



Gender differences in weight-related and non-weight-related appearance concerns in a community sample

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Abstract

Objective: This study aims to investigate body image dissatisfaction in a community sample of men and women with the purpose of identifying whether concerns are consistent with typically 'weight-related' and/or 'non-weight' body parts, and how concerns relate to negative emotionality. **Method:** Two hundred twenty-six participants completed an online survey battery. **Results:** Women experienced greater dissatisfaction with their bodies than men, with differences in specific body parts that resulted in dissatisfaction. Women experiencing high levels of concern with appearance reported very low satisfaction with body parts commonly endorsed by individuals with anorexia nervosa (i.e., weight related), rather than body dysmorphic disorder (i.e., non-weight related). Men reported greater negative emotionality when they endorsed very low satisfaction with one or more body parts compared to women. Both genders reported negative emotionality when concern with appearance reached high levels. **Conclusions:** Findings suggest that for women, weight-related concerns are represented in the general community along a continuum, whereas, non-weight related appearance concerns, i.e., concerns consistent with body dysmorphic disorder, may not exist on the same continuum. In the future, it would be useful to determine the proportion of individuals who seek mental health services related to or unrelated to negative emotionality and/or weight-related body image concerns.

Key words: anorexia nervosa, anxiety, body dysmorphic disorder, body image, depression, stress

Humans are visual beings, with a long history of attempts to change appearance to conform with social or religious ideals, to try to stand out from the crowd, or simply to look 'good' (Castle, Rossell, & Kyrios, 2006). The way we look at and feel about our bodies can have significant consequences for our quality of life. Indeed, clear evidence links body image attitudes and psychosocial functioning. Negative attitudes associated with body image have been linked to poorer psychological adjustment, diminished self-esteem, increased depression, anxiety, emotional instability, and impaired sexual functioning (Cash & Fleming, 2002; Donaghue, 2009; Grilo & Masheb, 2005; Matz, Foster, Faith, & Wadden,

2002). Body image has been operationalised as a multidimensional construct consisting of physiological, psychological (thoughts, feelings, awareness of, and attitudes towards one's body), and sociological components (Cash & Pruzinsky, 2002; Parks & Read, 1997; Roberts, Cash, Feingold, & Johnson, 2006).

Body concerns are common and can be the result of a distortion in perception, behaviour, or cognition and affect related to appearance, body weight, and shape. In the majority of individuals, these concerns do not reach levels indicative of clinical distress, and do not result in pathological preoccupation or impair function. In some cases, however, body image can be such an important aspect of an individual's self-concept that concern regarding body image or appearance can result in harmful social, psychological, and physiological problems. Body dissatisfaction represents a global component of attitudinal body image and can be defined as the difference between what an individual endorses as their perceived body (i.e., what they believe their body looks like), and their ideal body (i.e., what they would like their body to look like) (Johnson & Wardle, 2005).

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File S1 Fifteen items added to the Body Esteem Scale. General: Toes, hands, knees, body symmetry, elbow, ankle, hair, teeth, tongue, fingers. Men: scrotum, penis. Women: labia, clitoris, vagina.

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There are two categories of illness described in the Diagnostic and Statistical Manual (DSM) 5 that relate to concern with body image. The first describes body image concern in the context of eating disorders such as anorexia nervosa and bulimia nervosa. Individuals diagnosed with an eating disorder typically fulfill criteria related to perceptions of weight, i.e., thinness versus fatness, and preoccupations which target overall body weight and shape, and the appearance of areas such as stomach, buttocks, hips, and thighs (i.e., areas of the body associated with weight deposits). The other illness describing body image concerns in the DSM-5 is body dysmorphic disorder (BDD). Individuals with a diagnosis of BDD typically describe perceptions concerning defects in appearance (Castle & Rossell, 2006; Phillips, McElroy, Keck, Pope, & Hudson, 1993), usually focused on specific body parts such as facial features, genitals, or feet. Importantly, the target of concern for individuals diagnosed with BDD is non-weight related, i.e., concern with the feet and/or toes or facial features such as nose size or symmetry, etc.

