

Current conceptualisation of body image dissatisfaction: have we got it wrong?

Marion Kostanski,¹ Adrian Fisher,¹ and Eleonora Gullone²

¹Victoria University, Australia; ²Monash University, Australia

Background: This study addresses limitations of previous research by examining the prevalence of body image dissatisfaction within two developmental periods: childhood and adolescence. **Methods:** A sample of 448 boys and 508 girls completed self-report measures of global body image dissatisfaction. Weight and height of all participants were also determined. **Results:** Our results indicated that body image dissatisfaction differs significantly depending upon sex and body mass. Importantly, the results revealed a multi-modal distribution in the data, particularly for boys. That is, for females there was a significant increase in body dissatisfaction across bodyweight, reflecting a predominant desire to be thinner. In contrast, for boys, there was a differential pattern; with those who were overweight wanting to be thinner, but those who were underweight wanting to be larger. Moreover, whilst for both sexes, body image dissatisfaction was found to be evident in childhood as well as adolescence, during the former developmental period, it appeared to be less pronounced. **Conclusions:** These findings indicate that, contrary to previous propositions, body image dissatisfaction is of concern for males as well as females, although the distribution of such is strikingly different. The outcomes suggest that it is time to reframe our conceptualisation of this construct. Specifically, the identified non-linear distribution of means indicates that inferential analysis of body image dissatisfaction data needs to be conducted independently for each sex, as well as each body mass grouping. **Keywords:** Body image dissatisfaction, measurement, linear analysis, socio-cultural influence, normative ideals, children and adolescence, sex.

Body image dissatisfaction among adolescent and adult groups has been found to be so predominant for women that it is considered to be a normative component of their living within modern Western society (Rodin, Silberstein, & Striegelmoore, 1984). Conversely, the prevalence of body image dissatisfaction among men has previously been reported to be negligible. Extensive research has indicated that socialisation processes (i.e., media, peer, family) are major determinants of these high levels of negative attitudes in women (e.g., Benedikt, Wertheim, & Love, 1998; Levine, Smolak, & Hayden, 1994; Paxton, Shutz, Wertheim, & Muir, 1999; Thompson, Coovert, Richards, Johnson, & Cattarin, 1995; Wertheim, Mee, & Paxton, 1999). The outcomes of research in this area have led many researchers to claim that the socio-cultural norms of Western society serve to place pressure on females to be dissatisfied with their bodies and to have a desire to lose weight, while they serve to keep men satisfied (Fallon & Rozin, 1985; Gralen, Levine, Smolak, & Murnen, 1990; Kenny & Adams, 1994; Maude, Wertheim, Paxton, Gibbons, & Szmukler, 1993; Rodin et al., 1984; Tiggemann & Pennington, 1990; Wertheim et al., 1992).

The predominant belief amongst researchers has been that the manifestation of negative body image attitudes begins during the adolescent years. However, recent research examining body image dissatisfaction during childhood has yielded comparable findings to those obtained with older samples. This research has not only confirmed the existence of

body image dissatisfaction in younger populations, but has indicated that the documented sex differences in body image dissatisfaction are also strongly evident among children (Rolland, Farnhill, & Griffiths, 1997; Shapiro, Newcombe, & Leob, 1997; Thompson, Corwin, & Sargent, 1997; Tiggemann & Wilson-Barrett, 1998; Wood, Becker, & Thompson, 1996). Indeed, as noted by Tiggemann and Wilson-Barrett (1998), the prevailing view of researchers is that body dissatisfaction is an aspect of normative discontent for females, regardless of age.

However, an important theoretical issue highlighted by more recent research (e.g., Muth & Cash, 1997; Silberstein, Streigel-Moore, Timko, & Rodin, 1998) is the potential conceptual bias inherent in much body image research resulting from only examining that component of body image dissatisfaction associated with perceiving oneself as being too fat. As such, much of this research has been assumed to be linear (Muth & Cash, 1997; Thompson, Moody, & Eggert, 1994).

However, as proposed by McCreary and Sasse (2000) and others (Cash & Brown, 1989; Drewnowski & Yee, 1987; Kostanski & Gullone, 1998; Silberstein et al., 1998), this linear approach has meant that the prevailing research may have negated the presence of body image dissatisfaction in males. For example, a study conducted by Drewnowski and Yee (1987) with first year college students revealed that men did express dissatisfaction with their bodies. However, whereas the majority of females (85%) indicated they wished to lose weight, men were

almost evenly split between those who wished to lose weight (40%) and those who wished to gain weight (45%). The proportion of respondents who indicated they had no desire to either lose or gain weight was similar for males and females (i.e., 15% for each sex).

Similarly, Muth and Cash (1997) utilised multiple measures of body image in an evaluation of male-female differences in body image among a sample of 277 college students. They found that body dissatisfaction was present for both sexes, with 22% of males and 40% of females reporting an overall unfavourable body image. As has been found by previous researchers (e.g., Cash, Winstead, & Janda, 1986; Drownowski & Yee, 1987; Silberstein et al., 1988), Muth and Cash also noted that, although there was a linear relationship between body weight, body image evaluation and body affect for females, for males these relationships were curvilinear. That is, whereas females' negative body image attitudes were predominately related to perceptions of being too fat, and some males perceived themselves as being too fat, there were also males who perceived themselves as too thin and expressed a desire to be larger.

