



Explicit vs. implicit body image evaluation in restrictive anorexia nervosa

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ABSTRACT

In the present study we investigated the evaluation of body shapes in patients with restrictive anorexia nervosa (AN) on both automatic and controlled levels. The first aim of the study was to examine whether an ultra-thin ideal or negative attitudes toward overweight might be the motivation behind pathological restriction. The second aim was to investigate the relationship between body figure evaluations, eating disorder symptoms and mood. A Modified Affective Priming Test was used to measure implicit evaluations of body silhouettes, while a Likert scale was used to assess explicit evaluations. The study involved 35 women with restrictive anorexia nervosa and 35 age- and education-level-matched controls with normal body weight. In contrast to the control group, the patients did not show a positive attitude toward the ultra-thin body shape on the automatic level. The AN group both on the automatic and the self-reported levels evaluated the overweight body as negative. Depression and anxiety did not influence body evaluation. Strong negative evaluation of overweight appears to be a key issue in AN rather than positive evaluation of ultra-thin role models.

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1. Introduction

Anorexia nervosa (AN) is a condition of self-initiated weight loss, usually found in adolescents and young women, and characterised by a profound disturbance of body image, distorted self-perception, starvation and an obsessive fear of gaining weight (American Psychiatric Association, 2000). Self-report studies in the general population have suggested that the promotion of underweight celebrity models leads to a negative body image and body dissatisfaction among adolescent girls and young adults (Groesz et al., 2002; Bell et al., 2007; Legenbauer et al., 2008). Studies of this type also suggest that dissatisfaction with body weight and physical appearance is primarily associated with unhealthy weight reduction practices and eating disorders in young females (Grigg et al., 1996; Hill, 2006). Unrealistic assumptions about weight, body shape and eating have been found to be significantly higher among anorexic patients relative to controls and dieters (e.g., Cooper and Turner, 2000), suggesting that the desire for extreme thinness may be influenced by social pressures relating extreme thinness to desirability and beauty (Friedman et al., 2002; Simon, 2007). An alternative hypothesis is that AN may be

caused by a negative view of fatness and an intensive fear of becoming overweight (Bruch, 1982; Vartanian et al., 2005).

Rucker and Cash (1992) proposed that the body image includes at least two components: a perceptual body image (i.e., estimation of one's body size) and an attitudinal body image (i.e. cognitive, affective and behavioural concerns with one's body size); and Skrzypek et al. (2001) suggested that the second factor is more important than the former in causing body image disturbance in AN. Explicit attitudes are self-reported evaluations that people give when they are asked how much they like an object. Implicit attitudes are preferences that do not require introspective access to mental representation; implicit attitudes are thought to reflect an evaluation of which the respondent is not aware (Dovidio et al., 2002; Gawronski et al., 2007). Implicit evaluations are mostly activated automatically and quickly, and can be identified through sophisticated experiments using individuals' response times to stimuli (i.e. without directly asking people how they feel or think about an object, Greenwald and Banaji, 1995). The explicit and implicit evaluations appear to affect people's behaviour through different pathways (Fazio et al., 1986). The main advantage of implicit evaluation is that it can estimate the patient's automatic responses toward various stimuli without directly asking them, thereby reducing the risk of socially desirable answering (Rudman, 2004).

In the current research we were firstly interested in whether positive association with ultra-thin models or negative association with fatness could be the key motivation behind the ongoing

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pathological restrictive dieting behaviour in anorexia nervosa. Secondly, we wanted to investigate the representations of the ideal body figure in a healthy and a patient group. Thirdly, we wanted to examine the relationship between body dissatisfaction, drive for thinness and body figure evaluation. We used standard self-report methods to assess explicit evaluations and body dissatisfaction; and a modified version of the Affective Priming Test for implicit evaluation. Until now no study has investigated the implicit attitudes toward body figures in AN.

