Disordered Eating in Three Communities of China: A Comparative Study of Female High School Students in Hong Kong, Shenzhen, and Rural Hunan

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Abstract: **Objective:** *To examine disordered eating and its psychological correlates among female high school students in three Chinese communities that lay on a gradient of socioeconomic development in China.* **Method:** *796 Chinese students from Hong Kong, Shenzhen, and rural Hunan completed a demographic and weight data sheet, the Eating Attitudes Test (EAT-26), a Body Dissatisfaction Scale (BDS), the Beck Depression Inventory (BDI), and the Rosenberg Self-Esteem Scale (RSES).* **Results:** *Compared to students in Hunan and to a lesser extent students in Shenzhen, students from Hong Kong were slimmer, but desired a lower body mass index (BMI), reported more body dissatisfaction, exhibited a more typical EAT-26 factor structure, scored higher on the "fat concern and dieting" factor, and constituted more EAT-26 high scorers. Multiple regression analyses indicated that BDS was the most significant predictor of fat concern at each site, but this effect was strongest in Hong Kong. Hunan students had significantly higher BDI scores but lower fat concern than Shenzhen and Hong Kong students.* **Discussion:** *The consistent gradient of fat concern across the three communities gives credence to the view that societal modernization fosters disordered eating in women, possibly via the gendered social constraints that accompany it. It is also expressive of the marked socioeconomic heterogeneity within China nowadays. The predictable rising rate of eating disorders that follows global change will pose a growing public health challenge to Asian countries. © 2000 by John Wiley & Sons, Inc.* Int J Eat Disord 27: 317–327, 2000.

Key words: *disordered eating; Chinese communities; gradient; modernity*

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INTRODUCTION

Whereas the prevalence of eating disorders may have begun to abate in the United States (Heatherton, Nichols, Mahamedi, & Keel, 1995), problematic eating attitudes and behaviors pertaining to the fear of fatness are now commonly found among young females in high-income East Asian societies such as Japan, Singapore, Hong Kong, Taiwan, and the Republic of Korea (Koh & Tian, 1994; Lee, 1996). They have also appeared less frequently in major cities in low-income Asian countries such as China, India, Indonesia, and the Philippines (Chadda, Malhotra, Asad, & Bambery, 1987; Efron, 1997), in some regions of which hunger remains, ironically, a public health problem (The World Bank, 1997a). In postcommunist Eastern Europe, South America, the Middle East, and parts of Africa too, disordered eating appears to be on the increase (Nasser, 1997).

The transnational diffusion of fat concern is usually attributed to the differential impact of global forces, including advertising, fashion, eating style, and economic changes engendering conflictual demands on women vis-à-vis reproduction and labor participation. That eating disorders have become global affirms the view that they represent a generic ailment not of Westernization but of the gendered forces of modernity (Katzman & Lee, 1997; Lee, 1996; Littlewood, 1995). Yet, what limited evidence that is available indicates that clinical eating disorders in the form of anorexia nervosa and bulimia nervosa remain, with the possible exception of Japan (Mukai, Crago, & Shisslak, 1994), much rarer in Asian than Western societies.

At least three factors appear to account for this discrepancy between the ubiquity of fat concern and the clinical rarity of eating disorders. The first is the underrecognition of these disorders as they are currently defined (World Health Organisation, 1992). The second is the sometimes atypical presentation of anorexia nervosa, leading to its misdiagnosis and undertreatment (Lee, 1995; Lee, Lee, & Leung, 1998). The third is that disordered eating exists on a continuum of severity, with a predominantly "cognitive" fear of fatness in Asian societies at one end and high rates of eating disorders in established market economies at the other (Lee, 1993).

The extant literature on the study of culture and eating disorders is mostly crossnational or crossethnic in nature (Caldwell, Brownell, & Wilfley, 1997). Not much work has addressed the question of whether a continuum of problematic eating may exist within one ethnically homogeneous country (over 90% of China's 1.2 billion population are ethnically Han Chinese). Inasmuch as China has experienced a rapid transformation in the recent two decades and now exhibits enormous socioeconomic heterogeneity (Lee & Kleinman, 1997; The World Bank, 1997a, 1997b), it furnishes a natural laboratory within which to examine disordered eating and social transitions. The main objective of this study was to compare disordered eating and its psychological correlates in three communities in China that lay on a gradient of economic development and societal modernization.

