

# The body size preferences of underweight young women from different cultural backgrounds



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**Abstract** This study investigated the body size preferences of underweight [body mass index (BMI) < 20] young women from different cultural backgrounds. Of the 276 underweight women in the study 12.6% had a BMI below 17, 37.5% below 18, and 57.5% below 19. The women perceived their current body size to be bigger than their ideal body and bigger than the ideal female body but smaller than the ideal male body. The mean ( $\pm$  SD) discrepancy score (current self - ideal self) was 0.3 ( $\pm$  1.0) indicating a desired body size which was 10% slimmer than their current size. A total of 42% wanted to be slimmer, 43% were satisfied with their current size and 15% desired a bigger body. The women of Northern European background desired a body which was 12.5% slimmer than their current body size, women of Southern European and Asian background desired 7% and 10% slimmer bodies respectively. There were no cultural differences in age, BMI, body size perception, male and female body ideals or the discrepancy score between Northern European, Southern European or Asian women. Very underweight women (BMI < 18) and underweight women (BMI 18-19.9) did not differ in their body size perceptions, male and female body ideals, the discrepancy score or the number who wanted to be slimmer (42%), and there were no cultural differences. Dietitians and educators should be aware that underweight young women of various cultural backgrounds are likely to desire and pursue weight loss. The assessment of body image is appropriate prior to dietary counselling, treatment or education. (*Aust J Nutr Diet* 1998;55:75-80).

**Keywords:** cultural background, body weight, body mass index, body image, weight concerns.

## Introduction

Results from studies of body weight issues among young women in Australia (1-3) and abroad (4-6) have shown a high degree of dissatisfaction with body weight and shape, frequent use of slimming practices (some of which are considered dangerous and damaging to health) and a prevalence of disordered eating and eating disorders in the order of 15 to 35% (7-8) and 0.2 to 2.8% (9-11) respectively. Many young women in the normal, non-clinical population who display high body dissatisfaction may already be underweight. An average of 25% of the young women who participated in the 1989 National Heart Foundation Risk Factor Prevalence Survey (12) were classified as underweight and in a more recent survey, 27.2% of young Australian women were considered to be underweight (13). In the study of Crawford and Worsley (1) 34% of non-overweight women (those with a BMI less than 25) were attempting to lose weight with the majority doing so in order to 'feel better'.

Most of the literature on weight concerns among women has not evaluated cultural and ethnic influences on body image and its relationship to the prevalence of underweight among women. Studies of adolescents have found that those of different ethnic and cultural back-

ground living in Westernised countries held similar perceptions of, and attitudes towards, body satisfaction and body weight to those held by adolescents from developed countries such as the United States, Canada and the United Kingdom (14-16). Whilst there is some evidence that young women from certain cultural groups prefer a larger female body ideal (17-19) there are no current data on the body ideals of underweight women from various cultural and ethnic backgrounds. This study investigated the body size and shape perceptions and body ideals of underweight Australian women from Northern European, Southern European and Asian backgrounds.

The aims of the study were to assess the body size preferences of underweight young women and to investigate the association between these variables and the participants' cultural background.

## Methods

### Participants

The participants were 276 underweight women (BMI < 20) who had volunteered to participate in a large study designed to investigate the body size perceptions and preferences of 1213 young Australian adults (20). The participants were recruited from five randomly-selected universities in New South Wales (NSW), which included three regional and two city universities in order to obtain a representative sample. The universities were randomly selected from a government list (21) of the 13 universities in NSW. Participants were enrolled in various non-medical, non-nutrition related courses including humanities, sciences, education, business studies, art and commerce.

### Questionnaire

A questionnaire was designed to assess body size preferences and body size ideals using the original drawings of Stunkard et al. (1983) (22) which depict nine male and nine female figures on a continuum from very underweight (A) to very obese (I). Each selection from A to I was allocated a score from one to nine from which mean (and standard deviation) scores were derived according to the methodology developed by Fallon and Rozin (5). Participants were asked to select the figure which most represented their current body shape and size (current self score), the figure which they would most like to possess