One important aspect of accurately determining the prevalence of body image dissatisfaction resides in our ability to measure this construct validly. Thompson (1995) reported that there are close to 100 assessment measures of body image that are currently in use. However, as has been noted by others (e.g., Muth & Cash, 1997; Thompson, Penner, & Altabe, 1990), an important issue that arises in considering the appropriateness of this plethora of instruments is the considerable diversity in the conceptual definition upon which each of these various measures is based. Through empirical evaluation of the various instruments, Cash (1994) found that the construct of appearance-related body image was, both conceptually and empirically, comprised of three distinct components (i.e., evaluation, affective, and cognitive/behavioural investment). Others (e.g., Muth & Cash, 1997; Thompson, Altabe, Johnson, & Stormer, 1994; Williamson, Barker, Bertman, & Gleaves, 1995) have reported similar findings, although the majority do not distinguish between the affective and evaluative components. Indeed these two factors are believed to be comparable.

Within the diverse set of instruments available to measure global body image dissatisfaction, by far the most commonly used has been the Figure Rating Scale (FRS: Stunkard, Sorenson, & Schulsinger, 1983). This measure consists of a series of male or female schematic figures ranging from very thin to very fat. From these figures the participant is generally asked to select the figure which they believe (cognitive) most closely represents their current figure. They are also asked to select the figure which they would ideally like to have. The discrepancy between these two ratings is calculated as a measure of the participant's global body image dissatisfaction.

In contrast to many of the other instruments, the FRS has been extensively evaluated psychometrically. These evaluations (Altabe & Thompson, 1992; Thompson & Psalitis, 1988; Tiggemann, 1996) have indicated that it is both a valid and reliable instrument for the assessment of global body image dissatisfaction as it relates to weight concerns, dieting and psychological well-being. Moreover, the research has found that the instructional format used when administering the FRS enables it to assess two identified components of appearance being (i) affective/emotional and (ii) cognitive/rational (Altabe & Thompson, 1992; Thompson & Dolce, 1989; Thompson & Psalitis, 1988; Tiggemann, 1996). That is, when participants were asked to choose a schematic figure based on how they 'felt' rather than how they 'thought' they currently looked, there was a marked difference in their discrepancy scores. Moreover, on the basis of her data, Tiggemann (1996) concluded that both the affective and cognitive ratings were discrete independent factors and that each type of rating provides important but different information in relation to overall global body image dissatisfaction. Specifically, the affective component (feel) is 'of considerably more significance than just being overweight and thinking one is overweight' (p. 24).

It would appear from some of the more recent literature that the existence of some level of body image dissatisfaction is not, as previously assumed, restricted to particular developmental periods or to females only. Further, its relationship to body mass appears to differ depending upon age and sex. Specifically, negative body image attitudes are prevalent among children as well as adolescents and adults. Also, being too thin is one form of body image dissatisfaction that appears to be more prevalent among males but has received scant attention in previous work. These issues, therefore, raise questions regarding the sophistication of understanding that has been obtained from previous research incorporating the construct of body image dissatisfaction.

The purpose of the current study is to shed light on these previously neglected areas of inquiry. Our specific aims are to explore the diverse nature of body image dissatisfaction as it relates to males and females independently, and also to child and adolescent participants, independently. Given the previously mentioned issues, including the lack of conceptual clarity, the measurement of global body image dissatisfaction for this study incorporates not only assessment relating to concerns with being too fat, but also to concerns with being too thin. Furthermore, to overcome the limitations of past research, which have used measures that are lacking in psychometric information, the current research will utilise two versions of the FRS (one for children and one for adolescents) given that this measure has previously been demonstrated to be reliable and valid. Specifically, this study will assess the prevalence

of both affective/emotional and cognitive/rational body image dissatisfaction in two samples from different developmental periods (i.e., childhood, adolescence). The second major aim will be to comprehensively assess and compare body image dissatisfaction across males and females.

Method

Participants

The sample for this study was selected from two larger studies examining body image dissatisfaction, psychosocial attitudes and eating behaviours in children and adolescents (Kostanski & Gullone, 1998, 1999). Two samples, comprising 431 children (199 males, 232 females) and 515 adolescents (249 males, 276 females), recruited from 10 primary and 6 secondary schools across suburban areas of Melbourne, a large Australian city, were included in the cross-sectional component of this study. The age range for the child sample was 7 to 10 years ($M = 8.4$ years, $SD = .96$) and the age range for the adolescent sample was 12 to 18 years ($M = 14.66$ years, $SD = 1.66$).

Regarding Body Mass Index (BMI), mean body mass index (BMI; weight/height²) for the child sample was calculated to be 16.72 ($SD = 2.3$) for boys and 16.50 ($SD = 4.3$) for girls. For the adolescent sample, mean BMI was calculated to be 21.11 ($SD = 3.3$) for boys and 20.87 ($SD = 4.3$) for girls. Based on Australian norms (Harvey & Althaus, 1993), 25% of the children (21% boys; 28% girls) and 22% of the adolescents (20% boys; 23% girls) were underweight and 22% of the children (19% boys; 24% girls) and 27% of the adolescents (23% boys; 25% girls) were overweight.