Co-morbidity with anxiety and mood disorders has been reported frequently in AN (Kaye et al., 2004; Godart et al., 2005a,b; Wildes et al., 2007). According to clinical observations, AN patients evidence mostly unipolar depression and half of the patients show anxiety disorders, too (Blinder et al., 2006). Depressed mood and anxiety disorder may have an influence on how people generally judge or evaluate an object. Therefore, we also examined whether anxiety and depression might influence the body image evaluation and body dissatisfaction in anorexia nervosa.

2. Methods

2.1. Participants

The participants included 35 female patients with a diagnosis of AN of restrictive subtype (patients are not regularly engaged in binge-eating or purging behaviour) hospitalized in a psychiatric clinic and 35 female controls with normal body weight and with no diagnosis of any psychiatric disorders. The patients were recruited at the Psychiatry Service of the Clinique Le Domaine, through the Eating Disorders Program, Belgium. Recruitment methods included posted advertisement in patient areas; in addition the project research assistant provided information to the patients in each setting and the clinical staff assisted in identifying potential candidates for the study. The project was approved by the ethical committee of the ULB Erasme University Hospital.

The diagnosis of AN was based upon DSM-IV-TR criteria (American Psychiatric Association, 2000) by highly trained clinicians. Other types of eating disorders (bulimia, binge-eating) or psychiatric problems such as major depressive disorder, substance abuse or psychosis were exclusion criteria for the study. The volunteer control females were recruited through the university and the local high school associated with the university. The control participants were eligible for inclusion if they did not meet the criteria for any psychiatric disorders, substance dependence, major depression or regular dieting as determined through a semi-structured interview with a psychologist. During the recruitment of participants the education level and the age of the patients were taken into account. Table 1 contains the descriptive statistical data of the patients and the control participants. All participants were residents of Belgium. Their native language was French and they had no vision problems. Examinations were performed in accordance with institutional and international (Declaration in Helsinki, 1964; European Union Council Directive 86/609/EEC) ethical standards. Prior to their inclusion into the study participants gave their verbal consent; the patients' written permission was documented. In the case of 16 minor age adolescents parental consent was obtained prior to their participation.

2.2. Mood and trait measures

2.2.1. Eating Disorder Inventory

The Eating Disorder Inventory (EDI) is a 64-item self-report questionnaire designed to provide information on eight separate dimensions of cognitive and behavioural

aspects of AN and bulimia (Garner et al., 1983). The EDI assesses attitudes, feelings and behaviours related to food, eating and body image. The eight subscales included in the EDI are as follows: drive for thinness (DT; "I am terrified of gaining weight"), bulimia (B; "I stuff myself with food"), body dissatisfaction (BD "I think my hips are too big"), ineffectiveness (I; "I feel inadequate"), perfectionism (P; "I have extremely high goals"), interpersonal distrust (ID; "I need to keep people at a certain distance"), interoceptive awareness (IA; "I don't know what's going on inside me"), and maturity fears (MF; "I wish that I could be younger"). Participants were asked to respond on a 6-point Likert scale by rating how much an item applied to them. The cut-off score of the EDI is 43; for scores above 43 eating disorder is considered pathological. In our study we used the French translation of the EDI (Criquillon-Doulet et al., 1995). As we wanted to examine the relationship between body dissatisfaction, drive for thinness and body figure evaluation, the following three subscales were included in our analysis: drive for thinness (DT), bulimia (B), and body dissatisfaction (BD).

2.2.2. State-Trait Anxiety Inventory

The State-Trait Anxiety Inventory (STAI, Spielberger, 1983) is a self-rating measure of anxiety, consisting of two parts: the State (describing the actual situation) and the Trait (general measure of anxiety). The participants indicated their degree of approval on 20 items for each form of anxiety (e.g. "I am satisfied", "I have thoughts that disturb me") on a 4-point Likert scale ranging from 1 "No" to 4 "Yes". Possible scores range from 20 to 80 for each form. We used the validated French language version of the STAI questionnaire (Bruchon-Schweitzer and Paulhan, 1993).

