

**Explaining rigid dieting in normal-weight women: The key role of body image
inflexibility**

Cláudia Ferreira, PhD

Ana Martinho, MSc

Inês A. Trindade, MSc, PhD student

Author's Institution

CINEICC Cognitive and Behavioural Research Centre, University of Coimbra

Corresponding Author:

Inês A. Trindade, MSc, PhD student

CINEICC, Faculty of Psychology and Education Sciences, University of Coimbra

PORTUGAL

Explaining rigid dieting in normal-weight women:

The key role of body image inflexibility

Abstract

Restrictive dieting is an increasing behavior presented by women in Western societies, independently of their weight. There are several known factors that motivate diet, namely a sense of dissatisfaction with one's body and unfavorable social comparisons based on physical appearance. However, dieting seems to have a paradoxical effect and has been considered a risk factor for weight gain and obesity in women, and associated with maladaptive eating. Nevertheless, the study of the emotional regulation processes that explain the adoption of inflexible and rigid dietary patterns still remains little explored. In this line, the present study aims to explore why normal-weight women engage in highly rigid and inflexible diets. We hypothesize that body and weight dissatisfaction, and unfavorable social comparisons based on physical appearance with peers explain the adoption of inflexible eating rules, through the mechanism of body image inflexibility.

The study comprised 508 female college students who presented BMIs between 18.5 and 25. Path analyses were conducted to explore the study's hypotheses.

Results revealed that the model explained 43% of inflexible eating and revealed excellent fit indices. Furthermore, the unwillingness to experience unwanted events related to body image (body image inflexibility) mediated the impact of body dissatisfaction and unfavorable social comparisons on the engagement in inflexible eating rules.

This study highlights the relevance of body image inflexibility to explain rigid eating attitudes, and it seems to be an important avenue for the development of

interventions focusing on the promotion of adaptive attitudes towards body image and eating in young women.

Key-words: inflexible dieting; weight dissatisfaction; body dissatisfaction; social comparisons based on physical appearance; body image inflexibility.

Introduction

Dieting can be defined as an intentional and continuous restriction of calorie intake in order to achieve body weight maintenance or loss [1]. This behavior is so prevalent today within the female population, that it is often regarded as a "normative eating" in Western societies [2]. Indeed, due to the easy access to abundant food that is characteristic of modern societies, restrictive diet seems to emerge as a solution for weight control [3]. However, this behavior seems to have a paradoxical effect and has come to be considered as a risk factor of weight gain and obesity in women [4, 5]. In addition, dieting has been associated to other maladaptive eating patterns such as binge eating [6], bulimic pathology [7], and other eating disorders [8].

One of the main causes for the adoption of restrictive diets is body dissatisfaction, which is conceptualized as a subjective negative experience of one's weight and body shape [9]. This negative evaluation of body image and weight is quite common among women in Western societies [10], even among women with a normal body mass index.

In fact, in Western societies the overvaluation of a thin body as the ideal pattern of beauty and female attractiveness has become widely diffused [11]. Besides that, various studies have documented that the beauty ideal that is most highly valued today is rarely achieved, which explains the increased perception of discrepancy between most women's current body image and the "ideal" body image [12].

In addition, literature has been emphasizing physical appearance as a key domain to self and social evaluation of women [13]. Indeed, the media messages in the Western culture emphasize the association between thinness and eating control with indicators of power, success and happiness. This association may explain the link between a pattern of beauty based on thinness and attributes perceived as positive by the

self and socially valued. [14]. Thus, a negative perception of physical appearance is often associated with a perception of inferiority and inadequacy in women [13]. In this way, many women may believe that by losing weight they will become more secure and seem more attractive to others [e.g., 15]. Hence, restrictive dieting may emerge as a strategy to achieve the "ideal" form of beauty and promote approval or appreciation by the social group [16]. In this line, we may hypothesize that dieting may be associated with avoidance strategies of negative internal experiences such as negative perceptions of one's body image, unfavorable social comparisons, and fear of being criticized or rejected by others.

In accordance to the Acceptance and Commitment Therapy (ACT) [17] negative internal experiences, i.e., perceptions, sensations or undesired cognitions (e.g., related to body image) are universal and inevitable to human beings. Nevertheless, the experienced suffering is not originated from the occurrence or content of undesired experiences, but rather results from how one relates to these internal events [17]. The attempt to prevent or control these internal experiences paradoxically tends to increase their frequency and intensity instead of eliminating them [17]. The inability to accept and to be flexible in the presence of undesired thoughts, emotions and sensations was designated by ACT as psychological inflexibility [18], which has appeared associated with various forms of psychopathology [19], and as a central process of eating disorders [20, 21].

