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The Attractive Female Body Weight and Female Body Dissatisfaction in 26 Countries Across 10 World Regions: Results of the International Body Project I

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Abstract

This study reports results from the first International Body Project (IBP-I), which surveyed 7,434 individuals in 10 major world regions about body weight ideals and body dissatisfaction. Participants completed the female Contour Drawing Figure Rating Scale (CDFRS) and self-reported their exposure to Western and local media. Results indicated there were significant cross-regional differences in the ideal female figure and body dissatisfaction, but effect sizes were small across high-socioeconomic-status (SES) sites. Within cultures, heavier bodies were preferred in low-SES sites compared to high-SES sites in Malaysia and South Africa (*d*s = 1.94-2.49) but not in Austria. Participant age, body mass index (BMI), and Western media exposure predicted body weight ideals. BMI and Western media exposure predicted body dissatisfaction among women. Our results show that body dissatisfaction and desire for thinness is commonplace in high-SES settings across world regions, highlighting the need for international attention to this problem.

Keywords

body weight, body dissatisfaction, cross-cultural, socioeconomic differences, attractiveness, International Body Project

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The topic of physical attractiveness has garnered a great deal of attention within art and philosophy and, more recently, within the psychological sciences (for reviews, see Swami, 2007; Swami & Furnham, 2008). A person's physical attractiveness can have a significant impact on her or his social experiences. In one meta-analysis, Langlois et al. (2000)

reported that attractive individuals are more likely than unattractive individuals to be judged as competent in their professions (d = 0.96), to experience success in their occupations (d = .76), and to be treated more favorably by others (d = .54). Looks also matter to people when choosing a mate in many cultures: In a study of 37 countries, both men and women ranked physical attractiveness as one of the most important traits they were looking for when choosing a long-term mate (Buss, 1989).

An important disagreement that has emerged within this literature concerns the variability, or lack therein, of attractiveness judgments. On the one hand, some psychologists have sought to show that a number of attractiveness preferences or ideals are temporally and culturally stable (e.g., Singh, 1993). In contrast to this approach, other researchers have emphasized variation in many types of social behavior and practices, including attractiveness judgments (for overviews, see Swami, 2007, chap. 4; Swami & Furnham, 2008, chaps. 5-6). The two most common approaches to this debate have been to conduct in-depth examinations of the sociocultural context in which behaviors take place (see Boas, 1911) or to explore beauty ideals across cultures.

In this article, we adopt the latter approach in discussing results from the first International Body Project (IBP-I), a cross-cultural survey of body weight ideals and body dissatisfaction among 7,434 individuals in 41 sites across 26 countries. Altogether, this sample represents 10 major world regions (Southeast Asia, East Asia, South and West Asia, Oceania, Western Europe, Eastern Europe, Scandinavia, Africa, North America, and South America) and contains sites varying in degree of socioeconomic development. This project is the largest existing multisite study undertaken to examine cross-cultural differences in body weight ideals and body dissatisfaction using established and validated measures.

Body Weight Ideals

Following Ford and Beach's (1952) groundbreaking ethnography, decades of research has reliably documented cross-cultural (e.g., Brown & Konner, 1987; Cassidy, 1991; Sobal & Stunkard, 1989), temporal (e.g., Swami, Gray, & Furnham, 2007), and individual differences (e.g., Swami, Buchanan, Furnham, & Tovée, 2008) in attitudes toward obesity and body weight. In terms of cross-cultural differences, the available evidence broadly suggests that the ideal body weight is slimmer in contexts of high, compared to low, socioeconomic status (SES) or in more Westernized societies (see Swami, 2007; Swami & Furnham, 2008, chaps. 5-6).

In less socioeconomically developed ("traditional" or non-Western) societies, plumpness is (or was) linked with psychological traits of fertility, sexuality, and attractiveness (e.g., Brown, 1991; Teti, 1995). Indeed, in many of these societies, extreme weight gain is culturally acceptable for women, particularly in the period preceding marriage (e.g., Pollock, 1995; Popenoe, 2003). For instance, a number of authors have reported on the existence of "milking huts" in parts of Africa and the South Pacific, where adolescents

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from elite families are fed high-fat diets in preparation for marriage (e.g., Brink, 1995; Popenoe, 2003; Randall, 1995). In Fiji, large and robust bodies were traditionally considered aesthetically pleasing, and people were encouraged to eat heartily through ideals such as "kana, mo urouro" or "eat, so you will become fat" (Becker, 2004).

In line with these reports, numerous studies have found that individuals in less socioeconomically developed societies positively evaluate overweight, and sometimes obese, line-drawn and photographic figures (e.g., Becker, 1995; Brewis & McGarvey, 2000; Frederick, Forbes, & Berezovskaya, 2008; Furnham & Baguma, 1994; Rguibi & Belahsen, 2006; Swami, Knight, Tovée, Davies, & Furnham, 2007; Swami & Tovée, 2005a, 2005b, 2007a, 2007b, 2007c; Tovée, Furnham, & Swami, 2007; Tovée, Swami, Furnham, & Mangalparsad, 2006). Individuals in these cultures are also less likely than those in developed societies to perceive themselves as overweight or obese, even when they are very large (e.g., Brewis, McGarvey, Jones, & Swinburn, 1998).

In contrast, the ideal in most socioeconomically developed (or Western) societies is thin, and possibly even underweight (for a review, see Calogero, Boroughs, & Thompson, 2007). In these societies, individuals tend to rate slender or underweight line-drawn and photographic figures as being maximally attractive (e.g., Smith, Cornelissen, & Tovée, 2007; Swami, Antonakopoulos, Tovée, & Furnham, 2006; Swami, Caprario, Tovée, & Furnham, 2006; Swami, Neto, Tovée, & Furnham, 2007; Swami & Tovée, 2005a). Moreover, there has also been a dramatic decrease in the body size of media depictions of the ideal figure (e.g., Spitzer, Henderson, & Zivian, 1999; Voracek & Fisher, 2002, 2006), and the contemporary cultural ideal for women in socioeconomically developed societies is very thin (e.g., Calogero et al., 2007; Levine & Smolak, 2006).

Body Dissatisfaction

Various research groups have argued that the thin ideal in socioeconomically developed settings has had negative effects on women's physical, psychological, and social well-being (e.g., Frederick, Forbes, Grigorian, & Jarcho, 2007; Peplau et al., in press; Rodin, Silberstein, & Striegel-Moore, 1984; Smolak, 2006). Specifically, empirical research has documented associations between idealized images of female beauty and "normative" body image dissatisfaction and negative eating habits (e.g., J. K. Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Recent large-scale surveys, for example, have shown that a majority of women are dissatisfied with their body weight (Frederick, Peplau, & Lever, 2006) and desire liposuction (Frederick, Lever, & Peplau, 2007; Swami, Arteche, et al., 2008).

In contrast, the available evidence suggests that body dissatisfaction may not be as pronounced in less economically developed or non-Western societies (e.g., Chen & Swalm, 1998; Heesacker, Samson, & Shir, 2000; Jaeger et al., 2002; Mahmud & Crittenden, 2007; McArthur, Holbert, & Peña, 2005; Safir, Flaisher-Kellner, & Rosenmann, 2005). In one study of Moroccan Sahroui women, for instance, Rguibi and Belahsen (2006) reported a very low desire to lose weight, even among the majority of obese participants.

In an increasingly globalized world, however, body dissatisfaction may be becoming more international in nature (Nasser, 1997). Becker (2004), for example, has discussed the association between Westernized media imagery introduced by television and drive for thinness among Fijian women. In her view, young women are increasingly "buying into Western styles of appearance and the ethos of work on the body" (Becker, 2004, p. 553) and now associate thinness with success despite the traditional reverence of large and robust bodies in Fiji (Becker, Burwell, Gilman, Herzog, & Hamburg, 2002).

