpha= .82$. In this study the Cronbach's alpha was $\alpha= .84$.

Body Mass Index (BMI)

BMI is measured through a calculation. The self-reported height and weight variables were used in the formula to calculate BMI.

Procedure

The study was approved by the Ethics Committee of the psychology department at the University of Groningen. Before the formal data collection, a pilot study was carried out with a sample of six participants who were acquaintances of the researchers. The pilot study was carried out to assess typographical errors and process errors of the online questionnaire. Some grammatical errors were corrected such as changing the word "helpings" to "portions" and punctuations. As well as making the questions asking for the ratings of each questionnaire uniform. No process errors were found. The program

Qualtrics was used as the tool for displaying the questionnaire and collecting responses (Qualtrics, Provo, UT). After the questionnaire was revised it was published through SONA (i.e., online pool of Bachelor students at University of Groningen participating for course credit) and the researchers also shared the link to the survey through their own social networks (SONA Systems, <https://www.sona-systems.com/>). A convenient sample was collected. The researchers asked friends and acquaintances to fill in the survey and share it with their friends was used. The online questionnaire was provided via Qualtrics and took approximately 15 minutes to complete. The data collection period started on the 19th of April 2024 and ended on 14 May.

Participants had to give informed consent in order to participate. To avoid any invalid data, all the responses from non-female respondents, from participants without at least a B2 level of English and from those who were not students at the university or other higher education institution were immediately redirected to the end of the survey. The online questionnaire contained demographic information (e.g., gender, age, height, weight, nationality, and ethnicity) and measures of upward social comparison, body-envy, body-admiration, dieting behaviour, perfectionism, self-compassion, hyper competitiveness, narcissism, neuroticism, sociocultural attitudes towards appearance and body dissatisfaction. The end of the survey provided a list with ten steps that advised them how to turn negative body thoughts into positive body image.

Statistical Analysis

The hypothesized mediated moderation model (see Figure 1) was determined through testing the significance of the direct and indirect effects of the moderator through a bootstrapping procedure (n=5000) of PROCESS macro, model 7 (Hayes, 2022) in SPSS (version 28). Bootstrapping was used because it is robust in normality and can be used for small sample sizes (Igartua & Hayes, 2021). Upward social comparison tendency was the

predictor variable with body admiration tendency as a mediator and WLD as outcome variable, in university women. Moderated mediation analysis tests the effect of thin ideal internalization on the relationship between a predictor (i.e upward social comparison tendency), a mediator (i.e body admiration tendency) and outcome variable predictor (i.e weight loss dieting) (Igartua & Hayes, 2021). The index of the moderated mediation pathway was the difference of the indirect effect across the level of the moderator variable (state your moderator) (Igartua & Hayes, 2021). The significance of the moderated mediation was supported by the bootstrapping 95% confidence interval not containing a zero (Hayes, 2015).

Results

Assumption checks

Before the bootstrap method was performed, the data was first analysed. The final sample $N= 171$ was analysed for potential outliers through a Cooks distance test ($Di = .079$), this value is below 1, what is an indicator for no potential outliers in the data set (Stevens, 1984). The data was also examined for possible assumption violations through visual inspection (See Appendix A). A residual plot was conducted to check the assumptions of homoscedasticity and linearity. This plot showed a spread of data; thus, the assumption of homoscedasticity is not violated (Field, 2018). The histogram and p-p plot showed no violations for normality and linearity. Furthermore, multicollinearity is checked and all the VIF values are just above one what indicates no violation of the multicollinearity assumption (Mohammed, 2024). The assumption checks indicated no violations for homoscedasticity, linearity, normality, and multicollinearity, so no further attention was needed. The correlations and descriptive statistics are described in table 1.

Table 1

Pearson correlations, means, and standard deviations.

	1	2	3	4	5
1. USC	-				
2. WLD	.48**	-			
3. BAT	.38**	.35**	-		
4. TIA	.64**	.67**	.31**	-	
5. BMI	-.02	.18	.01	.05	-
Mean	3	2.2	3.5	3.2	22.2
SD	.96	.94	.68	1.02	3.4

Note. The unstandardized Pearson correlations are presented.

USC: upwards social comparison WLD: weight loss dieting; BAT: body admiration tendency; TIA: thin ideal internalization; BMI: body mass index

Moderation mediation analysis

Model 7 of Hayes (2022) is used to test the moderated mediation pathway. The analysis presented no significant result for the interaction effect of USC on thin ideal internalization ($B = -.006$, $SE = .016$, 95% CI [-.04; .02], $p = .70$). Based on the moderation mediation index the predicted model was not supported. However, thin ideal internalization and USC might independently influence WLD through body admiration because of significant correlations (table 1). Based on these findings two mediation models are further explored. The first model state that body admiration mediates the relationship between USC and WLD. The second model describes body admiration as a mediator between thin ideal internalization and WLD. For the exploration of mediation pathways, the Hayes model 4 is used (Hayes, 2022).