Specifically, inflexibility in relation to body image can be understood as the unwillingness to experience, fully and intentionally, perceptions, sensations, emotions, and thoughts associated with body image [22]. This specific construct involves inflexible adherence to cognition and rigid behavioral patterns, which are associated to disengagement with values and uncommitted action [23]. Recently, inflexibility

regarding body image has been associated with body dissatisfaction [e.g., 22, 24] as well as with unfavorable comparisons based on physical appearance [24]. In addition, a recent study by Wendell and colleagues [25] showed that body image inflexibility acts as a mediator in the association between cognitions related to physical appearance (e.g., dissatisfaction with body image) and dieting.

Despite the efforts made to adapt psychological inflexibility measures to several specific areas (e.g., BI-AAQ), there are still gaps in the assessment of other forms of psychological inflexibility. In this context, a scale that measures inflexibility in relation to dietary patterns, the Inflexible Eating Questionnaire was recently developed by Ferreira and colleagues. This scale aims to assess the adoption of a set of rigid and verbal rules regarding eating.

In a recent study Ferreira, Trindade, and Duarte showed that inflexible adherence to dietary rules, i.e., the adoption of rules without regard to external (e.g., social context, as parties, get-togethers, and other social events) or internal (e.g., hunger) contingencies is a key factor in understanding eating psychopathology. However, the processes that explain rigid or inflexible adoption of a restrictive eating pattern have yet to be explored.

Considering the relevance of negative body image-related experiences, regardless of body weight, and given the impact these experiences have on eating behaviors, and also on quality of life and well-being of women [26], the aim of this study is to clarify the variables that explain the adoption of an inflexible dietary pattern in women with normative BMI [27]. To our knowledge this is the first study in this field and could be an avenue to the development of community-based interventions targeting women with body image and eating difficulties. According to the ACT approach, we hypothesized that psychological inflexibility regarding body image mediates the

relationship between unwanted experiences related to body image (i.e., body and weight dissatisfaction, and perceptions of inferiority based on physical appearance) and engagement in inflexible eating rules.

Materials and Methods

Participants

In accordance with the aim of this study, the sample used in this study was composed of 508 female college students of different Portuguese Superior Institutes, who presented a normal, i.e. between 18.5 and 24.98 ($M = 21.37$; $SD = 1.62$), body mass index. The participants presented ages between 18 and 25 years old ($M = 20.29$; $SD = 1.75$) and a mean of 13.19 ($SD = 1.38$) years of education.

Measures

Body Mass Index (BMI) was calculated from the Quetelet Index from participants' height and weight (Kg/m^2).

Weight Dissatisfaction (WD) was calculated through the discrepancy between participants' current and desired weight (in Kg). In this variable a score equal to zero reveals no level of dissatisfaction, a negative score the desire to gain weight, and a positive score reveals the desire to lose weight.

Figure Rating Scale (FRS; [28, 29]). The FRS is an instrument that measures the degree of discrepancy between the current and the ideal body image of the participant, thus assessing the degree of body dissatisfaction. This scale includes 9 nine silhouettes of different dimensions, that are presented in an ascending order according to its number. In other words, number 1 corresponds to a thinner body shape and number 9

corresponds to a larger body shape. This scale has been shown as a robust measure with good test-retest reliability and convergent and divergent validity [28].

Social Comparison through Physical Appearance Scale (SCPAS; [13]). The SCPAS assesses the subjective perception of women in relation to attractiveness, social rank and adjustment to the group, according to how they compare themselves physically with other women. This scale comprises two parts; each part is composed of 12 items on a 10-point Likert scale, representing opposing constructs (e.g., uglier / more beautiful). Participants select the number which best translates the way they feel in relation to female peers (friends or colleagues - Part A) and, then, in relation to models, actresses or other celebrities (Part B). Lower scores represent more unfavorable comparisons. This scale showed good internal consistency in the original study on both the first ($\alpha = .94$) and the second ($\alpha = .96$) parts of the scale. Considering the aims of the study, only Part A (peers) of the scale was used in this paper's analyses.