Explaining Cross-Cultural Ideals

As an explanation of cross-cultural differences in attitudes toward body fat, Anderson, Crawford, Nadreau, and Lindberg (1992) highlighted that body weight ideals are reliably associated with resource security, such that heavier body weights will be preferred where or when resources (particularly food, but also wealth) are unpredictable or unavailable (see also Brown & Konner, 1987; Sobal & Stunkard, 1989; for a differing view, see Ember, Ember, Korotayev, & de Munck, 2006). This argument emphasizes the fact that a primary function of adipose tissue (or body fat) is the storage of calories, which in turn suggests that body fat is a reliable predictor of food availability (Marlowe & Wetsman, 2001). Therefore, in situations marked by resource uncertainty, individuals should come to idealize heavier individuals, as fatness would be associated with access to resources.

Several lines of evidence support this reasoning. First, recent work has documented an inverse relation between SES (a covariate of resource security) and ideal body weight (e.g., Scott, Bentley, Tovée, Ahamed, & Magid, 2007; Swami & Tovée, 2005a, 2007a, 2007b, 2007c; Swami, Knight, et al., 2007; Tovée et al., 2006). Swami and Tovée (2005a, 2007c), for instance, have reported a consistent pattern of greater preference for heavier female figures with decreasing SES: High-SES observers in both Britain and Malaysia were found to idealize slim women (with a body mass index [BMI] of about 19-21), whereas low-SES participants in rural Malaysia rated women with BMIs of about 23-24 most attractive.

Corroborating evidence is also provided by a recent study of low- to high-SES migrants, which showed that body weight preferences were adapted in relation to local SES (Tovée et al., 2006; Tovée et al., 2007). Furthermore, several studies have shown that men who have been deprived of food for short periods of time and who report physiological hunger rate heavier women as more attractive than do men who are satiated, suggesting that physiological cues associated with resource scarcity may shift body weight preferences (Nelson & Morrison, 2005; Swami & Tovée, 2006).

It is important to note, however, that this explanation does not deny the influence of other factors that may covary with SES, such as media portrayals of idealized beauty (Nasser, 1997; Swami & Furnham, 2008; Voracek & Fisher, 2002, 2006). Along with Western media, increasing SES also results in changes to the role of women in society, greater opportunities for mate choice and birth control, and the legitimization of overweight stigma, all of which have been argued to intensify the preference for thin bodies (see Swami, 2007; Wolf, 1991). Greater affluence is also associated with an increase in the prevalence of obesity in many developing countries, which may legitimize a fear of fatness and a pursuit of thinness (see Swami & Tovée, 2005a).

The Present Study

Although the available literature has explored cross-cultural variation in body weight ideals, this work has several important limitations. First, most studies generally examine only two or three sites simultaneously, limiting the ability to directly compare body ideals across a wide range of cultures (for one useful exception, see Jaeger et al., 2002). Second, there are very few large-scale studies that use established and validated measures for studying body weight preferences across multiple research sites. Third, many existing cross-cultural studies do not directly assess the extent to which Western media exposure explains individual differences in body ideals within each testing site.

To rectify these limitations, we report on judgments of ideal female body weight and body dissatisfaction collected as part of the IBP-I. Specifically, participants in 26 nations rated (for physical attractiveness) a series of nine line-drawings of the female figure that progressed from very slender to very heavy. Based on the preceding review, we expected to find only small (if any) significant differences in the female figure rated as most attractive across world regions that we classified as being urban in nature. In contrast, we expected larger significant differences in these ratings where urban and rural localities were available within the same country. In addition, and consistent with previous work (e.g., Fallon & Rozin, 1985; Markey, Markey, & Birch, 2004; Rozin & Fallon, 1988), we expected that women across all world regions would select a significantly thinner ideal than men.

In the present study, we were also able to examine cross-cultural differences in body dissatisfaction (measured as the discrepancy between ideal and current body weight) among female participants. As previously discussed, and consistent with the suggestion that body dissatisfaction has become international in nature (e.g., Nasser, 1997), we expected small (if any) significant differences in body dissatisfaction across world regions that we classified as being urban. In contrast, we expected a stronger valuation of heavier bodies in rural sites compared to urban sites within the same country and, as such, expected that body dissatisfaction would be lower in these rural sites. Finally, given the conclusions of previous work (e.g., Becker, 2004), we expected that media exposure would be significantly associated with ideal body size ratings and, among women, body dissatisfaction. Overall, examining the preceding set of attitudes across cultures will enable us to better understand the extent to which body type preferences vary and the societal and individual differences that contribute to these variations.

Method

Participants

The data reported in this article were collected as part of the IBP-I, a collaborative effort of 58 scientists and independent scholars from 10 major world regions. The overall IBP-I sample consisted of 4,019 women and 3,415 men from 41 sites in 26 countries. These sites were selected on a convenience basis, following invitations from the principal investigators (first and second authors) to potential international collaborators. As reported in Table 1, there were six research sites in North America, one in South America, eight in Western Europe, five in Eastern Europe, two in Scandinavia, four in Oceania, seven in Southeast Asia, three in East Asia, three in South and West Asia, and two in Africa.

Overall, the IBP-I dataset represents sites from 26 countries and many ethnic, cultural, geographic, and linguistic category groupings (although there is a skew toward sites in North America, Western Europe, and Southeast Asia). In total, 21 research sites recruited members of the general public (noncollegiate individuals from the local community) and 20 recruited college students as participants (in a number of countries, there were multiple sites comprising either college or community samples). Most research sites were located in urban areas of moderate to high SES, but based on intranational divisions we classified three research sites as being rural (or low SES) in nature (Drösing, a small market town with slightly more than a thousand inhabitants in the economically weak region of northeast Austria; Sabah, one of the poorest states in Malaysia, located on Borneo; and KwaZulu-Natal, an economically weak province in southeast South Africa). Sample sizes, mean age, BMI, and further sample information are reported in Table 1.

Table 1. Sample Sizes, Location, Type, and Language of Survey Across the 26 Countries and 10 World Regions of the International Body Project I (IBP-I)