METHODS

Sample Characteristics

Data for this study was obtained in 1996 from Hong Kong, Shenzhen, and Hunan. Subjects were Chinese students from four all-girl high schools. A total of 796 sets of questionnaires were collected on a single day at each site (N = 244, 286, and 266 respectively).

Hong Kong Sample

The Hong Kong sample was composed of Grade 10 and 12 female students from a government-subsidized school. Hong Kong was formerly a British colony. Since July 1, 1997, it has become a Special Administrative Region of China, situated in the country's southeastern part. Since the early 1950s, it has grown steadily from an entrepôt to an internationally acclaimed metropolis and financial hub. In 1995, it had a GDP per capita of US $23,000 and low unemployment and underemployment rates (2.3% and 1.1% of the labor force, respectively; Government Information Offices, 1996). Over 95% of its 6.3 million population were Chinese, while the rest were composed of people of diverse nationalities. Compared to mainland China, which is about 70% rural, Hong Kong is a very modern city that has witnessed a noticeable rise in clinical eating disorders (Lee, 1996).

Shenzhen Sample

The Shenzhen sample consisted of Grade 11 students from two high schools. Situated north and adjacent to Hong Kong and a part of the prosperous southern province of Guangdong, Shenzhen is China's first Special Economical Zone. By contrast to its small township population of about 3,000 people two decades previously, its population in 1996 was 3.58 million, of which 2.55 million were young migrant workers who came from various parts of China. With its staggering growth under a market-oriented economy and substantial trade relations with Hong Kong, Shenzhen has come to epitomize China's prosperity and liberation (Zhao, 1997). New high-rise office blocks, hotels, factories, and highways make up its urbanized landscape. Every day, tens of thousands of Hong Kong people travel for both work and pleasure to Shenzhen, where television and radio programs from Hong Kong can be freely received. Arguably, Shenzhen is one of the most modernized regions in mainland China, although its general standard of living remains much lower than in Hong Kong. Fashion boutiques and fast food shops are commonly seen, while eating disorders have appeared clinically in the second half of 1990s.

Hunan Sample

The Hunan sample was made up of Grade 11 students in a school situated in a mountainous region in southern Hunan. Hunan is a largely rural province in southeast-central China, with a population of 56 million. Economically, it is considerably less developed than Hong Kong and Shenzhen. At the time of the study, the average annual income per person living in the area of study was RMB 890 (about US$100). Very few people had a television set at home or had access to fashion magazines. The school from which the students were recruited was situated in the countryside, about 40 km away from the nearest city. Because of the scarcity of tertiary educational facilities, less than 10% of the students were expected to proceed to further education. Near the school were some small boutiques and shops where students could sometimes watch local television programs. Unlike in the Maoist era of tight control of population movement, however, people in Hunan can travel freely to the more prosperous coastal and southern parts of China. At the time of the study, eating disorders were rarely heard of in rural Hunan.

Instruments and Their Administration

All instruments were in Chinese. Each set of questionnaires contained a demographic and weight data sheet, the 26-item Eating Attitudes Test (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982), a Body Dissatisfaction Scale (BDS), the 13-item Beck Depression In-

ventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965).

The demographic and weight data sheet included questions about age, height, current body weight, and desired body weight (i.e., the weight preferred by the subject herself). The EAT-26 (range 0–78) has been used as a measure of disordered eating in both Western and non-Western populations. Its Chinese version exhibited good reliability and validity among undergraduates (Lee, 1993) as well as high school students in Hong Kong (Lee & Lee, 1996). It was scored using the 0–3 method in the present study. The BDS (range 0–27) is a nine-item 6-point Likert type self-report instrument adapted from Lee and Lee (1996). It assesses dissatisfaction with overall body shape and four body parts including waist, thighs, hips, and buttocks. The Chinese BDI (range 0–39) demonstrated satisfactory reliability and validity among undergraduates in Hong Kong (Chan, 1991). The Chinese RSES (range 10–40) is commonly used as a measure of global self-esteem in China (Wang, 1993).