Body Image – Acceptance and Action Questionnaire (BI-AAQ; [22, 24]). This scale is composed of 12 items measuring body image inflexibility (e.g., “To control my life, I need to control my weight”; “My relationships would be better if my body weight and/or shape did not bother me”). Items are rated in a 7-point Likert scale from 1 (“Never true”) to 7 (“Always true”). Higher scores reflect higher psychological inflexibility regarding body image. This scale has shown good internal consistencies both in the original study ($\alpha = .93$), and in the Portuguese validation study ($\alpha = .95$).

Inflexible Eating Questionnaire (IEQ). The IEQ is a 11-item self-report scale which was developed to assess inflexible eating patterns (“Having healthy eating requires me to rigidly follow certain eating rules”; “I would rather follow my eating rules than eat accordingly to the context, my hunger or will”). Items are rated in a 5-point Likert scale (1: “totally disagree”; 5: “totally agree”). Higher scores reveal greater

inflexibility in the adoption of verbal rules related to eating. This scale was shown to hold strong psychometric qualities, having had a Cronbach's alpha value of .95 in the original study.

Participants completed the Portuguese versions of these measures, which were previously validated in samples with similar characteristics to this study's sample [13, 22, 24, 28, 29]. The Cronbach's alphas of the measures in the current study are presented in Table 1.

Procedures

The present study is part of a wider project about the eating behavior of individuals of the Portuguese population aged between 15 and 25 years. Participants were recruited from several areas of learning of several Portuguese superior educational institutions, which reviewed and approved the research protocol. First, the participants were informed about the objectives of the research and the voluntary nature of their participation, as well as the confidentiality and anonymity of data. Then, participants who agreed to participate in the research gave their written informed consent before completing the protocol. The fulfillment of the questionnaires took place in classrooms with the presence of two researchers, having lasted approximately 35 minutes.

In its totality, 810 questionnaires were filled (by male and female participants). In accordance with the objectives of this study, the data were cleaned in order to exclude the male participants, leaving 688 participants. Later, participants that were not included within the considered age interval (18-25 years) or that presented a body mass index lower than 18.5 or above 25 were also excluded, which resulted in a reduction of the sample to 514 participants. Lastly, all participants that had failed to fill all the

questionnaire's items were also excluded, which resulted in the final sample of 508 participants.

Analytic Strategy

The software SPSS (v.21 SPSS; Armonk, NY: IBM Corp) was used to conduct descriptives and correlational analyzes.

To explore the correlations between weight dissatisfaction, body image dissatisfaction, social comparisons based on physical appearance, body image inflexibility, and inflexible eating, Product-moment Pearson Correlation analyzes were conducted [30].

A series of path analyses were conducted using the software AMOS (Analysis of Momentary Structure, software version 18, SPSS Inc. Chicago, IL) to estimate the presumed associations between study variables. Path analyses are a form of Structural Equation Modelling (SEM), used to test theoretical causal relationships, that allows the simultaneous analysis of structural relationships and direct and indirect effects between exogenous and endogenous variables, controlling for error [e.g., 31].

The theoretical model of the present study tested whether body image inflexibility (endogenous mediator variable) would mediate the effects of weight dissatisfaction, body image dissatisfaction, and social comparison based on physical appearance (exogenous variables) on inflexible eating (endogenous variable). The Maximum Likelihood estimation method was selected to analyze the significance of the regression coefficients and to compute fit statistics. A set of goodness of fit indices were examined to assess the plausibility of the model: Chi-square (χ^2), the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI), the Normed Fit Index (NFI), and the Root-Mean Square Error of Approximation (RMSEA), with 95% confidence interval.

Chi-Square tests were used to examine the significance of the direct, indirect and total effects. Also, the Bootstrap procedure (with 2000 samples) was used to create 95% bias-corrected confidence intervals around the standardized estimates of total, direct and indirect effects. The effect is considered statistically significant ($p < .05$) if the interval between the lower and the upper bound of the 95% bias-corrected confidence interval does not contain zero [31]. Furthermore, the CFI and the NFI indicate that the model presents a good fit to the data when values are superior to .95 [32]. The TLI has recommended values of .90 or superior, and the RMSEA with 95% confidence interval acceptable values between .05 and .08 [33].

Results

Preliminary analyses

In order to evaluate the assumption of the normal distribution of the data Skewness and Kurtosis values were examined. These values revealed that the study's data follows a normal distribution ($SK < |3|$ and $Ku < |8-10|$; [30]). This assumption was further corroborated by visual inspection of the graphs of the data distribution. Furthermore, the absence of multicollinearity or singularity between variables was also demonstrated, since the *Variance Inflation Factor (VIF)* values indicated the absence of problems in the β estimation (< 5).