	Sample size		Age		Body mass index				
Sample location	Men	Women	*M*	*SD*	*M*	*SD*	Sample type	Socioeconomic development	Language
North America	958	1,097	21.0	5.2	23.6	4.0			
Toronto, Canada	94	119	21.2	6.1	23.7	4.1	College	Urban	English
Fort Lauderdale (FL), USA	53	76	31.0	10.8	26.1	5.3	Community	Urban	English
Decatur (IL), USA	111	167	18.8	1.2	24.7	4.5	College	Urban	English
Holland (MI), USA	104	161	18.6	1.0	23.2	3.4	College	Urban	English
Los Angeles (CA), USA	368	448	20.8	2.7	22.9	3.6	College	Urban	English
Moscow (ID), USA	119	136	20.7	4.8	25.0	4.1	College	Urban	English
South America	120	116	19.2	1.5	21.6	2.7			
Santiago, Chile	120	116	19.2	1.5	21.6	2.7	College	Urban	Spanish
Western Europe	630	650	26.6	10.4	22.5	3.4			
Vienna, Austria	50	51	22.4	5.2	21.7	3.2	College	Urban	German
Drösing, Austria	57	58	34.1	13.1	23.8	3.8	Community	Rural	German
Brussels, Belgium	83	101	26.8	9.7	22.6	3.8	Community	Urban	Dutch
Chemnitz, Germany	54	52	36.5	11.9	24.5	3.9	Community	Urban	German
Munich, Germany	51	52	29.1	13.3	22.1	3.0	Community	Urban	German
Porto, Portugal	163	180	19.9	3.3	22.1	3.1	College	Urban	Portuguese
Zürich, Switzerland	102	106	25.4	6.9	21.6	2.9	College	Urban	German
London, UK	70	50	33.3	10.4	22.4	3.4	Community	Urban	English
Eastern Europe	366	579	27.2	9.2	22.7	3.7			
Rijeka, Croatia	94	94	22.7	2.3	22.7	3.0	College	Urban	Croatian
Rijeka, Croatia	67	94	36.4	11.6	25.2	4.3	Community	Urban	Croatian
Tartu, Estonia	106	148	27.0	9.4	22.8	3.3	Community	Urban	Estonian
Warsaw, Poland	89	198	22.5	4.2	21.3	3.2	College	Urban	Polish
Wroclaw, Poland	63	86	28.3	6.4	22.6	3.5	Community	Urban	Polish
Scandinavia	88	171	26.1	6.8	22.2	3.1			
Helsinki, Finland	39	128	25.7	7.3	21.9	3.1	College	Urban	Finnish
Umeå and Lund, Sweden	49	43	26.9	5.8	22.8	3.1	Community	Urban	Swedish
Oceania	339	305	24.0	10.7	23.3	4.1			
Melbourne, Australia	70	49	23.5	3.6	21.7	2.6	Community	Urban	English
Melbourne, Australia	122	103	20.6	2.6	22.7	3.3	College	Urban	English
Sydney, Australia	100	106	20.7	5.4	22.8	3.4	College	Urban	English
Otago, New Zealand	47	47	39.3	18.3	26.5	5.9	Community	Urban	English
Southeast Asia	386	531	25.8	9.5	21.5	3.2			
Yogyakarta, Indonesia	48	91	19.1	2.5	20.4	3.6	Community	Urban	Indonesian
Kuala Lumpur, Malaysia	49	74	37.9	10.6	21.6	3.4	Community	Urban	Malay
Kuala Lumpur, Malaysia	62	99	21.3	1.3	20.6	3.5	College	Urban	Malay
Sabah, Malaysia	53	46	40.3	9.7	22.6	3.6	Community	Rural	Malay
Manila, Philippines	53	56	27.8	3.7	22.9	1.4	Community	Urban	Tagalog
Manila, Philippines	47	55	19.4	1.6	22.9	1.5	College	Urban	Tagalog
Singapore	74	110	21.5	1.7	20.9	2.8	College	Urban	English
East Asia	234	264	24.2	7.1	21.1	2.7			
Hong Kong, China	87	115	20.0	0.9	20.7	2.6	College	Urban	Cantonese
Xiamen, China	60	60	29.5	11.6	21.6	2.9	Community	Urban	Mandarin
Seoul, South Korea	87	89	25.4	3.3	21.1	2.6	College	Urban	Korean
South and West Asia	197	198	25.1	7.6	22.1	4.2			
Bangalore, India	40	48	24.3	7.0	21.6	3.3	Community	Urban	English
Dehra Dun, India	50	50	22.0	5.3	21.8	4.7	College	Urban	Hindi
Istanbul, Turkey	57	50	31.4	7.9	23.1	3.6	Community	Urban	Turkish
Africa	97	108	39.3	10.7	23.8	4.1			
Cape Town, South Africa	52	48	38.4	11.1	23.3	3.8	Community	Urban	English
KwaZulu-Natal, South Africa	45	60	40.1	10.4	24.2	4.4	Community	Rural	Zulu
Worldwide IBP-I sample	3,415	4,019	24.7	9.0	22.6	3.7	Mixed	Mixed	19 languages

Materials

All participants completed a two-page questionnaire consisting of the Frederick, Buchanan, et al. (2007) male Muscle Silhouette and Fat Silhouette measures (not reported here), the female Contour Drawing Figure Rating Scale (CDFRS), a media exposure scale, and demographics.

CDFRS (M. A. Thompson & Gray, 1995). The CDFRS consists of nine line-drawings of women's bodies arranged and numbered from 1 (*smallest*) to 9 (*largest*). Frederick et al. (2008) suggest that the following labels can be useful for describing the body sizes represented across the figures: 2 = *very slender*, 4 = *slender*, 6 = *heavy*, 8 = *very heavy*. In a large sample of adolescent girls, Wertheim, Paxton, and Tilgner (2004) reported 14-week test–retest reliabilities ranging from .71 to .90 and provided evidence of satisfactory construct and discriminant validity. The present study used modified versions of the line-drawings, as discussed in Frederick et al. Specifically, the original drawings were modified by removing the ribs on drawings 1 to 3 (which were sometimes confused with breasts) and obscuring facial features with opaque boxes (to minimize the effects of facial features, hair style, and perceived ethnicity) (see the appendix). In the present study, men were asked to select the line-drawing that they perceived as the most physically attractive. Women were asked to select the line-drawing that (a) they perceived as the most physically attractive to men of their own age, (b) they thought most closely approximated their current body, and (c) they would most like to possess. In addition, all of the men rated how physically attractive they found each of the women in the CDFRS and women rated how physically attractive each image was to men using a 9-point scale (1 = *not at all*, 5 = *somewhat*, 9 = *extremely*).

Media exposure. Participants rated their lifetime exposure to Western or U.S. media across four items—television, movies, magazines, and music—on a 7-point scale (1 = *not at all*, 7 = *very much*). In addition, participants outside the United States and Britain rated their lifetime exposure to local (national) television, movies, magazines, and music on the same 7-point scale.

The eight media exposure items were subjected to a principal components analysis (PCA). The significance of Bartlett's test of sphericity, $\chi^2 = 11583.38$, $df = 28$, $p < .001$, and the size of the Kaiser–Meyer–Olkin measure of sampling adequacy, KMO = .79, revealed that these items had adequate common variance for PCA (Tabachnick & Fidell, 2001). A PCA was therefore conducted using varimax (orthogonal) rotation, and the number of factors to be extracted was determined both by factor eigenvalues above 1.0 and inspection of the Scree plot (Cattell, 1966).

Based on these criteria, two factors were extracted, which in total explained 62.8% of the variance. The first factor included all four of the local media items (eigenvalue = 2.67, accounting for 33.4% of the variance; factor loadings = .79-.82), whereas the second factor included all four of the Western media items (eigenvalue = 2.35, accounting for 29.4% of the variance; factor loadings = .64-.82). We therefore calculated two composite media exposure scores by taking the mean of items related to each factor: exposure to local media (for all sites Cronbach's $\alpha = .83$, for individual sites αs = .78-.89) and exposure to Western media (for all sites $\alpha = .82$, for individual sites αs = .74-.90).

Demographics. Participants self-reported their age, height, and weight (the latter two items were used to calculate BMI, as kg/m^2). Previous work has shown that self-reported height and weight data are reliable when the anonymity of respondents is ensured (Davis, 1990). Because of differences in the survey administration, not all research sites collected data on participant ethnicity, religion, and marital status (for sites where these data were collected, further details are available from the first author). Nevertheless, it seems likely that the majority of participants in each sample represented local variation in sample demographics (taking into account community or college representation).