On the day of data collection at each site, students were briefed and invited to participate on a voluntary and anonymous basis. Informed consent was obtained and confidentiality was assured. Questionnaires were group administered during class and were collected right after completion. Researchers were available to answer any questions raised by students, none of whom declined participation. Seven incompletely filled questionnaires were excluded from analysis.

RESULTS

Demographic and Anthropometric Data

The mean age of the subjects was slightly younger in Hong Kong than in Shenzhen and Hunan (Table 1). Subjects were generally slim. A tiny proportion of students in Hong Kong (3.6%) and Shenzhen (0.4%), and none in Hunan (0%), were mildly obese (current body mass index [cBMI]: 25–30 kg/m^2). The cBMI (current weight in kg/height in m^2), like the desired BMI (dBMI: desired weight in kg/height in m^2), was lowest in Hong Kong (median 18.75 kg/m^2) and highest in Hunan (median 19.72 kg/m^2), with Shenzhen (median 19.53 kg/m^2) in between. More students in Hong Kong (74.3%) and Shenzhen (60.6%) than in Hunan (44.3%) desired to weigh less (dBMI < cBMI).

Reliability

The Cronbach alphas of the instruments were satisfactory at all three sites, being .75, .68, and .73 for the EAT-26; .86, .76, and .81 for the BDS; .79, .79, and .75 for the BDI; and .79, .71, and .66 for the RSES, respectively.

Factor Analysis

Separate principal components factor analyses with oblimin rotation were performed for each sample. Examination of scree plots and interpretation of the factors (on which items loaded above .35) indicated partially similar factorial structures for the three sites. The three factors (which explained 37.5% of the total variance) for the Hong Kong sample were familiar (Garner et al., 1982): Fat Concern and Dieting (1, 2, 6, 7, 11, 12, 14, 16, 17, 22, 23, 24; 20.2% variance; $\alpha = .80$); Food Preoccupation (3, 4, 10, 18, 21; 9.4% variance; $\alpha = .78$); and Social Pressure to Eat (5, 8, 9, 13, 15, 20, 26; 7.8% variance; $\alpha = .53$). For the Shenzhen

Table 1. Comparison of subjects in Hong Kong, Shenzhen, and Hunan

	Hong Kong	Shenzhen	Hunan	Significance
Sample size	244	286	266	
Age	16.34 (1.16)	17.49 (.90)	17.31 (.73)	$F(2,792) = 110.96$ $p < .0001$*,**
cBMI (kg/m^2)	19.21 (2.59)	19.61 (1.78)	19.67 (1.48)	$F(2,754) = 3.82$ $p < .05$*,**
dBMI (kg/m^2)	18.03 (1.49)	18.99 (1.27)	19.49 (1.34)	$F(2,738) = 67.63$ $p < .0001$*,**,***
dBMI<cBMI (%)	74.3	60.6	44.3	$X^2 = 44.29$ ($df = 4$)
dBMI = cBMI (%)	8.1	14.1	22.0	$p < .00001$*,**,***
dBMI > cBMI (%)	17.6	25.3	33.7	
cBMI < 17.5 kg/m^2 (%)	23.7	9.7	6.1	$X^2 = 37.09$ ($df = 2$) $p < .00001$*,**
EAT-26	9.74 (7.19)	6.96 (5.80)	6.56 (5.78)	$F(2,743) = 18.30$ $p < .0001$*,**
CFCF	6.01 (4.97)	3.89 (4.29)	3.11 (4.30)	$F(2,773) = 27.14$ $p < .0001$*,**
EAT-26 high scorers (%)****	10.8	5.2	2.5	$X^2 = 15.05$ ($df = 1$) $p < .001$
BDS	13.65 (6.80)	11.03 (5.25)	10.88 (5.86)	$F(2,764) = 16.76$ $p < .0001$*,**
BDI	8.45 (5.55)	6.29 (5.27)	8.87 (5.75)	$F(2,754) = 16.40$ $p < .0001$*,***
RSES	27.29 (3.76)	28.48 (3.44)	28.24 (3.38)	$F(2,770) = 7.89$ $p < .0005$*,**

Note: cBMI = current body mass index; dBMI = desired body mass index; EAT-26 = Eating Attitudes Test; BDS = Body Dissatisfaction Scale; CFCF = common fat concern factor; BDI = Beck Depression Inventory; RSES = Rosenberg Self-Esteem Scale.