2.2.3. Beck Depression Inventory II

The Beck Depression Inventory II (BDI-II) is a 21-item self-report inventory measuring characteristic attitudes and symptoms of depression (Beck et al., 1996). Each item is rated on a 4-point scale (from 0 "I do not feel sad" to 3 "I am so sad or unhappy that I can't stand it"). The score is calculated by summing each item (range 0–63). Individuals scoring from 10 to 18 are classified as having mild to moderate depression, those scoring between 19 and 29 are classified as having moderate to severe depression, and severe depression is evidenced by scores ranging from 30 to 63. We used the validated French version of the BDI-II (Beck et al., 1998).

2.3. Implicit measure

The Affective Priming Task (Fazio et al., 1986; Banse, 2001) was used to measure the implicit associations and affective processes related to different body shapes. The Affective Priming relies on early attention allocation and individuals' automatic reactions when affective information is present (Winkielman et al., 1997; Lamote et al., 2004; Vermeulen et al., 2006). The goal of the task is to measure how the first stimulus (prime) modifies the processing speed and/or the accuracy of evaluating a subsequent target, which is evaluated as positive or negative (Hermans et al., 2001). When the affective valence of the prime is similar to that of the target stimuli (positive–positive; negative–negative), a congruency or facilitation effect occurs, which leads to faster and more accurate responses. In contrast, an incongruent prime–target combination (positive–negative; negative–positive) leads to slower and less accurate responses. The difference in response latencies (RL) or error percentage (accuracy) between congruent and incongruent trials is called the priming effect (Roefs et al., 2005). The pattern of RL is informative regarding the positive and negative associations people have with the primes (i.e. silhouettes). Applied to the body figures, if people respond faster on congruent trials (normal body figure–positive target or overweight body figure–negative target) than on incongruent trials (normal body figure–negative target or overweight body figure–positive target), it can be inferred that they like the normal body figure more than the overweight body figure at a relatively automatic level. The advantages of using implicit measure are twofold. First, these measures can estimate people's responses toward various stimuli by reducing the risk of receiving socially desirable answers. Second, because stimuli are presented only briefly and in quick succession, implicit measures leave insufficient time for the participants to strategically control their responses. Even if people may very well be aware of their associations, they may not be aware of what the task is assessing (Fazio and Olson, 2003).

2.3.1. Stimuli

Primes: In our experiment three schematic body figures depicting an ultra-thin body; an attractive average-size young female body; and an overweight body image were used (see Fig. 1). The three silhouettes were selected from the body figure scale of Mouches (1992). The attractive average-size female body was chosen based on a previous pilot study. In this pilot study 20 female university students with normal body shape and not on a strict diet were asked to rank each silhouette from the Mouches scale on a 7-point scale (from 1 very negative to 7 very positive). The silhouette that received the highest score (the most positive, $M = 6.1$, $S.D. = 0.3$) was chosen as an attractive body figure for our study. The ultra-thin and the overweight body silhouettes were taken from the two extreme sides of the Mouches scale.

The targets were 12 positive (e.g., joyful) and 12 negative (e.g., sorrowful) French adjectives, which were selected as target stimuli (see Appendix) from a previous study (Vermeulen et al., 2006). No differences were found (Vermeulen et al., 2006) for frequency of usage in the language or for familiarity measured on a 7-point scale from 0 to 6 ($F[1,11] < 1$, ns; positive: $M = 4.93$, $S.D. = 0.52$; negative $M = 4.80$, $S.D. = 0.40$). The positive and negative target words did not differ in length, ($F[1, 11] < 1$, ns; positive:

Table 1
Demographic and clinical characteristics of the participants.