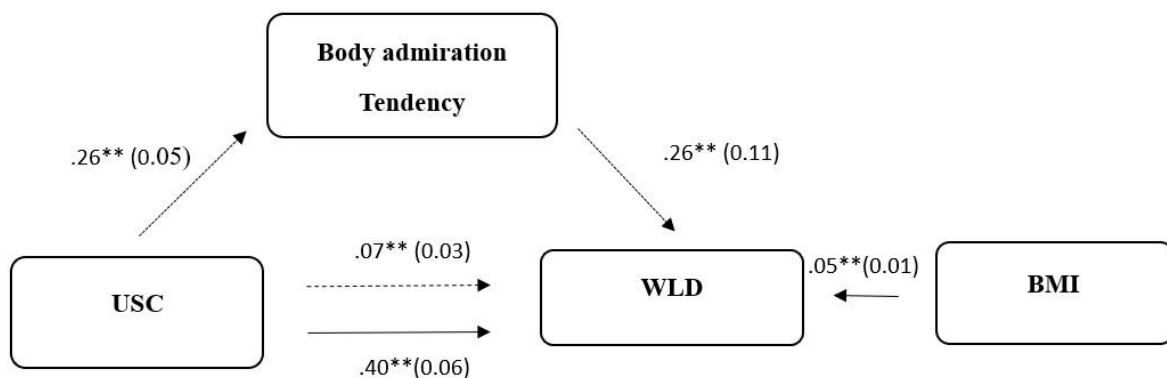
Mediation analysis

The first mediation analysis was performed to test whether upwards comparison tendency affects WLD indirectly through admiration. According to the Hayes 4 model the

overall is significant ($F = (3,167) 30.58, p < .001$). It explains 30% of the variance in WLD. In contrast with the moderation model, this mediation pathway resulted in significant results. The direct effect of USC on body admiration tendency is significant ($B = .26, SE = .05, 95\% CI [0.16; 0.37], p < .001$) and the direct effect of USC on WLD is significant ($B = .40, SE = .06, 95\% CI [0.27; 0.54], p < .001$). The direct effect of body admiration on WLD is significant ($B = .26, SE = .11, 95\% CI [0.04; 0.48], p = .01$), and lastly the indirect effect of USC on WLD is also considered as significant ($B = .07, SE = .03, 95\% CI [0.27; 0.54]$). Thus, the mediation pathway is supported. Figure 2 presents the mediation analysis of USC on WLD through admiration.

Figure 2

Mediation pathway with the effect of USC on body admiration and, WLD. Body admiration is mediating.



Note. Coefficients and the standard errors of the interactions are presented.

USC: upward social comparison; WLD: weight loss dieting; BMI: Body Mass Index.

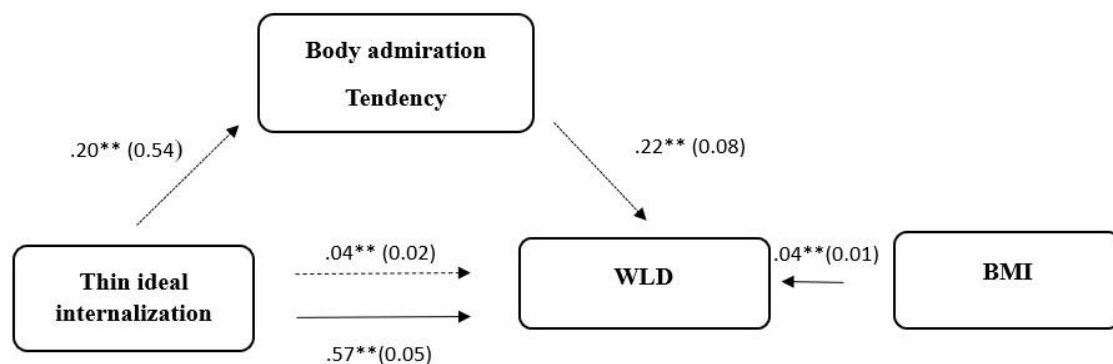
The indirect effect is on the dotted line.

** $p < .001$

The second mediation analysis is performed to test the indirect effect of thin ideal internalization on WLD through body admiration. According to the Hayes model 4 this model is significant ($F(3,167) = 74.3, p < .001$). It explains 43.38% of the variances in WLD. Thin ideal internalization has a significant direct effect on body admiration ($B = .20, SE = .054, 95\% CI [0.09; 0.31], p < .001$). The direct effect of thin ideal internalization on WLD is significant ($B = .57, SE = .05, 95\% CI [0.47; 0.67], p < .001$). The direct effect of body admiration on WLD is also significant ($B = .22, SE = .08, 95\% CI [0.05; 0.39], p = .011$). And lastly the indirect effect of thin ideal internalization on WLD is also significant ($B = .04, SE = .02, 95\% CI [0.009; 0.92]$). Thus, the mediation pathway is supported. Figure 3 presents the mediation analysis of USC on WLD through admiration.

Figure 3

Mediation pathway with the effect of Thin ideal internalization on body admiration and, WLD. Body admiration is mediating.



Note. Coefficients of the interactions are displayed.

USC: upward social comparison; WLD: weight loss dieting; BMI: Body Mass Index.