*Hong Kong significantly different from Hunan; **Hong Kong significantly different from Shenzhen; ***Shenzhen significantly different from Hunan (Tukey's B); ****Hong Kong significantly different from Hunan ($X^2 = 13.51$ [$df = 1$], $p < .0002$) and from Shenzhen ($X^2 = 5.44$ [$df = 1$], $p < .02$); no significant difference between Shenzhen and Hunan.

sample, the three factors (which explained 35.3% of the total variance) were similar to those of Hong Kong: Fat Concern and Dieting (1, 2, 6, 7, 11, 12, 14, 16, 17, 22, 23; 17.4% variance; $\alpha = .80$); Food Preoccupation (3, 4, 10, 21; 9.1% variance; $\alpha = .61$); and Social Pressure to Eat (6, 13, 15, 18, 20; 8.9% variance; $\alpha = .32$). A Food Preoccupation factor did not emerge in Hunan, where the three factors (which explained 33.9% of the total variance) were Fat Concern and Dieting (1, 2, 6, 11, 12, 14, 16, 17, 22; 18.4% variance; $\alpha = .81$); Vomiting (9, 10, 26; 8.9% variance; $\alpha = .71$); and Social Pressure to Eat (5, 7, 8, 13, 15, 19, 20; 6.6% variance; $\alpha = .52$). At the three sites, two (19, 25), six (5, 9, 19, 24, 25, 26), and seven (3, 4, 18, 21, 23, 24, 25) items did not load on any factor.

In order that metric equivalence for cross-site comparison might be achieved (Poortinga, 1989), the same nine items that loaded on the first factor at each site were used as a common measuring rod (hereafter termed "common fat concern factor" [CFCF]; $\alpha = .81$, .79, .81, respectively). The endorsement frequencies of these items affirmed a highly consistent gradient of fat concern, strongest in Hong Kong and mildest in Hunan (Table 2).

EAT-26 Scores and High Scorers

The EAT-26 and CFCF scores also demonstrated a gradient, being highest in Hong Kong and lowest in Hunan, with Shenzhen in between. When a cutoff point of 19/20 was

Table 2. Nine EAT-26 items with metric equivalence and their endorsement frequencies

Item Number	Endorsement Frequency (%)[a]		
	Hong Kong	Shenzhen	Hunan
1. Terrified about being overweight	21.2	33.2	23.3
2. Avoid eating when I am hungry	7.8	2.4	1.1
6. Aware of how fattening the foods that I eat are	47.5	25.6	25.1
11. Am preoccupied with a desire to be thinner	46.3	32.2	21.1
12. Think about burning up calories when I exercise	43.9	30.8	17.4
14. Am preoccupied with the thought of having fat on the body	35.8	15.0	14.3
16. Avoid foods with sugar in them	6.6	4.5	5.7
17. Eat diet foods	3.7	3.5	3.0
22. Feel uncomfortable after eating sweets	7.4	5.3	4.5

Note: EAT-26 = Eating Attitudes Test.
[a]Responses scored 1–3 were collapsed to give these frequencies.

used (Garner et al., 1982), the Hong Kong sample had the highest percentage of EAT-26 high scorers (10.8%), followed again by Shenzhen (5.2%) and Hunan (2.5%) (Table 1).

Psychological Correlates

Hunan students reported the highest BDI but lowest BDS and CFCF scores (Table 1). Students from Hong Kong had slightly lower RSES scores than those from Shenzhen and Hunan. For the Hong Kong sample, CFCF correlated with BDS ($r = .61$, $p < .001$), cBMI ($r = .34$, $p < .001$), and BDI ($r = .15$, $p = .019$), but not with RSES. In Shenzhen, CFCF correlated with BDS ($r = .44$, $p < .001$), cBMI ($r = .40$, $p < .001$), and BDI ($r = .16$, $p = .007$), but not with RSES. For the Hunan sample, CFCF correlated with BDS ($r = .40$, $p < .001$) and cBMI ($r = .22$, $p < .001$), but not with BDI or RSES.

