UCSF UC San Francisco Previously Published Works

Title

Relationship between desired weight and eating disorder pathology in youth.

Permalink https://escholarship.org/uc/item/4081q64x

Journal The International journal of eating disorders, 50(8)

ISSN 0276-3478

Authors

Boyd, Hope K Kass, Andrea E Accurso, Erin C <u>et al.</u>

Publication Date 2017-08-01

DOI

10.1002/eat.22720

Peer reviewed



HHS Public Access

Author manuscript Int J Eat Disord. Author manuscript; available in PMC 2018 August 01.

Published in final edited form as:

Int J Eat Disord. 2017 August ; 50(8): 963–969. doi:10.1002/eat.22720.

Relationship between Desired Weight and Eating Disorder Pathology in Youth

Hope K. Boyd¹, Andrea E. Kass¹, Erin C. Accurso², Andrea B. Goldschmidt³, Jennifer E. Wildes¹, and Daniel Le Grange^{2,4}

¹Department of Psychiatry and Behavioral Neuroscience, The University of Chicago, Chicago, IL, USA

²Department of Psychiatry, UCSF Weill Institute for Neurosciences, University of California, San Francisco, San Francisco, CA, USA

³Department of Psychiatry and Human Behavior, Brown Alpert Medical School/The Miriam Hospital, Weight Control and Diabetes, Research Center Brown University, Providence, RI, USA

⁴Department of Psychiatry and Behavioral Neuroscience, The University of Chicago, Chicago, IL, USA (Emeritus)

Abstract

Objective—Individuals with eating disorders (ED), particularly anorexia nervosa (AN) and bulimia nervosa (BN), often wish to reduce their body weight in pursuit of a thin ideal, but no study has examined the relation between desired weight and ED pathology in a clinical population of youth. Given the potential impact of desired weight on normalization of eating patterns and weight restoration, we examined the relation between desired weight and ED pathology in youth with AN or BN.

Method—Participants were 340 youth presenting to an outpatient ED clinical research program. Height and weight were measured, and youth completed the Eating Disorder Examination. Desired weight was operationalized as "desired weight percentage" (calculated as a percentage of expected body weight) and "weight difference percentage" (actual weight minus desired weight, divided by actual weight and multiplied by 100).

Results—Youth with AN desired to be a lower percentage of their expected body weight than youth with BN (p < .001). However, youth with AN, on average, wanted to gain 5.28% of their body weight and youth with BN wanted to lose 13.60% (p < .001). Desired weight percentage and weight difference percentage were associated with greater ED psychopathology, controlling for ED diagnosis, age, and sex (ps < .001).

Discussion—Desired weight is associated with elevated ED psychopathology. Weight goals may shift as individuals progress through treatment; if they do not, then desired weight may be an important indicator of a lack of psychological progress.

Keywords

desired weight; actual-desired weight discrepancy; anorexia nervosa; bulimia nervosa

Preference for a smaller body size has been associated with disordered eating (MacNeill & Best, 2015) and the onset of eating disorders (Stice & Shaw, 2002) in community samples. Additionally, in non-clinical populations, discrepancy between one's actual (i.e., current) body shape and ideal (i.e., desired) body shape has been associated with increased levels of disordered eating (Zeigler-Hill & Noser, 2015) and eating disordered behaviors (Zarychta, Luszczynska, & Scholz, 2014). Overvaluation of shape and weight is a diagnostic criterion for both anorexia nervosa (AN) and bulimia nervosa (BN) (American Psychiatric Association [APA], 2013). Consequently, individuals with AN or BN may attempt to reach specific weight goals. As research in community samples has shown, when individuals pursue a desired weight that is either unhealthy for their height or markedly different from their present weight, eating disordered behaviors, such as restrictive eating, binge eating, and purging, may emerge (Stice & Shaw, 2002; Zarychta et al., 2014; Zeigler-Hill & Noser, 2015). Therefore, examining body size preferences in clinical samples can help clinicians understand of one of the factors that may be maintaining their patients' eating disorder.