	Control N = 35		Patients with restrictive anorexia N = 35	
	M (S.D.)	Range	M (S.D.)	Range
Age	20.27 (3.93)	14–27	19.61 (3.42)	13–27
Weight (kg)	54.43 (4.67)	49–59	38.56 (4.32)**	32–45
BMI	19.79 (1.42)	18–22	14.76 (1.31)**	13–17
Scholar years	10.78 (2.6)	7–17	10.45 (3.5)	6–17
Duration of the problem (year)			5.32 (4.1)	1–10
Depression (BDI)	8.5 (6.73)		25.32 (8.96)**	
State anxiety (STAI)	36.90 (13.23)		54.00 (10.93)**	
Trait anxiety (STAI)	43.58 (9.54)		56.36 (9.31)**	
Drive for thinness (EDI)	5.16 (5.42)		9.63 (7.17)*	
Bulimia (EDI)	0.64 (1.37)		3.00 (1.20)*	
Body dissatisfaction (EDI)	10.22 (7.48)		13.89 (8.71)	

** $P < 0.01$.

* $P < 0.05$.

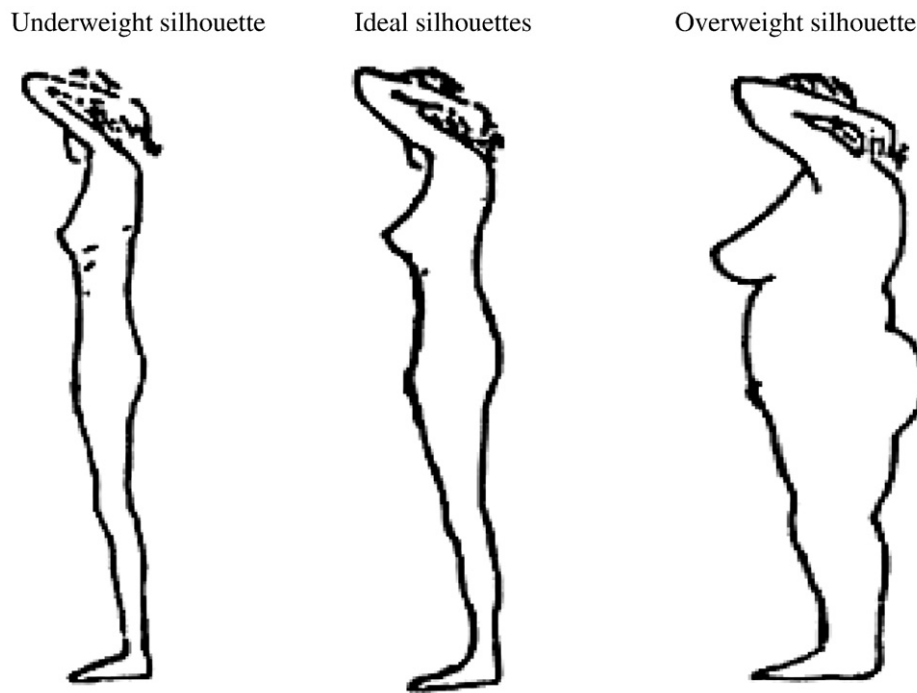


Fig. 1. Schematic body figures used in the Affective Priming Task.

$M = 7.16$, $SD = 1.83$; negative: $M = 6.83$, $SD = 0.98$). The valence of the French adjective target word was assessed on a 7-point scale from 3 “very positive” to -3 “very negative”. There was a significant difference (Vermeulen et al., 2006) between positive and negative targets for valence ($F[1, 11] < 157.63$, $P < 0.01$; positive $M = 2.17$, $SD = 0.31$; negative: $M = -1.91$, $SD = 0.26$).

2.3.2. Procedure

Participants were asked to evaluate and categorise each target word according to its value (positive vs. negative) as quickly and as accurately as possible by pressing left (L) or right (S) keys of an AZERTY keyboard (i.e. normal computer keyboard sold in French-speaking countries). Each participant completed 12 training trials in order to become familiar with the task. Then, they started the experimental part, which was divided into three blocks of four positive and four negative adjective targets. Each of the three blocks consisted of 80 trials (40 negative targets and 40 positive targets) resulting in a total of 240 trials. The task procedure and the timing of the trials were based on those used in a previous study (Vermeulen et al., 2006). Each trial started with a fixation point, then the prime was presented for 100 ms (the stimuli onset asynchrony [SOA] was 100 ms), and finished with the target word, which appeared for 500 ms. Each target was randomly preceded by one of the three body silhouettes (the prime stimulus) on the screen. The protocol of this study was created on E-prime version 1.1.4.1, and the stimuli were presented on a Siemens Fujitsu notebook with a 15 in., 60 Hz LCD monitor. RL of the participants were registered and analysed applying Excel and SPSS 13.0 statistical programs. Participants were tested individually in sessions lasting approximately 2 h each. Participants were free to take a short break whenever they felt tired.