While the DSM 5 reflects body image concerns within distinct categories of either the eating disorders (e.g., weight-related concerns) or BDD (non-weight-related appearance concerns), research has also revealed that there may be a spectrum of weight-related and non-weight related concerns experienced by individuals with eating disorders. In an investigation of individuals with eating disorders, it was revealed that 39% ($n = 16$) of individuals with a diagnosis of anorexia nervosa suffered from comorbid BDD, whereby dysmorphic concerns were unrelated to weight and shape (Grant, Kim, & Eckert, 2002). There was a high level of dissatisfaction with non-weight-related body features such as skin, hair, and nose for these individuals (25.0 to 56.3%), which are characteristic of the type of concerns associated with BDD. These results suggest in eating disorder populations where weight-related concerns are primary, non-weight related concerns typically associated with BDD may co-occur more frequently than previously thought. Nevertheless, it has also been reported that individuals with BDD report more body image impairment than those with eating disorders including greater dissatisfaction with their face and hair than gender matched controls (Hrabosky *et al.*, 2009; Phillips *et al.*, 1993). Others have also shown that body weight and shape is less often a concern for individuals with BDD when compared to eating disorder groups (Rosen & Ramirez, 1998).

Body image concerns are not limited to those suffering from clinical conditions such as BDD or eating disorders. Indeed, differences between men and women in terms of their degree of body shape dissatisfaction are well documented in the general population. In a comprehensive meta-analysis of gender differences, Feingold and Mazella (1998b) examined 222 studies conducted over a 50-year period revealing that appearance satisfaction among women and

men have become increasingly disparate. Women's dissatisfaction increased over time, and was significantly higher in comparison to men. Consistent with this, an investigation among college students revealed that women had more negative body image evaluations, greater investment in appearance and more frequent cross-situational body image dysphoria than men (Muth & Cash, 2006). Greater body image dissatisfaction among women has also been reported in a sample of adolescent psychiatric inpatients (Barry & Grilo, 2002).

While cultural factors are considered to influence girls and women to be more attentive to, and psychologically vested in their physical appearance when compared to men (Cash & Pruzinsky, 2002; Fallon & Rozin, 1985; Paquette & Raine, 2004), men are facing increased pressure to control their size and shape. A 1988 study revealed that 4.4% of women wanted to become bigger compared with 46.8% of the men sampled (Silberstein, Striegel-Moore, Timko, & Rodin, 1988) suggesting for men, an emphasis on a large and muscular physique rather than extreme thinness. Women have also been reported to desire smaller stomachs, thighs, legs, and a larger breast size (Stiman, Leavy, & Garland, 2009). In a small British sample, 47 men and 55 women aged between 18 and 35 rated their level of satisfaction across a number of body parts (Furnham & Greaves, 1994). Compared to women, men wished to change their upper body strength (biceps, chest, and shoulders) and to disguise shoulder width. Compared to men, women scored lower on satisfaction with thighs, buttocks, and hips, and wanted to change these areas as well as their stomach, legs, and weight.

There is an established literature on body image disturbances in clinical settings and the general population (McLean, Paxton, & Wertheim, 2013; Miller *et al.*, 2000; O'Dea & Amy, 2011; Wade & Tiggemann, 2013; Wilksch & Wade, 2009; Yager & O'Dea, 2010). Indeed, empirical evidence shows that individuals with clinically significant body image concerns present more often than thought with both BDD and an eating disorder, suggesting that there may be a continuum of appearance-related concerns rather than distinct clinical disorders (Grant *et al.*, 2002). Our aim, was to extend this literature in a general community sample to understand specific differences between women and men's experiences of weight-related and non-weight related appearance concerns, and to ascertain whether the concerns experienced exist along a spectrum consistent with eating disorders (i.e., typically weight-related concerns) and/or BDD (i.e., typically non-weight related concerns). Clarifying whether weight and non-weight-related concerns for men and women are along a continuum will support a rationale for research into mechanisms and treatment that is consistent with a symptom-based (dimensional/continuum) approach, or rather consistent with current etiological/diagnostic entities.

METHODS

Participants

All participants were living in Australia at the time of the survey, independent of where they were born. Inclusion criteria required that individuals were currently living in Australia, English speaking, and between the ages of 18 and 40. Participants who did not fulfil these criteria were excluded. Participation was voluntary and was not incentivised. All participants provided consent to participate, and the study was approved by the human ethics committee at Swinburne University of Technology.