Research among individuals with AN has focused on individuals' preferred body *shape*, not their desired body *weight* (Channon, de Silva, Hemsley, & Mukherjee, 1990; Sala et al., 2012; Smith, Joiner, & Dodd, 2014). However, examining preferences related to weight, as opposed to shape, is a more exact way of measuring the body size an individual desires and may correlate more precisely with eating disorder pathology. In studies that ask individuals to identify a preferred body silhouette, participants have a limited number of choices, usually choosing between five and six sketched outlines which may not accurately represent their current or desired shapes. Instead, assessing for preferred (i.e., desired) weight allows participants to choose an exact number which can then be examined for how healthy or unhealthy that desired weight would be for a given individual.

Individuals with BN are more likely to desire a low weight than community samples (Chernyak & Lowe, 2010). However, no research has compared the construct of desired weight between individuals with AN and those with BN, who may present with different desired weight goals. Studying individuals with AN and individuals with BN allows for the examination of differences in desired weight among individuals who commonly endorse an overvaluation of body shape or weight but who may or may not be at an unhealthy (i.e., low) weight. Individuals with BN may desire to be at an unhealthy weight. However, it's posibble that they desire to be at a healthy weight for their height, but there is a large discrepancy between their present and desired weight suppression (i.e., the difference between one's highest and current weight) points to this possibility, as higher levels of weight suppression predict both the onset and maintenance of BN (Keel & Heatherton, 2010). However, a measure of weight suppression does not indicate what weight an individual is striving for, but rather the amount of weight loss they have achieved.

Given that preference for a smaller body size and actual-desired weight discrepancies are associated with increased eating disordered behaviors in non-clinical populations, it is important to understand the relationship between desired weight and eating disorder pathology in clinical samples. It is possible that striving for a particular desired weight may pose a barrier to weight restoration and the normalization of eating patterns, as well as

negatively impact motivation to maintain a healthy weight or abstain from eating disorder behaviors. Thus, expanding our conceptualization of body size preferences to focus on body weight may enhance our understanding of factors that drive or maintain eating disorder pathology and, in turn, could be a measure of psychological progress, or lackthereof, over the course of treatment.

The present study examines the relationship between desired weight and eating disorder pathology, and between actual-desired weight discrepancies and eating disorder pathology, in a clinical sample of youth with AN or BN. We used individuals' self-reported desired weight to examine two different constructs. First, individuals' desired weight was examined as a percentage of their expected body weight, termed "desired weight percentage," and was used to examine patients' goal weight in relation to height, adjusted for age and sex. Second, individuals' desired weight was examined in relation to their current weight, termed "weight difference percentage," and was used to examine actual-desired weight discrepancies (i.e., the difference between one's current and preferred weight). In Table 1, we provide four fictional illustrations to depict how these two constructs are defined, and how they can vary across individuals with diverse eating disorder pathology. We hypothesized that lower desired weight percentages (i.e., wanting to reach a lower percent of one's expected body weight) would be associated with greater levels of eating disorder behaviors and cognitions. Similarly, we hypothesized that larger weight difference percentages (i.e., a larger discrepancy between one's current and desired weight) would be associated with greater levels of eating disorder behaviors and cognitions. Including both desired weight percentage and weight difference percentage allows for an examination of two separate factors that could maintain an eating disorder: wanting to be at an objectively unhealthy weight and wanting to be at a weight that is very different from one's own.

METHODS

Participants and Procedure

Participants were 340 youth between the ages of 7 and 18 who presented to The University of Chicago Eating Disorders Program for a baseline assessment. Youth were initially diagnosed with an eating disorder based on DSM-IV criteria; however, participants' diagnoses were recategorized retrospectively to reflect updated DSM-5 criteria (APA, 2013). For this study, participants were included if they met DSM-5 diagnostic criteria for AN or BN (APA, 2013). Participants with binge eating disorder (BED) were excluded from these analyses, as overvaluation of shape and weight is not a diagnostic criterion for BED (APA, 2013). This study was approved by the Institutional Review Boards at The University of Chicago and the University of California, San Francisco. Youth and at least one parent provided informed assent and consent, respectively.