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(ideal self score), the figure which represented their perception of the most desirable female figure (ideal female score) and the figure which represented their perception of the most desirable male figure (ideal male score). In the current study the difference (discrepancy) between the current perceived self and the ideal self was derived by subtracting the mean ideal self score from the mean current self score (discrepancy score = current self - ideal self). The desired change in body size was calculated by dividing the discrepancy score by the current self score [desired change in body size = (discrepancy ÷ current self) × 100]. Participants were asked to report their gender, age (years and months), height (to the nearest 0.5 centimetres) and weight (to the nearest 0.5 kilograms). Participants were advised that they could report their height and weight using imperial measurements which were later converted to metric units. The body mass index [BMI, weight (kg)/height (m<sup>2</sup>)] was derived from the participants' self-reported height and weight. Analysis of self-reported height and weight data from Australian adults has confirmed that self-reported height and weight provide a valid measure of BMI (23). A BMI value of less than 20 was used as a cut-off to determine underweight (24). Ethnic and cultural backgrounds were determined by asking participants to select their ethnic and/or cultural backgrounds according to similar categories used by the Australian Bureau of Statistics, 1996 census data collection (25). The possible categories that could be selected by participants included: Caucasian or Northern European; Southern European; Aboriginal or Torres Strait Islander; Asian; Pacific Islander or Maori; Middle Eastern; or other.

The questionnaire was approved by the University of Sydney Human Ethics Committee and equivalent approval was obtained from each of the other participating universities.

### Procedure

The author and volunteer university lecturers administered the questionnaire to participants during normal lecture times. Only participants who were non-pregnant and who had been resident in Australia for at least three years were eligible to participate. Women who had not been residents of Australia for three years or more were excluded in order to reduce between-country differences in body image.

### Data analysis

The data were analysed using the Statistical Package for the Social Sciences (SPSS Inc, Chicago, Illinois, Version X, 1985). Corrected  $\chi^2$  analyses were used to determine group differences in categorical data. One-way analysis of variance (ANOVA) was used to compare differences in the mean scores of participants between groups, and a follow-up test (protected t-test) was used to identify which groups differed significantly. The results are presented as frequencies for categorical data, and as means and standard deviations for other data. Due to the low numbers of underweight women from Middle Eastern, Aboriginal and other backgrounds, the statistical analyses of body size perception and body size ideals included only the women of Northern European, Southern European and Asian background. Statistical significance was set at  $P < 0.05$ .

### Results

The BMI of the women ranged from 14.5 to 19.9 kg/m<sup>2</sup> [mean ( $\pm$  standard deviation, SD) = 18.5  $\pm$  1.1]. A total of 12.6% of the underweight women had a BMI below 17, 37.5% below 18, and 57.5% below 19. The women had a mean age ( $\pm$  SD) of 21.3 ( $\pm$  4.4) years. The cultural background, age and body mass index of the women are presented in Table 1. The underweight women of Aboriginal background were significantly older than the women of other cultural backgrounds ( $F_{4,271} = 13.3$ ;  $P < 0.001$ ). There were no significant differences in BMI between cultural group and there were no differences between urban and regional participants.

### Body size preferences

The body size preferences of the women from Northern European, Southern European and Asian backgrounds and their perceptions of the ideal self, ideal female and ideal male body size are presented in Figure 1.

The women perceived their current body shape and size to be bigger than their ideal body and bigger than the ideal female body. The mean ( $\pm$  SD) discrepancy score was 0.3 ( $\pm$  1.0) indicating that in general, the women desired a slimmer body. An analysis of the discrepancy scores also showed that 42% of the women desired a slimmer body, 43% were currently satisfied with their body size and shape and 15% desired a bigger body. The mean desired change in body size was 10% slimmer than the current size. The ideal male body was larger than the