Procedure

A battery of questionnaires was placed on a survey platform called *Opinio* (<http://opinio.en.softonic.com>). Participants were recruited to the site via global invitations posted on various online community forums/websites. The postings on community websites and social media (e.g., university websites, Facebook, Gumtree) contained a hyperlink to the online survey battery. The entire survey took 15–20 min to complete. The initial items included: age, gender, education, height, weight, nationality, and ethnicity.

Body image satisfaction was assessed via the Body Esteem Scale (BES) (Franzoi & Shields, 1984). The BES is a 50-item questionnaire designed to quantify degree of satisfaction with various body parts and processes (e.g., waist, body build, chin, ear, etc.) with each item rated on a 5-point Likert scale ranging from 1 (have strong negative feelings, or low satisfaction) to 5 (have strong positive feelings, or high satisfaction). Total scores for the BES range between 50 and 250, with higher scores indicating greater body satisfaction. We were interested in members of the community who experience strong levels of concern with body image. To index these individuals, we chose to focus on those who endorse items with ‘strong negative feelings or low satisfaction’ (e.g., a rating of ‘1’). Other possible ratings included moderately negative feelings (2), or, neutral (3), moderate (4), or strong (5) positive feelings. The BES has previously been demonstrated to have good convergent and discriminant validity as well as good 3-week test–retest reliability among adult populations. The BES has been shown to be internally consistent in adolescents and adults with Cronbach’s alpha ranging from .75 to .96 (Franzoi, 1994; Mendelson, Mendelson, & White, 2001). In an adaptation from the original version of the BES, 15 additional body parts were added (please see supplemental information for a list of additional parts) to provide a more comprehensive list. Previous researchers have also included additional items to a version of this questionnaire (Furnham & Greaves, 1994). As we did not generate an overall BES score or averages, we did

not provide information regarding internal consistency (Cronbach’s alpha) for the BES with additional items.

The Dysmorphic Concerns Questionnaire (DCQ) (Oosthuizen, Lambert, & Castle, 1998) was also included in the survey battery. The DCQ is a 7-item questionnaire measuring extent of concern with physical appearance (each item rated 0–3, with 3 being most concerned). The items cover: concern with physical appearance; belief in being misshapen or malformed; belief in bodily malfunction (e.g., malodour); consultation with cosmetic specialists; having been told by others that you are normal looking, but not believing them; spending excessive time worrying about appearance; and spending a lot of time covering up ‘defects’ in appearance. The DCQ is a dimensional measure of appearance concern, and has been used in a number of clinical settings (Jorgensen, Castle, Roberts, & Groth-Marnat, 2001; Kisely, Morkell, Allbrook, Briggs, & Jovanovic, 2002; Oosthuizen et al., 1998). DCQ scores correlate strongly with scores on the Body Dysmorphic Disorder Examination, a reliable and valid measure of BDD (Pavan et al., 2008). A DCQ cut-off score of 9 is considered indicative of BDD (Mancuso, Knoesen, & Castle, 2010); however, the DCQ does not assess BDD per se but instead assesses both ‘clinical’ and ‘subclinical’ appearance concerns without prejudice as to aetiology or nosology (Oosthuizen et al., 1998). The DCQ has been reported to have good psychometric properties including internal consistency (ranging from Cronbach’s alpha 0.73–0.85) (Jorgensen et al., 2001; Mancuso et al., 2010).

Negative emotionality was assessed using the 21-item version of the Depression, Anxiety Stress Scales (DASS) (Lovibond & Lovibond, 1995). The DASS is a quantitative measure of distress along the three axes of: depression, anxiety (symptoms of psychological arousal), and stress (cognitive, subjective symptoms of anxiety). It is not a categorical measure of clinical diagnoses. The DASS has been shown to have excellent internal consistency and temporal stability in clinical (Bieling, Antony, & Swinson, 1998; Brown, Chorpita, Korotitsch, & Barlow, 1997; Henry & Crawford, 2005).