Measures

Demographics and Anthropometric Data—Demographic information on age and sex were collected. Height and weight were measured while participants were wearing light indoor clothing and without shoes by trained staff using a stadiometer and a calibrated scale

(either digital or balance beam). Height and weight were used to calculate participants' percent expected body weight for age and sex.

Eating Disorder Examination—The Eating Disorder Examination (EDE) is a semistructured interview conducted by trained staff to assess for eating disorder pathology in the past 28 days and over the past three months (Fairburn & Cooper, 1993). For the purpose of this study, self-reported desired weight was assessed via the question, "What weight would you like to be?" Participants were excluded from this study if they reported that they were not interested in their weight (n = 18), that no specific weight would be low enough (n = 4), or that they were primarily concerned with their shape and not their weight (n = 14), per EDE instructions. For this study, participants reported episodes of objective binge eating and purging (i.e., self-induced vomiting, diuretic abuse, or laxative abuse) over the past 3 months. The EDE yields four subscale scores: Restraint, Eating Concern, Weight Concern, and Shape Concern. Notably, the question about desired weight is not utilized in the calculation of EDE subscale scores. Studies have indicated that the EDE is both reliable and valid (Berg, Peterson, Frazier, & Crow, 2012) and has been used in studies of youth with EDs (Eddy, Celio Doyle, Hoste, Herzog, & Le Grange, 2008; Hughes et al., 2013; Lock et al., 2010; Matheson et al., 2012).

Statistical Analysis

Data were screened for normality, and participants who reported that they wished to be zero pounds were excluded from the analyses (n = 3), as these data points were outliers beyond three standard deviations from the mean desired weight. After these three participants were excluded, the desired weight range was 51 to 185 pounds, meaning that all other participants selected a weight that could be viable for life. Each participant's self-reported desired weight was then used to calculate two variables. "Desired weight percentage" was created by recalculating desired weight as a percentage of expected body weight, which adjusts for participants' desired weight from their current body weight, divided by subtracting participants' desired weight. Given this calculation, negative weight difference percentage values indicate a desire to gain weight, whereas positive values indicate a desire to lose weight. The correlation between desired weight percentage and weight difference percentage was low in magnitude and not significant (r = .032; p = .571).

Correlations and t-tests were conducted to examine the relationships between demographic variables (age, sex), eating disorder diagnosis, and the two independent variables (i.e., desired weight percentage, weight difference percentage). Significant relationships were controlled for in subsequent analyses. T-tests were also conducted comparing participants who did or did not binge eat and who did or did not purge in the past 3 months on the two outcome variables. Finally, partial correlation analyses were conducted between number of binge eating episodes over the last 3 months (with participants without binge eating episodes excluded), number of purging episodes over the last 3 months (with participants without purging episodes excluded), and the two outcome variables, controlling for age and sex.

A series of linear and logistic regression analyses were conducted. First, we tested the relation between desired weight percentage (independent variable) and eating disorder pathology (dependent variable, conducted separately for each EDE subscale score), controlling for significant demographic variables, eating disorder diagnosis, and weight difference percentage. We then tested the relation between weight difference percentage (independent variable) and eating disorder pathology (dependent variable) and eating disorder pathology (dependent variable, conducted separately for each EDE subscale score), controlling for significant demographic variables and desired weight percentage. These models were similarly run with logistic regression using the presence or absence of objective binge episodes as the outcome variable, or the presence or absence of purging episodes as the outcome variable. Analyses were conducted using SPSS version 22, and *p*-values <.05 were considered statistically significant.