The indirect effect is on the dotted line.

$** p < .001$

Discussion

Two hypotheses were conducted out of the moderated mediation model. The first hypotheses stated that body admiration tendency mediates the positive effect of USC on WLD. The second hypothesis stated that thin ideal internalization moderates the pathway between USC and body admiration tendency. Unfortunately, the results showed no significant findings for the moderated mediation model. However, two mediation pathways were explored. For these two mediation pathways support is found.

The results did not support evidence for the moderation mediation pathway. Thin ideal internalization does not act as a moderator between USC and body admiration tendency. This finding implies that the amount of thin ideal internalization does not strengthen the relationship between upward social comparison and body admiration tendency. The use of a non-clinical sample may explain why this relationship is not significant. In this current study data was collected from a sample of random college women, this sample is likely to reflect normal levels of eating pathology. Women with eating pathology have greater values of thin ideal internalization (Schaefer et al., 2018). Those greater values may turn the relationship on. Future research should focus on a sample of women with eating pathology this might result in a significant moderation mediation pathway.

Two mediation pathways are explored in this study. The results provided evidence for body admiration tendency as a significant mediator between USC and WLD. Through USC women become aware of what kind of female body is valued in society. When women compare themselves, they are more likely to compare their bodies with thin and ideal female bodies (MacNeill & Best, 2015; McComb et al., 2023). They compare themselves with someone they perceive as better (Collins, 1996). USC elicits feelings of body admiration (Smith, 2000, as cited in Onu et al. 2016), as admiration is a reaction to outstanding individuals (Schindler et al., 2013). This may explain why women feel more

body admiration after USC because thinness is associated with happiness, desirability, success, and a higher social status (Tiggeman, 2012; Evans, 2003). By achieving this ideal, women believe they obtain those attributes, such as increased optimism (Chin, 2002) and happiness (Paxton et al., 1991). This feeling of body admiration encourages women to seek proximity to thin women (Algoe & Haidt, 2009) and imitate them (Onu et al. 2016).

Women try to achieve this through WLD, assuming they also obtain the positive attributes associated with thinness (Schindler et al., 2013). When women associate thinness with those positive attributes, they are more likely to engage in WLD (Ahern et al., 2008).

Engaging in WLD is not only a way to achieve physical beauty, it is also a way to achieve those positive attributes associated with thinness.

The second mediation tested whether body admiration tendency mediates the relationship between thin ideal internalization and WLD. The results of this mediation pathway were significant. Women high in thin ideal internalization have a greater drive to be thin (Low et al., 2003) because thinness is a guidance principle for these women (Thompson & Stice, 2001). Thus, they are more committed to the positive attributes such as happiness, desirability, status, and life success (Tiggeman, 2012; Evans, 2003). These women experience more body admiration because they are committed to their goal to achieve thinness and the belonging positive rewards of thinness (Van de Ven, 2017). Admiration is a positive emotion what responds to positive qualities of others (Schindler et al., 2013). Therefore, body admiration tendency strengthens the relationship between thin ideal internalization and WLD because women who admire the thin ideal want to achieve a thin body through WLD (Schindler et al., 2013).

These two mediation pathways are still significant while controlling for BMI. This suggests that the effect occurs when women have a normal BMI value. Women try to avoid weight gain even when their BMI value is normal (Fayet et al., 2012). The thin ideal is so

extreme that it affects women regardless their body size. Other studies also found that women experience thin ideal internalization while controlling for BMI (Dondzilo et al., 2018).

Following the results, several practical implications can be considered. Women who are high in USC and thin ideal internalization should be targeted in intervention programmes to prevent feelings of body admiration tendency. Reducing body admiration tendency these women can increase the likelihood to perform in WLD, and the risk of developing eating pathology can be reduced. One possible intervention is media literacy. Media literacy refers to the ability to access, analyse, and produce media information for specific outcomes (Schwarz, 2005). It involves critical thinking about how media works and how it affects individuals. Media-based interventions are important because women are more likely to compare themselves with women on social media than in person. USC through social media is also stronger related with WLD behaviour. (Fardouly, 2016). Women who are able to criticize media messages, such as photos of thin bodies are less likely to be negatively affected by media images (Richardson et al., 2009). Research has shown that media literacy reduces the internalization of the thin ideal (Rutzstein et al., 2019; Coughlin & Kalodner, 2006; Yamamiya et al., 2005) and WLD in women (Raich et al., 2009).

Several limitations of this study must be considered. The cross-sectional design of this study means that data is collected at one single point of time, so it is bidirectional. This makes it difficult to guarantee causality. A longitudinal study could provide stronger evidence for this, for instance, observing if the effect still occurs when those women become older. The lack of ethnical variety is also a limitation of this study. Although ethnicity was taken in mind, the respondents were mostly “white” and studied at western universities. Previous research show that other ethnicities also experience thin ideal

internalization and weight concerns (Rakhkovskaya & Warren, 2014). Future research should explore if the current effect also occurs in other ethnicities through a sample conducted in a non-western population. Lastly, this study utilized a convenience sample, which caused some issues with generalization. Future studies should replicate this study in a non-student sample. Future directions are not only limited to build further on the limitations of this study. The significant direct effect found in this study suggests the existence of another possible mediator in this model. For instance, other positive emotions like adoration. Adoration has several similarities with admiration (Schindler, 2014), for instance they are both elicited out of a social context (Schindler et al., 2013). Envy could also be a possible mediator. Envy is an emotion what also reacts to someone who is perceived as better. Being envious is also a motivator to improve oneself (Van de Ven, 2017).