Descriptive analyses

Means and standard deviations for the total sample ($N = 508$) are presented in Table 1.

Regarding weight dissatisfaction, results showed that although all the participants presented normal BMI values, 433 (85.24%) were unsatisfied with their current weight, of which 377 (74.21%) reported desiring to lose weight, and 56 (11.2%) to gain weight. Also, it was possible to observe that only 75 (14.77%) of the participants reported weight satisfaction.

In addition, concerning body shape dissatisfaction, 353 (69.49%) participants were unsatisfied with their current body shape, of which 308 (60.63%) reported a desire to have a thinner body, while 45 (8.86%) wished to have a larger body. It was also possible to observe that 155 (30.51%) participants desired to maintain their current body shape.

Correlations

Pearson's correlation coefficients (two-tailed) are presented in Table 1.

The analyses showed that body dissatisfaction and weight dissatisfaction were highly correlated with each other, and presented positive and moderate correlations with body image inflexibility (BI-AAQ) and inflexible eating (IEQ). Moreover, body dissatisfaction and weight dissatisfaction were negatively associated with positive social comparisons based on physical appearance with peers (SCPAS).

Results also showed that the two measures of inflexibility (BI-AAQ and IEQ) were positively and highly associated with each other. Furthermore these constructs presented negative correlations with favorable social comparisons based on physical appearance with peers.

----- Please insert Table 1 around here -----

Path analyses

The first tested model examined whether the effects of weight dissatisfaction (WD), body dissatisfaction (BD), and favorable social comparisons based on physical appearance (SCPAS_peers) on inflexible eating (IEQ) would operate through the mechanisms of body image inflexibility (BI-AAQ). This was analyzed through a fully saturated model (i.e., zero degrees of freedom) that comprised 22 parameters, and explained 20% of BI-AAQ and 43% of IEQ. Nevertheless, the following several path coefficients were revealed to be nonsignificant: SCPAS \rightarrow IEQ ($b_{SCPAS} = .40$; $S.E. = .03$; $Z = .61$; $p = .543$); WD \rightarrow IEQ ($b_{WD} = .10$; $S.E. = .11$; $Z = .86$; $p = .388$); WD \rightarrow BI-AAQ ($b_{WD} = .21$; $S.E. = .19$; $Z = 1.09$; $p = .275$). These nonsignificant paths were gradually removed to encounter a more parsimonious model, considering our initial theoretical hypothesis [33]. A respecified model was then tested.

The final adjusted model (Figure 1) explained 43% of inflexible eating and revealed an excellent fit to the empirical data [30], with a nonsignificant chi-square of $\chi^2(3) = 2.306$, $p = .511$, and the following goodness-of-fit indices: $\chi^2/d.f. = .769$; CFI = 1.00; TLI = 1.00; NFI = .997; RMSEA = .000 (.00 to .07; $p = .863$). Furthermore, all individual path coefficients represented the expected directions.

----- Please insert Figure 1 around here -----

Results revealed that higher body dissatisfaction directly impacted on body image inflexibility with an effect of .38 ($b_{BD} = 5.77$; $S.E. = .65$; $Z = 8.92$; $p < .001$). In turn, more favourable social comparisons based on physical appearance negatively predicted body image inflexibility with an effect of -.19 ($b_{SCPAS} = -.21$; $S.E. = .05$; $Z = -$

4.58; $p < .001$). Additionally, body image inflexibility presented a direct and positive effect on inflexible eating of $-.57$ ($b_{BI-AAQ} = .40$; $S.E. = .03$; $Z = -15.39$; $p < .001$).

Furthermore, body dissatisfaction predicted inflexible eating with a total effect of $.38$, a direct effect of $.17$ ($b_{BD} = 1.90$; $S.E. = .41$; $Z = 4.62$; $p < .001$), and indirect effect of $.21$ (95% C.I. = $.16$ to $.26$; $p = .001$) partially through the mechanism of body image inflexibility.

These analyses also showed that social comparisons based on physical appearance did not directly predict inflexible eating. SCPAS presented an indirect effect on IEQ of $-.11$ (95% C.I. = $-.16$ to $-.06$; $p = .001$), that is totally mediated by the mechanism of body image inflexibility.

Finally, weight dissatisfaction did not present direct or indirect effects on any of the variables. Nonetheless, its effect on inflexible eating was operated through its association with body dissatisfaction and social comparisons based on physical appearance.