Multiple Regression Analysis

A stepwise multiple regression was performed using cBMI, BDS, BDI, and RSES as predictor variables and CFCF as the dependent variable. In Hong Kong, BDS ($\beta = .65$, $p < .0001$) and RSES ($\alpha = .14$, $p < .05$) emerged as significant predictors of CFCF ($R^2 = .38$). In Shenzhen, BDS ($\beta = .36$, $p < .0001$) and cBMI ($\beta = .24$, $p = .0001$) emerged as significant predictors of CFCF ($R^2 = .27$). In Hunan, BDS alone ($\beta = .39$, $p < .0001$) emerged as the significant predictor of CFCF ($R^2 = .15$).

In Hong Kong, BDI correlated with CFCF but was not a significant predictor of CFCF in multiple regression. This showed that BDI did not make any contribution to CFCF extra to that of BDS. Stated differently, BDI's relationship with CFCF was primarily mediated through its relationship with BDS. In Hunan, cBMI did not make any contribution to CFCF independent of BDS, indicating that a bigger body size without body dissatisfaction was not significantly related to CFCF there.

Given the importance of BDS in predicting CFCF at each site, a multiple regression was performed with CFCF as the dependent variable and BDS, site, and their interaction as predictors. Results showed that BDS ($\beta = .27$, $p < .0001$) as well as the interaction between BDS and Hong Kong ($\beta = .17$, $p < .005$) were significant predictors of CFCF ($R^2 = .30$). The significant BDS × Hong Kong interaction indicated that the effect of BDS on CFCF was

different between Hong Kong and Hunan. In contrast, the effect of BDS on CFCF was not significantly different between Shenzhen and Hunan. Site did not emerge as a significant predictor of CFCF, showing that significant differences in CFCF across the sites was entirely explained by BDS.

DISCUSSION

Our subjects may not represent the general population of young females at the respective sites, especially for a sizeable province such as Hunan. Another issue of concern is the contextual validity of the EAT-26 in three Chinese communities where dissimilar patterns of food and body symbolism might exist (King & Bhugra, 1989). However, although six and seven EAT-26 items did not load on any factor in Shenzhen and Hunan, respectively, the consistent emergence of a familiar and internally consistent Fat Concern and Dieting factor at the three sites would suggest that our subjects comprehended the relevant items in a fashion consistent with conventional usage, and exhibited a qualitatively similar complex of fat concern as Western females (Brislin, Lonner, & Thorndike, 1973). Nonetheless, since the CFCF would not tap indigenous idioms of distress pertaining to eating dysregulation (Lee, 1995; Lee et al., 1998), future work must go beyond self-reporting and is best supplemented with qualitative research.

With these caveats, one main finding of the present study is that young females in three socioeconomically different regions of China were aware of matters pertaining to fat concern and dieting. This is despite the fact that they were far from being overweight. Their mean cBMI was much lower than that of American undergraduates (Bailey, Goldberg, Swap, Chomitz, & Houser, 1990: 22.6 kg/m^2), and was even lower than that of Grade 6–7 American schoolgirls (Killen et al., 1994: 20.3 kg/m^2). Since a substantial proportion of students in Hong Kong (74%), Shenzhen (61%), and Hunan (44.3%) desired a lower BMI, the preference for slimness has clearly become a collective phenomenon among young Chinese females in the 1990s. In our experience, although some constitutionally skinny Chinese females do desire to put on weight (Lee, 1993; Table 1), greeting young women with "you have put on weight" (*fafu*), which used to be regarded as a compliment, may now be considered an offensive remark in Hong Kong.