Procedure

Once local collaborators agreed to take part in the IBP-I, ethical approval for the study was obtained from local ethics committees where necessary or appropriate. At each research site, the questionnaire in English was translated into the appropriate local language (see Table 1) using the back-translation technique (Breslin, 1970). This typically involved research collaborators translating the questionnaire into the appropriate local language before an independent translator converted the measure back into English. Differences that emerged between translations during this process were settled by agreement between involved translators. Collaborators at each research site were instructed to administer the survey to at least 50 women and 50 men from the community, or (alternatively) 100 men and 100 women from colleges. All participants were recruited on an opportunistic basis and took part voluntarily and anonymously. Participants completed paper-and-pencil versions of the questionnaire, in which the demographics, media exposure items, and the CDFRS always appeared on the second page. Once the questionnaire had been completed, participants were debriefed by the experimenters.

Data Management

The IBP-I dataset consists of multiple research sites within the same country, several small intranational samples, and a preponderance of research sites in some world regions. This necessarily presents a number of problems in terms of categorizing study sites to facilitate the presentation and interpretation of analyses. Having considered several options,[1] we eventually opted to collapse the

41 research sites into 10 basic world regions (see Table 1 for categorization and sample sizes). We acknowledge that this categorization may be problematic, particularly as these world regions encompass a great deal of cultural, ethnic, and religious variation. Even so, such categorization is not without precedent (e.g., Schmitt & 118 Members of the International Sexuality Description Project, 2003; Schmitt, Realo, Voracek, & Allik, 2008) and provides a useful means for managing large datasets. In addition, because only three research sites (Drösing, Sabah, and KwaZulu-Natal) were classified as being rural in nature, preliminary analyses were conducted with the exclusion of these sites.

Results

Age and BMI Differences

Following exclusion of the three rural sites, one-way ANOVAs showed significant between-group differences in participants' mean age, $F(9, 6934) = 104.01$, $p < .001$, $\eta_p^2 = .12$, as well as mean BMI, $F(9, 6808) = 44.40$, $p < .001$, $\eta_p^2 = .06$ (for brevity, tests of simple effects are not reported for these preliminary analyses). Participants' age and BMI were therefore included as covariates in all subsequent analyses.

Most Attractive Female Body Weight

Men's ratings of the most physically attractive body weight and women's ratings of the figure they perceived as the most physically attractive to men are reported in Table 2. We conducted a 10 × 2 (World Region × Participant Gender) ANCOVA, with participant BMI and age included as covariates. As reported in Table 2, there were significant main effects of participant gender and world region, as well as a significant interaction. A test of simple effects for participant gender showed that men preferred a female body weight that was heavier than women's perceptions of what men prefer, $t(6913) = 19.00$, $p < .001$, $d = 0.45$.

Similarly, tests of simple effects with Bonferroni corrections ($\alpha = .05/45 = .001$) for world region showed that participants in Eastern Europe, Western Europe, and Scandinavia rated heavier women more favorably than did their counterparts in other world regions (*t*s = 3.65-10.23, *p*s < .001, *d*s = .19-.56). Participants in Oceania, South and West Asia, and Southeast Asia, respectively, preferred heavier women compared to participants in North America and East Asia, respectively (*t*s = 3.70-5.38, *p*s < .002, *d*s = .20-.33). All other comparisons did not return significant results. Finally, tests of simple effects with Bonferroni corrections ($\alpha = .05/10 = .005$) for the significant interaction showed that men provided significantly higher ratings than women in all world regions (*t*s = 3.04-12.45, *p*s < .006, *d*s = .37-.61) except East Asia.

Full CDFRS Ratings

Mean ratings of all nine CDFRS line-drawings for men's ratings of physical attractiveness and women's ratings of what men find attractive are reported in Table 2. We conducted a MANCOVA, with participant gender and world region as independent variables and BMI and age as covariates. The omnibus results showed significant main effects of gender, $F(9, 6760) = 15.13$, $p < .001$, $\eta_p^2 = .02$, and world region, $F(81, 60912) = 12.30$, $p < .001$, $\eta_p^2 = .02$. There was also a significant interaction between participant gender and world region, $F(81, 60912) = 2.10$, $p < .001$, $\eta_p^2 = < .01$. Finally, there were significant effects of both covariate age, $F(9, 6760) = 11.70$, $p < .001$, $\eta_p^2 = .02$, and covariate BMI, $F(9, 6760) = 15.13$, $p < .001$, $\eta_p^2 = .02$. As can be seen in Table 2, the ANCOVA results for gender showed that men rated Figures 1-3 and 5 more favorably than did women, suggesting that the gender difference in ratings was strongest for more slender figures. The ANCOVA results for world region showed significant differences on ratings for every figure, suggesting that significant regional differences may not be limited to the figure rated as the most ideal but extends to perceptions of a range of body weights. Finally, the omnibus interaction revealed significant differences for Figures 1-4 and 7.

Urban–Rural Comparisons

For three countries (Austria, Malaysia, and South Africa), both urban and rural data were available, allowing for urban–rural comparisons within each country. For the Malaysian sample, we compared the responses of community samples in rural Sabah and urban Kuala Lumpur; for the South African dataset, the comparison was made between community samples in rural KwaZulu-Natal and urban Cape Town; for the Austrian dataset, however, we compared a college sample in urban Vienna and a community sample in rural Drösing (all sample sizes and demographics are reported in Table 1).

The means for the most attractive figure and ratings of each of the nine CDFRS figures by participants in each of these six sites are reported in Table 3. In terms of the figure rated as most physically attractive, a 2 × 2 (Research Site × Participant Gender) ANCOVA for the Malaysian and South African samples revealed a significant main effect of research site—Malaysia, $F(1, 216) = 327.78$, $p < .001$, $\eta_p^2 = .60$; South Africa, $F(1, 199) = 187.39$, $p < .001$, $\eta_p^2 = .50$—but no main effect of gender and no significant interaction (*F*s = 0.80-3.97, *p*s > .05, $\eta_p^2 \leq .01$-.02). Both covariate age and BMI did not have significant effects on these results

Table 2. Mean Ratings of the Most Attractive Figure and All Nine Individual Figures in the Contour Drawing Figure Rating Scale (CDFRS) Categorized by World Region and Participant Gender as Well as ANCOVA Results for Most Attractive Figure and Individual Figures Following Omnibus MANCOVA