Discussion

Dieting, i.e. the intentional restriction of calorie intake, is so prevalent within the female population, that it is often regarded as a "normative eating" in Western societies [2]. However, it seems to have a paradoxical effect and has been considered rather a source of problems than a solution for weight and body dissatisfaction, as it has been associated with weight gain and a variety of maladaptive eating behaviors [e.g., 5]. It has been recently pointed that the negative impact of dieting may be associated with the inflexible adherence to eating rules, without meeting external (e.g., social context) or internal (e.g., hunger) contingencies. Nevertheless, the study of the engagement in inflexible and rigid dieting rules remains incomplete. In this line, the present study

aimed to contribute to the comprehension of the engagement in highly rigid and inflexible diets in a sample of normal-weight women.

Results indicated that even with a normal BMI, the majority of women (85.24%) presented weight dissatisfaction, and that 74.21% of them desired to lose weight. It was also found that most participants (69.49%) were dissatisfied with their current body shape, and that 60.63% of the participants desired to have a thinner body shape. These results are consistent with what has been recognized in previous studies [10], since they seem to corroborate that weight and body dissatisfaction are normative among women in Western cultures. Our results also add to existing literature, by demonstrating the presence of similar levels of dissatisfaction with weight and body image among women with a normal BMI.

Furthermore, in this study, weight and body dissatisfaction were associated with greater body image inflexibility, which is consistent with previous studies. In fact, empirical data has shown that negative evaluations of body image tend to be associated with higher inflexibility and unwillingness to experience body image-related unwanted experiences, such as sensations, perceptions, thoughts, or emotions [22, 24]. Also, it was demonstrated that unfavorable social comparisons based on physical appearance with peers were associated with body image inflexibility, which goes in line with previous results [e.g., 22]. Thus, women who tend to compare themselves negatively to female friends or colleagues (based on their physical appearance) are more likely to present lower abilities to accept body image-related internal events.

This study also adds to literature by revealing the strong relationship between body image inflexibility and inflexible eating. This result seems to suggest that women that tend to avoid body image-related unwanted experiences tend to adopt more inflexible dieting rules. Furthermore, this study shows that eating inflexibility was

linked to weight and body dissatisfaction, and unfavorable social comparisons based on physical appearance.

The main contribution of this study lies on the examination of the role of body image inflexibility as a possible mediator on the association between body dissatisfaction and unfavorable social comparisons through physical appearance with peers, and inflexible eating. Results demonstrated that this model explained 43% of inflexible eating, with body image inflexibility acting as a mediator in these relationships (while controlling for weight dissatisfaction). In fact, although body dissatisfaction explained inflexible eating, its effect acts partially through body image inflexibility. In turn, in the tested model, the effect of social comparisons based on physical appearance was totally explained by the mechanism of this maladaptive emotional regulation process. These findings seem to suggest that body dissatisfaction and a sense of inferiority based on body image's impact on the adoption of rigid eating rules depends upon the ability to accept to experience these unwanted sensations and perceptions related to body image. It seems that normal-weight women tend to engage in rigid eating rules when they feel dissatisfied with their body image or inferior in comparison with female peers, especially if they try to avoid these body-related negative experiences. The inflexibility concerning those experiences seems to indeed play a crucial role in these associations.

Nonetheless, this study comprises some limitations. The first focuses on the cross-sectional nature of the study, not allowing the establishment of causal relationships between variables, that is, the directionality and predictability of these findings. In this sense, we suggest the development of longitudinal research in order to determine the directionality of the relationships and to confirm the mediational role of body image inflexibility in the associations between body-related experiences and rigid

eating. Another limitation lies on the use of self-report instruments since it may constrain the accuracy of our findings, especially the FRS. Indeed, the FRS has been the focus of criticism due to its nature and characteristics. However, several studies have proved that this scale allows robust results, and its simplicity makes it especially useful [34-36]. Furthermore, the fact that the sample was intentionally limited to only include normal-weight college female students, does not allow a generalization of the results. Thus, future studies should test this model in samples concerning different populations, including male or clinical populations, to enable comparisons between different groups. Indeed, it may be pertinent to examine whether gender moderates the effects of body image-related experiences on the adoption of rigid eating patterns, and whether this model explains the severity of eating psychopathology in eating disordered samples. Furthermore, future research should explore the role of other emotional regulation processes, such as cognitive fusion, in the adoption of inflexible eating rules. Finally, it may be interesting to examine whether unfavorable social comparisons based on physical appearance with distal targets (e.g., models, actresses) also contribute to explain rigid dieting rules and behaviors.