In conclusion, this study is unique because it predicted a moderated mediation model with a focus on a positive emotion. The moderated mediation pathway is not significant. However, support for the two mediation pathways is found. These findings state that body admiration tendency mediates through USC and WLD. Women have a higher tendency to admire other bodies are more likely to engage in WLD. Also, the internalization of this thin ideal has a positive impact on body admiration, which leads to WLD. However, the cross-sectional design, ethnicity, and generalization need to be taken in mind.

Appendix A

figure 1

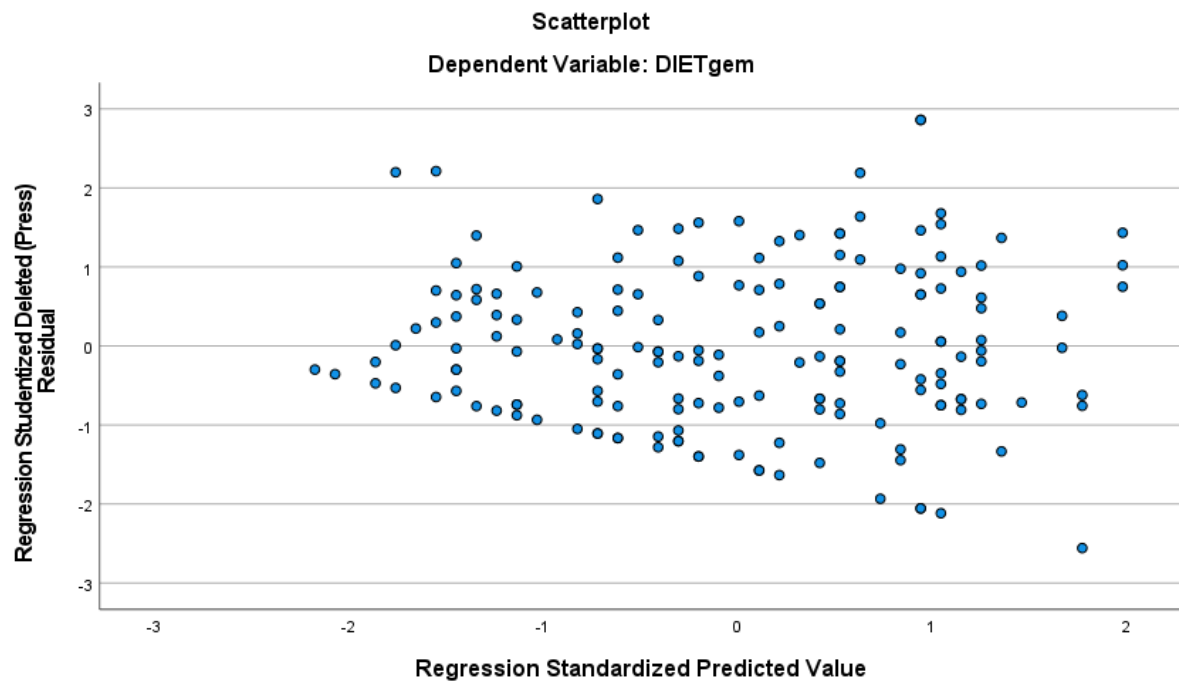


figure 2

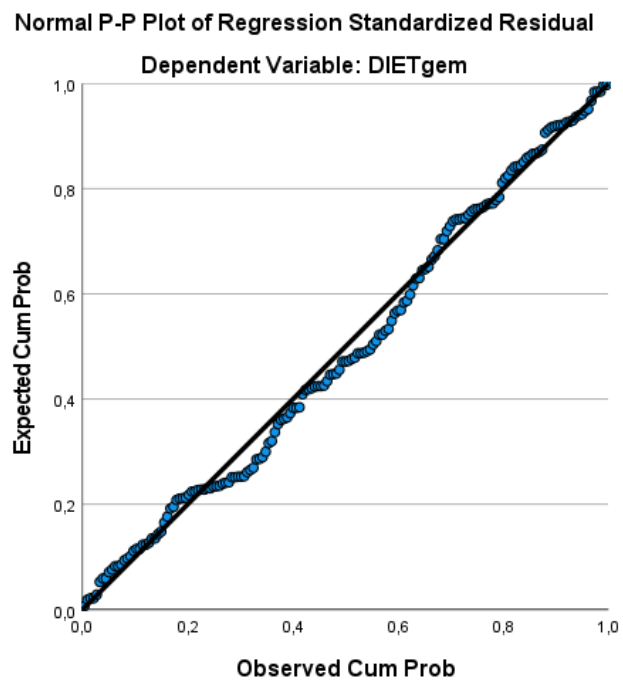
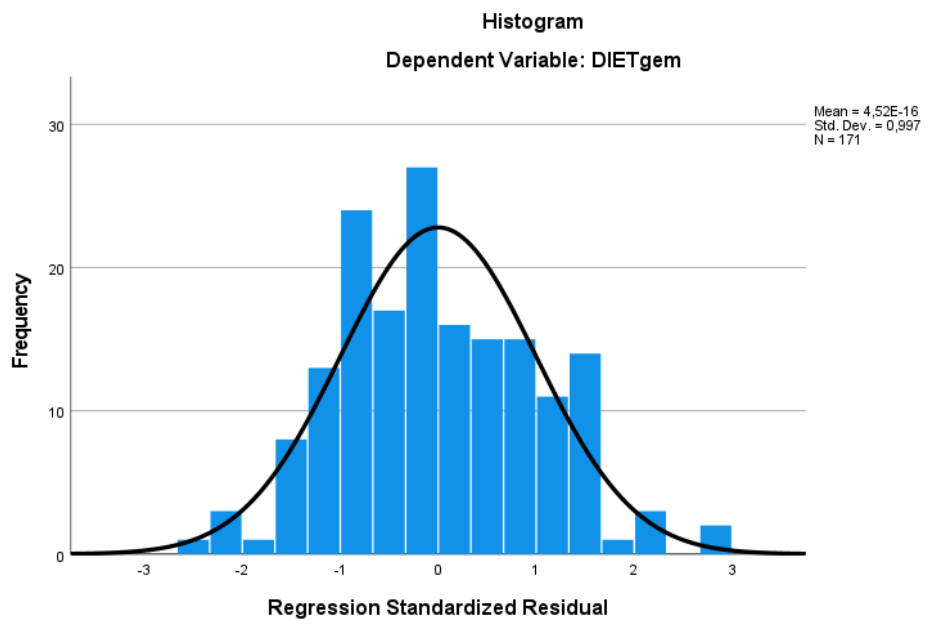


figure 3



References

- Ahern, A. L., Bennett, K. M., & Hetherington, M. M. (2008). Internalization of the Ultra-Thin Ideal: Positive Implicit Associations with Underweight Fashion Models are Associated with Drive for Thinness in Young Women. *Eating Disorders*, 16(4), 294–307. <https://doi.org/10.1080/10640260802115852>
- Algoe, S. B., & Haidt, J. (2009). Witnessing excellence in action: the ‘other-praising’ emotions of elevation, gratitude, and admiration. *The Journal of Positive Psychology*, 4(2), 105–127. <https://doi.org/10.1080/17439760802650519>
- Bertilsson, E., & Gillberg, E. (2017). The Communicated Beauty Ideal on Social Media: Perceptions of young women in Sweden, 66. <https://www.diva-portal.org/smash/get/diva2:1107740/FULLTEXT01.pdf>
- Buunk, B. P., & Gibbons, F. X. (2000). *Toward an Enlightenment in Social Comparison Theory*. In Springer eBooks (pp. 487–499). https://doi.org/10.1007/978-1-4615-4237-7_22
- Chin, P. P. K. (2002). “If only I could be thin like her, maybe I could be happy like her”: The self-implications of associating being thin and attractive with possible life outcomes [ProQuest Information & Learning]. In *Dissertation Abstracts International: Section B: The Sciences and Engineering* (Vol. 62, Issue 7–B, p. 3418).
