

## Charting New Territory: Body Esteem, Weight Satisfaction, Depression, and Self-Esteem Among Chinese Males and Females in Hong Kong

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*This study examined the relationship of body esteem, weight satisfaction, self esteem, and depression among 309 (186 females and 123 males) Chinese university students in Hong Kong. Females were found to have significantly lower body esteem [Body Esteem Scale: S. L. Franzoi and S. A. Shields (1984) "The Body Esteem Scale: Multidimensional Structure and Sex Differences in a College Population," Journal of Personality Assessment, Vol. 48, pp. 173-178] and higher depression [Center for Epidemiologic Studies Depression Scale: L. S. Radloff (1977) "The CES-D scale: A Self-Report Depression Scale for Research in the General Population," Applied Psychological Measures, Vol. 2, pp. 385-401] when compared to males, whereas males were found to have significantly more weight dissatisfaction. No significant difference was found in the area of self-esteem [Index of Self-Esteem: W. W. Hudson (1982) Clinical Measurement Package: A Field Manual, Chicago: Dorsey]. Females desired a significantly lower ideal body mass index, whereas, males desired a significantly higher ideal body mass index. The relationship between body esteem, weight satisfaction, and self-esteem was similar for males and females; however, the relationship between body satisfaction and depression was significant only for females. Findings are compared to similar research on European American samples and implications from a cross-cultural perspective are discussed.*

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The complex study of body image and body dissatisfaction has captured the attention of many researchers and clinicians as it appears related to core measures of well being such as self esteem and depression as well as clinical syndromes of anorexia nervosa and bulimia nervosa (e.g., Cash & Pruzinsky, 1990; Garner & Garfinkel, 1981). While numerous investigators concur that culture plays a vital role in determining one's satisfaction with their body (e.g., Slade, 1988, 1994) few studies have been conducted that have examined people of color in Europe or North America and even fewer have studied people in Asian countries.

Data on men and women from modernizing cultures in Asia would be important not only for cross cultural comparison but as a psychological marker during a time of rapid social change. For example, in the Chinese cultures increasing modernization and exposure to European American ideals has resulted in the devaluation of once sought after fat body (Buhrich, 1981) and a pressure to diet by women whose starting weight is below the ideals of European American women (Lee, 1996; Katzman 1996).

While women in economically developing cultures may aspire to an ever diminishing body size, in contrast, several studies have suggested that a larger male body size relates to perceived dominance and virility (e.g., Cassidy, 1991). As more men in Asia, with naturally smaller physiques, are exposed to European American men either through media, commerce or travel, it is possible that their self evaluation will be altered.

Research addressing the impact of culture change on the desirability of ideal body types have indeed demonstrated an impact for both men and women (Furnham & Baguma, 1994). Although it is possible that transformation in body preference may be related to modifications in mood and self-esteem, no study has yet documented the body esteem of Chinese men and women living in Asia nor related this to measures of self-esteem and depression.

Of the few studies examining body image in Asian men and women, the majority have sampled individuals in Japan (Endo, 1992; Kowner & Ogawa, 1993; Shibata & Nobechi, 1991), studied Asians living in Europe or North American (e.g., Arkoff & Weaver, 1966; Furnham & Baguma, 1994; Hill & Bhati, 1995; Marsella, Shizuru, Brennan, & Kameoka, 1981) or focused on people of Indian descent exposed to European or North American cultures (e.g., Mumford, Whitehouse, & Platts, 1991). Only one study has been published on Chinese men and women in Hong Kong (Lee et al., in press). Lee and colleagues demonstrated that male and female students when asked to evaluate satisfaction with various body parts, demonstrated a pattern of dissatisfaction paralleling reports of European American male and female students. Although the possible relation of

these results to self-esteem were mentioned, neither self-esteem or depression were directly evaluated in Lee et al. (in press).

Studies exploring the relationship between body satisfaction and self-esteem between European American males and females have revealed conflicting results. Some studies found a stronger correlation between female body esteem and general self esteem (Brenner & Cunningham, 1992; Lerner & Karabenick, 1974; Lerner, Orlos & Knapp, 1976); while, other studies found a stronger correlation between male body esteem and general self esteem still others reported no significant difference between male and female respondents (Franzoi & Shields, 1984; Koff, Rierdan & Stubbs, 1990; Mahoney, 1974; Silberstein, Striegel-Moore, Timko & Rodin, 1988).