Although this study comprises some limitations, it seems to be a significant contribution for future research and clinical work in the field of body image and eating difficulties. This study seems to support the importance of developing an accepting ability towards thoughts, emotions, and perceptions concerning physical appearance, even when these experiences are evaluated as negative. In fact, since it is not possible to prevent unfavorable social comparisons based on physical appearance and body dissatisfaction, body image flexibility seems to emerge as particularly relevant. Thus, clinical work should focus on the promotion of adaptive emotional regulation processes

that allow women to present healthy attitudes and behaviors in face of unwanted body-related experiences.

References

1. Herman CP, Mack D (1975) Restrained and unrestrained eating. *J Pers.* 43(4):647-660.
2. Polivy J, Herman CP (1987) Diagnosis and treatment of normal eating. *J Consult Clin Psych*, 59(5):635-644.
3. Robin J, Silberstein LR, Streigel-Moore RH (1985) Women and weight: a normative discontent. In Sondregger TB (ed) *Psychology and gender: Nebraska symposium on motivation*. Lincoln, University of Nebraska Press, pp. 267-307.
4. Dulloo AG, Jacquet J, Montani JP (2012) How dieting makes some fatter: from a perspective of human body composition autoregulation. *Proc. Nutr. Soc.* 71:379–389. doi: 10.1017/S0029665112000225
5. Mann T, Tomiyama AJ, Westling E, Lew A, Samuels B, Chatman J (2007) Medicare's search for effective obesity treatments: Diets are not the answer. *Am Psychol* 62(3):220-233. doi: 10.1037/0003-066X.62.3.220
6. Stice E, Presnell K, Spangler D (2002) Risk factors for binge eating onset: A 2-year prospective investigation. *Health Psychol* 21(2):131-138. doi: 10.1037/0278-6133.21.2.131
7. Stice E (2001) A prospective test of the dual pathway model of bulimic pathology: Mediating effects of dieting and negative affect. *J Abnorm Psychol* 110(1):124-135. doi: 10.1037//0021-843X.110.1.124

8. Killen JD, Taylor CB, Hayward C, Haydel KF, Wilson DM, Hammer,... Strachowski D (1996) Weight concerns influence the development of eating disorders: A 4-year prospective study. *J Consult Clin Psych* 64(5):936-940.
9. Stice E, Marti N, Durant S (2011) Risk factors for onset of eating disorders: evidence of multiple risk pathways from an 8-year prospective study. *Behav Res Ther* 49(10):622–627. doi:10.1016/j.brat.2011.06.009
10. Grabe S, Ward LM, Hyde JS (2008) The role of the media in body image concerns among women: A meta of experimental and correlational studies. *Psychol Bull* 134(3):460–476. doi:10.1037/0033-2909.134.3.460
11. Sypeck MF, Gray JJ, Etu SF, Ahrens AH, Mosimann JE, Wiseman CV (2006) Cultural representations of thinness in women, redux: Playboy magazine's depictions of beauty from 1979 to 1999. *Body Image* 3(3):229-235. doi:10.1016/j.bodyim.2006.07.001
12. Spettigue W, Henderson KA (2004) Eating Disorders and the Role of the Media. *Can Child Adolesc Psychiatr Rev* 13(1):16-19.
13. Ferreira C, Pinto-Gouveia J, Duarte, C (2013) Physical appearance as a measure of social ranking: The role of a new scale to understand the relationship between weight and dieting. *Clin Psychol Psychother* 20(1):55–66. doi:10.1002/cpp.769
14. Buote VM, Wilson AE, Strahan EJ, Gazzola SB, Papps F (2011) Setting the bar: divergent sociocultural norms for women's and men's ideal appearance in real-world contexts. *Body Image* 8(4):322-334. doi:10.1016/j.bodyim.2011.06.002
15. Jones DC (2001) Social comparison and body image: Attractiveness comparisons to models and peers among adolescents girls and boys. *Sex Roles* 45(9/10):645–664. doi: 10.1023/A:1014815725852