- Chirkov, V. (2019). An introduction to the theory of sociocultural models. *Asian Journal Of Social Psychology*, 23(2), 143–162. <https://doi.org/10.1111/ajsp.12381>
- Chithambo, T. P. (2018). The role of thin-idealization in associations between body dissatisfaction, dieting, and eating pathology: A moderated mediation analysis. *Current Psychology*, 39(2), 550–555. <https://doi.org/10.1007/s12144-017-9776-4>

- Clay, D., Vignoles, V. L., & Dittmar, H. (2005). Body Image and Self-Esteem Among Adolescent Girls: *Testing the Influence of Sociocultural Factors*. *Journal Of Research On Adolescence*, 15(4), 451–477. <https://doi.org/10.1111/j.1532-7795.2005.00107.x>
- Collins, R. L. (1996). For better or worse: The impact of upward social comparison on self-evaluations. *Psychological Bulletin*, 119(1), 51–69. <https://doi.org/10.1037/0033-2909.119.1.51>
- Cusumano, D., & Thompson, J. K. (1997). Body image and body shape ideals in magazines: exposure, awareness, and internalization. *Sex Roles*, 37(9–10), 701–721. <https://doi.org/10.1007/bf02936336>
- Coughlin, J. W., & Kalodner, C. (2006). Media literacy as a prevention intervention for college women at low- or high-risk for eating disorders. *Body Image*, 3(1), 35–43. <https://doi.org/10.1016/j.bodyim.2006.01.001>
- Dondzilo, L., Rieger, E., Jayawardena, N., & Bell, J. (2018). Drive for thinness versus fear of fat: Approach and avoidance motivation regarding thin and non-thin images in women. *Cognitive Therapy and Research*, 43(3), 585–593. <https://doi.org/10.1007/s10608-018-9989-3>
- Dondzilo, L., Rodgers, R. F., & Dietel, F. A. (2024). Association between engagement with appearance and eating related TikTok content and eating disorder symptoms via recommended content and appearance comparisons. *International Journal of Eating Disorders*, 57(2), 458–462. <https://doi-org.proxy-ub.rug.nl/10.1002/eat.24117>
- Evans, P. C. (2003). “If Only I were Thin Like Her, Maybe I Could be Happy Like Her”: The Self-Implications of Associating a Thin Female Ideal with Life Success.