2.4. Explicit body evaluation scale

After completing the implicit task, participants were asked to assess each of the body images (one after the other) on 7-point Likert scales with ratings ranging from 1 (“completely negative”) to 7 (“completely positive”). The three female prime figures were presented randomly on the display, along with a 7-point Likert scale with which participants indicated their explicit preferences for the stimuli.

3. Results

3.1. Mood and trait measures

There were significant differences for each questionnaire between the groups. AN patients reported higher depression ($F[1, 55] = 61.65$; $P < 0.01$) and both state ($F[1, 57] = 21.69$, $P < 0.01$) and trait anxiety ($F[1, 57] = 17.90$, $P < 0.01$) than the control group (see Table 1). Considering the level of eating disorder symptoms, the AN group scored significantly higher than the control group on the DT ($F[1, 57] =$

7.24 , $P < 0.01$), on the B subscales of the EDI ($F[1, 57] = 4.84$, $P < 0.04$) but not on the BD subscale ($F[1, 57] = 3.5$, $P < 0.07$).

3.2. Explicit body shapes evaluation

Explicit evaluation of the three body silhouettes was measured on the 7-point Likert scale. A mean value close to 4 on the scale would indicate a neutral evaluation. A score above 4 would represent a positive evaluation, and a score lower than 4 would correspond to a negative judgment.

The AN group judged the normal body figure to be significantly less positive ($F[1, 67] = 12.03$, $P < 0.01$; AN: $M = 4.63$, $S.D. \pm 1.62$; control: $M = 5.82$, $S.D. \pm 1.21$) than the control group. The AN group evaluated the overweight body figure as significantly more negative than controls ($F[1, 67] = 23.32$, $P < 0.01$; AN: $M = 1.16$, $S.D. \pm 0.52$; control: $M = 2.22$, $S.D. \pm 1.24$). Both groups found the ultra-thin body figure as negative ($F[1, 67] = 0.06$; $P < 0.9$; AN: $M = 2.90$, $S.D. \pm 2$; control: $M = 2.93$, $S.D. \pm 1.9$) given that a mean close to 4 on the scale indicates a neutral evaluation.

3.3. Affective Priming Task

The RL associated with correct responses either too fast (300 ms) or too slow (1000 ms) or erroneous ones were excluded from the analysis (Ratcliff, 1993). The Affective Priming effects were analysed by examining the interaction between the valence of target and prime stimuli in both groups. Our results focus on RL (speed), as no significant differences were found on response accuracy (number of errors) between the two groups. We did not find any significant group differences in general RL considering all targets ($t[68] = 0.73$, $P < 0.47$; AN: $M = 725$ ms, $S.D. = 135$; control: $M = 706$ ms, $S.D. = 77$). Fig. 2 shows the mean reaction times for positive and negative targets separately in the AN and control groups.

Based upon the analysis presented in previous studies (Roefs et al., 2005; Vermeulen et al., 2006), we used repeated measures analysis of variance (ANOVA) on the three prime effects (ultra-thin vs. normal vs. overweight figures) $\times$ 2 target effects (positive vs. negative) as within-subject $\times$ 2 groups (anorexic group vs. control) as between-subject. A