RESULTS

Participants in this study had a mean age of 15.61 years (SD = 2.14), were mostly female (93%), and had diagnoses of AN (n = 181, 52%) or BN (n = 159, 48%). The mean BMI percentile for the sample was 32.13 (SD = 34.18), and participants' mean percent expected body weight (EBW) was 95.95% (SD = 24.13). Participants with AN had a mean BMI percentile of 4.65 (SD = 4.68) and mean of 80.06% EBW (SD = 4.93). Participants with BN had a mean BMI percentile of 62.88 (SD = 25.65) and mean of 113.85% EBW (SD = 24.61). Twenty-four percent of the sample self-identified as non-white. Mean duration of illness was 18.15 months (SD = 19.10; n = 270). Participants with AN had a mean illness duration of 14.76 months (SD = 20.73). Twenty-two percent of the sample had a previous medical hospitalization for their eating disorder (SD = 41%; n = 262), 12% had a psychiatric hospitalization related to their eating disorder (SD = 32%; n = 262), and 4% had previously attended residential treatment (SD = 19%; n = 263). Objective binge eating and purging over the past 3 months were endorsed by 164 and 150 participants, respectively. Among those with AN, 34 participants (19%) endorsed objective binge eating or purging.

Demographic differences in desired weight percentage and weight difference percentage by eating disorder diagnosis, the presence of binge eating or purging, sex, and age are presented in Table 2. Participants with AN had a significantly lower desired weight percentage than participants with BN (p < .001). Desired weight percentage increased with age (p = .02), and females had a significantly lower average desired weight percentage than males (p = .02). Youth with BN had a higher weight difference percentage than youth with AN (p < .001). Weight difference percentage increased with age (p < .001), and females had a significantly higher weight difference percentage than males (p = .014). Participants with binge eating had a significantly higher desired weight percentage (p = .011) and greater weight difference percentage (p < .001) than those without binge eating. Participants that engaged in purging had a significantly higher desired weight percentage (p = .005) and weight difference percentage to those who did not engage in purging.

There was a significant positive correlation between number of binge eating episodes and weight difference percentage (r = .252, p = .008) but not between number of purging

episodes and weight difference percentage (p > .05). The correlations between binge and purge episodes and desired weight percentage were not significant (ps > .05).

Table 3 presents results of the linear regression analyses testing the association between desired weight percentage, weight difference percentage, and eating disorder pathology. Desired weight percentage was significantly associated with Weight Concern (p = .014), Shape Concern (p = .008), and Restraint (p < .001), but not Eating Concern (p = .255). Weight difference percentage was significantly associated with Weight Concern, Shape Concern, Restraint, and Eating Concern (ps < .001). There were trend-level associations between weight difference percentage and the presence of objective binge eating (Exp(B) = 1.030, 95% CI = .997 - 1.064, p = .08) and purging behaviors (Exp(B) = 1.042, 95% CI = 1.000 - 1.085, p = .05). However, desired weight percentage was not significantly associated with the presence of objective binge eating (p = .26) or purging (p = .49).

DISCUSSION

The objective of this study was to examine desired weight in relation to eating disorder pathology in a clinical sample of youth with AN or BN. Results indicated that both desired weight percentage and weight difference percentage differed between individuals with AN and BN and were significantly associated with heightened weight and shape concerns and dietary restraint.

Results showed differences in desired weight goals between individuals with AN and those with BN. Individuals with AN, on average, wanted to be a lower percentage of their expected body weight compared to those with BN, but individuals with AN had smaller differences between their actual body weight and the one they desired compared to those with BN. On average, participants with AN wanted to gain 5.28% of their current body weight (which would still keep them in the underweight range [MacNeill & Best, 2015]), while participants with BN wanted to lose 13.60% of their body weight. In past work examining preferred body shape in individuals with AN, individuals who were currently at a low weight reported preferring an ideal shape that was slightly larger than what they had (Channon et al., 1990), which is consistent with our finding that individuals with AN were willing to gain some weight. In Table 1, "Riley" provides a clinical case example of an individual with AN who has been told that she needs to gain weight and consequently presented for treatment. Although Riley reports that she is willing to gain a small amount of weight, that amount of weight is insufficient for her to achieve a healthy weight. This finding has potential implications for treatment, as the strong desire to maintain an unhealthy body weight could contribute to an inability to engage in treatment that requires weight gain beyond the modest amount these individuals reported desiring. Nevertheless, our finding should be considered in light of the fact that our sample was comprised of youth presenting to an outpatient treatment/research program. Given that these youth were presenting for treatment, they may have been more interested in gaining weight than other individuals with AN. Moreover, the average duration of illness for participants with AN in our study was 14 months, which may be considered within the "early" stage of AN when the disorder may be easier to treat (Touyz et al., 2013). Indeed, a shorter duration of illness, younger age, and social desirability biases could have contributed to this subgroup's average desire to gain