Instruments

Figure Rating Scale. Two separate versions of the Figure Rating Scale were used depending upon whether the participant was in the child or adolescent sample. The two versions used are described below.

The Children's Figure Rating Scale (FRS; Collins, 1991): This scale was used with the child sample. It comprises two sets of seven pre-adolescent figure drawings (male and female) ranging from very thin to obese, scored from 1 through to 7 respectively. Participants are required to nominate which figure they *think* looks most like them in the present (cognitive/rational) and which figure looks most like they would like to be (ideal). For this study participants were also asked to nominate which figure looks most like they *feel* in the present (affective). The discrepancy between the actual and ideal measures on each of the affective and cognitive ratings provides an indication of the level of perceived cognitive and affective body image dissatisfaction. As such, overall body image dissatisfaction is reflected as being either related to perceptions of oneself as being too thin (i.e., within a negative range), through zero (no body image dissatisfaction) to perceptions of being too fat (within a positive range).

Regarding reliability of this measure, Collins (1991) reported three-day test-retest correlation coefficients of .71 for current self and .59 for ideal self. Moderately

sized coefficients reported by Collins (1991) demonstrate adequate criterion-related validity through comparison of pictorial figure selections with the child's actual weight and BMI to be .36 and .37 respectively. Similarly, Kostanski, Fisher, and Gullone (2002) reported significant correlations between cognitive and affective body image dissatisfaction with actual weight [Actual weight: (current cognitive: boys $r = .43$, $p < .001$; girls $r = .50$, $p < .001$; current affective: boys $r = .25$, $p < .001$; girls $r = .36$, $p < .001$): whilst Tigge-mann and Wilson-Barrett (1998) reported significant correlations between ratings of current figure and BMI (girls: $r = .53$, $p < .001$; boys: $r = .46$, $p < .001$).

Figure Rating Scale (FRS; Stunkard et al., 1983): The FRS used with the adolescent sample consists of nine figure drawings, ordered from extremely thin to very obese in appearance. As with the child measure described above, adolescent participants were provided with three sets of scales depicting either the male or female form. For each set, participants were asked to nominate (1) which figure they *thought* looked like them; (2) which figure most closely resembled how they *felt*; (3) which figure most closely represented their ideal size. As with the children's version of the FRS, the discrepancy between the *think*, *feel* and *ideal* figures provided measures of cognitive and affective body image dissatisfaction for the adolescent group.

The FRS has been found to have good test-retest reliability over a two-week period (.83 for affective ratings, .71 for ideal size). Validity of the scale for adolescents has also been established. Moderately sized correlations with actual weight (boys $r = .61$ and girls $r = .71$) and with body mass (for boys $r = .75$ and girls $r = .67$) have been reported (Cohn et al., 1987).

Procedure

Following the granting of ethical and education department approval, principals of all schools involved in the study were approached and letters of invitation to consent to their child participating in the study were sent to parents via their children. Youth who received parental consent were then informed of the study and invited to participate. Only one adolescent female refused to participate.

Data were collected on a group basis in a small room allocated by the respective school. Questionnaires were distributed to the children in small groups according to age and class level. The first author, who was responsible for all data collection, was available to answer any questions of clarification that arose during the completion of the questionnaires. Weight and height were recorded for each participant on an individual basis using a small set of pre-calibrated scales and a metal retracting tape. As reported by Taylor (1982), the reliability of these measures lies within a parameter of $\pm .5$ kg for weight, and $\pm .5$ cm for height. Coats, blazers and over-jackets as well as shoes or boots were removed for this process.

Results

The participants were divided into two age groups (children: 7–10 years; adolescents: 12–18 years)

and three BMI groups (underweight, normal weight, overweight) for data analysis. These groups were subsequently compared on the body image variables. Preliminary analysis of the data indicated that it was normally distributed. MANOVA analyses were conducted to examine any differences in body image dissatisfaction scores between males and females as well as the different age and BMI groups. Finally, the participants were divided into two groups based on their sex to examine possible differences across the two groups in patterns of responses across age.

Global body image dissatisfaction

As noted previously, ratings of body image dissatisfaction (i.e., cognitive and affective) are obtained by computing discrepancy scores between each current rating (i.e., think, feel) and the nominated ideal figure. A negative rating indicates that the participant perceives themselves as being too thin whereas a positive rating indicates that the participant perceives themselves as being too fat. As shown in Table 1, total body image dissatisfaction for girls appears to be greater than for boys. Closer inspection of these data indicates that for both child and adolescent girls, body image dissatisfaction ranges from zero within the underweight groups to 2.97 within the overweight groups, thus reflecting a majority disposition towards perceiving oneself as too fat for girls. In contrast, for boys, body image dissatisfaction ranges from $-.24$ within the underweight groups, through to 1.01 within the overweight groups. The fact that the distribution of dissatisfaction scores for boys more strongly reflects their body mass indicates that boys'

dissatisfaction is associated more strongly with their actual weight distribution.

