

Research Article

GENDER DIFFERENCES IN BODY IMAGE ARE INCREASING

Alan Feingold¹ and Ronald Mazzella²

¹Yale University and ²Flushing, New York

Abstract—It has been speculated that the prevalence of eating disorders in women has risen because of increases in women's body dissatisfaction. We conducted a meta-analysis of gender differences in attractiveness and body image using 222 studies from the past 50 years. The analysis shows dramatic increases in the numbers of women among individuals who have poor body image. Moreover, these trends were found across multiple conceptualizations of body image, including self-judgments of physical attractiveness.

Numerous reviewers have concluded that the prevalence of eating disorders has increased in the 1980s and 1990s, and primarily among women (Goleman, 1995; Muth & Cash, in press; Rodin, 1992). Indeed, 40 of the 43 clinical studies published in the *International Journal of Eating Disorders* in 1995 used only female patients. The putative increase in disordered eating is said to result from a corresponding erosion of body image (i.e., body satisfaction), engendered by heightened societal pressures on women to be thin and attractive (Garner & Kearney-Cooke, 1996; Striegel-Moore, Silberstein, & Rodin, 1986).

MEASUREMENT OF BODY IMAGE

Body image has been the subject of much theoretical and empirical work over the past generation (Cash & Deagle, in press; Fisher, 1990; Thompson, 1990). Although body image can be conceptualized in many ways, it is body satisfaction that has been the most often examined (Muth & Cash, in press). An early measure was Secord and Jourard's (1953) Body-Cathexis Scale (later revised by Franzoi & Shields, 1984), in which individuals rate satisfaction with different parts of their bodies. In the 1960s, evaluation of or satisfaction with one's appearance was measured by subscales on each of three well-known multidimensional self-esteem scales: the Piers-Harris Children's Self-Concept Scale (PHSCS; Piers & Harris, 1969), the Tennessee Self-Concept Scale (TSCS; Fitts, 1965), and the Offer Self-Image Questionnaire (OSIQ; Offer & Diesenhaus, 1969).

When attractiveness research mushroomed in the early 1970s, global self-ratings of physical attractiveness were frequently obtained (e.g., Murstein, 1972). Concurrently, Lerner and his colleagues (e.g., Lerner, Karabenick, & Stuart, 1973) used a body-parts list to measure self-perceived physical attractiveness. Partially spurred by the formulation of a hierarchical model of self-esteem (Shavelson, Hubner, & Stanton, 1976), a new generation of multidimensional self-esteem inventories was introduced in the 1980s. These inventories included the Self-Perception Profile for Children (SPPC; Harter, 1985), the Self-Image Questionnaire for Young Adolescents (SIQYA; Petersen, Schulenberg, Abramowitz, Offer, & Jarcho, 1984), and the Self-Description Questionnaire (SDQ; Marsh, 1989). The SPPC includes a Physical Appearance subscale, the SDQ an Appearance subscale, and the SIQYA a Body Image subscale, each of which assesses a mixture of self-evaluation of physical attractiveness and

satisfaction with one's appearance. Similar measures include the Body Attractiveness scale of the Physical Self-Perception Profile (PSPP; Fox & Corbin, 1989), the Physical Appearance scale of the Personal and Academic Self-Concept Inventory (PASCI; Fleming & Whalen, 1990), and the Appearance Evaluation scale of the Body-Self Relations Questionnaire (BSRQ; Winstead & Cash, 1984). Finally, the clinical research on eating disorders has also generated attempts to measure body image (e.g., Fallon & Rozin, 1985; Garner, Olmstead, & Polivy, 1983; see also Cash & Deagle's, in press, meta-analysis).