Statistical analyses

Chi-square analyses were conducted to assess the frequency of BES items that were endorsed by women and men with ‘very low satisfaction’. Spearman’s rho correlations were used to assess relationships between the number of concerned body parts endorsed by women and men with ‘very low satisfaction’ and negative emotionality (e.g., depressive, anxiety, and stress symptoms via DASS scores). The mean and standard deviation (*SD*) of negative emotionality scores for the sample (men and women) were also calculated (Table 1). Associations between the number of concerned body parts endorsed by men and women with ‘very low satisfaction’ and concern with appearance, as well as the

Table 1 Demographic information

	Men	Women
Age N, M (SD)	63, 23.81 yrs (5.14)	162, 26.03 yrs (6.21)
Country of origin		
Australia	60 (93.8%)	144 (88.9%)
Other	4 (6.2%)	18 (11.1%)
Education level		
Completed university	13 (20.3%)	65 (40.4%)
TAFE	0 (0.0%)	1 (0.6%)
Certificate or Diploma	11 (17.2%)	23 (14.2%)
Year 12	30 (46.9%)	51 (31.5%)
<year 12	9 (14.1%)	21 (13.0%)
DASS severity (M, SD)		
Stress	47/3.62/1.31	122/3.93/1.14
Anxiety	47/4.34/0.87	122/4.46/0.79
Depression	47/4.08/0.92	122/4.14/0.95

Scores for DASS are out of 5, 1 = normal, 2 = mild, 3 = moderate, 4 = severe, 5 = extremely severe. DASS = Depression, Anxiety Stress Scales; TAFE = technical and further education.

relationship between concern with appearance and negative emotionality for men and women were conducted. To reduce the risk of type II errors consequent upon multiple comparisons, a reduced alpha of $P < .01$ was used for correlational analyses. Mann–Whitney U -test was used to determine whether there was a difference in the number of body parts endorsed with very low satisfaction for women who experience high compared with low levels of concern with their appearance. The high-concern group contained those individuals who scored 9 or above on the DCQ. There were insufficient respondents to carry out this analysis for men. In a subsequent Chi-square analysis, we assessed the type of body part endorsed by women who experienced high compared with low levels of concern with appearance.

RESULTS

Prior to the analyses, 50 participants were excluded for incomplete datasets, and a further 38 were excluded because they did not fulfil age or abode requirements. The final analyses were conducted on 226 participants: 162 were female, ($M_{\text{age}} = 26.03$ years, $SD_{\text{age}} = 6.21$ years) and 64 male were male ($M_{\text{age}} = 63$, 23.81 years, $SD_{\text{age}} = 5.14$ years). The majority of males ($n = 60$) and females ($n = 144$) reported Australia as their country of origin. The majority of males ($n = 54$) and females ($n = 140$) attained a level of education of at least year 12 (final year).

Body parts endorsed with 'very low satisfaction' by women and men

Scores for men and women for each item of the BES are shown in Table 2. For women, the mean (SD) score for

Table 2 Means and standard deviation scores for each item on the Body Esteem Scale

Items	Males $n = 64$		Females $n = 162$	
	Mean	SD	Mean	SD
Nose	3.32	0.95	3.34	1.06
Lips	3.64	0.80	3.78	0.84
Waist	3.06	1.19	2.68	1.34
Thighs	3.21	1.05	2.25	1.14
Ears	3.51	0.95	3.48	0.91
Biceps	3.39	0.88	2.88	1.01
Chin	3.61	0.77	3.02	0.99
Body build	3.19	1.07	2.62	1.22
Buttocks	3.28	0.97	2.91	1.21
Shoulder width	3.86	0.94	3.22	1.04
Arms	3.70	0.97	2.76	1.06
Chest/breasts	3.16	1.06	3.24	1.24
Eyes	3.92	0.99	4.17	0.88
Cheeks/Cheekbones	3.61	0.81	3.59	1.00
Hips	3.30	0.90	2.83	1.11
Legs	3.51	1.00	2.65	1.21
Figure/Physique	3.19	1.00	2.69	1.24
Feet	3.23	1.02	2.95	1.08
Toes	3.06	1.10	2.87	1.03
Stomach	2.64	1.19	2.09	1.41
Health	3.21	1.07	3.11	1.14
Body hair	3.28	1.11	2.63	1.08
Hair	3.66	1.01	3.69	1.05
Face	3.39	0.95	3.32	1.03
Weight	3.19	1.22	2.54	1.30
Teeth	3.14	1.15	3.18	1.20
Tongue	3.48	0.76	3.34	0.84
Fingers	3.54	0.96	3.41	1.06
Males: Penis	3.75	1.02	–	–
Males: Scrotum	3.78	0.85	–	–
Females: Labia	–	–	3.14	0.84
Females: Clitoris	–	–	3.35	0.79
Females: Vagina	–	–	3.31	0.86
Hands	3.69	0.86	3.47	1.00
Back/Spine	3.43	1.00	3.15	1.04
Knees	3.25	0.78	2.88	0.98
Body symmetry	3.39	0.90	3.25	0.97
Elbow	3.40	0.83	3.23	0.80
Ankle	3.37	0.79	3.22	0.96