An equally confusing picture emerges when reviewing the literature on body esteem and depression. Some studies reported a stronger relationship between depression and body dissatisfaction among females (Rosen, Gross & Vara, 1987; Striegel-Moore, Silberstein & Rodin, 1986); whereas, other studies found no difference on body dissatisfaction and depression ratings for male and female groups (Joiner, Schmidt, & Singh, 1994; Marsella et al., 1981; Mintz & Betz, 1986, Thompson & Psaltis, 1988). In light of the gaps and confusion in the existent literature, the present study was designed to explore the differences in the relationship of body esteem, weight satisfaction, depression and self-esteem among Chinese males and females in Hong Kong.

## METHOD

### *Procedures*

A self-administered questionnaire was distributed to a stratified sample of first year classes at the University of Hong Kong. All the questionnaires used in this study were translated into Chinese and back-translated by linguists at the University of Hong Kong. The questionnaires were then reviewed by an independent linguist before finalizing the translation. The class subject and department were varied to avoid sampling bias. Each of the sampled classes was a required undergraduate class for all students in that particular faculty; therefore, the classes included students with a variety of majors. The overall response rate was 68%. (The overall response rate varied significantly with sex: 81% males and 62% females). All respondents voluntarily participated in the study. The issues of confidentiality and anonymity were emphasized with all respondents.

### Participants

Participants included 309 (186 females and 123 males) students attending the University of Hong Kong. All subjects were single, undergraduate, Chinese students with a mean age of 19.62 (SD = .78). All subjects were born in Hong Kong and had lived in Hong Kong a minimum of 10 years (95% had lived in Hong Kong since birth). The means for height (in.), weight (lb.), and ideal weight (lb.) were 63.18 (SD = 2.92), 111.53 (SD = 13.72), and 105.28 (SD = 8.79) for females and 67.66 (SD = 2.34), 133.64 (17.85), and 137.83 (SD = 13.49) for males, respectively.

### Measures

A self-report questionnaire was administered to subjects which included demographic data (i.e., height, weight, ideal weight, age) and the following standardized instruments:

*Body Esteem.* Body image was measured with the Body Esteem Scale (BES) and weight dissatisfaction (WT-DIS). The BES is a 35 item self report measure dealing with the degree of satisfaction among various body parts or processes (Franzoi & Shields, 1984). The items were scored on a 5-point likert scale with higher scores indicating greater body part satisfaction. The scale includes three subscales: physical attractiveness for males and sexual attractiveness for females (BES1), upper body strength for males and weight concern for females (BES2) and physical condition for both males and females (BES3).

*Weight Satisfaction.* Weight satisfaction was determined by the absolute values of the discrepancy between Body Mass Index (BMI:  $\text{kg}/\text{m}^2$ ) and ideal Body Mass Index (IBMI: ideal  $\text{kg}/\text{m}^2$ ).

*Depression.* The Center for Epidemiologic Studies of Depression (CES-D) is a 20-item self report measure of depression (Radloff, 1977). The items were scored on a 4-point likert scale with higher scores indicating higher levels of depression. Although this instrument was developed on European American respondents, it has been tested with Chinese respondents in the United States (e.g., Kuo, 1984) and translated for Chinese respondents in Hong Kong (e.g., Chi & Boey, 1993).

*Self Esteem.* The Index of Self Esteem (ISE) is a 25-item self report measure of self-esteem (Hudson, 1982). The items were scored on a 5-point likert scale with higher scores indicating lower self-esteem. The scale was derived from 1742 respondents including Japanese Americans and Chinese American (Corcoran & Fisher, 1987).

## FINDINGS

Reliability analysis was first conducted on the study sample for each standardized instrument. Satisfactory reliability ( $\alpha > .70$ ) was revealed for all questionnaires among the study sample (Bloom & Fischer, 1982).

Table I presents mean scores of weight measures, body esteem measures, depression and self-esteem for males and females. The BMI was 20.50 for males and 19.55 for females. Females reported a significantly lower ideal BMI than current BMI ( $t = 8.45, p < .001$ ); whereas, males reported a significantly higher ideal BMI than current BMI ( $t = -2.55, p < .01$ ). More than twice as many females (74%) as males (29%) desired to be thinner; whereas, more than three times as many males (59%) as females (17%) desired to be heavier. Only 9% of females and 12% of males desired no change in current weight. Females as compared to males were found to have significantly more body dissatisfaction on the BES ( $t = -5.22, p < .001$ ) and higher depression ( $t = 3.06, p < .01$ ), but males reported greater weight dissatisfaction ( $t = -2.23, p < .05$ ), with the majority of males wishing to be larger. However, no significant gender differences were found on measures of self-esteem.