weight. Future work is needed to replicate these results in a sample of adults or among individuals with a long-standing eating disorder diagnosis for whom pathology may be more ingrained, as well as to evaluate the impact of desired weight on progress in treatment.

By contrast, participants with BN had a goal weight that was healthy for their height on average (i.e., mean desired weight percentage was above 95% of expected body weight). However, this subgroup had larger discrepancies between their actual and desired weight than individuals with AN. In Table 1, "Juana" provides an example of an individual with BN whose desired weight is not unhealthy for her age and height, but who has a large difference between her current and desired weight. Importantly, weight loss is not the primary goal of treatment for BN (although some weight loss may occur during treatment as eating is normalized and binge eating becomes less frequent [Murphy, Straebler, Cooper, & Fairburn, 2010]), which could result in a mismatch between patients' weight loss goals and clinicians' efforts to target eating disordered behaviors. For example, if patients' desired weight goals lead them to restrict their eating, they may be unwilling to normalize their eating for fear that this will cause weight gain. A mismatch in treatment goals could impact patients' motivation and lead to treatment dropout. Thus, it may be beneficial to understand patients' desired weight and appropriately address weight loss goals that are unhealthy or unrealistic in the context of eating disorder treatment.

Desired weight percentage and weight difference percentage were not correlated and were independently associated with weight/shape concerns and restraint, suggesting that both variables make a separate contribution to eating disorder pathology and thus may be distinct constructs. Individuals with AN may desire to be at an objectively unhealthy weight, which can maintain their eating disorder. Individuals with BN may or may not desire to be at a weight that is unhealthy for their height (see clinical illustrations "Juana" and "Elaine" in Table 1), but if there is a large difference between their current and desired weight, then the weight that they wish to lose could be a factor that drives eating disordered behaviors. It may be important for clinicians to assess patients' weight goals both in terms of the healthiness of the desired weight and the distance between current and desired weights. Striving for a desired weight that is either unhealthy or inconsistent with one's current weight may be a clinically salient consequence of the overvaluation of shape and weight that is a hallmark feature of both AN and BN.

The relationships between desired weight percentage, weight difference percentage, and binge eating and purging were also examined, as there were 34 participants with AN who exhibited at least one episode of binge eating or purging in the past 3 months. Similar to the differences between individuals with AN and BN, individuals with binge eating or purging desired to be at a higher weight, but had a larger difference between their current and desired weight, than individuals who did not engage in these behaviors. Among participants who engaged in binge eating, higher numbers of binge eating episodes were associated with greater weight difference percentages (i.e., larger differences between present and desired weight). Binge eating episodes can cause weight gain, which could move participants further from their goal weight. Neither desired weight percentage nor weight difference percentage were able to predict whether or not an individual engaged in binge eating or purging behaviors. There do appear to be differences in desired weight goals between individuals

who engage in binge eating and purging and those that do not, and the relationship between binge eating and weight difference percentages warrants further study.

Strengths of this study include the large sample size and the examination of desired body weight as opposed to desired body shape, using a preexisting question on the EDE, the gold standard measure of assessment. However, limitations should be noted as well. First, this study only included youth with AN or BN. Future research should seek to compare individuals with AN, BN, avoidant/restrictive food intake disorder (ARFID), or BED. ARFID and BED do not include overvaluation of shape and weight in their diagnostic criteria, so it would be interesting to evaluate whether desired weight is associated with increased eating disorder pathology in individuals with these diagnoses. Additionally, though this study utilized a standardized methodology to assess eating disorder pathology (including desired weight) in the context of a structured interview, it is possible that participants' responses to the interview prompts were subject to social desirability biases. Also, no data were collected on individuals' diagnostic history to determine whether any individuals experienced diagnostic crossover prior to the assessment, so it was not possible to examine any subgroups of individuals who moved from AN to BN, or vice versa, to see how their desired weight and weight difference percentage may differ from individuals without diagnostic crossover. Finally, this study did not include other measures of body image dissatisfaction or supplementary questions about participants' desired weight.