World region research (rural sites excluded)	CDFRS figures: Most attractive	1	2 Very slender	3	4 Slender	5	6 Heavy	7	8 Very heavy	9
Southeast Asia	3.3	3.3	4.6	6.5	6.5	4.9	3.4	2.2	1.6	1.3
Men	3.5	3.3	4.4	6.3	6.5	5.1	3.5	2.3	1.7	1.4
Women	3.2	3.2	4.7	6.7	6.6	4.9	3.4	2.1	1.5	1.3
East Asia	3.1	4.2	5.5	6.8	6.4	4.8	3.4	2.1	1.4	1.1
Men	3.2	4.1	5.1	6.6	6.5	5.1	3.4	2.2	1.4	1.1
Women	3.1	4.2	5.8	7.1	6.3	4.7	3.3	2.1	1.4	1.1
South and West Asia	3.4	2.8	4.0	6.1	6.5	5.1	3.4	2.1	1.5	1.2
Men	3.7	2.9	4.0	6.0	6.3	5.3	3.5	2.2	1.6	1.2
Women	3.2	2.8	3.9	6.2	6.6	4.9	3.2	2.0	1.3	1.1
Oceania	3.5	2.9	4.3	6.2	6.8	5.7	4.2	2.7	1.8	1.3
Men	3.8	2.6	3.6	5.8	6.7	5.8	4.4	2.8	1.8	1.3
Women	3.2	3.2	4.9	6.6	6.9	5.5	4.0	2.7	1.8	1.3
Western Europe	3.6	2.4	3.8	6.4	6.9	5.5	4.0	2.5	1.6	1.2
Men	3.8	2.3	3.5	6.0	6.9	5.7	4.0	2.5	1.6	1.2
Women	3.4	2.5	4.1	6.8	7.0	5.4	4.0	2.5	1.6	1.3
Eastern Europe	3.7	2.2	3.4	6.2	6.8	5.7	4.0	2.6	1.8	1.4
Men	4.0	2.1	3.1	5.7	6.7	5.9	4.2	2.6	1.8	1.5
Women	3.5	2.2	3.6	6.6	6.8	5.6	3.9	2.5	1.8	1.4
Scandinavia	3.6	2.6	4.4	6.8	7.1	6.0	4.5	2.8	1.8	1.4
Men	4.1	2.0	3.4	6.1	7.1	6.2	4.7	3.1	1.9	1.5
Women	3.4	3.0	5.1	7.2	7.1	5.8	4.4	2.6	1.7	1.5
Africa	3.3	3.6	4.6	6.8	6.7	4.8	3.1	1.9	1.3	1.2
Men	3.6	3.5	4.4	6.2	6.6	4.9	3.0	1.8	1.3	1.1
Women	3.1	3.8	4.8	7.4	6.8	4.6	3.1	2.0	1.4	1.3
North America	3.2	3.2	4.9	7.0	6.8	5.5	4.0	2.6	1.7	1.3
Men	3.5	2.9	4.4	6.6	7.0	5.6	4.0	2.6	1.6	1.3
Women	3.0	3.4	5.3	7.3	6.9	5.3	4.0	2.7	1.7	1.3
South America	3.2	3.2	5.0	7.2	7.1	5.4	4.0	2.5	1.6	1.3
Men	3.5	2.8	4.4	6.9	7.1	5.5	3.9	2.3	1.6	1.3
Women	3.1	3.7	5.6	7.6	7.1	5.3	4.1	2.7	1.6	1.2
World region *F*	25.53[a]***	46.61a***	43.49[a]***	18.97[a]***	11.26[a]***	19.44[a]***	22.74[a]***	15.32[a]***	7.81[a]***	8.11[a]***
	$\eta_p^2 = .03$	$\eta_p^2 = .06$	$\eta_p^2 = .06$	$\eta_p^2 = .03$	$\eta_p^2 = .02$	$\eta_p^2 = .03$	$\eta_p^2 = .03$	$\eta_p^2 = .02$	$\eta_p^2 = .01$	$\eta_p^2 = .01$
Participant gender *F*	149.00[b]***	21.59[b]***	58.71[b]***	86.47[b]***	1.79[b]	10.69[b]*	0.13[b]	1.55[b]	0.08[b]	0.08[b]
	$\eta_p^2 = .02$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$
World Region × Participant Gender *F*	4.39[b]***	3.67[b]***	6.04[b]***	2.66[b]*	1.53[b]	0.21[b]	1.60[b]	2.44[b]*	1.70[b]	0.79[b]
	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$
Covariate age *F*	75.56[b]***	1.91[b]	25.65[b]***	39.84[b]***	31.84[b]***	6.66[b]*	8.65[b]*	6.40[b]*	13.15[b]***	1.26[b]
	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$
Covariate BMI *F*	31.30[b]***	0.38[b]	21.93[b]***	22.62[b]***	2.99[b]	47.98[b]***	95.05[b]***	93.31***	55.05[b]***	28.77[b]***
	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 = .01$	$\eta_p^2 = .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$

BMI = body mass index.
[a]*df* = 9, 6789. [b]*df* = 1, 6789.
*$p < .05$. ***$p < .001$.

(Fs = 0.04-2.36, ps > .05, $\eta_p^2 \leq .01$-.01). Tests of simple effects showed that rural participants in both Malaysia and South Africa selected significantly heavier figures as most physically attractive compared to urban participants (ts = 13.86-18.72, ps < .001, d = 1.94-2.49). For the Austrian samples, the same 2 × 2 ANCOVA returned only a significant

Table 3. Mean Ratings of the Most Attractive Figure and All Nine Individual Figures in the Contour Drawing Figure Rating Scale (CDFRS) Categorized by the Three Urban–Rural Comparison Sites and Participant Gender

		CDFRS figures									
Research site	Gender	Most attractive	1	2 Very slender	3	4 Slender	5	6 Heavy	7	8 Very heavy	9
Malaysia											
Sabah	Men	6.0	1.6	1.8	2.6	3.7	5.6	5.9	5.6	5.3	4.7
	Women	5.6	1.6	2.2	2.8	4.0	5.4	6.3	5.5	4.9	4.2
Kuala Lumpur	Men	3.5	3.7	4.6	6.4	3.9	4.6	2.7	1.7	1.3	1.1
	Women	3.3	3.6	5.0	7.2	4.0	4.8	3.4	2.2	1.5	1.3
South Africa											
KwaZulu-Natal	Men	5.6	1.6	2.1	4.0	5.4	7.0	6.6	5.3	4.3	3.2
	Women	5.5	2.2	3.0	4.4	5.1	6.0	6.4	5.7	4.6	3.8
Cape Town	Men	3.6	3.5	4.4	6.2	6.6	5.0	3.0	1.8	1.3	1.1
	Women	3.1	3.8	4.8	7.4	6.8	4.6	3.1	2.0	1.4	1.3
Austria											
Drösing	Men	3.8	1.9	3.5	6.4	6.6	5.4	3.8	2.3	1.5	1.2
	Women	3.3	1.9	3.3	6.3	6.5	5.3	3.6	2.4	1.4	1.1
Vienna	Men	3.8	2.4	3.7	6.1	7.2	5.7	4.0	2.6	1.7	1.3
	Women	3.2	2.0	3.8	6.5	6.8	5.1	3.8	2.3	1.4	1.6

main effect of gender, $F(1, 210) = 10.38$, $p < .05$, $\eta_p^2 = .05$, with men selecting a heavier ideal figure than women. By contrast, there was no main effect of research site, no significant interaction, and no effects of covariate age and BMI (Fs = 1.17-5.64, $p > .05$, $\eta_p^2 \leq .01$-.01).

We also conducted a MANCOVA with ratings of all nine CDFRS line-drawings as dependent variables for each of the three urban–rural comparison sites. For the Malaysian samples, there was a significant main effect of research site, $F(9, 208) = 125.27$, $p < .001$, $\eta_p^2 = .84$, but not of gender, the interaction between gender and research site, covariate BMI, or covariate age (Fs = 0.66-1.89, ps > .05, η_p^2s = .02-.08). Inspection of the ANCOVA results showed that the urban participants rated the slender figures more positively (Figures 1-4; Fs = 60.16-339.99, ps < .001, η_p^2s = .22-.61), whereas rural participants rated the heavier figures more positively (Figures 5-9; Fs = 12.96-509.16, ps < .001, η_p^2s = .06-.70).

For the South African samples, the same MANCOVA returned significant main effects of research site, $F(9, 191) = 51.68$, $p < .001$, $\eta_p^2 = .71$, and gender, $F(9, 191) = 3.18$, $p < .001$, $\eta_p^2 = .13$, but no significant interaction, $F(9, 191) = 1.28$, $p > .05$, $\eta_p^2 = .06$. There were significant effects of both covariate age and BMI (Fs = 2.45-3.10, ps < .05, η_p^2s = .10-.13). Inspection of the ANCOVA results for research site showed that participants in Cape Town rated the slender figures more positively (Figures 1-4; Fs = 32.56-90.69, ps < .001, η_p^2s = .14-.39), whereas rural participants rated the heavier figures more positively (Figures 5-9; Fs = 55.60-255.86, ps < .001, η_p^2s = .22-.56). The ANCOVA results for the main effect of gender showed that women gave significantly higher ratings on Figure 3, $F(1, 204) = 9.37$, $p < .05$, $\eta_p^2 = .05$, whereas men gave significantly higher ratings on Figure 5, $F(1, 204) = 7.62$, $p < .05$, $\eta_p^2 = .04$. Finally, the MANCOVA for the Austrian samples showed no significant main effect of research site or gender, and no significant interaction (Fs = 0.57-1.49, ps > .05, η_p^2s = .03-.06. Thus, overall, there were large differences in body fat preferences between rural and urban sites in Malaysia and South Africa but not in Austria.