Obesity and fatness are, of course, not the same thing. The former is a biomedically configured entity (e.g., a BMI of 25–30 kg/m^2 designates mild obesity), whereas the latter varies with personal, interpersonal, and cultural norms vis-à-vis body size (Ritenbaugh, 1991). By electing to have a lower BMI, the majority of students in Hong Kong and Shenzhen might be deemed to feel fat even though they were not obese.

Several lines of evidence, however, would seem to suggest that students in Hunan were more tolerant of bodily fullness, and hence exhibited less fat concern than students in Hong Kong and, to a lesser extent, Shenzhen. First, although their mean cBMI was the highest of the three sites, a significantly smaller proportion of them desired to weigh less (Table 1). Second, mean EAT-26 and CFCF scores (see also item endorsement frequencies in Table 2) as well as the percentage of EAT-26 high scorers were all low in Hunan. Third, EAT-26 and CFCF scores were not correlated with depression, suggesting that fat concern was not a popular mode of articulating distress in rural China. Finally, Hunan students expressed the lowest intensity of body dissatisfaction, as measured by the BDS and revealed in multiple regression analysis.

The gradient of fat concern across the three sites of study lends credence to the view that disordered eating may be linked less to ethnicity than modernity or socioeconomic

status (Caldwell et al., 1997; Littlewood, 1995). Among East Asian countries, eating disorders were first documented in the 1960s in Japan, where they are now common clinical problems (Mukai et al., 1994). Clinical reports of these disorders have also appeared in several other Asian countries in the 1990s (Goh, Ong, & Subramaniam, 1993; Lee, 1996). As for Hong Kong, we first reported 3 patients with anorexia nervosa in 1989 (Lee, Chiu, & Chen, 1989) and 4 patients with bulimia nervosa in 1992 (Lee, Hsu, & Wing, 1992). Since then, the clinical prevalence of eating disorders has clearly increased. From 1987 to August 1999 at a university-affiliated psychiatric unit, we treated 84 and 31 patients with anorexia nervosa and bulimia nervosa, respectively. Over one half of these patients presented themselves in the second half of the 1990s.

As economic liberalization encourages Asian governments to deregulate television, magazine, and newspaper advertising, hyperslim movie stars, models, and pop music figures project a powerful image that rigidly equates success with a young, slender, and glamorously adorned woman. Diet and fashion industries then both reinforce and feed on the cultural idealization of slimness and the hegemonic "be more beautiful" discourse (Malson, 1998). This is evidenced by the appearance of an endless paraphernalia of slimming products that commodify women's bodies and fluidize their identities, such as diet pills, cellulite creams, and diarrhea-inducing herbal teas in Hong Kong. In Japan where young women are already quite slim, even facial slimming treatments are known to have become a lucrative form of business (Efron, 1997).

The present study precludes us from concluding whether the subjects' fear of fatness has been translated into serious weight control behavior (Lee, 1993). Nonetheless, it is our impression that fat concern has intensified among young Chinese females in the late 1990s. This may be shown by the fact that an even higher percentage of our Hong Kong students (74.3%) than female college students in the United States (Heatherton et al., 1995: 71.8%) desired to lose weight. This intensification of fat concern is also suggested by the finding that the mean EAT-26 score (10.8) of our students was higher than that (8.4) of students we studied in the same school in 1993 (Lee & Lee, 1996) as well as female undergraduates we surveyed in 1991 (5.9; Lee, 1993). It was also slightly higher than that of 15-year-old English schoolgirls (9.6; Mann et al., 1983). Additionally, the factor structure of the EAT-26 in Hong Kong is nearly a replica of that found in the West (Garner et al., 1982). The fact that RSES emerged as a significant predictor of CFCF in multiple regression analysis affirmed that the self-esteem of young women in Hong Kong has become body-contingent (Davis & Katzman, 1998).

It would be simplistic to attribute fat concern to the media, BMI, or "Westernization" alone. Rather, the intensification of fat concern is embedded in a gendered complex of hegemonic forces that accompany global economic change. Thus, three decades of rapid industrialization have brought about unprecedented changes in Hong Kong women's condition vis-à-vis education, employment opportunities, consumerist behavior, mate choice, birth control, health, and legal rights (Pearson & Leung, 1995). These changes have created conflicting demands on young women to strive simultaneously for career accomplishment, self-control, and a desirable marital partner before they look old—the culturally exalted goals of femininity that are ambivalently embodied in a slim body (Malson, 1998; Murnen & Smolak, 1997). The relative absence of these gendered social constraints in rural Hunan and Shenzhen may help explain the lower rate of fat concern as well as eating disorders among young women there.