Differences among BES subscales were not compared due to differences in items for males and females; however, a multiple analysis of variance (MANOVA) was conducted to determine the overall effect of gender across all BES items. Findings revealed a main effect of sex ( $F(1,307) =$

Table I. Mean and Standard Deviations for Weight, Body Esteem, Depression, and Self-Esteem Among Chinese Males (N = 123) and Females (N = 186)<sup>a</sup>

Variable	Male	Females	t-Value
	Mean (SD)	Mean (SD)	
BMI	20.50 (2.98)	19.55 (2.49)	-2.85 <sup>c</sup>
IBMI	21.11 (2.86)	18.47 (1.51)	-10.32 <sup>b</sup>
WT-DIS	1.88 (1.75)	1.45 (1.40)	-2.23 <sup>a</sup>
BES	108.63 (16.28)	100.39 (11.48)	-5.22 <sup>b</sup>
BES-1	35.24 (5.48)	39.92 (4.64)	
BES-2	26.82 (5.73)	25.33 (5.63)	
BES-3	40.50 (7.45)	26.57 (4.06)	
CES-D	19.17 (9.39)	22.54 (9.41)	3.06 <sup>c</sup>
ISE	49.26 (11.27)	49.54 (11.84)	.21

<sup>a</sup>No group comparisons on BES subscales due to differences among individual items for males and females.

<sup>b</sup> $p < .001$ .

<sup>c</sup> $p < .01$ .

3.64;  $p < .001$ ). Gender differences among body part items are presented in Table II. When compared to men, women report the least satisfaction with the following body areas (items are presented in descending order): hips, thighs, legs, appearance of stomach, agility, buttocks, feet, figure or

Table II. Mean and Standard Deviations for BES Individual Items Among Chinese Males ( $N = 123$ ) and Females ( $N = 186$ )<sup>a</sup>

	Male Mean (SD)	Females Mean (SD)	t-Value
Nose	3.31 (.89)	2.95 (.87)	3.48 <sup>b</sup>
Lips	3.21 (.89)	3.27 (.90)	-.51
Ears	3.43 (.77)	3.49 (.83)	-.71
Chin	3.27 (.78)	3.15 (.80)	1.25
Buttocks	2.83 (.84)	2.32 (.93)	4.93 <sup>b</sup>
Appearance of eyes	3.46 (.97)	3.41 (1.06)	.39
Cheeks/cheekbones	3.11 (.80)	3.05 (.79)	.58
Hips	2.92 (.74)	2.31 (.87)	6.60 <sup>b</sup>
Feet	3.08 (.82)	2.59 (.93)	4.88 <sup>b</sup>
Sex organs	3.27 (.72)	3.00 (.58)	3.41 <sup>b</sup>
Face	3.32 (.82)	3.14 (.69)	1.94 <sup>d</sup>
Muscular strength	2.84 (.93)	2.80 (.65)	.39
Biceps	2.90 (.91)	2.85 (.61)	.57
Body build	2.85 (.91)	2.79 (.79)	.61
Physical coordination	3.17 (.84)	2.88 (.82)	2.92 <sup>c</sup>
Width of shoulders	3.05 (.93)	3.09 (.95)	-.38
Arms	3.02 (.85)	3.01 (.82)	.12
Chest or breast	2.83 (.84)	2.80 (.84)	.30
Weight	2.79 (.93)	2.54 (.95)	2.30
Sex drive	3.14 (.69)	2.92 (.58)	2.95 <sup>c</sup>
Appetite	3.28 (.82)	3.01 (.89)	2.67 <sup>c</sup>
Physical stamina	2.98 (.93)	2.81 (.83)	1.58
Reflexes	3.49 (.91)	3.11 (.77)	3.76 <sup>b</sup>
Waist	2.98 (.79)	2.62 (.88)	3.67 <sup>b</sup>
Energy level	2.98 (.83)	2.78 (.79)	2.03 <sup>d</sup>
Thighs	2.98 (.90)	2.32 (.87)	6.49 <sup>b</sup>
Agility	3.41 (.96)	2.86 (.82)	5.12 <sup>b</sup>
Figure or physique	2.96 (.89)	2.57 (.75)	3.99 <sup>b</sup>
Appearance of stomach	2.87 (.89)	2.27 (.76)	6.06 <sup>b</sup>
Health	3.34 (.91)	3.15 (.83)	1.88
Physical condition	3.32 (.81)	3.26 (.83)	.72
Body scent	2.96 (.90)	3.04 (.82)	-.78
Body hair	3.06 (.68)	2.76 (.87)	3.35 <sup>b</sup>
Legs	3.13 (.79)	2.51 (.95)	6.21 <sup>b</sup>
Sex activities	3.21 (.69)	2.92 (.61)	3.64 <sup>b</sup>

<sup>a</sup>Higher scores = higher body satisfaction.