Women's Body Dissatisfaction

For women in the 10 world regions with urban sites, we have presented mean ratings of the figures that most closely approximated women's current bodies, the figures women would most like to possess, and body dissatisfaction scores (calculated by subtracting ideal ratings from current ratings) in Table 4. We then conducted one-way ANCOVAs with each of these scores as dependent variables and participant age and BMI as covariates (for brevity, we only report tests of simple effects for body dissatisfaction scores). As can be seen in Table 4, there were statistically significant differences across the world regions for current and ideal body ratings and body dissatisfaction scores.

For the body dissatisfaction scores, tests of simple effects with Bonferroni correction ($\alpha = .05/45 = .001$) showed that women in South America and North America displayed more body dissatisfaction than women in Western Europe, Southeast Asia, Eastern Europe, Oceania, and South and West Asia (ts = 3.50-9.23, ps < .001, ds = .28-.61). In addition, women in Africa, East Asia, Scandinavia, Western Europe, and Southeast Asia displayed more body dissatisfaction than women in South and West Asia (ts = 3.94-5.65,

Table 4. Means for Women's Ratings of Current Bodies, Ideal Bodies, and Body Dissatisfaction Scores Categorized by World Region, as Well as ANCOVA Results

World region (rural research sites excluded)	Rating		
	Current body	Ideal body	Body dissatisfaction
Southeast Asia	4.3	3.4	0.9
East Asia	4.2	3.0	1.1
South and West Asia	4.0	3.5	0.5
Oceania	4.4	3.6	0.8
Western Europe	4.6	3.6	1.0
Eastern Europe	4.6	3.7	0.8
Scandinavia	4.7	3.6	1.1
Africa	4.5	3.2	1.3
North America	4.7	3.4	1.4
South America	4.6	3.2	1.4
World region F^a	13.96***	21.90***	15.20***
	$\eta_p^2 = .03$	$\eta_p^2 = .05$	$\eta_p^2 = .04$
Covariate age F^b	11.30*	10.65*	0.88
	$\eta_p^2 \leq .01$	$\eta_p^2 = .05$	$\eta_p^2 \leq .01$
Covariate BMI F^b	2,374.45***	692.25***	802.53***
	$\eta_p^2 = .39$	$\eta_p^2 = .16$	$\eta_p^2 = .18$

BMI = body mass index.
[a] $df = 9, 3711$. [b] $df = 1, 3711$.
*$p < .05$. ***$p < .001$.

Table 5. Means for Women's Ratings of Current Bodies, Ideal Bodies, and Body Dissatisfaction Scores for Urban–Rural Comparisons, as Well as ANCOVA Results

Research site	Rating		
	Current body	Ideal body	Body dissatisfaction
Malaysia			
Sabah	5.2	5.8	–0.6
Kuala Lumpur	4.6	3.3	1.3
Research site F^a	4.70	209.80***	54.71***
	$\eta_p^2 = .02$	$\eta_p^2 = .64$	$\eta_p^2 = .32$
Covariate age F^a	0.67	0.78	0.11
	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$
Covariate BMI F^a	24.43***	1.81	19.64***
	$\eta_p^2 = .07$	$\eta_p^2 = .02$	$\eta_p^2 = .15$
South Africa			
KwaZulu-Natal	6.0	5.6	0.4
Cape Town	4.5	3.2	1.3
Research site F^b	23.86***	148.97***	13.34***
	$\eta_p^2 = .19$	$\eta_p^2 = .59$	$\eta_p^2 = .11$
Covariate age F^b	11.30*	1.33	0.03
	$\eta_p^2 \leq .01$	$\eta_p^2 = .01$	$\eta_p^2 \leq .01$
Covariate BMI F^b	0.92	0.01	9.48*
	$\eta_p^2 \leq .01$	$\eta_p^2 \leq .01$	$\eta_p^2 = .08$
Austria			
Drösing	5.1	3.8	1.4
Vienna	4.3	3.3	1.0
Research site F^c	0.07	2.29	1.21
	$\eta_p^2 \leq .01$	$\eta_p^2 = .02$	$\eta_p^2 = .01$
Covariate age F^c	0.99	2.91	0.29
	$\eta_p^2 \leq .01$	$\eta_p^2 = .02$	$\eta_p^2 \leq .01$
Covariate BMI F^c	233.51***	51.72***	80.53***
	$\eta_p^2 = .69$	$\eta_p^2 = .33$	$\eta_p^2 = .43$

BMI = body mass index.
The negative body image score for the Sabah sample indicates that women wanted to be heavier rather than thinner on average.
[a] $df = 1, 120$. [b] $df = 1, 108$. [c] $df = 1, 109$.
*$p < .05$. ***$p < .001$.

*p*s < .001, *d*s = .32-.67). No other comparisons returned significant results.

Further Urban–Rural Comparisons

We repeated the preceding analyses for each of the within-country (Austria, Malaysia, and South Africa) urban–rural comparisons. As reported in Table 5, rural participants had significantly higher current and ideal body ratings, as well as lower body dissatisfaction, than urban participants in Malaysia and South Africa but not in Austria. In these analyses, covariate BMI but not covariate age was significantly associated with body dissatisfaction scores.

Media Exposure: Correlations and Multiple Regressions

Using the total sample (including all urban and rural sites), we correlated the media exposure scores derived earlier with participants' age, BMI, ratings of the most physically attractive body weight, and (for women only) body dissatisfaction scores. As reported in Table 6, younger men, thinner men, and men who reported more exposure to Western media were more likely to indicate that slender women possessed the most attractive body type. In parallel, younger women, thinner women, and women who reported more exposure to Western media were more likely to indicate that men were most attracted to slender women. In addition, older women, heavier women, and women who reported more exposure to Western media reported greater levels of body dissatisfaction (larger discrepancies between their current and ideal body size).

To examine the predictive validity of media exposure and demographics in relation to attractiveness ratings and body dissatisfaction, we conducted hierarchical multiple regressions for women and men separately. For men, the regression was significant, $F(4, 2159) = 56.95$, $p < .001$, Adj. $R^2 = .09$, with participant age ($\beta = .20$, $t = 8.89$, $p < .001$), exposure to Western media ($\beta = –.16$, $t = –7.28$, $p < .001$), and BMI ($\beta = .09$, $t = 4.37$, $p < .001$) emerging as significant predictors of ratings of the most attractive figure. For women's ratings of the most attractive figure, the regression was likewise significant, $F(4, 2565) = 55.67$, $p < .001$, Adj. $R^2 = .08$, with age

Table 6. Correlations Between Ratings of the Most Physically Attractive Body Weight, Body Dissatisfaction Scores (for Women Only), Media Exposure Factor Scores, and Participants' Age and Body Mass Index (BMI; Correlations for Men Are Reported in Upper-Diagonal Cells and for Women in Lower-Diagonal Cells)

	1	2	3	4	5	6
1. Most attractive body weight	—	N/A	–.16***	.01	.25***	.13***
2. Body dissatisfaction	–.20***	—	N/A	N/A	N/A	N/A
3. Western media exposure	–.20***	.10***	—	.18***	–.24***	.01
4. Local media exposure	–.08***	–.01	.27***	—	.03	.05*
5. Age	.24***	.06***	–.25***	–.04*	—	.22***
6. BMI	.08***	.43***	.03	.02	.24***	—

Body dissatisfaction scores in this table measure the discrepancy between a woman's current and ideal body size ratings, regardless of the direction of desired change.
*$p < .05$. ***$p < .001$.