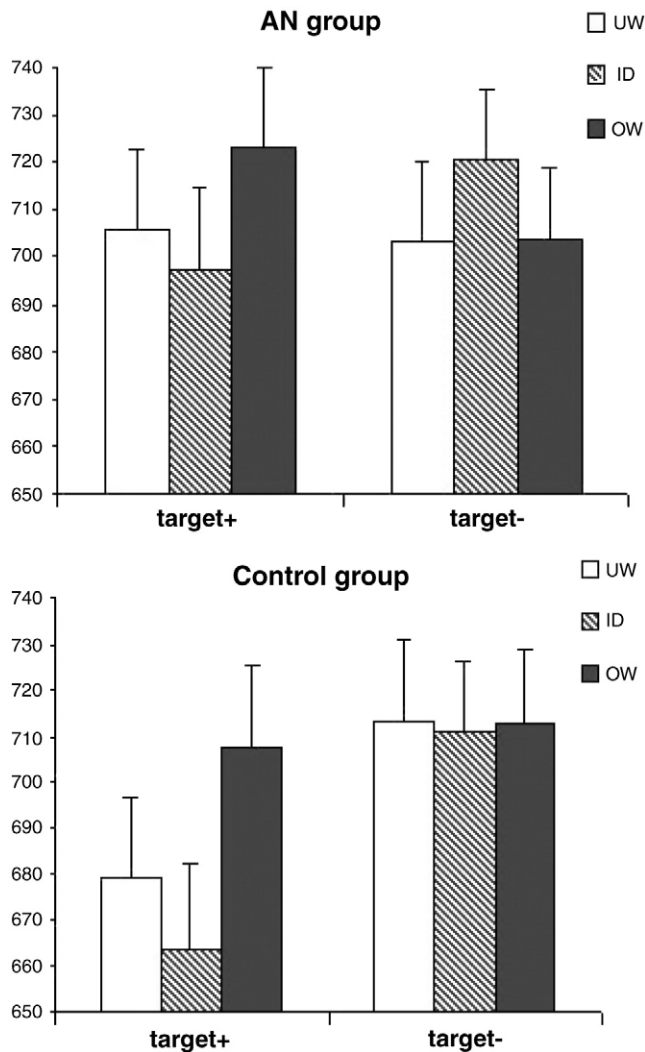


Fig. 2. Mean response latencies (s) in AN and the control group on target words (+ and –) anticipated with three different body silhouettes primes. uw = underweight, id = ideal, ow = overweight figure. SEM is indicated with error bars.

strong interaction was found between the primes and the target valence ($F [2, 67] = 13.16; P < 0.01$) and between group and target valence ($F [1, 68] = 7.52, P < 0.01$): the 2-way interactions revealed that the primes had an influence on the RL of the targets and that there was a difference in general RL for positive and negative targets between the two groups. The 3-way interaction (target $\times$ prime $\times$ group), however, was not significant ($F [2, 67] < 1, ns$). This indicates that the two groups did not differ in how the primes influenced the RL.

In order to analyse the specific effect of the figures separately, we calculated the priming effects for each of the primes in the following way. Congruent prime–target combinations (mean “RL [negative prime–negative target]; RL [positive prime–positive target]”) were subtracted from the incongruent prime–target combinations (mean “RL [negative prime–positive target]; RL [positive prime–negative target]”). We predicted in Section 1 that the underweight silhouette would be associated with positive attributes in the AN group. Based on our hypothesis we calculated the priming effect in such a way that underweight and normal body silhouettes were considered as positive primes, while the overweight silhouette was considered as a negative one. The size of the priming effect indicates the effectiveness of the prime itself; in other words, it indicates how much the prime influenced the RL of the emotional targets. Fig. 3 shows the calculated priming effect for each silhouette in the two groups. The t -test