As shown in Table 1, both cognitive and affective dissatisfaction appear to be higher for both adolescent boys and girls in comparison to children. The discrepancy for boys in the adolescent group is more pronounced both negatively (i.e., too thin) and positively (i.e., too fat) in comparison to boys within the child group. The discrepancy for adolescent girls is more pronounced within a positive range (i.e., too fat) in comparison to the child group.

In order to determine whether these differences were significant, a 2 (sex) \times 2 (age-group) \times 3 (BMI) MANOVA with affective and cognitive dissatisfaction as the dependent variables was calculated. With alpha set at .05, this analysis indicated that there were significant multivariate interaction effects for sex by age (Wilk's lambda = .92, $F_{(2,913)} = 34.75$, $p < .001$, $\eta^2 = .07$) and age by BMI (Wilk's lambda = .98, $F_{(4,1826)} = 5.36$, $p < .001$, $\eta^2 = .01$). These findings reflect the more marked increase in dissatisfaction with age for girls in comparison to boys, as well as the overweight children compared to normal weight children, whilst dissatisfaction for the underweight children was found to be slightly reduced. Significant multivariate main effects for sex (Wilk's lambda = .88, $F_{(2,913)} = 60.69$, $p < .001$, $\eta^2 = .12$), age (Wilk's lambda = .92, $F_{(2,913)} = 37.39$, $p < .001$, $\eta^2 = .08$) and BMI (Wilk's lambda = .84, $F_{(4,1826)} = 40.66$, $p < .001$, $\eta^2 = .08$) were also found.

The univariate analyses are shown in Table 2. As can be seen from this table, these analyses yielded significant interaction effects for sex by age, sex by BMI, and significant main effects for age and BMI for

Table 1 Means and standard deviations for cognitive and affective body image dissatisfaction by sex, age-group and BMI group

	<i>n</i>	Body mass based on norms							
		Underweight		Normal weight		Overweight		Total	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Cognitive dissatisfaction									
Children									
Males	192	-.26	.9	.00	.8	.54	.8	.00	.9
Females	224	.00	.7	.22	.6	.95	.9	.31	.81
Total	416	-.15	.8	.13	.7	.78	.9	.21	.8
Adolescents									
Males	246	-.56	.88	.00	1.1	.69	1.2	.12	1.2
Females	264	.25	1.6	1.53	1.4	2.32	1.1	1.44	1.6
Total	510	-.11	1.4	.83	1.5	1.46	1.4	.79	1.5
Affective dissatisfaction									
Children									
Males	192	-.24	1.0	.27	1.2	.59	1.1	.19	1.2
Females	224	.00	1.0	.40	.93	.71	1.2	.34	1.1
Total	416	-.22	1.0	.33	1.1	.66	1.2	.27	1.1
Adolescents									
Males	246	-.63	1.4	.20	1.5	1.01	1.5	.27	1.6
Females	264	.76	1.9	2.25	1.6	2.97	1.4	2.08	1.8
Total	510	.15	1.8	1.27	1.9	1.9	1.8	1.2	1.9

Note: Positive means indicate perception of being larger than ideal and negative means indicate perception of being thinner than ideal.

Table 2 Univariate effects for cognitive and affective body dissatisfaction by sex, age and BMI

	df	Cognitive			Affective		
		F	p	η^2	F	p	η^2
Sex × age	1, 194	46.87	.000	.05	66.83	.000	.07
Age × BMI	2, 194	8.10	.000	.02	7.30	.000	.02
Sex	1, 914	102.43	.000	.10	103.04	.000	.10
Age	1, 194	38.48	.000	.04	74.78	.000	.08
BMI	2, 194	76.79	.000	.14	57.64	.000	.11

each of cognitive and affective dissatisfaction. The main effect for sex resulted from females scoring significantly higher on each of cognitive and affective dissatisfaction ratings compared to males. This variable accounted for 10% of the variance related to both affective and cognitive scores. Similarly for age, adolescents scored significantly higher on each of cognitive and affective dissatisfaction than did children. Age was found to account for 4% and 8% of the variance in reported affective and cognitive scores, respectively.

More intriguing are the significant interactions effects of sex by BMI. As can be seen in Table 1, both cognitive and affective dissatisfaction scores increased as BMI group increased for females. However, for boys, dissatisfaction was lowest for the normal weight groups, then increased for the underweight and overweight groups. The differences across BMI groups were more also marked for females compared to males. Importantly, for girls dissatisfaction remained within positive parameters and was close to zero for the underweight group. In contrast, for boys it ranged from negative through zero to positive and was close to zero for the normal weight group (refer to Figures 1 and 2).