META-ANALYSIS AS A FRAMEWORK FOR ASSESSING GENDER DIFFERENCES IN BODY IMAGE

Meta-analysis has become the primary tool to integrate findings of sex differences (Eagly, 1995; Hyde & Linn, 1986). This article reports the results of a meta-analysis that integrates the hundreds of findings dispersed across four discrete research literatures: the literatures on (a) physical attractiveness, (b) body image (especially clinical research related to eating disorders), (c) self-esteem (especially among adolescents), and (d) sport and exercise psychology. Moreover, if the number of women suffering from a poor physical self-image has indeed burgeoned, it may be manifested statistically in progressive year-related increases in greater female variability (relative to male variability) coupled with increasing mean differences between men and women. Thus, female-to-male variance ratios (*VRs*) and standardized mean differences (*ds*) must both be examined. In addition, *d* must be calculated separately for the right and left distributional tails when the sexes differ in both central tendency and dispersion (Feingold, 1995). A right-tail (*rt*) effect size, for example, is determined by using the means and standard deviations of two groups to calculate the ratio of group A members to group B members among high scorers on the criterion. The *rt* effect size is the *d* that would yield that ratio under homogeneity of variance. Similarly, the left-tail (*lt*) effect size is the *d* that would yield the ratio between the groups among low scorers if variances were homogeneous. Therefore, when variances are homogeneous, the *lt d*, *d*, and *rt d* are identical.

This meta-analytic review first reports the average effect sizes (*ds* and *VRs*) for gender differences in self-perceived (i.e., self-rated) physical attractiveness, body image (body satisfaction), and mixed measures (i.e., self-ratings on scales mixing physical-attractiveness items with body-image items). Gender differences in actual physical attractiveness (based on judges' ratings) of individuals are examined to determine whether gender differences in self-reports of attractiveness are merely reflective of an underlying reality. Finally, moderation of effect sizes by year, age, and country is examined for each of the four effect categories.

METHOD

Retrieval of Studies

Computer searches of the *PsycLIT*, *PsycINFO*, *ERIC*, and *UMI Dissertation Abstracts* databases were used to locate abstracts of stud-

Address correspondence to Alan Feingold, Department of Psychiatry, Yale University, 27 Sylvan Ave., New Haven, CT 06519; e-mail: alan.feingold@yale.edu.

ies—indexed through the end of 1995—that contained the key words *attractiveness* or *body image* in the title or abstract. We also conducted a manual search of the 1995 issues of *Current Contents*. Reference lists from all studies, and from books on physical attractiveness (e.g., Jackson, 1992) and body image (e.g., Rodin, 1992), were examined. Finally, we reviewed the library of studies we had gathered for use in our previous meta-analyses of attractiveness (Feingold, 1988, 1990, 1992b; Mazzella & Feingold, 1994).¹

Inclusion Criteria

Only gender differences in nonclinical and nonmedical samples, with mean ages of 12 or older, were included in the meta-analysis. Data from studies of unrepresentative samples—including athletes, fashion models, the intellectually gifted, and the obese—were not used. Finally, gender differences among self-selected samples of readers who responded to magazine surveys (e.g., Berscheid, Walster, & Bohmstedt, 1973; Cash, Winstead, & Janda, 1986) were also excluded.

Effect Categories and Operationalization Criteria

Physical attractiveness of subjects was always based on a mean rating from two or more judges who were not acquainted with the subjects.

Self-rated physical attractiveness was generally measured by a one-item global scale on which subjects rated how physically attractive or good-looking they perceived themselves to be, sometimes in comparison with others. In a few studies, a scale for rating attractiveness of body parts was used. Gender comparisons on scales that confound self-perceived physical attractiveness with other attributes, including the Physical Appearance and Attributes scale of the PHCSCS, the Physical Self-Esteem scale of the TSCS, and the Body/Self-Image scale of the OSIQ, were excluded.²

Body image was conceptually defined as body satisfaction, which was almost always operationalized as satisfaction with body appearance. The most often used approach was to have subjects rate how much they liked each part of their body, and then sum the ratings across body parts. Also included were studies that used one-item or multi-item global ratings of satisfaction with appearance, or respondents' reports of how proud they were of their bodies. The meta-analysis excluded gender differences in body distortion (see discussion of such measures by Friedman & Brownell, 1995), in body-satisfaction measures derived from evaluations of silhouettes (e.g., Fallon & Rozin, 1985), and in weight satisfaction. Sex differences on the Body Dissatisfaction subscale of the Eating Disorders Inventory (Garner et al., 1983) were excluded because items on that subscale ask individuals whether they feel parts of their bodies are too large. Thus, the subscale has questionable validity for men because men who are low in body satisfaction often believe themselves to be too small rather than too large (Fallon, 1990).