- Psychology of Women Quarterly*, 27(3), 209–214. <https://doi.org/10.1111/1471-6402.00100>
- Fallon, A. (1990). Culture in the mirror: Sociocultural determinants of body image. In T. F. Cash & T. Pruzinsky (Eds.), *Body images: Development, deviance, and change* (pp. 80–109). The Guilford Press.
- Fardouly, J. (2016). *The Impact of Appearance Comparisons through Social Media on Young Women's Body Image*. <https://doi.org/10.26190/unsworks/18895>
- Fayet, F., Petocz, P., & Samman, S. (2012). Prevalence and correlates of dieting in college women: a cross sectional study. *International Journal Of Women's Health*, 405. <https://doi.org/10.2147/ijwh.s33920>
- Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, 7(2), 117–140. <https://doi.org/10.1177/001872675400700202>
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE Publications.
- Fitzsimmons-Craft, E. E. (2017). Eating disorder-related social comparison in college women's everyday lives. *International Journal Of Eating Disorders*, 50(8), 893–905. <https://doi.org/10.1002/eat.22725>
- Grigg, M., Bowman, J., & Redman, S. (1996). Disordered Eating and Unhealthy Weight Reduction Practices among Adolescent Females. *Preventive Medicine*, 25(6), 748–756. <https://doi.org/10.1006/pmed.1996.0115>
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A Hayes, A. F. (2015). An Index and Test of Linear Moderated Mediation. *Multivariate Behavioral Research*, 50(1), 1–22. <https://doi-org.proxy-ub.rug.nl/10.1080/00273171.2014.962683> regression-based approach. Guilford Press.

- Hayes, A. F. (2015). An Index and Test of Linear Moderated Mediation. *Multivariate Behavioral Research*, 50(1), 1–22. <https://doi-org.proxy.ub.rug.nl/10.1080/00273171.2014.962683>
- Hayes, A. F. (2022). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. (3rd ed.). Guilford Press.
- Homan, K. J. (2010). Athletic-ideal and thin-ideal internalization as prospective predictors of body dissatisfaction, dieting, and compulsive exercise. *Body Image*, 7(3), 240–245. <https://doi.org/10.1016/j.bodyim.2010.02.004>
- IBM Corp. Released 2021. IBM SPSS Statistics for Windows, Version 28.0. Armonk, NY: IBM Corp.
- Igartua, J.J., & Hayes, A. F. (2021). Mediation, Moderation, and Conditional Process Analysis: Concepts, Computations, and Some Common Confusions. *The Spanish Journal of Psychology*, 24(49), 1-23. <https://doi.org/10.1017/sjp.2021.46>
- Keltner, D., & Haidt, J. (1999). Social Functions of Emotions at Four Levels of Analysis. *Cognition And Emotion*, 13(5), 505–521. <https://doi.org/10.1080/026999399379168>
- Knobloch-Westerwick, S., & Crane, J. (2011b). A losing battle: Effects of prolonged exposure to thin-ideal images on dieting and body satisfaction. *Communication Research*, 39(1), 79–102. <https://doi.org/10.1177/0093650211400596>
- Landt, M. C. T. S. ', Van Furth, E. F., Van Beijsterveldt, C. E. M., Bartels, M., Willemsen, G., De Geus, E. J. C., Ligthart, L., & Boomsma, D. I. (2017). Prevalence of dieting and fear of weight gain across ages: a community sample from adolescents to the elderly. *International Journal Of Public Health*, 62(8), 911–919. <https://doi.org/10.1007/s00038-017-0948-7>
- Leahey, T. M., Crowther, J. H., & Ciesla, J. A. (2011). An Ecological Momentary Assessment of the Effects of Weight and Shape Social Comparisons on Women