<sup>b</sup> $p < .001$ .

<sup>c</sup> $p < .01$ .

<sup>d</sup> $p < .05$ .

## Body Esteem in Chinese Males and Females

physique, reflexes, waist, sex activities, nose, sex organs, body hair, sex drive, physical coordination, appetite, weight, energy level, and face. Males reported no significant dissatisfaction when compared to females on any specific body part.

Pearson correlations were used to assess the relationship among the body esteem, weight dissatisfaction, self esteem and depression for females and males (Table III). Females revealed high correlations among all body esteem measures (BES, BES1, BES2, BES3). Weight dissatisfaction was correlated with the higher body dissatisfaction (BES;  $r = -.29, p < .001$ ) and weight concern (BES2;  $r = -.48, p < .001$ ), but weight dissatisfaction was not correlated with sexual attractiveness (BES1) or physical condition (BES3). Higher self-esteem was correlated with less depression ( $r = .53, p < .001$ ), sexual attractiveness (BES1;  $r = -.37, p < .001$ ), weight concern (BES2;  $r = -.32, p < .001$ ) and physical condition (BES3;  $r = -.39, p < .001$ ), but self-esteem was not correlated with weight dissatisfaction. Similarly, lower depression was correlated with more satisfaction with overall body esteem (BES;  $r = -.46, p < .001$ ), sexual attractiveness (BES1;  $r = -.37, p < .001$ ), weight concern (BES2;  $r = -.35, p < .001$ ) and physical condition (BES3;  $r = -.23, p < .001$ ), but not with weight dissatisfaction.

All body esteem measures for males also revealed high correlations among (BES, BES1, BES2, BES3). However, weight dissatisfaction was only correlated with lower satisfaction of overall body esteem (BES;  $r = -.23, p < .05$ ) and upper body strength (BES2;  $r = -.31, p < .001$ ). Higher self-esteem in males was correlated with less depression ( $r = .54, p < .001$ )

Table III. Correlation Matrix for Body Esteem, Weight Dissatisfaction, Self-Esteem, and Depression for Chinese Males (N = 123) and Females (N = 186).<sup>a</sup>

Females	Males						
	BES	BES1	BES2	BES3	WT-DIS	ISE	CES-D
BES	—	.798 <sup>b</sup>	.891 <sup>b</sup>	.918 <sup>b</sup>	-.225 <sup>d</sup>	-.451 <sup>b</sup>	-.277 <sup>b</sup>
BES1	.673 <sup>b</sup>	—	.546 <sup>c</sup>	.580 <sup>b</sup>	-.087	-.389 <sup>b</sup>	-.166
BES2	.780 <sup>b</sup>	.260 <sup>b</sup>	—	.820 <sup>b</sup>	-.314 <sup>b</sup>	-.384 <sup>b</sup>	-.237 <sup>c</sup>
BES3	.713 <sup>b</sup>	.334 <sup>b</sup>	.363	—	.167	-.362 <sup>b</sup>	-.314 <sup>c</sup>
WT-DIS	-.290 <sup>b</sup>	.087	-.482 <sup>b</sup>	-.109	—	.137	.127
ISE	-.462 <sup>b</sup>	-.371 <sup>b</sup>	-.324 <sup>b</sup>	-.385 <sup>b</sup>	.036	—	.541 <sup>c</sup>
CES-D	-.368 <sup>b</sup>	-.262 <sup>b</sup>	-.353 <sup>b</sup>	-.232 <sup>b</sup>	.029	.534 <sup>b</sup>	—

<sup>a</sup>Upper right-hand denotes correlation matrix for male students. Lower left-hand denotes correlation matrix for female students.

<sup>b</sup> $p < .001$ .

<sup>c</sup> $p < .01$ .

<sup>d</sup> $p < .05$ .

Table IV. Regression Coefficients for Depression, Self-Esteem, and Weight Dissatisfaction on Body Esteem for Chinese Males and Females<sup>a</sup>

Variable	B	SE B	$\beta$
Female			
Depression	-2.23	0.52	-.27 <sup>b</sup>
Self-esteem	-0.35	0.07	-.35 <sup>b</sup>
Weight dissatisfaction	-0.22	0.09	-.18 <sup>d</sup>
Males			
Depression	-0.15	0.18	-.09
Self-esteem	-0.44	0.15	-.30 <sup>c</sup>
Weight dissatisfaction	-1.64	0.84	-.18 <sup>d</sup>

<sup>a</sup> $R^2 = .30$  for females;  $R^2 = .18$  for males.