1. A complete list of all the studies used in the meta-analysis is available from the first author.

2. However, sex differences on specific OSIQ and PHCSCS items that measure self-rated physical attractiveness or body image, obtained from test manuals and books used to provide norms for these scales, were used in the meta-analysis.

Finally, the mixed effect category included findings obtained with scales that contain items for both self-evaluation of physical attractiveness and satisfaction with one's attractiveness (or one's body). These scales include PSPP Body Attractiveness, SDQ Appearance, SPPC Physical Appearance, PASCI Physical Appearance, SIQYA Body Image, and BSRQ Appearance Evaluation.

Calculation of Effect Sizes

Effect sizes were calculated for samples rather than for studies. Thus, when a study reported statistics for, say, each of three age groups, a separate effect size was calculated for each sample, and each sample was entered as an independent study. Data reported in more than one source (e.g., a dissertation and an article) were counted only once. When a study used more than one measure of an effect-category construct (e.g., two appropriate measures of body image), a separate effect size was calculated for each measure, and only the mean of the effect sizes was used in the meta-analysis for that effect category, thus ensuring independence of effects within effect categories. (Because a separate meta-analysis was conducted for each effect category, a study was used in more than one analysis when it yielded gender differences for more than one category, e.g., objective and self-rated physical attractiveness.)

The *ds* were calculated using the procedures described in Hedges and Olkin (1985) and Rosenthal (1991), such as subtracting the female means from the male means, dividing the difference by the pooled within-group standard deviations, and applying Hedges's (e.g., Hedges & Olkin, 1985) formula for bias correction. Thus, positive values of *d* indicate that the male mean exceeded the female mean. *VRs* were calculated only in the subset of studies that (a) reported means and standard deviations by gender and (b) had used either multi-item scales or one-item scales with 5 or more points. *VRs* were computed by dividing the female variances by the male variances.

Coding of Effect Sizes

Each effect size was coded for year of study, mean age (which sometimes had to be calculated from reported frequency distributions of age), and country (United States vs. other).³ Year of study was recoded into four categories: pre-1970, 1970s, 1980s, and 1990s. Mean age was recoded into six categories: 12.00–13.99 years, 14.00–15.99 years, 16.00–17.99 years, 18.00–22.99 years, 23.00–34.99 years, and 35.00 years and older.⁴

Meta-Analysis of Effect Sizes

The meta-analysis first used data from all samples to calculate the overall weighted mean *d* (Hedges & Olkin, 1985) for each of the four effect categories. We then calculated corresponding weighted mean

3. When grade rather than age was reported, 5 was added to the grade to convert to age. For example, a sample of eighth graders was coded "13.0" for mean age. We also conducted a meta-analysis that used only the subset of studies from the United States. Because the patterns of effect sizes were similar in the U.S. and the total-sample meta-analyses, the results from the U.S. samples alone are not reported.

4. When mean age was not provided for samples of college students, it was assumed to fall into the category of 18.00–22.99 years.

VRs by applying a log transformation to VRs, weighting each transformed VR by the reciprocal of its variance (Hedges & Friedman, 1993), and using an antilog transformation to convert the mean log-transformed VRs to mean VRs.

We used categorical analysis (Hedges & Olkin, 1985)—a meta-analytic analogue of analysis of variance that yields a Q_B statistic (distributed as a chi-square with $p - 1$ degrees of freedom, where p is the number of groups)—to determine whether ds varied significantly, by category, as a function of age, year, or country grouping. When ds appeared to increase or decrease progressively with year or age, the linear fit was tested for statistical significance by a contrast z (Hedges & Olkin, 1985). Variations in VRs were also examined, but not tested for statistical significance because of unavailability of appropriate methodology.

RESULTS

Analysis for Outliers

The distributions of z -score transformations of effect sizes (ds or log-transformed VRs) were examined by category for outliers (zs with absolute values of 3.0 or greater). Five ds —all based on very small samples—were identified as outliers and deleted prior to meta-analysis. There were no outliers in the distributions of log-transformed VRs.