16. Ferreira C, Pinto-Gouveia J, Duarte C (2013) Drive for thinness as a women's strategy to avoid inferiority. *Int J Psychol Psychol Ther* 13(1):15-29.
17. Hayes SC, Strosahl KD, Wilson KG (2012) *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). The Guilford Press: New York.
18. Bond FW, Hayes SC, Baer RA, Carpenter KM, Guenole N, Orcutt HK, Waltz T, Zettle RD (2011) Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: a revised measure of psychological inflexibility and experiential avoidance. *Behav Ther* 42(4):676-688. doi:10.1016/j.beth.2011.03.007.
19. Kashdan TB, Rottenberg J (2010) Psychological flexibility as a fundamental aspect of health. *Clin Psychol Rev* 30:865-878. doi: 10.1016/j.cpr.2010.03.001
20. Masuda A, Price M, Latzman RD (2012) Mindfulness moderates the relationship between disordered eating cognitions and disordered eating behaviors in a nonclinical college sample. *J Psychopathol Behav Assess* 34(1):107-115. doi: 10.1007/s10862-011-9252-7
21. Rawal A, Park, RJ, Williams JMG (2010) Rumination, experiential avoidance, and dysfunctional thinking in eating disorders. *Behav Res Ther* 48(9):851–859. doi: 10.1016/j.brat.2010.05.009
22. Sandoz EK, Wilson KH, Merwin RM, Kellum KK (2013) Assessment of body image flexibility: The Body Image – Acceptance and Action Questionnaire. *J Contextual Behav Sci* 2:39-48. doi:10.1016/j.jcbs.2013.03.002
23. Sandoz EK, Wilson KG, DuFrene T (2010) *Acceptance and commitment therapy for eating disorders: A process focused guide to treating anorexia and bulimia*. Oakland, CA, New Harbinger Publications.

24. Ferreira C, Pinto-Gouveia J, Duarte C (2011) The Validation of the Body Image Acceptance and Action Questionnaire: Exploring the moderator effect of Acceptance on Disordered Eating. *Rev Int Psicol Ter Psicol* 11(3):327-345.
25. Wendell JW, Masuda A, Le, JK (2012) The role of body image flexibility in the relationship between disordered eating cognitions and disordered eating symptoms among non-clinical college students. *Eat Behav* 13:240-245.
26. Mond J, Mitchison D, Latner J, Hay P, Owen C, Rodgers B (2013) Quality of life impairment associated with body dissatisfaction in a general population sample of women. *BMC Public Health* 13:929. doi: 10.1186/1471-2458-13-920
27. WHO (2000) *The World Health Report 2000. Obesity – Preventing and Managing the Global Epidemic*. Geneva.
28. Thompson JK, Altabe MN (1991) Psychometric qualities of the figure rating scale. *Int J Eat Disorder* 10:615–619.
29. Ferreira C (2003) *Anorexia Nervosa: A expressão visível do invisível. Contributos para a avaliação de atitudes e comportamentos em relação ao peso e à imagem corporal [Anorexia Nervosa: The visible expression of the invisible. Contributions for the assessment of attitudes and behaviors in relation to weight and body image]*. Master's thesis. University of Coimbra, Faculty of Psychology and Educational Sciences.
30. Cohen J, Cohen P, West SG, Aiken LS (2003) *Applied multiple regression/correlation analysis for the behavioral sciences*, 3rd edn. Mahwah, NJ: Erlbaum.
31. Kline RB (2005) *Principles and Practice of Structural Equation Modeling*, 2nd edn. New York: The Guilford Press.

32. Hooper D, Coughlan J, Mullen MR (2008) Structural Equation Modelling: Guidelines for Determining Model Fit. *EJBRM* 10(1):53–60.
33. Hair JF, Black WC, Babin BJ, Anderson RE (2010) *Multivariate Data Analysis* 7th edition. Prentice-Hall International.
34. Bulik CM, Wade TD, Heath AC, Martin NG, Stunkard AJ, Eaves LJ (2001) Relating body mass index to figural stimuli: population-based normative data for Caucasians. *Int J Obes Relat Metab Disord*, 25(10):1517. doi: 10.1038/sj.ijo.0801742
35. Gardner RM, Brown DL (2010) Body image assessment: A review of figural drawing scales. *Pers Individ Dif*, 48(2):107–111. doi:10.1016/j.paid.2009.08.017
36. Kronenfeld LW, Reba-Harrelson L, Von Holle A, Reyes ML, Bulik CM (2010) Ethnic and racial differences in body size perception and satisfaction. *Body Image* 7(2):131–136. doi:10.1016/j.bodyim.2009.11.002