Scores are out of 5, 1 = have strong negative feelings to 5 = have strong positive feelings.

stomach (2.09, 1.41), thighs (2.25, 1.14), and weight (2.54, 1.30) was 'moderately negative' (e.g., a score of 2). For men, the mean (SD) score for stomach (2.64, 1.19) tended between 'moderately negative' (e.g., a score of 2) and 'have no feeling one way or the other' (e.g., a score of 3).

Chi-square analyses were conducted to examine whether men and women differ according to body parts that were endorsed with 'very low satisfaction'. This was completed using the number of '1' responses (representing very low satisfaction) each group (women or men) reported for each body part (Table 3). Significant differences between women and men are highlighted in Table 3. In the instance that no participant in either gender group endorsed a particular

Table 3 Chi-square analysis of gender and body esteem scores, indicating prevalence of very low satisfaction

Measure	Male		Female		χ^2 (df)	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Nose	2	3.2	8	5.0	2.91 (4)	.583
Lips	0	0.0	1	0.6	10.00 (4)	.031
Waist	5	8.1	37	23.0	10.99 (4)	.027
Thighs	4	6.3	47	29.2	37.44 (4)	.001
Ears	2	3.2	4	2.5	0.56 (4)	.973
Biceps	0	0.0	14	18.7	14.44 (4)	.005
Chin	0	0.0	11	6.8	19.34 (4)	.001
Body build	3	4.7	36	22.2	14.39 (4)	.004
Buttocks	2	3.1	22	13.8	18.17 (4)	.001
Width of shoulders	1	1.6	7	4.3	18.56 (4)	.001
Arms	1	1.6	17	10.8	36.50 (4)	.001
Chest or breasts	3	4.7	18	11.5	10.11 (4)	.038
Eyes	0	0.0	2	1.2	13.40 (4)	.009
Cheeks/cheekbones	0	0.0	5	3.1	12.69 (4)	.011
Hips	1	1.6	19	12.1	19.76 (4)	.001
Legs	1	1.6	30	18.6	34.77 (4)	.001
Physique	1	1.6	28	17.3	18.76 (4)	.001
Feet	5	7.8	17	10.7	5.47 (4)	.242
Toes	9	14.1	15	9.4	11.94 (4)	.018
Stomach	12	18.8	62	38.3	11.85 (4)	.016
Hair	3	4.7	3	1.9	15.43 (4)	.003
Body hair	5	7.8	24	14.9	18.76 (4)	.001
Face	1	1.6	9	5.6	5.28 (4)	.264
Weight	4	6.3	42	25.9	16.73 (4)	.001
Teeth	5	7.9	15	9.4	1.49 (4)	.835
Tongue	0	0.0	3	1.9	3.77 (4)	.448
Fingers	1	1.6	6	3.8	2.91 (4)	.582
Males—Scrotum	3	4.7	—	—	—	—
Males—Penis	1	1.6	—	—	—	—
Female—Labia	—	—	7	4.4	—	—
Females—Clitoris	—	—	3	1.9	—	—
Female—Vagina	—	—	3	1.9	—	—
Hands	0	0.0	7	4.4	4.45 (4)	.359
Back/Spine	1	1.6	11	6.8	4.25 (4)	.313
Knees	0	0.0	12	7.5	10.79 (4)	.027
Body symmetry	0	0.0	7	4.4	3.62 (4)	.475
Elbow	1	1.6	5	3.1	2.12 (4)	.734
Ankle	1	1.6	9	5.6	3.64 (4)	.466

Bold data in the *p* significance column indicates a significant difference.

question with very low satisfaction (e.g., '1'), analyses were not conducted. For women, areas of common dissatisfaction (i.e., endorsed by at least 20% of those sampled) that were greater than men included: waist (23%), thighs (29.2%), build (22.2%), stomach (38.3%), and weight (25.9%). For men, the area of concern that was most often endorsed with very low satisfaction was stomach (18.8%), although this was not greater than the level of dissatisfaction endorsed by women (38.3%). Areas with which men were more dissatisfied than women included toes (14.1%) and hair (4.7%).