In the future, it may be beneficial to assess how important weight goals are to a given individual. We did not have data that indicate whether individuals were making efforts to achieve their desired weights. For example, having a desired weight that is lower than one's current weight (as our results showed among patients with BN) may lead to heightened engagement in eating disorder behaviors to achieve the desired weight goal. If patients succeed in attaining their weight loss goals, then their eating disorder may worsen as they reach an objectively unhealthy weight or an increased level of weight suppression (Keel & Heatherton, 2010). At the same time, knowing individuals' desired weights may not have prognostic value if individuals are not actually engaging in behaviors to achieve their desired weight goals. More specifically, our results among patients with AN suggest that these individuals desire to be a higher weight than their current weight; yet, it is unknown whether these individuals would make attempts to achieve this desired weight independently without intervention. Taken together, our findings provide an important initial investigation of the association between desired weight and eating disorder pathology, but also suggest areas for future study in terms of understanding the impact of desired weight on maintenance of eating disorder pathology. Indeed, assessing an individual's weight goal and the importance of that goal may provide clinicians with a better understanding of a key factor maintaining an individual's eating disorder. Finally, it would be interesting to see how desired weight corresponds to measures of body image dissatisfaction. Assessing the importance of desired weight and body image dissatisfaction may lead to a more robust understanding of the relationship between desired weight and eating disorder pathology, as well as the relationship between these variables and the maintenance of eating disorders.

To our knowledge, this is one of the first studies to examine the relation between desired weight and eating disorder pathology in a clinical population of youth, and the first use of

desired weight percentage and weight difference percentage as variables. Our findings suggest these constructs capture two different aspects of desired weight goals: wanting something unhealthy and wanting something that is different from what you have. In light of previous research documenting that self-reported desired body shape did not change after individuals with AN had progressed through treatment (Sala et al., 2012), desired weight should be studied as a prognostic indicator of treatment outcome. Lack of progress in this construct could indicate that eating disordered cognitions have not dissipated and could be indicative of an increased likelihood of relapse.

Acknowledgments

Funding for this work was supported by: K23 DK105234 and F32 HD089586.