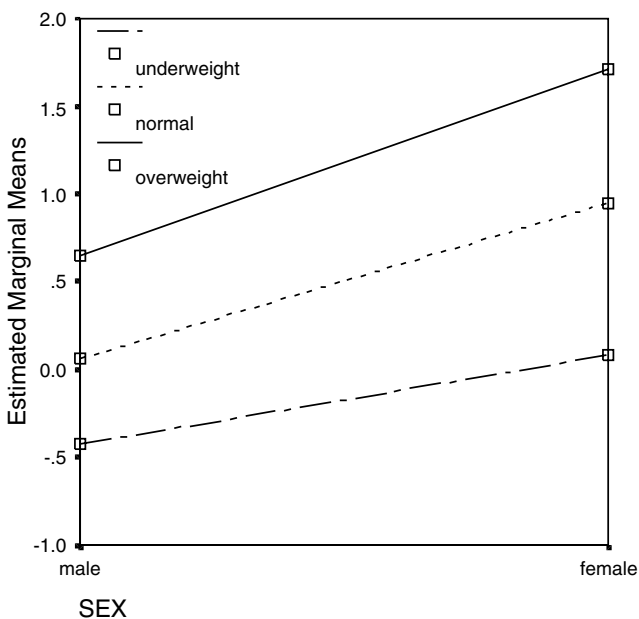


Figure 1 Mean distribution of cognitive dissatisfaction for sex by BMI

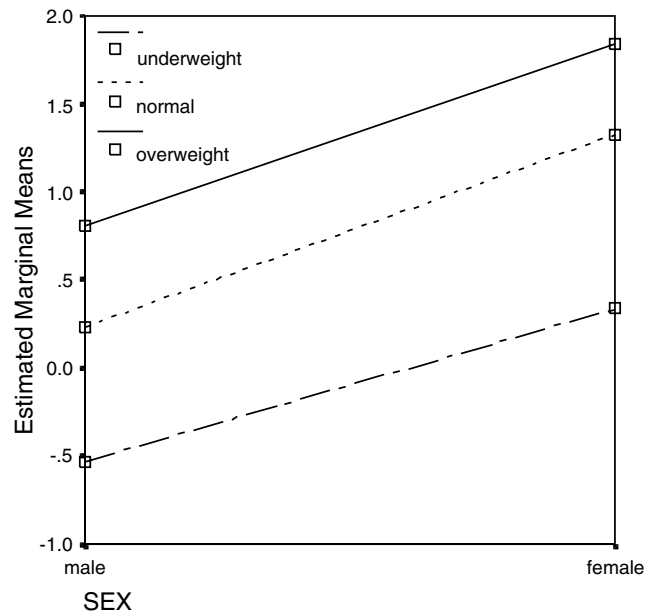


Figure 2 Mean distribution of mean affective dissatisfaction for sex by BMI

In order to examine the nature of the apparent differences in the patterns of scores for males and females, post-hoc analyses were conducted. Scheffé post hoc tests calculated to determine which pairs of BMI groups significantly differed indicated that, for boys, on each of cognitive and affective dissatisfaction ratings, there were significant differences at the .001 level between each pair of means. The overweight group scored significantly higher on both cognitive and affective dissatisfaction ratings compared to the normal and the underweight groups. Also, the underweight group scored significantly higher on both components of dissatisfaction compared to the normal group. Likewise, for girls, Scheffé post hoc tests demonstrated that on cognitive and affective dissatisfaction ratings, there were significant differences at the .001 level between each pair of BMI group means. For this group, the overweight group scored significantly higher on both cognitive and affective dissatisfaction compared to the normal and the underweight groups. Also, the underweight group scored significantly lower on both components of dissatisfaction compared to both the normal and overweight groups.

Discussion

Consistent with only a small number of studies in the body image literature, it is the main thesis of this paper that body image dissatisfaction is a significant issue for boys as well as for girls (e.g., Drownowski & Yee, 1987; Kostanski & Gullone, 1998; McCreary & Sasse, 2000). In line with our proposal, our current aim was to comprehensively examine sex differences in the prevalence and pattern of responses in

perceived body image dissatisfaction across age and BMI status.

Consistent with our expectation, our findings indicated that global body image dissatisfaction, as measured by the FRS, is prevalent amongst both boys and girls. The findings of this study also supported the reported prevalence of this dissatisfaction amongst children as well as adolescent samples. Moreover, these findings have indicated that the level of body image dissatisfaction on both cognitive and affective ratings, and for both sexes, differed significantly between the childhood and adolescence developmental periods, with higher dissatisfaction being evident in the adolescent years.

Whereas previous studies of body image dissatisfaction using figure rating scales have relied on reporting the mean discrepancies (e.g., Collins, 1991; Tiggemann, 1996; Tiggemann & Wilson-Barrett, 1988; Wood et al., 1996), our findings have indicated that this form of analysis misses an important variance in the data. The outcomes of this study have shown that body image dissatisfaction is not only significantly dependent on body mass distribution (with over 14% of the variance in cognitive, and 11% of the variance in affective body image dissatisfaction being explained by this factor), but that the direction of this dissatisfaction is also variable. That is, the cognitive and affective body dissatisfaction scores for people classified as underweight are significantly different from those persons classified as being of normal and/or overweight. However, more importantly, whereas previous literature has relied on reporting a simple linear analysis of mean discrepancy scores, our data have indicated that, particularly for boys, the range of scores for the three different BMI groups varied from negative to positive values. As such, analyses that do not separately account for the direction of the dissatisfaction, not surprisingly, discount this variance, and are consequently limited in their ability to accurately determine the extent and severity of dissatisfaction.