**Table 1. The age and body mass index of underweight young women from different cultural backgrounds**

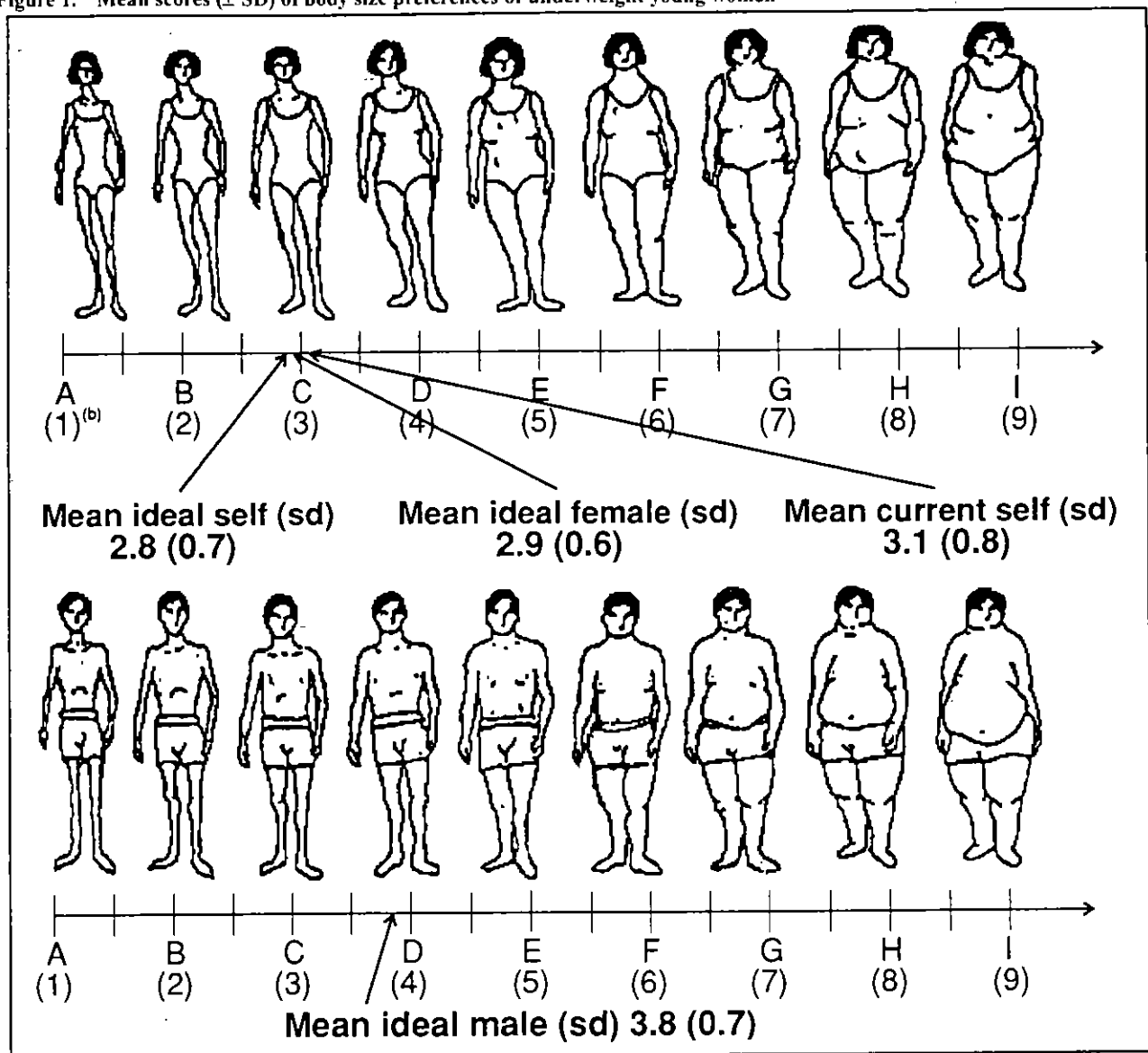
Cultural background	%	n	Age (mean $\pm$ SD <sup>(a)</sup> )	BMI <sup>(b)</sup> (mean $\pm$ SD)	BMI range
Northern European	69.6	192	21.0 $\pm$ 3.7	18.6 $\pm$ 1.1	14.5-19.9
Southern European	14.5	40	21.0 $\pm$ 3.7	18.4 $\pm$ 1.2	15.9-19.9
Asian	12.7	35	22.1 $\pm$ 4.5	18.4 $\pm$ 1.2	15.1-19.8
Middle Eastern	2.2	6	19.9 $\pm$ 1.2	18.4 $\pm$ 1.0	16.7-19.5
Aboriginal or Torres Strait Islander	1.0	3	39.7 $\pm$ 14.8	17.9 $\pm$ 1.8	16.6-19.1
$F_{(4,271)}$ value <sup>(c)</sup>			13.3***	0.5	

(a) BMI, body mass index [weight (kg)/height (m<sup>2</sup>)].

(b) SD, standard deviation.

(c) One way analysis of variance (ANOVA) (F values) compare the mean age and BMI scores of five groups by cultural background.

\*\*\*  $P < 0.001$

Figure 1. Mean scores ( $\pm$  SD) of body size preferences of underweight young women<sup>(a)</sup>

(a) A total of 276 underweight (BMI < 20) young women. BMI, body mass index [weight (kg)/height (m)<sup>2</sup>].  
 (b) Numbers in brackets represent the score allocated for each figure category from A to I.

women's currently perceived body and larger than their ideal body (Figure 1).