Is there a relationship between negative emotionality and the endorsement of body parts with 'very low satisfaction' for women and men?

The data that were used for correlation's between the number of body parts endorsed with 'very low satisfaction' by men and women, and depressive, anxiety, and stress symptoms (DASS scale scores) came from 47 men (73.4%) who endorsed at least one body part with 'very low satisfaction', and 123 women (75.9%) who endorsed at least one body part with 'very low satisfaction'.

There was a positive correlation between anxiety and the number of body parts endorsed with 'very low satisfaction' for men, $r = 0.282$, $p = .027$ and for women, $r = 0.259$, $p = .002$. There was a moderate positive correlation between stress symptoms and the number of body parts endorsed with 'very low satisfaction' for men, $r = 0.574$, $p = .001$ but not for women, $r = 0.194$, $p = .016$. Fisher's transformation showed that these two correlations were significantly different ($z = 2.59$, $p = .010$). There was a positive correlation between depressive symptoms and the number of body parts endorsed with 'very low satisfaction' for men, $r = 0.398$, $p = .003$ and for women, $r = 0.261$, $p = .002$; these were not significantly different ($z = 0.87$, $p = .384$).

For men and women who endorse high levels of concern with their appearance, which body parts are experienced with very low satisfaction?

Eighty-nine out of 130 (68.5%) women endorsed a *high degree* of concern with appearance (e.g., equal to or above the DCQ cut-off score of 9) and 41 (31.5%) endorsed a *low degree* of concern with appearance. Seven out of 64 (1.5%) men endorsed a high degree of concern with appearance and the remainder endorsed a low degree of concern with appearance. A moderate positive correlation between the number of body parts endorsed with 'very low satisfaction' and dysmorphic concern (DCQ score) was revealed for women ($r = 0.434$, $p = 0.001$), and a weaker positive correlation for men ($r = 0.36$, $p = .007$).

Mann-Whitney *U*-test revealed that the number of body parts endorsed with 'very low satisfaction' by women was significantly higher for those who experience high levels of concern with their appearance (mean rank 78.70) compared with lower levels of concern (mean rank 50.17) ($U = 984.50$, $Z = -4.452$, $p = .001$). There were insufficient respondents to carry out this analysis for men.

Chi-square analyses were conducted to examine whether women who experience high levels of concern, differ according to the type of body parts that were endorsed with 'very low satisfaction' when compared with women who experience low levels of concern. Significant group differences are highlighted in Table 4. In the instance that no participant in either group endorsed a particular question with very low satisfaction (e.g., '1'), analyses were not conducted. For women with high levels of concern with appearance, areas of common dissatisfaction (i.e., endorsed by at least 20% of those sampled) included: thighs (47.1%), build (39.2%), buttocks (24.0%), arms (20.4%), hips (26.0%), legs

Table 4 Chi-square analysis of *high and low* dysmorphic concern with appearance and body esteem scores, indicating prevalence of very low satisfaction for females