(β = .18, t = 8.77, $p < .001$), exposure to Western media (β = –.16, t = 7.81, $p < .001$), and BMI (β = .05, t = 2.59, $p < .05$) all emerging as significant predictors. Finally, for women's body dissatisfaction scores, the multiple regression was significant, $F(4, 2565) = 111.49$, $p < .001$, Adj. $R^2 = .15$, with BMI (β = .38, t = 19.99, $p < .001$) and exposure to Western media (β = .09, t = 4.71, $p < .001$) emerging as significant predictors.

Discussion

In this article, we present the initial findings from the IBP-I. Our data suggest that there are statistically significant differences in body weight ideals and body dissatisfaction across 10 world regions. An important caveat, however, is that the effect sizes of these differences (once rural sites had been omitted) were small or moderate. By contrast, the largest effect sizes were found for differences in body weight ideals and body dissatisfaction between urban and rural sites within countries. Finally, our results suggest that participant demographics and media exposure were significantly associated with body weight ideals and body dissatisfaction.

Body Weight Ideals

Overall, our results showed that there were significant differences across world regions in the figure selected as the most physically attractive, with participants in Eastern Europe, Scandinavia, and Western Europe generally selecting heavier figures. Although it is tempting to attribute such differences to geographic or national differences (e.g., the belated effects of the thin ideal in Eastern Europe following the decline of communism and the adoption of market economies; cf. Catina & Joja, 2001), it should be kept in mind that these differences were small in terms of overall effect sizes (see Table 2) and that p values were likely only significant because of the large sample size.

In this sense, it might be suggested that, when socioeconomic differences are absent or controlled, cross-cultural differences in body weight ideals are small at best. Indeed, it was noticeable that in the present study, the mean preference across all 10 geographic regions when rural sites had been excluded was for Figure 3 in the CDFRS. Given that most of our research sites presented socioeconomically developed settings, our results would seem to corroborate the suggestion that the ideal in such societies is thin, and possibly underweight (e.g., Smith et al., 2007; Swami, Antonakopoulos, et al., 2006; Swami, Caprario, et al., 2006; Swami, Neto, et al., 2007; Swami & Tovée, 2005a).

By contrast, large effect sizes were returned for the significant differences in ideal body weight between rural and urban research sites in Malaysia and South Africa. In support of earlier work, these results suggest that less socioeconomically developed societies idealize heavier figures (e.g., Becker, 1995; Brewis & McGarvey, 2000; Frederick et al., 2008; Swami & Tovée, 2005a, 2005b, 2007a, 2007b, 2007c; Swami, Knight, et al., 2007; Tovée et al., 2006; Tovée et al., 2007), possibly because of the association between body fat and resource security (Anderson et al., 1992; Brown & Konner 1987; Nelson & Morrison, 2005; Sobal & Stunkard, 1989; Swami & Tovée, 2006).

It is important to point out, however, that the relation between SES and body weight preferences did not hold for comparisons between Drösing (low SES) and Vienna (high SES). There were a number of methodological reasons that may help explain this result, such as the comparison between general population and college samples and our relatively ad hoc categorization of SES. Even so, this result might suggest that SES alone is not a sufficient explanation of body weight ideals or that SES must dip below a certain point before body weight ideals begin to shift. Clearly, in addition, other factors must also contribute (e.g., the role of women in society, gender equality, the legitimization of overweight stigma, degree of Westernization).

Gender Differences

Our results also showed that men across all world regions except East Asia selected a significantly heavier figure as being most physically attractive compared to what women believed was most attractive to men. In general, this finding is consistent with previous reports that women perceive men as being attracted to thinner female figures than is true in reality (e.g., Fallon & Rozin, 1985; Markey et al., 2004; Rozin & Fallon, 1988), including across different ethnic groups (e.g., Jones, Fries, & Danish, 2007). Our results are noteworthy because they suggest that such misinterpretation of men's standards of bodily attractiveness on the part of women may be near universal in contexts of high SES.

One possible explanation for this effect may be that the body ideals marketed in the media to one gender may differ from the ideals marketed to the other gender (Frederick, Fessler, & Haselton, 2005). For example, if magazines marketed to women (e.g., fashion magazines) routinely represent very thin women as prestigious whereas magazines marketed to men feature relatively curvier women as prestigious, women exposed to magazines marketed to women may form skewed perceptions of what body types are most appealing to men. A second possible explanation for this result is that the greater emphasis on attaining ideal body sizes for women influences their perceptions and weight concerns (Cohn & Adler, 1992). Indeed, previous work has shown that women report greater unease regarding their partners' criticisms of their body weight (Murray, Touyz, & Beaumont, 1995) and that women are more likely to adjust their eating behaviors to maintain a congruence with perceptions of their partners' preferences (Tantleff-Dunn & Thompson, 1995). Importantly, it has been suggested that discrepancies between women's ratings of their own bodies and their perceptions of men's ideal female figure are associated with negative body image and eating disorders (e.g., Fallon & Rozin, 1985; Tantleff-Dunn & Thompson, 1995). Overall, our results suggest that such discrepancies may be almost universal in nature and may be feeding the tendency toward globalized body dissatisfaction.

Body Dissatisfaction

The present results suggest that there are differences in body dissatisfaction among women across the 10 world regions. In general, it might be suggested, based on the current data, that women in the Americas experience greater body dissatisfaction than women in other world regions. As with body weight ideals, however, the effect sizes for these overall differences were very small, and values likely only achieved significance because of the large sample size of the IBP-I. This seems to be corroborated by the relatively constricted variance in mean body dissatisfaction across the 10 world regions (see Table 4).

By contrast, larger effect sizes were found for the significant differences in body dissatisfaction in urban versus rural comparisons in Malaysia and South Africa. Specifically, participants in low-SES contexts appeared to experience significantly lower body dissatisfaction than their counterparts in high-SES contexts. One tentative conclusion from the IBP-I results, therefore, is that cross-cultural differences in body dissatisfaction may not depend as much on the degree of Westernization (cf. Chen & Swalm, 1998; Heesacker et al., 2000; Jaeger et al., 2002; Mahmud & Crittenden, 2007; McArthur et al., 2005) as it does on differences in SES. That is, differences in body dissatisfaction across contexts of similar SES but differing levels of Westernization may not be as great as differences between differing contexts of SES.

Of course, this is not to deny the effects of Westernization (e.g., the proliferation of Western media or lifestyle choices), and certainly it is possible that our results reflect the nature of a globalized world where body dissatisfaction has become an international phenomenon (Nasser, 1997). However, the implications of our results for future research should be clear: Rather than relying on ad hoc categorizations of Western versus non-Western cultural contexts, researchers should seek to define such definitions more precisely while taking into consideration differences (or similarities) in SES.

Demographics and Media Exposure

The present results also suggest that the demographic and media exposure data that were collected in the IBP-I surveys significantly predicted both body weight ideals and body dissatisfaction. In terms of the former, our regression analyses showed that for both women and men, individuals who were older, heavier, and less exposed to Western media held preferences for heavier bodies. The findings in relation to participant age and particularly BMI are relatively well established (e.g., Tovée, Emery, & Cohen-Tovée, 2000), and suggest that participant demographics play a role in modulating body weight preferences (see Swami & Furnham, 2008).