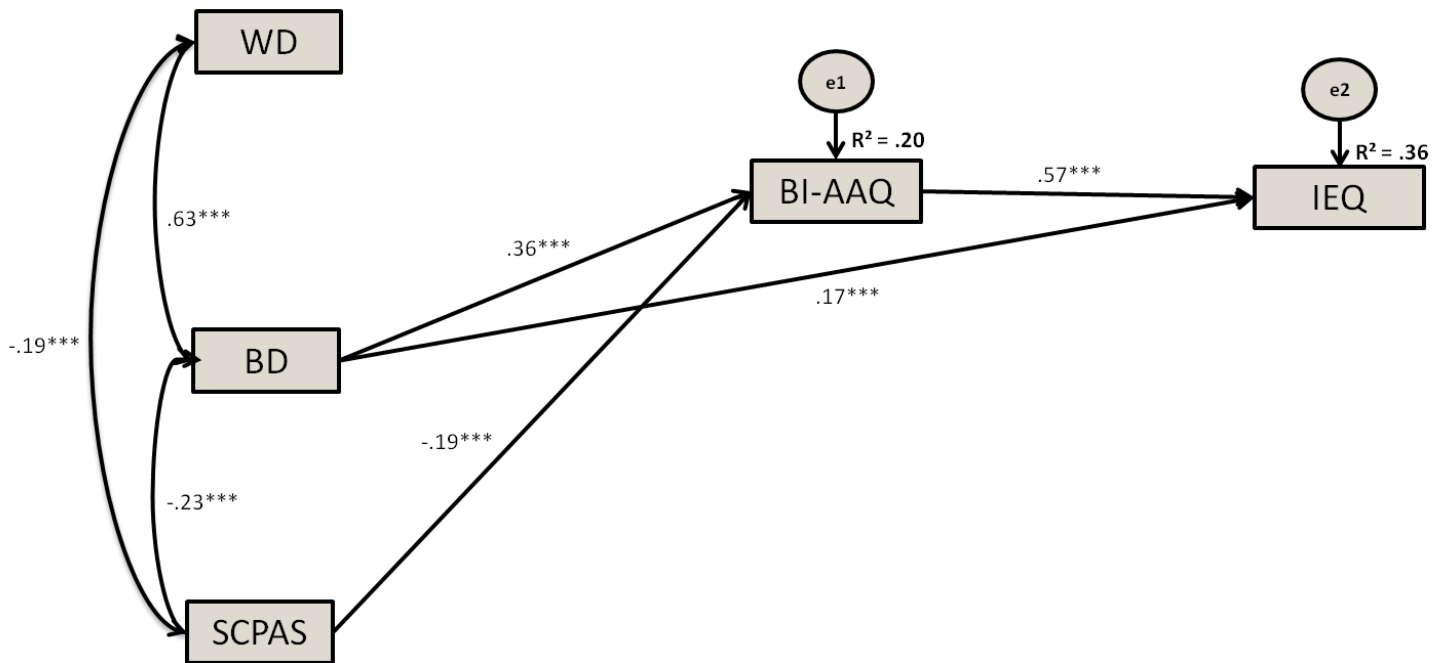
Table 1

Cronbach's alphas, Means (M), Standard Deviations (SD), and Intercorrelation scores on self-report measures (N = 508)

Measures	1	2	3	4	5
1. BD	-				
2. WD	.63***	-			
3. SCPAS_peers	-.23***	-.17***	-		
4. BI-AAQ	.41***	.29***	-.27***	-	
5. IEQ	.40***	.30***	-.17***	.64***	-
α	-	-	.91	.94	.95
<i>M</i>	.66	2.85	63.44	28.08	27.29
<i>SD</i>	.87	3.68	12.53	13.77	9.73

Note. BD = Body Dissatisfaction (assessed by the Figure Rating Scale); WD = Weight Dissatisfaction; SCPAS_peers = Social Comparison through Physical Appearance Scale: part A (peers); BI-AAQ = Body Image – Acceptance and Action Questionnaire; IEQ = Inflexible Eating Questionnaire

* $p < .050$. ** $p < .010$. *** $p < .001$.



Figure_1. Final Path Model

Note. The standardized significant ($p < .05$) path coefficients among variables are presented.

WD = Weight Dissatisfaction; BD = Body Dissatisfaction (assessed by the Figure Rating Scale); SCPAS = Social Comparison through Physical Appearance Scale: Part A (peers); BI-AAQ = Body Image – Acceptance and Action Questionnaire; IEQ = Inflexible Eating Questionnaire.

*** $p < .001$