<sup>b</sup> $p < .001$ .

<sup>c</sup> $p < .01$ .

<sup>d</sup> $p < .05$ .

and more satisfaction with overall body esteem (BES;  $r = -.45$ ,  $p < .001$ ), physical attractiveness (BES1;  $r = -.39$ ,  $p < .001$ ), upper body strength (BES2;  $r = -.38$ ,  $p < .001$ ) and physical condition (BES3;  $r = -.36$ ,  $p < .001$ ). Self-esteem was not correlated with weight dissatisfaction. Lower depression in males was correlated with higher satisfaction with overall body esteem (BES;  $r = -.28$ ,  $p < .001$ ), physical condition (BES3;  $r = -.31$ ,  $p < .001$ ) and upper body strength (BES2;  $r = -.24$ ,  $p < .01$ ); however, depression was not correlated with physical attractiveness (BES1) or weight dissatisfaction.

Multiple regression analysis was used to predict depression, self-esteem and weight dissatisfaction on overall body esteem for both males and females, separately. As shown in Table IV, all predictor variables were entered simultaneously so that the regression coefficients represent the unique contribution of a variable in the full model, net of other variables. For females, the predictor variables accounted for 30% of the variance in body esteem [ $R^2 = .30$ ,  $F(3,174) = 25.37$ ,  $p < .000$ ]. Higher self-esteem was the strongest predictor of body satisfaction ( $\beta = -.35$ ,  $t = -4.72$ ,  $p < .000$ ) followed by lower weight dissatisfaction ( $\beta = -.27$ ,  $t = -4.29$ ,  $p < .000$ ) and depression ( $\beta = -.18$ ,  $t = -2.44$ ,  $p < .05$ ). For males, the predictor variables accounted for 18% of the variance in body esteem [ $R^2 = .18$ ,  $F(3, 104) = 7.47$ ,  $p < .000$ ]. Higher self-esteem was the strongest predictor of body satisfaction ( $\beta = -.30$ ,  $t = -2.81$ ,  $p < .01$ ) followed by lower weight dissatisfaction ( $\beta = -.18$ ,  $t = -1.95$ ,  $p < .05$ ); however, depression was not a significant predictor of body esteem in males.



## SUMMARY

The current study found that more Chinese women than men report dissatisfaction with a number of their body parts and desire to weigh less, findings which concur with Chinese (Lee et al., in press) as well as European American studies (e.g., Fallon & Rozin, 1985; Franzoi & Herzog, 1987; Mintz & Betz, 1986; Wardle & Beales, 1986). Women were most dissatisfied with body parts associated with adult sexuality (e.g., thighs, waist, hips, buttocks). However, in this Chinese sample as in Lee et al. (in press) the women's face and feet were also of concern not her chest reflecting more traditional Chinese views of feminine attractiveness. The data also revealed that when compared to women, men reported greater overall weight dissatisfaction. The majority of Chinese men wished to be heavier. For both women and men weight dissatisfaction was not correlated with self rated sexual attractiveness or self-esteem. Male and females did not differ on individual ratings of muscular strength, body build, biceps, health or stamina.

Not surprisingly, the less depressed men and women had greater self and body esteem. For women and men high self esteem was the greatest predictor of body esteem; however, for women only depression was also a significant predictor of body esteem. The difference in the relation of self esteem, depression and body esteem for men and women parallel findings on European American men and women west reported by Rosen et al. (1987) and Striegel-Moore et al. (1986). It is interesting to note that for men and women, weight dissatisfaction was not correlated with self perceived sexual attractiveness and men and women both related relative comfort with the health and condition of their body. Why then are they dissatisfied? Toward what end do they want to change themselves?

The current study did not assess compensatory behaviors associated with poor body esteem and weight dissatisfaction. Future investigations are needed to determine whether the weight dissatisfaction reported by Chinese men will result in increased use of exercise, steroids or possibly padded clothing or elevator shoes. The finding that Chinese women desire a slimmer weight concur with earlier reports (Lee et al., in press) and suggest that the dieting prodromal for eating disorders (Patton et al, 1990; Killer et al., 1994, Pike, 1995) may be present in societies once thought to be exempt from such disorders.

While this report provides necessary data on an under researched group, the present study lacks a comparison sample in Europe or North America. Future research comparing male and female Chinese individuals in cross-cultural environments is needed not only for theorizing but also

to potentially advance our understanding about the development and prevention of body image disturbances.

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