Body part	High dysmorphic concern		Low dysmorphic concern		χ^2 (df)	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
Nose	7	13.7	1	1.4	24.03 (8)	.002
Lips	1	2.0	0	0.0	8.99 (8)	.299
Waist	18	35.3	10	14.1	10.90 (8)	.202
Thighs	24	47.1	15	21.1	20.31 (8)	.011
Ears	3	5.9	0	0.0	8.92 (8)	.334
Biceps	7	13.7	4	5.6	5.75 (8)	.695
Chin	6	11.8	3	4.2	11.45 (8)	.175
Body build	20	39.2	9	12.5	16.52 (8)	.040
Buttocks	12	24.0	5	7.0	25.58 (8)	.002
Width of shoulders	4	7.8	1	1.4	10.98 (8)	.197
Arms	10	20.4	4	5.7	18.01 (8)	.022
Chest or breasts	11	22.4	2	2.9	14.22 (8)	.076
Eyes	2	4.0	0	0.0	7.48 (8)	.471
Cheeks/cheekbones	3	5.9	0	0.0	12.26 (8)	.138
Hips	13	26.0	3	4.3	19.01 (8)	.014
Legs	18	36.0	6	8.3	19.88 (8)	.012
Physique	16	31.4	7	9.7	18.90 (8)	.017
Feet	8	15.7	5	7.0	11.29 (8)	.187
Toes	10	19.6	4	5.6	13.45 (8)	.094
Stomach	28	54.9	18	25.0	18.52 (8)	.022
Hair	3	6.0	0	0.0	8.05 (8)	.443
Body hair	12	24.0	6	8.3	8.23 (8)	.415
Face	7	13.7	0	0.0	16.63 (8)	.036
Weight	23	45.1	8	11.1	28.52 (8)	.001
Teeth	11	22.0	2	2.9	13.93 (8)	.082
Tongue	0	0.0	0	0.0	10.65 (8)	.216
Fingers	4	11.8	16	22.2	22.48 (8)	.005
Female—Labia	5	10.2	2	2.8	13.93 (8)	.089
Females—Clitoris	3	5.9	0	0.0	15.93 (8)	.050
Female—Vagina	3	5.9	0	0.0	19.30 (8)	.021
Hands	5	10.0	1	1.4	20.20 (8)	.012
Back/Spine	7	13.7	1	1.4	14.75 (8)	.047
Knees	7	14.0	2	2.8	16.65 (8)	.036
Body symmetry	7	13.7	0	0.0	18.24 (8)	.022
Elbow	4	7.8	0	0.0	13.57 (8)	.096
Ankle	6	11.8	0	0.0	21.86 (8)	.009

Bold data in the *p* significance column indicates a significant difference.

(36.0), physique (31.4), stomach (54.9), and weight (45.1%). For women with low levels of concern with appearance, there were no body parts that were endorsed more often than women with high levels of concern. The body parts that were most often endorsed with very low satisfaction were: thighs (21.0%), stomach (25.08%), and fingers (22.5%).

For women, the degree of concern with appearance was weakly positively correlated with depressive ($r = 0.379$, $p = 0.001$) and stress symptoms ($r = 0.326$, $p = 0.001$), with a moderate positive association with anxiety ($r = 0.415$, $p = 0.001$) symptoms. For men, the degree of concern with appearance was moderately positively correlated with depressive ($r = 0.457$, $p = 0.001$), anxiety ($r = 0.486$, $p = 0.001$) and stress symptoms ($r = 0.422$, $p = 0.001$).

DISCUSSION

Self-evaluation of physical appearance and body esteem has been established as key correlates of self-worth and mental health. The first aim was to explore whether men and women differ in their satisfaction regarding particular body parts, and whether body parts endorsed with very low satisfaction are typically weight or non-weight related. Resultant body parts endorsed with dissatisfaction/low satisfaction that reached statistical significance were subsequently assessed according to evidence for weight and non-weight-related body image concerns, as reported by individuals with a diagnosis of eating disorders or BDD. Parts of the body typically the focus of concern in eating disorders are considered weight related (i.e., stomach, thighs, buttocks), and

those areas that are typical of BDD tend to include non-weight-related concerns (i.e., toes, feet, nose, symmetry of the body).

For women, the areas of common dissatisfaction included: waist, thighs, build, stomach, and weight. These body parts are consistent with typically weight-related areas of concern. Previous research has similarly demonstrated that women compared to men experience higher ratings of dissatisfaction with their abdomen, body weight, thigh, buttocks, hips (Furnham & Greaves, 1994), and muscle tone (Garner, 1997). Again, previous research has also shown that women reported a desire to have smaller stomachs and thighs (Stiman et al., 2009). Our findings are thus consistent with research demonstrating significant differences between men and women with regard to body image concerns, such that women typically report higher dissatisfaction than men in relation to a range of body parts that tend to be weight related (Feingold & Mazzella, 1998a; Muth & Cash, 2006). The regions endorsed with dissatisfaction are also consistent with weight and shape-related concerns typically reported in eating disorders, including ANOREXIA NERVOSA. Interestingly, all the body parts for women that showed very low satisfaction were not areas common in BDD. BDD obsessions tend to relate to the facial features and less commonly thighs, stomach, and breasts. Thus, it would appear from this cohort that body image concerns for women tend to be consistent with eating disorder/weight-related concerns, rather than those consistent with areas typically endorsed in BDD.