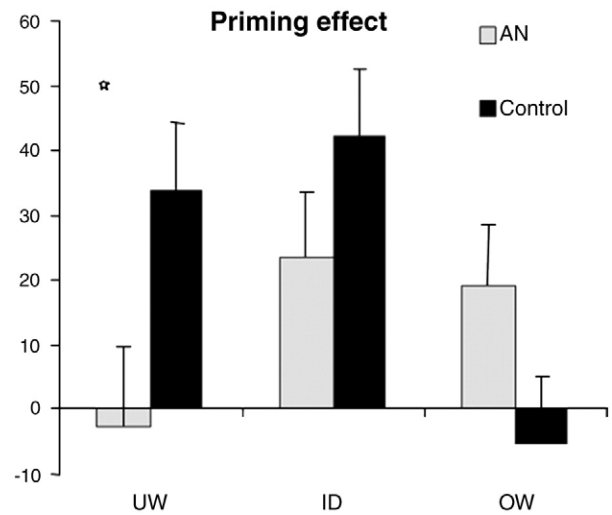


Fig. 3. Priming effects in the groups for the three different body shapes. The asterisk indicates significant differences. Y-axis is an index value representing the calculated priming effect. UW = underweight, ID = ideal; OW = overweight figure. * $P < 0.03$.

revealed a significantly larger priming effect of the underweight body shape in the control group than in the AN group ($t [65] = 2.33; P < 0.03$). In contrast with the controls, in the AN group the priming effect for the overweight body prime was relatively large; however, the difference between the two groups was not significant ($t [65] = 1.72; P < 0.09$).

3.4. Relationship between body evaluations and mood

Pearson's correlations were used to examine the relationship between body evaluations and eating disorder symptoms based on the three dimensions of the EDI questionnaires (DT, B, BD, see Table 2), as well as depression and anxiety separately for the two groups. We first assumed that depression and anxiety might be associated with more negative implicit and explicit body evaluations. Secondly, we assumed that positive implicit attitudes toward underweight body should be associated with the level of eating disorder symptoms such as DT, B and BD in AN. Table 2 shows that DT, B and DT dimensions were correlated with the explicit evaluations in both groups. The higher the AN group scored on these three dimensions, the more positively they judged the underweight body figure and the more

Table 2

Correlations between body evaluations (underweight body, ideal body figures, and overweight body figures) and eating disorder symptoms (“drive for thinness”, “bulimia” and “body dissatisfaction”) assessed by the EDI and mood.

Variable	Explicit			Implicit		
	UW	ID	OW	UW	ID	OW
AN group						
EDI drive for thinness	0.49*	–0.60*	0.05	0.55*	0.11	–0.35
EDI Bulimia	0.55*	–0.65**	–0.15	0.25	–0.17	0.01
EDI body dissatisfaction	0.24	–0.54*	–0.03	0.17	0.18	–0.33
Depression	0.02	–0.11	–0.06	0.16	–0.14	–0.13
Anxiety	0.29	0.15	0.02	0.41	–0.12	0.15
Control group						
EDI drive for thinness	–0.06	0.25	–0.55**	0.01	0.13	–0.08
EDI bulimia	–0.08	0.20	–0.21	–0.09	0.42*	–0.28
EDI body dissatisfaction	–0.15	0.17	–0.40*	0.11	0.05	0.01
Depression	0.27	0.24	–0.35	0.21	–0.01	–0.02
Anxiety	0.19	0.03	–0.39*	0.28	–0.13	–0.05

Note. $F [1, 34]$, UW = underweight body, ID = ideal body figures, OW = overweight body figures.

* $P < 0.05$.

** $P < 0.01$.

negatively they judged the normal figure. DT and BD dimensions had the same effect on the explicit evaluation of the overweight body figure in the control group. Considering the implicit body evaluation in the AN group, the DT score was positively correlated with the priming effect of the underweight figure. Depression and anxiety correlated only with the explicit body evaluation in the control group but not in the anorexic group.

4. Discussion

Our results suggest that a negative association with fatness may contribute to restrictive eating in AN (Bruch, 1982) as our patients attributed both implicitly and explicitly a more negative value to fatness than the control participants. We found no evidence to support the idea that a positive association with ultra-thin models plays a role in AN (Ahern et al., 2008). This finding is in line with those of previous self-report studies (Cooper and Turner, 2000; Vartanian et al., 2005), which found more negative attitudes toward fatness in restrained eaters than in non-restrained eaters. Our finding is consistent also with those studies that – using the implicit method – showed that healthy thin people were more likely to automatically associate negative attributes with fatness (Ahern and Hetherington, 2006; Schwartz et al., 2006).