- With Eating Pathology, High Body Dissatisfaction, and Low Body Dissatisfaction. *Behavior Therapy*, 42(2), 197–210. <https://doi.org/10.1016/j.beth.2010.07.003>
- Lin, L., McCormack, H., Kruczkowski, L., & Berg, M. B. (2015). How Women's Perceptions of Peer Weight Preferences Are Related to Drive for Thinness. *Sex Roles*, 72(3–4), 117–126. <https://doi.org/10.1007/s11199-015-0446-4>
- Low, K. G., Charanasomboon, S., Brown, C. M., Hiltunen, G., Long, K., Reinhalter, K., & Jones, H. (2003). INTERNALIZATION OF THE THIN IDEAL, WEIGHT AND BODY IMAGE CONCERNS. *Social Behavior And Personality*, 31(1), 81–89. <https://doi.org/10.2224/sbp.2003.31.1.81>
- MacNeill, L. P., & Best, L. A. (2015). Perceived current and ideal body size in female undergraduates. *Eating Behaviors*, 18, 71–75. <https://doi.org/10.1016/j.eatbeh.2015.03.004>
- McCarthy, P., Meyer, T., Back, M. D., & Morina, N. (2023). How we compare: A new approach to assess aspects of the comparison process for appearance-based standards and their associations with individual differences in wellbeing and personality measures. *PLoS ONE*, 18(1), e0280072. <https://doi.org/10.1371/journal.pone.0280072>
- McComb, C. A., Vanman, E. J., & Tobin, S. J. (2023). A Meta-Analysis of the Effects of Social Media Exposure to Upward Comparison Targets on Self-Evaluations and Emotions. *Media Psychology*, 26(5), 612–635. <https://doi.org/10.1080/15213269.2023.2180647>
- McKay, A., Moore, S. A., & Kubik, W. (2018). Western Beauty Pressures and Their Impact on Young University Women. *International Journal Of Gender And Women's Studies*, 6(2). <https://doi.org/10.15640/ijgws.v6n2a1>

- Mohammed, M. O. (2024). Multivariate Analysis for Characterization of Air Pollution Sources: Part 1 Prior data screening and Underlying Assumptions. *Polish Journal of Environmental Studies*, 33(4), 4257–4271. <https://doi.org/10.15244/pjoes/179919>
- Nihiser, A. J., Lee, S. M., Wechsler, H., McKenna, M., Odom, E., Reinold, C., Thompson, D. J., & Grummer-Strawn, L. M. (2007). Body mass index measurement in schools*. *Journal Of School Health*, 77(10), 651–671.
<https://doi.org/10.1111/j.1746-1561.2007.00249.x>
- O'Brien, K., Caputi, P., Minto, R., Peoples, G. E., Hooper, C., Kell, S., & Sawley, E. (2009). Upward and downward physical appearance comparisons: Development of scales and examination of predictive qualities. *Body Image*, 6(3), 201–206.
<https://doi.org/10.1016/j.bodyim.2009.03.003>
- Onu, D., Kessler, T., & Smith, J. R. (2016). Admiration: A Conceptual Review. *Emotion Review*, 8(3), 218–230. <https://doi.org/10.1177/1754073915610438>
- Papageorgiou, A., Fisher, C., & Cross, D. (2022). “Why don’t I look like her?” How adolescent girls view social media and its connection to body image. *BMC Women’s Health*, 22(1). <https://doi.org/10.1186/s12905-022-01845-4>
- Paxton, S. J., Wertheim, E. H., Gibbons, K., Szmukler, G. I., Hillier, L., & Petrovich, J. L. (1991). Body image satisfaction, dieting beliefs, and weight loss behaviors in adolescent girls and boys. *Journal Of Youth And Adolescence*, 20(3), 361–379.
<https://doi.org/10.1007/bf01537402>
- Piccoli, V., Carnaghi, A., Grassi, M., & Bianchi, M. (2021). The relationship between Instagram activity and female body concerns: The serial mediating role of appearance-related comparisons and internalization of beauty norms. *Journal Of Community And Applied Social Psychology*, 32(4), 728–743.
<https://doi.org/10.1002/casp.2586>

- Posavac, H., Posavac, S. S., Posavac, E. J. (1998). Exposure to Media Images of Female Attractiveness and Concern with Body Weight Among Young Women. Social Science Research Network. <https://ssrn.com/abstract=1910789>
- Polivy, J., & Herman, C. P. (2002). Causes of Eating Disorders. Annual Review Of Psychology, 53(1), 187–213.
<https://doi.org/10.1146/annurev.psych.53.100901.135103>
- Qualtrics. Released 2005, ©2024. [Computer Software], version 4-5.2024. Provo, Utah, USA: Qualtrics. <https://www.qualtrics.com>.
- Rakhkovskaya, L. M., & Warren, C. S. (2014). Ethnic identity, thin-ideal internalization, and eating pathology in ethnically diverse college women. *Body Image*, 11(4), 438–445. <https://doi.org/10.1016/j.bodyim.2014.07.003>
- Rancourt, D., Leahey, T. M., LaRose, J. G., & Crowther, J. H. (2014). Effects of weight-focused social comparisons on diet and activity outcomes in overweight and obese young women. *Obesity*, 23(1), 85–89. <https://doi.org/10.1002/oby.20953>
- Richardson, S. M., Paxton, S. J., & Thomson, J. S. (2009). Is BodyThink an efficacious body image and self-esteem program? A controlled evaluation with adolescents. *Body Image*, 6(2), 75–82. <https://doi.org/10.1016/j.bodyim.2008.11.001>
- Schaefer, L. M., Harriger, J. A., Heinberg, L. J., Soderberg, T., & Thompson, J. K. (2016). Development and validation of the sociocultural attitudes towards appearance questionnaire-4-revised (SATAQ-4R). *The International Journal Of Eating Disorders*, 50(2), 104–117. <https://doi.org/10.1002/eat.22590>.
- Schaefer, L. M., Burke, N. L., & Thompson, J. K. (2018). Thin-ideal internalization: How much is too much? *Eating and Weight Disorders*, 24(5), 933–937.
<https://doi.org/10.1007/s40519-018-0498-x>