For men, there were few areas of dissatisfaction reported suggesting that they tend to be more satisfied with their body parts overall. Nevertheless, a small proportion did report greater dissatisfaction than women regarding their toes and hair, which is in keeping with BDD type features.

We also assessed whether there was a relationship between negative emotionality and those who experienced very low satisfaction in relation to at least one body part. There was a moderately positive association between men who endorsed body parts with very low satisfaction, and the experience of stress symptomatology. While the level of negative emotionality is not clinically diagnostic, negative emotionality was greater than what might be expected in the general population (see Table 1). It is possible that this finding reflects the type of men who are interested in volunteering for this type of research. We also found an association between concern with appearance and depressive, anxiety and stress symptoms in men. The relationship between negative emotionality and very low satisfaction with at least one body part, as well as negative emotionality and concern with appearance suggests that body image dissatisfaction and mood should be further investigated to determine how prevalent these experiences are in

community-based samples. In future, it would be meaningful to understand with larger samples whether negative emotionality associated with very low body dissatisfaction is linked to weight and/or non-weight-related body image concerns.

For women, it is not clear why we did not find a stronger relationship between negative emotionality and the endorsement of body parts with very low satisfaction. Despite it being well established that there is a female bias in the prevalence of individuals diagnosed with major depressive disorder (Furnham & Greaves, 1994), in this study, there were relatively similar reports of mood and affect related symptoms across men and women. We found a relationship between the level of concern with appearance and body image dissatisfaction. For women with high levels of concern with appearance, particular body parts that were endorsed with very low satisfaction included: thighs, build, buttocks, arms, hips, legs, physique, stomach, and weight. It is noteworthy that women who scored high on concern with their appearance, endorsed body parts that are consistent with weight-related concerns (e.g., areas consistent with eating disorders), but not with non-weight-related features that may typically be endorsed by individuals who experience BDD.

Finally, for women there was a moderately strong association between concern with appearance and anxiety symptoms. These findings suggest that, for women, although they tend to endorse very low satisfaction with more body parts than men, having a high level of concern with their appearance is associated with negative emotionality (e.g., anxiety symptoms).

In the context of generalisability and representativeness of the sample, limitations of the current study included that a large proportion of individuals were not ultimately included in the study due to incomplete data sets or not meeting inclusion criteria for age or abode. In addition, our sampling strategy employed a self-selection method. Although there might have been bias in the sense that people with a particular interest in body image might have been most likely to respond, this does not compromise the nature of the analyses we have presented. The sample also included twice as many women than men, and a predominantly young adult population ($M = 25.4$ years). The majority of the sample was Australian born which allows for relative confidence in generalising the results within a young Australian context, however, replication in larger and more representative samples across different ethnocultural groups, is required to establish generalisability of the findings. In addition, factors such as self-esteem (Furnham & Greaves, 1994), sexual orientation (Siever, 1994), ethnicity (Cash, Morrow, Hrabosky, & Perry, 2004), and relationship status may also independently influence body dissatisfaction, and should be considered in future research.

This study provides evidence for divergent body image concerns for weight related compared with non-weight related concerns for women and men. There was a gender difference regarding dissatisfaction with particular body parts, broadly consistent with other, international based studies. Specifically, women experienced body image dissatisfaction regarding weight-related body parts similar to those endorsed by individuals with an eating disorder (e.g., anorexia nervosa), but not BDD. We also found a relationship between negative emotionality (depressive and stress symptoms) and the endorsement of body parts with very low satisfaction in men, but this was not the case for women. Nevertheless, for women, high levels of concern with appearance (rather than the sole presence of very low satisfaction with body parts) were associated with negative emotionality (e.g., anxiety symptoms). These findings in particular suggest that for women in the general community, concern with particular body parts are consistent with features of eating disorders rather than features of BDD. Future research should investigate whether for men, the tendency towards endorsing non-weight-related body parts with very low dissatisfaction, is also represented in individuals who experience high levels of concern with appearance.

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