At the macroscopic level, the gradient of fat concern we demonstrated speaks to China's marked intranational heterogeneity, which powerfully shapes the social roles of urban and rural women. Although China's GDP per capita has grown at a remarkable 8.2% a

year since economic reforms started in 1978, the benefits of growth are very unevenly distributed (The World Bank, 1997b). Depending on where they are born and reside, women in China may lead very different lives and experience their bodies quite differently. For young urban women who enjoy education, career development, and mate choice, slimness is emblematic of attractiveness and competence in both social and work-related domains (Lee, 1996). By contrast, rural women's lives are still under substantial patriarchal influence. Often their personal power is less achieved than ascribed and may depend, for example, on what familes they marry into and whether they give birth to sons rather than daughters subsequently (Zhou, 1988). In the rural context, bodily fullness may symbolize family fertility and wealth, and can affect rural women's marriageability and ultimate well-being (Gilmartin & Tan, 1997). Inasmuch as fatness may not convey the same loathsome quality that it does in the cities, 33.7% of students in Hunan, in contrast to 17.6% of students in Hong Kong and only 4.1% of female college students in the United States (Heatherton et al., 1995), prefer to put on weight (Table 1).

This is not to say that rural Chinese women suffer less psychopathology than their more fortunate urban counterparts. Our students in Hunan had, in fact, higher BDI scores than those in Shenzhen, suggesting that they might suffer more depression. Recent evidence indicates that rural Chinese women are often subject to multiple sources of patriarchal oppression, such as educational deprivation, arranged marriage, imposed birth control, threats of divorce, as well as physical victimization by husbands (Pearson, 1995). Consequently, they have been found to exhibit a two to three time higher rate of suicide and a much higher rate of hysterical disturbances than urban women (Da, 1993; Wang, Wei, Zhang, & Wei, 1995). The form of bodily distress caused by female disempowerment is thus sociohistorically conditioned: eating disorder is not rural females' preferred idiom of suffering.

This study has implications for the treatment and prevention of eating disorders in Asian societies that are modernizing, often ambivalently, towards a market-oriented capitalistic organization. Inasmuch as the rapid modernization that has occurred in Asia fosters the gendered risk factors for disordered eating, we can predict that fat concern, dieting, and ultimately eating disorders will become increasingly popular idioms with which young Asian women articulate distress, and at times assert self-definition (Littlewood, 1995).

However, many Asian countries have limited and often shrinking health care resources. In China, for example, there are about 0.8 psychiatrists per 100,000 population and virtually no psychologists or social workers. Compare these numbers with 18.2 psychiatrists per 100,000 population, 90,000 psychologists with doctorate degrees, and 150,000 social workers who can provide professional counselling in the United States. Consequently, Chinese (and most Asian) psychiatrists have to practice cheap and time-saving pharmacological therapies at overcrowded outpatient clinics, where eating disordered patients rarely receive the substantial psychosocial interventions they require. In addition, what pharmacotherapy that may be effective in eating disorders is often beyond the budgetary means of Asian governments in this era of health care cost containment. For example, one 20-mg tablet of Prozac (fluoxetine) costs approximately US$1.7 in China. For a bulimic patient (at 80 mg per day), 6 months of such treatment will cost US$1,250, which is about the annual salary of an average urban worker. Since over one half of urban residents (and most rural people) in China are medically uninsured (The World Bank, 1997b), paying for such treatment out of pocket invites a financial catastrophe.

In the absence of outcome studies, it is unclear if Asian patients with eating disorders have a prognosis worse than that of their Western counterparts because of the more

limited interventions they receive. What is crystal clear, however, is the exigency with which concerned professionals must devise ways of securing more health care resources amidst the competing priorities that confront Asian governments as a result of global change and rapid structural transformations (The World Bank, 1997a).

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