Our findings confirmed that pathologically slim body shape is not associated with positive values and only thinness is not a key element in restrictive AN. Although ultra-thin role models play a dominant role in the media, it seems that the continuous exposure to the very slim body figure alone is not enough to develop a pathological restrictive eating (Buree et al., 1984). Future research should perhaps focus on investigating the effect of the social context surrounding these celebrity role models, rather than only their body shape. Since ultra-slim body itself does not represent any positive value for the anorexic patients, then slimness might be just a simple “tool”, which may help in achieving all the desired attention and success from the environment.

Our results also showed that the attractive ideal body shape had a positive value on the implicit level in both groups. However, on the self-report scale, AN patients were less appreciative of the ideal body figure than the control group.

On the one hand, this result may be due to the fact that AN patients would choose a slimmer but not an ultra-thin body figure as an ideal. On the other hand, we should consider that AN patients might have an overall negative association with everything related to body figure or body shape. Particularly, regarding the thin body figure, which might be associated also with negative emotions in AN, such as jealousy or hopelessness. This second idea has been supported by the fact that, in contrast to the patient group, the control participants implicitly evaluated the ultra-thin body as positive.

Secondly, we wanted to investigate the representations of body figure and the role of mood and various dimensions of body image attitudes in body evaluations.

The “drive for thinness” and “body dissatisfaction” dimensions of the EDI are correlated negatively with the normal body figure in the AN group and with the overweight body figure in the control group. The desire to lose weight appears to be an important motivation in both groups; indeed, we found a difference only for the reference body shape. In other words, it seems that AN patients would like to be slimmer without having any ideal body silhouette as a reference, while control participants would like to lose weight in reference to the overweight silhouette in order to reach their ideal shape. These results raise other questions considering weight regulation in women. Why did underweight patients report significantly more drive to lose weight than control women when they did not show a more positive automatic association with ultra-thin body shapes? And what other variables might contribute to the drive for thinness and weight loss in young women in general?

No relationship was found between body evaluations, depression and anxiety in the AN group, which means that negative mood did not affect body evaluations in the patient group. This suggests that we should investigate other factors beyond negative mood underlying the drive for excessive weight loss, which is characteristic of anorexia nervosa.

One limitation of our study should also be discussed. Consistent with the literature, the Affective Priming paradigm is a commonly used implicit tool in research; however, it is influenced by individual differences, and its internal validity and test–retest reliability are still discussed in different studies (Egloff and Schmukle, 2002). As it is the first time that the Affective Priming Test using different body silhouettes as primes has been applied in clinical research, we cannot rely on the previous studies to provide definite answers for our questions. Therefore, we must be careful in interpreting our results when using affective priming with visual primes composed by different body silhouettes.

Our overall finding is that restrictive anorexia nervosa is characterised by strong negative associations with fatness, and these associations may be the outcomes of activation mostly from memory, and personal cognitive schemas (Gawronski et al., 2007). This association may stem from a previous pressure for weight control or weight loss or negative image of fatness that originated from a very close person (such as parents, peers or dating partners) in a sensitive moment of the patient's life.

In summary, this research does support the idea of negative evaluations of the overweight in restrictive AN, which negative evaluation cannot be explained by depression or anxiety. These findings suggest that patient therapy should involve challenging the internalized cognitive schemas built around faulty thinking and beliefs considering body shapes, particularly focusing on the negative association with fatness independently from mood or anxiety.

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Appendix A

Affective Priming stimuli (translated from French language).

Positive targets	Negative targets
Delighted	Furious
Happy	Scared
Exalted	Depressed
Smiley	Sorrowful
Jolly	Demoralized
Euphoric	Plaintive
Enchanted	Hostile
Charmed	Panicked
Joyful	Irascible
Fascinated	Distressed
Satisfied	Anxious
Passionate	Stricken

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