The current self-perceptions, ideal self and ideal male and female perceptions of the underweight young women were similar among the three cultural groups as shown in Table 2. On average, the desired body size of the Northern European women was 12.5% slimmer than their current body size; the Southern European women desired a 7% slimmer body and the Asian women desired a 10% slimmer body.

The women from different cultural backgrounds perceived the ideal male body to be bigger than the women's current and ideal body size (Table 2). There were no cultural differences in any of the body image variables (Table 2).

There was no significant difference in the proportion of women from different cultural groups who were classified as underweight (BMI = 18.0–19.9) or very underweight (BMI < 18) (Table 3). The body size percep-

tions and ideals of the underweight and very underweight young women were similar (Table 3). There was no statistically significant difference between the number of underweight or very underweight women who indicated that they wanted to be slimmer (41.3% versus 43% respectively,  $\chi^2 = 0.02$ ;  $P > 0.05$ ). The underweight women were more likely than the very underweight women to be satisfied with their current body size (47.9% versus 33%,  $\chi^2 = 5.1$ ;  $P < 0.05$ ) and less likely to desire a bigger body (10.8% versus 24%,  $\chi^2 = 7.3$ ;  $P < 0.01$ ). The very underweight women desired a body which was 7% slimmer and the underweight women desired a body which was 12.5% slimmer.

## Discussion

Nearly half of the underweight young women in the current study displayed a degree of satisfaction with their body size (43% indicated that they would like to stay at their current body size) which may reflect a sense of satisfaction at having achieved the societal ideal of

**Table 2.** The current and ideal body size perceptions of underweight young women according to their cultural background

Cultural background	Current self (mean $\pm$ SD) <sup>(a)</sup>	Ideal self (mean $\pm$ SD)	Ideal female (mean $\pm$ SD)	Ideal male (mean $\pm$ SD)	Discrepancy score <sup>(b)</sup> (mean $\pm$ SD)
Northern European (n = 192)	3.2 $\pm$ 0.9	2.8 $\pm$ 0.8	2.9 $\pm$ 0.8	3.8 $\pm$ 0.7	0.4 $\pm$ 1.1
Southern European (n = 40)	3.1 $\pm$ 0.7	2.9 $\pm$ 0.7	2.9 $\pm$ 0.7	3.9 $\pm$ 0.7	0.2 $\pm$ 0.9
Asian (n = 35)	3.0 $\pm$ 0.9	2.8 $\pm$ 0.6	2.9 $\pm$ 0.5	3.7 $\pm$ 0.7	0.3 $\pm$ 0.9
<i>F</i> <sub>(2,264)</sub> value <sup>(c)</sup>	1.1	0.3	0.2	0.4	1.0

(a) SD, standard deviation.

(b) Discrepancy score = current self - ideal self.

(c) One way analysis of variance (ANOVA) compares the mean scores of three groups by ethnic background.

**Table 3.** A comparison of the current and ideal body size perceptions of very underweight and underweight young women from three different cultural backgrounds

Cultural background	Very underweight (n = 100) (BMI < 18) <sup>(a)</sup>		Underweight (n = 167) (BMI 18-19.9)		Test statistic
	%	n	%	n	
Northern European (n = 192)	36.0	71	63.0	121	$\chi^2$ <sup>(b)</sup> 0.2
Southern European (n = 40)	40.0	16	60.0	24	
Asian (n = 35)	37.1	13	62.9	22	
<b>Body size perception</b>	<b>Mean</b>	<b>SD<sup>(c)</sup></b>	<b>Mean</b>	<b>SD</b>	<b><i>F</i><sub>(1,265)</sub> value<sup>(d)</sup></b>
Current self	3.1	1.1	3.2	0.7	0.5
Ideal self	2.8	0.9	2.8	0.6	0.6
Ideal female	3.0	0.9	2.9	0.6	1.3
Ideal male	3.7	0.9	3.8	0.6	1.1
Discrepancy score	0.2	1.3	0.4	0.8	1.6
<b>Body weight</b>					<b><i>F</i><sub>(1,265)</sub> value</b>
Body mass index (BMI)	17.0	0.8	19.1	0.6	133.7**
BMI range	14.5-17.9		18.0-19.9		

(a) BMI, body mass index [weight (kg)/height (m)<sup>2</sup>].(b) 2  $\times$  3 contingency table, 2 degrees of freedom.