As noted previously, the predominant theoretical perspective that socio-cultural influences are the primary influence on the development of body image dissatisfaction has led to a focus on girls in previous research and an overwhelming neglect of this construct in boys. The majority of previous studies in this area have either not found significant levels of body image dissatisfaction for males or have excluded them altogether as being not relevant for study (e.g., Benedikt et al., 1998; Thompson et al., 1995; Tiggemann & Wilson-Barrett, 1988). The findings of this study clearly indicate otherwise. Specifically, our results indicate that, given a different method of conceptualising dissatisfaction than has been previously applied, markedly different conclusions result. Indeed, the findings of this study suggest that socio-cultural influences may be central to both sexes.

The data indicate that girls, in both age groups, who are classified as underweight have minimal cognitive and affective body image dissatisfaction. In contrast, normal and overweight girls report greater levels of dissatisfaction, with dissatisfaction being greatest for overweight girls. This finding supports the proposal that a thin ideal may indeed be normative for females. However, whilst for girls the prevailing normative ideal is with being thin, for boys it would appear there is a dual message. That is, whilst being overweight is considered to be unacceptable by both males and females (Hill & Silver, 1995), for boys dissatisfaction with being too thin also was apparent in the different patterns of ratings across boys and girls.

Specifically, in the present study, for boys in both age groups, the data indicated that both the overweight and underweight groups reported higher levels of cognitive and affective dissatisfaction than the normal weight boys for whom dissatisfaction scores were low. Consequently, the findings of this study suggest that the prevailing social normative ideals regarding both *obesity* and the *strong muscular male physique* in Western society (e.g., Drewnowski & Yee, 1987; McCreary & Sasse, 2000; Muth & Cash, 1997) may be as important an influence in the development of male body image dissatisfaction as the normative *thin* ideal is for females.

As noted by Kostanski and Gullone (1998) and others (e.g., Paxton et al., 1991), the psychosocial context of body image dissatisfaction for boys is not necessarily similar to that for girls. Moreover, the relevant literature (e.g., McCreary & Sasse, 2000) clearly suggests that the issue of body image dissatisfaction for males is predominantly one that concerns muscularity. However, given the paucity of research in this area to date, and the lack of inclusion of psychosocial factors, such as muscularity and obesity, in the current study, the proposed assumptions regarding socio-cultural influences other than the thin ideal remain speculative.

With regard to age, the present findings have indicated that whilst there is evidence for the existence of negative body image attitudes within preadolescent populations, the level of body image dissatisfaction at this developmental level is not as pronounced as it is in adolescence. For girls, both cognitive and affective dissatisfaction were higher in the adolescent group compared to the child group within each body mass group (underweight, normal weight, overweight). This dissatisfaction was consistent with being too fat. This was markedly so for those girls in the normal and overweight ranges.

For boys the results were strikingly different. For both underweight and overweight boys, dissatisfaction was higher for the older adolescent boys than for the children. For the underweight boys this dissatisfaction was increasingly associated with being too thin, whilst for the overweight boys it was increasingly associated with being too fat. In contrast, the

mean dissatisfaction of cognitive and affective ratings between child and adolescent groups for boys of normal weight did not differ across age groups. Thus, expressed dissatisfaction with being either overweight or underweight is an issue which becomes more pronounced for boys as they reach adolescence.

These variations in distribution of dissatisfaction between the two sexes across age groups add further support to the proposal that there are different factors influencing the development of body image attitudes for boys compared to girls. Our study has shown that whilst these negative attitudes are present in childhood they become more pronounced in adolescence, suggesting that there may be an important developmental process involved in the manifestation of negative body image attitudes over the course of development. However, given that the current study is limited to a cross-sectional design, any such proposal regarding developmental processes awaits further research.

An additional caveat remains regarding the psychometric properties of the FRS when used with children. Whilst the validity of the sub-component of perceived self appears to be strong, with almost 50% of shared variance between this measure and actual weight, more research is needed to investigate the validity of the FRS in relation to idealised perceptions of the body at this age. Similarly, the stability of body image dissatisfaction in children has yet to be investigated. Therefore, at this stage, firm conclusions cannot be drawn with regard to age-related increases in this body image dissatisfaction. It is possible that, at this young age, results may in part be biased by a transient childhood state of adult emulation. Nevertheless, this does not deflect from the central thesis of this paper that body image dissatisfaction as measured by the Figure Rating Scale is not a linear construct.

The present findings confirm our proposal that body image dissatisfaction is prevalent for boys as well as for girls, albeit differing in strength and direction and being dependent on the sex, weight and age of the person. Indeed, these factors were found to explain 10%, 14% and 4% of the respective variance in cognitive body image dissatisfaction scores, and 10%, 11% and 8% of respective variance in affective body image dissatisfaction scores.