- Schindler, I., Zink, V., Windrich, J., & Menninghaus, W. (2013). Admiration and adoration: Their different ways of showing and shaping who we are. *Cognition & Emotion*, 27(1), 85–118. <https://doi.org/10.1080/02699931.2012.698253>
- Schindler, I. (2014). Relations of admiration and adoration with other emotions and well-being. *Psychology Of Well-being*, 4(1). <https://doi.org/10.1186/s13612-014-0014-7>
- Sona Systems (n.d.). Sona Systems: Cloud-based Participant Management Software [Computer software]. Sona Systems, Ltd. <https://www.sona-systems.com/>
- Stevens, J. P. (1984). Outliers and influential data points in regression analysis. *Psychological Bulletin*, 95(2), 334–344. <https://doi.org/10.1037/0033-2909.95.2.334>
- Stice, E. (1998). Relations of restraint and negative affect to bulimic pathology: A longitudinal test of three competing models. *The International Journal Of Eating Disorders/International Journal Of Eating Disorders*, 23(3), 243–260. [https://doi.org/10.1002/\(sici\)1098-108x\(199804\)23:3](https://doi.org/10.1002/(sici)1098-108x(199804)23:3)
- Stice, E., Mazotti, L., Krebs, M., & Martin, S. (1998). Predictors of adolescent dieting behaviors: A longitudinal study. *Psychology Of Addictive Behaviors*, 12(3), 195–205. <https://doi.org/10.1037/0893-164x.12.3.195>
- Swami, V., Tran, U. S., Stieger, S., & Voracek, M. (2014). Associations Between Women's Body Image and Happiness: Results of the YouBeauty.com Body Image Survey (YBIS). *Journal Of Happiness Studies*, 16(3), 705–718. <https://doi.org/10.1007/s10902-014-9530-7>
- Thøgersen-Ntoumani, C., Ntoumanis, N., Carey, R., Dodos, L. A., Quested, E., & Chatzisarantis, N. L. D. (2018). A diary study of appearance social comparisons and need frustration in young women. *Personality And Individual Differences*, 122, 120–126. <https://doi.org/10.1016/j.paid.2017.10.020>

- Thompson, J. K., Van Den Berg, P., Roehrig, M., Guarda, Á. S., & Heinberg, L. J. (2004). The sociocultural attitudes towards appearance scale-3 (SATAQ-3): Development and validation. *International Journal Of Eating Disorders*, 35(3), 293–304. <https://doi.org/10.1002/eat.10257>
- Thompson, J. K., & Stice, E. (2001). Thin-Ideal Internalization: Mounting Evidence for a New Risk Factor for Body-Image Disturbance and Eating Pathology. *Current Directions in Psychological Science*, 10(5), 181–183. <https://doi.org/10.1111/1467-8721.00144>
- Tchanturia, K., Dapelo, M. A., Harrison, A., & Hambrook, D. (2015). Why study positive emotions in the context of eating disorders? *Current psychiatry reports*, 17(1), 537. <https://doi.org/10.1007/s11920-014-0537-x>
- Tiggemann, M. (2012). Sociocultural perspectives on Body Image. In T. F. Cash (Ed.), *Encyclopedia of body image and human appearance.*, Vol. 2. (pp. 758–765). <https://doi.org/10.1016/b978-0-12-384925-0.00120-6>
- Tiggemann, M., & Anderberg, I. (2019). Social media is not real: The effect of ‘Instagram vs reality’ images on women’s social comparison and body image. *New Media & Society*, 22(12), 2183–2199. <https://doi.org/10.1177/1461444819888720>
- Tosun, L. P., & Kaşdarma, E. (2020). Passive Facebook Use and Depression. *Journal Of Media Psychology*, 32(4), 165–175. <https://doi.org/10.1027/1864-1105/a000269>
- Van de Ven, N. (2017). Envy and admiration: Emotion and motivation following upward social comparison. *Cognition & Emotion*, 31(1), 193–200. [10.1080/02699931.2015.1087972](https://doi.org/10.1080/02699931.2015.1087972)
- Viken, R. J., Treat, T. A., Bloom, S. L., & McFall, R. M. (2005). Illusory correlation for body type and happiness: Covariation bias and its relationship to eating disorder

symptoms. *International Journal of Eating Disorders*, 38(1), 65–72. <https://doi-org.proxy-ub.rug.nl/10.1002/eat.20149>

Yamamiya, Y., Cash, T. F., Melnyk, S. E., Posavac, H. D., & Posavac, S. S. (2005).

Women's exposure to thin-and-beautiful media images: body image effects of media-ideal internalization and impact-reduction interventions. *Body Image*, 2(1), 74–80. <https://doi.org/10.1016/j.bodyim.2004.11.001>