(c) SD, standard deviation

(d) One way analysis of variance (ANOVA) compares the mean scores of two groups of very underweight and underweight young women

\*\* *P* < 0.01

slimness (26) which is promulgated by advertising images, television and magazines. The desire for further weight loss among both underweight (41%) and very underweight (43%) women is of concern because prolonged dietary restraint resulting in underweight is known to carry increased risks to the psychological and physical health of women. These include an increased risk of eating disorders and disordered eating (27-29), nutritional deficiencies (30), and an increased risk of osteoporosis due to lowered oestrogen levels and inadequate dietary calcium intake (31,32). These results suggest that these women may possess the extreme pursuit of thinness (33) and some of the diagnostic criteria associated with anorexia nervosa (34) and that they may have already deliberately lost weight in order to fulfil their preoccupation with slimness. In addition to the health risks of dietary restraint, some of the weight loss practices pursued by women may be harmful, particularly practices such as vomiting, laxative abuse, starvation, excessive exercise, diet medications; misuse of diuretics and cigarette smoking. The fact that such a large proportion of the young women studied had seemingly deliberately achieved their underweight status suggests that they may

have successfully employed some of these extreme, dangerous and health-damaging weight loss practices.

The young women in the current study of Northern European, Southern European and Asian background were of similar age, educational status, BMI and desired a similar body ideal which reflected an average desired weight loss of 10% of their current body weight. This desired weight loss, if pursued and achieved among already underweight and very underweight women, may result in physiological harm and an increased risk of eating disorders. The current study suggests that 42% of underweight young women are presently at risk of pursuing such dangerous weight loss.

The young women from different cultural backgrounds in the current study held very similar perceptions of what constituted an ideal body size for themselves, for women in general and for young men.

The finding that there were no cross-cultural differences in body size perception, desired body size or male and female body ideals suggests that young Australian women from various cultural backgrounds may be simi-

larly influenced by the Western sociocultural factors which promote the slim ideal and consequential 'normative discontent' associated with body weight which was described by Striegel-Moore in the late 1980s (35). It also suggests that young women are similarly influenced by the factors which promote the mesomorphic ideal for young male bodies. The ideal male body emerging from the findings of the current study was relatively slim, slightly muscular and bigger than the young women's current perceived body size and their ideal body size. This perceived ideal male body was consistent between women from different cultural backgrounds and women with different degrees of underweight. It is possible that the increasing pressure on young men to attain the 'perfect' body may be partially reinforced and promoted by young women.

The high prevalence of underweight among young women found in recruiting subjects for the current study may reflect an increase in underweight since the 1989 National Heart Foundation Study (NHF) (12). Whilst a comparison of such data has limitations because of the differences in the samples involved in the studies (e.g. the NHF did not survey from regional areas), it is plausible that the preoccupation with slimness has increased since the 1980s as suggested by Wiseman et al. in 1992 (26) and that therefore, the pursuit and achievement of slimness may have also increased. Another explanation for the high prevalence of underweight among the women in the current study may be their greater educational level as body weight is known to be lower in women with a higher educational status (36).

The high degree of body weight concerns among young women in the current study has implications for dietary assessment and dietary therapy in this group. Routine assessment of body image and weight concerns among young women prior to clinical assessment and dietary treatment may be necessary in order to screen for problems and to establish common objectives for treatment. Young women may need to be assessed for potential body image and eating problems before the onset of treatment for other nutrition-related conditions (e.g. diabetes, food intolerance, pregnancy). It has been established that body weight concerns, the pursuit of thinness and restrictive eating already exist among some young pregnant Australian women (37) and it is likely that other women presenting for nutritional assessment or dietary counselling may be similarly concerned. Dietitians may need to initiate the discussion of a 'healthy' versus a 'fashionable' weight and this may help young women to understand the current and potential risks of any weight control behaviours. Dietitians, counsellors and nutrition educators should be aware that young women from various cultural backgrounds are likely to desire weight loss and that body image concerns need to be addressed in order to improve the prognosis for other nutrition-related conditions.

### Acknowledgments

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### Correction

In the March 1998 issue of the Journal (volume 55, number 1) in the article 'The Food Cent\$ project: a practical application of behaviour change theory' by RM Foley, two references were transposed.

On page 33, in the first paragraph of the Introduction, the reference for community concern about unemployment should be the *Albany Advertiser* article which is cited at the end of the following paragraph.

In the second paragraph of the Introduction, the reference to the Ottawa Charter should be reference 3.

### Of interest from the journals

#### Attitudes, beliefs

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