In conclusion, these present findings are important because they highlight that global body image dissatisfaction is not a uni-dimensional construct and is not restricted to concerns about being overweight. Rather, body image dissatisfaction, particularly for boys, is multi-modal. Thus, this study has highlighted that several previously held assumptions regarding the specificity of body image dissatisfaction require revision and a careful examination in subsequent research. Importantly, the presence of body image dissatisfaction for males is strongly evident, and suggests that previous reports have been

misleading in their conclusions. Future research examining the construct of global body image dissatisfaction needs to incorporate careful consideration of potential nuances (i.e., age, sex, weight) in the distribution of data. Moreover, future researchers need to be clear on the specific aspects of body image that they are examining. That is, researchers should specify whether they are examining global body image dissatisfaction or specific aspects of body image (e.g., issues associate with being too fat, too thin, obesity, muscularity). Moreover, longitudinal studies spanning the age range from childhood through adolescence are required to determine possible developmental factors (i.e., cognitive, physical, emotional) that may be implicated as impacting on the increasing intensity of body image dissatisfaction with increasing age.

Correspondence to

Marion Kostanski, Dept. Psychology, VU – Footscray Park, PO Box 14428 Melbourne MC, Australia 8001; Email: Marion.Kostanski@vu.edu.au

References

- Altabe, M., & Thompson, J.K. (1992). Size estimation versus figural ratings of body image disturbance: Relation to body dissatisfaction and eating dysfunction. *International Journal of Eating Disorders*, *11*, 397–402.
- Benedikt, R., Wertheim, E.H., & Love, A. (1998). Eating attitudes and weight-loss attempts in female adolescents and their mothers. *Journal of Youth and Adolescence*, *27*, 43–57.
- Cash, T.F. (1994). Body image attitudes: Evaluation, investment, and affect. *Perceptual and Motor Skills*, *78*, 1168–1170.
- Cash, T.F., & Brown, T.A. (1989). Body image in anorexia nervosa and bulimia nervosa: A review of the literature. *Behavior Modification*, *11*, 487–521.
- Cash, T.F., Winstead, B.W., & Janda, L.H. (1986). The great American shape-up: Body image survey report. *Psychology Today*, *20*, 30–37.
- Cohn, L.D., Adler, N.E., Irwin, C.E., Millstein, S.G., Kegels, S.M., & Stone, G. (1987). Body figure preferences in male and female adolescents. *Journal of Abnormal Psychology*, *96*, 276–279.
- Collins, M.E. (1991). Body figure perceptions and preferences among preadolescent children. *International Journal of Eating Disorders*, *10*, 199–208.
- Drewnowski, A., & Yee, D.E. (1987). Men and body image: Are males satisfied with their body weight? *Psychosomatic Medicine*, *49*, 626–634.
- Fallon, A.E., & Rozin, P. (1985). Sex differences in perceptions of desirable body shape. *Journal of Abnormal Psychology*, *94*, 102–105.
- Gralen, S.J., Levine, M.P., Smolak, L., & Murnen, S.K. (1990). Dieting and disordered eating during early and middle adolescence: Do the influences remain the same? *International Journal of Eating Disorders*, *9*, 501–512.