References

- American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th. Arlington, VA: American Psychiatric Publishing; 2013.
- American Psychiatric Association. Desk reference to the diagnostic criteria for DSM-5. Washington DC: American Psychiatric Publishing; 2013.
- Berg KC, Peterson CB, Frazier P, Crow SJ. Psychometric evaluation of the eating disorder examination and eating disorder examination-questionnaire: A systematic review of the literature. International Journal of Eating Disorders. 2012; 45:428–438. [PubMed: 21744375]
- Channon S, de Silva P, Hemsley D, Mukherjee K. Body-size perception and preferences in stableweight and improved-weight anorexic patients. International Journal of Eating Disorders. 1990; 9(4):403–408.
- Chernyak Y, Lowe MR. Motivations for Dieting: Drive for Thinness is Different From Drive for Objective Thinness. Journal of Abnormal Psychology. 2010; 119(2):276–281. [PubMed: 20455600]
- Eddy KT, Celio Doyle A, Hoste RR, Herzog DB, Le Grange D. Eating disorder not otherwise specified in adolescents. Journal of the American Academy of Child and Adolescent Psychiatry. 2008; 47:156–164. [PubMed: 18176335]
- Fairburn, CG., Cooper, Z. The eating disorder examination. In: Fairburn, CG., Wilson, GT., editors. Binge Eating: Nature, Assessment and Treatment. 12th. New York: The Guilford Press; 1993. p. 317-360.
- Hughes EK, Goldschmidt AB, Labuschagne Z, Loeb KL, Sawyer SM, Le Grange D. Eating disorders with and without comorbid depression and anxiety: Similarities and differences in a clinical sample of children and adolescents. European Eating Disorders Review. 2013; 21:386–394. [PubMed: 23681932]
- Keel PK, Heatherton TF. Weight suppression predicts maintenance and onset of bulimic syndromes at 10-year follow-up. Journal of Abnormal Psychology. 2010; 119:268–275. [PubMed: 20455599]
- Lock J, Le Grange D, Agras WS, Moye A, Bryson SW, Jo B. Randomized clinical trial comparing family-based treatment with adolescent-focused individual therapy for adolescents with anorexia nervosa. Archives of General Psychiatry. 2010; 67:1025–1032. [PubMed: 20921118]
- MacNeill LP, Best LA. Perceived current and ideal body size in female undergraduates. Eating Behaviors. 2015; 18:71–75. [PubMed: 25955887]
- Matheson BE, Tanofsky-Kraff M, Shafer-Berger S, Sedaka NM, Mooreville M, Reina SA, et al. Eating patterns in youth with and without loss of control eating. International Journal of Eating Disorders. 2012; 45:957–961. [PubMed: 23015352]
- Murphy R, Straebler S, Cooper Z, Fairburn CG. Cognitive Behavioral Therapy for Eating Disorders. The Psychiatric Clinics of North America. 2010; 33(3):611–627. http://doi.org/10.1016/j.psc. 2010.04.004. [PubMed: 20599136]

- Sala L, Mirabel-Sarron C, Pham-Scottez A, Blanchet A, Rouillon F, Gorwood P. Body dissatisfaction is improved but ideal silhouette is unchanged during weight recovery in anorexia nervosa female impatients. Eating and Weight Disorders. 2012; 17:109–115.
- Smith AR, Joiner Jr, Thomas E, Dodd DR. Examining implicit attitudes toward emaciation and thinness in anorexia nervosa. International Journal of Eating Disorders. 2014; 47(2):138–147. [PubMed: 24488837]
- Stice E, Shaw HE. Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. Journal of Psychosomatic Research. 2002; 53:985–993. [PubMed: 12445588]
- Touyz S, Le Grange D, Lacey H, Hay P, Smith R, Maguire S, Bamford B, Pike KM, Crosby RD. Treating severe and enduring anorexia: a randomized controlled trial. Psychological Medicine. 2013; 43(3):2501–2511. [PubMed: 23642330]
- Zarychta K, Luszczynska A, Scholz U. The association between automatic thoughts about eating, the actual-ideal weight discrepancies, and eating disorders symptoms: a longitudinal study in late adolescence. Eating and Weight Disorders. 2014; 19(2):199–207. [PubMed: 24510736]
- Zeigler-Hill V, Noser A. Will I ever think I'm thin enough? A moderated mediation study of women's contingent self-esteem, body image discrepancies, and disordered eating. Psychology of Women Quarterly. 2015; 39(1):109–118.

Table 1

Clinical Illustrations of "Desired Weight Percentage" and "Weight Difference Percentage" in Participants with AN and BN

	Case Description	Desired Weight	Desired Weight Percentage	Weight Difference Percentage [(current wt-desired wt)/ current wt*100]
Juana	Juana is a 17 year old girl with BN. She is 5'4" and 135 pounds, putting her at 110% of her EBW.	120 lbs	Juana would like to lose weight from 135 to 120 lbs, making her desired weight percentage 98%. This would still be a healthy weight for Juana.	Juana would like to lose weight from 135 lbs to 120 lbs, so she wants to lose 11% of her body weight.
Elaine	Elaine is a 17 year old girl with BN. She is 5'10" and 135 pounds, putting her at 93% of her EBW.	120 lbs	Elaine would like to lose weight from 135 to 120 lbs, making her desired weight percentage 82%. This would be an unhealthy weight for Elaine.	Elaine would like to lose weight from 135 lbs to 120 lbs, so she wants to lose 11% of her body weight.
Riley	Riley is a 12 year old girl with AN. Riley is 4'8" and 70 pounds, putting her at 81% of her EBW.	73 lbs	Riley has been told that she needs to gain weight, and is willing to go from 70 to 73 lbs, making her desired weight percentage 84%. This would still be an unhealthy weight for Riley.	Riley would like to gain weight from 70 lbs to 73 lbs, so she wants to gain 4% of her body weight.
Amari	Amari is a 14 year old girl without an eating disorder. She is 5'1" and 105 pounds, putting her at 102% of her EBW.	103 lbs	Amari would like to lose weight from 105 to 103 lbs, making her desired weight percentage 100%. This would be a healthy weight for Amari.	Amari would like to lose weight from 105 to 103 lbs, so she wants to lose 2% of her body weight.