Perhaps more noteworthy was our finding that greater exposure to Western media was associated with a preference for a thinner figure, thus implicating media portrayals of idealized beauty in the development of body weight ideals. Moreover, it seems that self-reported exposure to Western media, but not local media, was associated with ideal body weight selections, suggesting that there may be a disjunction between such media types. Nevertheless, it should be remembered that, together, participant age, BMI, and exposure to Western media explained less than 10% of the variance in body weight preferences.

Similar results were found in relation to women's body dissatisfaction, with BMI and exposure to Western media (but not age) emerging as significant predictors. An association between higher BMI and increased body dissatisfaction among women is a consistent feature of the literature (e.g., Frederick et al., 2006; Frederick, Forbes, et al., 2007), but our results also suggest that Western media portrayals of idealized female bodies may contribute to women's body dissatisfaction (see Nasser, 1997). In contrast, the lack of a predictive association between participant age and body dissatisfaction is consistent with previous reports of weak or nonsignificant associations between these variables, at least in Western societies (e.g., Frederick et al., 2006; Tiggemann, 2004).

Limitations

The IBP-I dataset represents the largest cross-cultural survey of body weight ideals and body dissatisfaction, but this strength may also be construed as an important limitation. As we stressed earlier, our categorization of world regions—although consistent with similar cross-cultural work (e.g., Schmitt & 118 Members of the International Sexuality Description Project, 2003; Schmitt et al., 2008)—necessarily obscures important cultural, ethnic, and religious variations across our research sites. Certainly, there are other methods of categorization that we could have used, but in the present instance, we believe we have achieved an optimal balance between comprehensiveness and expediency.

A related limitation of the IBP-I dataset concerns sampling: There was a preponderance of research sites in North America, Western Europe, and Southeast Asia, and too few research sites in South America, East Asia, Scandinavia, South and West Asia, and Africa. Combined with the fact that almost half our sample was college students, this clearly compromises our ability to generalize our findings. In a similar vein, only 3 of our 41 research sites could be classified as being of low SES, and although our results were consistent with previous work, a better balance between low- and high-SES sites would have strengthened our results. Future research would also do well to ensure that sample sizes are relatively equivalent across all study sites.

Given that participant age, BMI, and media exposure explained only a small proportion of the variance in body weight ideals and body dissatisfaction (and may have emerged as significant correlates only because so few variables were considered), future work may improve on our design by including a wider array of measures. For instance, the IBP-I survey did not collect information about participant ethnicity, which may be an important oversight given possible ethnic variation in body dissatisfaction (for divergent findings in the West and East, see Swami, Airs, Chouhan, Padilla Leon, & Towell, in press; Swami & Chamorro-Premuzic, 2008). Other relevant variables that may be included in future work include measures of SES (e.g., annual income or proxies of SES) and health-related variables (e.g., incidence of disease or rates of mortality; see Swami & Garcia Hernandez, 2008), self- and other-objectification (e.g., Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998), and internalization of media messages about the thin ideal (e.g., J. K. Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004).

A similar limitation concerns the CFDRS: Line-drawings have been criticized for having poor ecological validity and for their poor ability to capture meaningful variation in body weight change (see Swami, 2007). Furthermore, although the CDFRS has adequate test–retest reliability after 1 week ($r = .78$; M. A. Thompson & Gray, 1995), it has recently been supplanted by the Photographic Figure Rating Scale (PFRS; Swami, Salem, Furnham, & Tovée, 2008), which exhibits greater ecological validity. The latter was not available when the IBP-I was initiated, but future work may find the PFRS more reliable for examining female body weight ideals and body dissatisfaction.

Conclusion

The IBP-I dataset represents an important advance in our understanding of body weight ideals and body dissatisfaction across cultures. Our results suggest that there may indeed be cross-cultural differences in these variables but that the largest differences are found between contexts that vary in SES. More generally, the present results would seem to confirm fears that the thin ideal and body dissatisfaction have become widely international in nature (Nasser, 1997), partly as a function of globalized Western media (Becker, 2004; Becker et al., 2002). The implications of the present work are clear: Across the globe, societies now face the urgent task of promoting more realistic and healthier body weight ideals, and challenging associations between extreme thinness and femininity, success, and health. Only a response at the sociopolitical and economic levels, in combination with the current focus on the individual, can be expected to result in more positive body images among women and men in different cultural spheres.

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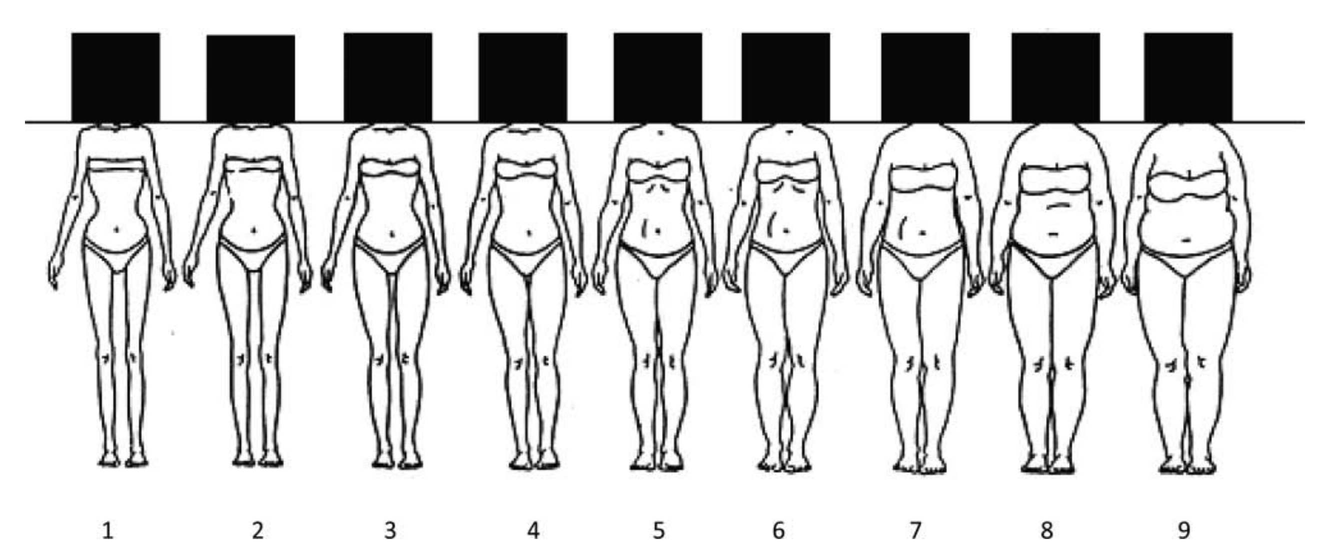
Appendix

Modified Contour Drawing Figure Rating Scale



Note

1. For instance, the simplest categorization would have involved splitting study sites on an East–West basis, although this presents problems of its own (e.g., how to categorize nations on the cusp of the divide, such as Turkey) and possibly oversimplifies the dataset. We also considered other categorization types based on the United Nations Development Program's Human Development Index (United Nations Development Program, 2008), the World Health Organization's adult mortality rate (World Health Organization, 2006), and the World Bank's data for gross domestic product per capita (World Bank, 2007). However, initial analyses suggested no significant correlations between ideal body size ratings by country and the Human Development Index (r = .24, p = .242), adult mortality rates (r = –.26, p = .208), or gross domestic product per capita (r = .16, p = .442), suggesting these were not good indices on which to base our categorization of the data.

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