- Harvey, P.W.J., & Althaus, M.M. (1993). The distribution of body mass index in Australian children aged 7–15 years. *Australian Journal of Nutrition and Dietetics*, *50*, 151–153.
- Hill, A., & Silver, E. (1995). Fat, friendless and unhealthy: 9-year-old children's perception of body shape stereotypes. *International Journal of Obesity*, *19*, 423–430.
- Kenny, D., & Adams, R. (1994). The relationship between, eating attitudes, body mass index, age and gender in Australian university students. *Australian Psychologist*, *29*, 128–134.
- Kostanski, M., Fisher, A., & Gullone, E. (2002). *Longitudinal changes in body dissatisfaction: A comparison of boys and girls*. Under review.
- Kostanski, M., & Gullone, E. (1998). Adolescent body image dissatisfaction: Relationships with self-esteem, anxiety and depression controlling for body mass. *Journal of Child Psychology and Psychiatry*, *39*, 255–262.
- Kostanski, M., & Gullone, E. (1999). Dieting and body image in the child's world: Conceptualisation and behavior. *Journal of Genetic Psychology*, *160*, 488–499.
- Levine, M.P., Smolak, L., & Hayden, H. (1994). The relation of sociocultural factors to eating attitudes and behaviour among middle school girls. *Journal of Early Adolescence*, *14*, 471–490.
- Maude, D., Wertheim, E.H., Paxton, S., Gibbons, K., & Szmukler, G. (1993). Body dissatisfaction, weight loss behaviours, and bulimic tendencies in Australian adolescents with an estimate of female data representativeness. *Australian Psychologist*, *28*, 128–132.
- McCreary, D.R., & Sasse, D.K. (2000). An exploration of the drive for muscularity in adolescent boys and girls. *Journal of American College Health*, *48*, 297–304.
- Muth, J.L., & Cash, T.F. (1997). Body image attitudes: What difference does gender make? *Journal of Applied Social Psychology*, *27*, 1438–1452.
- Paxton, S.J., Schutz, H.K., Wertheim, E., & Muir, S.L. (1999). Friendship clique and peer influences in body image concerns, dietary restraint, extreme weight loss behaviors and binge eating in adolescent girls. *Journal of Abnormal Psychology*, *108*, 255–266.
- Paxton, S.J., Wertheim, E.H., Gibbons, K., Szmukler, G.I., Hillier, L., & Petrovich, J.L. (1991). Body image satisfaction, dieting beliefs, and weight loss behaviours in adolescent girls and boys. *Journal of Youth and Adolescence*, *20*, 361–379.
- Rodin, J., Silberstein, L.R., & Streigel-Moore, R.H. (1984). Women and weight: A normative discontent. In T.B. Sonderegger (Ed.), *Psychology and gender. Nebraska Symposium on Motivation*. Lincoln: University of Nebraska.
- Rolland, K., Farnhill, D., & Griffiths, R.A. (1997). Body figure perceptions and eating attitudes among Australian schoolchildren aged 8 to 12 years. *International Journal of Eating Disorders*, *21*, 273–278.
- Shapiro, S., Newcombe, M., & Lobe, T.B. (1997). Fear of fat, disregulated-restrained eating, and body-esteem: Prevalence, and gender differences among eight- to ten-year-old children. *Journal of Clinical Child Psychology*, *26*, 358–365.
- Silberstein, L.R., Streigel-Moore, R.H., Timko, C., & Rodin, J. (1988). Behavioral and psychological implications of body dissatisfaction: Do men and women differ? *International Journal of Eating Disorders*, *5*, 935–947.
- Stunkard, A.J., Sorenson, T., & Schulsinger, F. (1983). Use of the Danish Adoption Register for the study of obesity and thinness. In S. Kety (Ed.), *The genetics of neurological and psychiatric disturbances*. New York: Raven Press.
- Taylor, J.R. (1982). *An introduction to error analysis: The study of uncertainties in physical measurements*. Mill Valley, CA: University Science Books.
- Thompson, E.A., Moody, K.A., & Eggert, L.L. (1994). Discriminating suicide ideation among high-risk youth. *Journal of School Health*, *64*, 361–367.
- Thompson, J.K. (1995). Assessment of body image. In D.B. Allison (Ed.), *Handbook of assessment methods for eating behaviors and weight-related problems: Measures, theory and research* (pp. 119–148). Thousand Oaks, CA: Sage.
- Thompson, J.K., Altabe, M., Johnson, S., & Stormer, S.M. (1994). Factor analysis of multiple measures of body image disturbance: Are we all measuring the same construct? *International Journal of Eating Disorders*, *16*, 311–315.
- Thompson, J.K., Covert, M.D., Richards, K.J., Johnson, S., & Cattarin, J. (1995). Development of body image, eating disturbance, and general psychological functioning in female adolescents: Covariance structure modelling and longitudinal investigations. *International Journal of Eating Disorders*, *18*, 221–236.
- Thompson, J.K., & Dolce, J.J. (1989). The discrepancy between emotional vs. rational estimates of body size, actual size, and ideal body ratings: Theoretical and clinical implications. *Journal of Clinical Psychology*, *45*, 473–478.
- Thompson, J.K., Penner, L.A., & Altabe, M. (1990). Procedures, problems and progress in the assessment of body images. In T.F. Cash & T. Pruzinsky (Eds.), *Body images: Development, deviance, and change* (pp. 21–48). New York: Guilford.
- Thompson, J.K., & Psaltis, K. (1988). Multiple aspects and correlates of body figure ratings: A replication and extension of Fallon and Rozin (1985). *International Journal of Eating Disorders*, *7*, 813–818.
- Thompson, S.H., Corwin, S.J., & Sargent, R.G. (1997). Ideal body size beliefs and weight concerns of fourth-grade children. *International Journal of Eating Disorders*, *21*, 279–284.
- Tiggemann, M. (1996). 'Thinking' versus 'Feeling' fat: Correlates of two indices of body image dissatisfaction. *Australian Journal of Psychology*, *48*, 21–25.
- Tiggemann, M., & Pennington, B. (1990). The development of gender differences in body-size dissatisfaction. *Australian Psychologist*, *25*, 306–313.
- Tiggemann, M., & Wilson-Barrett, E. (1998). Children's figure ratings: Relationship to self-esteem and negative stereotyping. *International Journal of Eating Disorders*, *23*, 83–88.
- Wertheim, E.H., Mee, V., & Paxton, S.J. (1999). Relationships among adolescent girls' eating behaviours and their parents weight related attitudes and behaviors. *Sex Roles*, *41*, 169–187.
- Wertheim, E.H., Paxton, S.J., Maude, D., Szmukler, G., Gibbons, K., & Hillier, L. (1992). Psychosocial predictors of weight loss behaviors and binge eating in

- adolescent girls and boys. *International Journal of Eating Disorders*, 12, 151–160.
- Williamson, D.A., Barker, S.E., Bertman, L.J., & Gleaves, D.H. (1995). Body image, body dysphoria, and dietary restraint: Factor structure in nonclinical subject. *Behavior Research and Therapy*, 33, 85–93.
- Wood, K.C., Becker, J.A., & Thompson, J.K. (1996). Body image dissatisfaction in preadolescent children. *Journal of Applied Developmental Psychology*, 17, 85–100.

Manuscript accepted 12 September 2003