Note: EBW = expected body weight; lbs = pounds; BN = bulimia nervosa; AN = anorexia nervosa. Names and examples are fictional.

Table 2

Mean Desired Weight and Mean Weight Difference by Diagnosis and Sex

	Desired Weight	Percentage	Weight	t Difference Percentage*
	r	р	r	р
Age	.112	.020	.256	<.001
	Mean (SD) [Range]	Statistics	Mean (SD) [Range]	Statistics
DSM-5 Diagnosis		t(260) = -9.58; p < .001; d = 1.09		t(307) = -14.31; p < .001; d = 1.63
Anorexia Nervosa	84.20 (8.70) [65.2–113.24]		-5.28 (11.38) [-47.44-22.65]	
Bulimia Nervosa	96.66 (13.61) [63.51–155.69]		13.60 (11.82) [15.99–52.57]	
Binge Eating Present		t(307) = -6.32; p < .001; d = 0.72		t(306) = -8.44; p < .001; d = 0.96
Yes	94.80 (13.63) [68.2–155.7]		10.59 (13.16) [-29.41-51.46]	
No	86.00 (10.66) [63.51–137.02]		-2.37 (13.80) [-47.44-52.57]	
Purge Present		t(280) = -5.58; p < .001; d = 0.71		t(277) = -10.63; p < .001; d = 1.23
Yes	94.48 (14.24) [63.51–155.69]		12.02 (12.47) [-26.10-52.57]	
No	86.16 (10.25) [65.32–137.02]		-3.96 (12.75) [-47.44-33.41]	
Sex		t(307) = -1.30; p = .020; d = .27		t(307) = 2.46; p = .014; d = .51
Female	90.13 (12.99) [58.82–199.53]		4.74 (14.89) [-47.44-100.00]	
Male	93.64 (12.81) [73.50–185.99]		-2.86 (14.14) [-32.98-61.83]	

* *Note:* Weight Difference Percentages are calculated by subtracting participants' desired weight from their current body weight, dividing by current body weight and multiplied by one hundred. This means that negative values should be interpreted as a desire to gain weight, and positive values should be interpreted as a desire to lose weight.

Hierarchical Multiple Regression Analyses Predicting Eating Disorder Pathology

	Weight C	oncern	Shape Cc	ncern	Restra	int	Eating Co	ncern
Predictor Variables	R^2	ъ	R^2	β	R^2	В	R^2	В
Step 1	.350 ***		.332 ***		.178***		.337 ***	
Age		.036		.046		.079		.105
Sex		136		097		069		136
Eating Disorder Diagnosis		.325		.287		.204		.265
Model 1								
Step 2	.405 ***		.397 ***		.264 ***		.365 ***	
Desired Weight Percentage		129		137		208		063
Step 3	.501 ***		.519 ***		.347 ***		.449 ***	
Weight Difference Percentage		.431		.485		.400		.402
Model 2								
Step 2	.490 ***		.507 ***		.319 ***		.446	
Weight Difference Percentage								
Step 3	.501*		.519**		.347 **		.449	
Desired Weight Percentage								
Note: Standardized coefficients are	from the las	t step of e	each analysi	s.				
* p < .05								
** p .01								
$p < 0.001$ for change in \mathbb{R}^2								