Description of Database

The meta-analysis included 730 effect sizes (438 ds and 292 VRs) from 222 studies (366 independent samples, $N = 140,836$) described in 277 documents. The numbers of ds were 68 ($N = 9,187$), 102 ($N = 40,807$), 144 ($N = 81,172$), and 124 ($N = 37,627$), for the physical attractiveness, self-rated physical attractiveness, body image, and mixed categories, respectively. The corresponding numbers of VRs were 60 ($N = 8,442$), 67 ($N = 27,877$), 89 ($N = 27,877$), and 76 ($N = 8,585$).

Mean Effect Sizes Across All Samples

The meta-analyses of all data found that the sexes differed on all four measures of attractiveness and body image (see top of Table 1). Females' means exceeded those of males only for objective physical attractiveness, but to a small degree. Yet males rated themselves as more physically attractive than did females. The ds for the male advantages in the two body-image categories (pure and mixed) were both about 0.50.

Averaged over all samples, gender differences in variability were found only for the physical attractiveness and mixed measures, with females having larger variances than males. Therefore, the ds and VRs were used to calculate lt and rt effect sizes for these two categories. For physical attractiveness, the lt d was -0.20 and the rt d was -0.33 , indicating that women were more overrepresented among subjects who were beautiful than they were underrepresented among those who were ugly. For the mixed category, the lt d was 0.62 and rt d was 0.43, indicating that although females were overrepresented among low scorers and underrepresented among high scorers, the magnitude of the overestimation among low scorers was greater than that of their underrepresentation among high scorers.

Year-Related Variations in Effect Sizes

The female advantage in physical-attractiveness means declined slightly from the 1970s to the 1990s (see Table 1), although the linear trend was non-significant, $z = 1.91$. However, because the VRs for physical attractiveness also declined appreciably, there was a 50% decrease in the rt effect size from the 1970s to the 1990s, but no change in the lt effect size (see Table 2).

As shown in Table 1, there were appreciable increases in ds for both self-rated physical attractiveness and body image from the pre-1970 studies to those published in the 1990s, $zs = 10.19$ and 5.42, respectively, $ps < .001$. Moreover, the trends in VRs for both effect categories indicate that a one-time greater male variability in body image has gradually been replaced by greater female variability. The temporal shift in the lt and rt ds indicates that although the increases in the gender differences favoring males in self-rated physical attractiveness and body image were found at both tails, the magnitude of the increase was appreciably larger at the left tail (see Table 2).

Age-Related Variations in Effect Sizes

The mean gender difference in physical attractiveness varied across age categories (see Table 1), and these differences were significant, $Q_B(5) = 22.21$, $p < .001$. The female advantage in physical attractiveness was evident mainly among women who were 16 to 22 years old. Because women in that age group were also more variable in judged attractiveness than their male peers, women were more overrepresented among good-looking people than underrepresented among plain-looking people.

The age-related trends in mean differences between the sexes were similar for self-rated physical attractiveness, body image, and the mixed measures (see Table 1). Contrasts comparing the weighted mean ds for the three adolescent groups with those of the three adult groups indicated the effect sizes were significantly smaller in the older samples for self-rated physical attractiveness, body image, and mixed ratings, $zs = 5.35$, 4.58, and 5.71, respectively, $ps < .001$.

As shown in Table 1, the VRs indicate that females were appreciably more variable than males in the body-image and mixed measures in the three adult groups. The trends in the lt and rt ds indicate that decreases in gender differences from adolescence to adulthood occurred only at the right tail (see Table 3). In other words, women made up a larger proportion of the adults satisfied with their appearance than they did of the adolescents satisfied with their appearance. However, among individuals having poor body image, the proportion that was female remained constant across the life span.

Culture-Related Variations in Gender Differences

For all effect categories, the mean gender differences in the United States and in other countries were similar (see Table 1). However, the greater female variability in objective physical attractiveness observed in the United States was not found in other countries.

DISCUSSION

The meta-analysis found that males are more satisfied with their bodies than females and, to a much lesser degree, consider themselves to be better looking than do females. Moreover, the gender difference in self-rated attractiveness cannot be due to differences in actual physical attractiveness because judges rated women as being better looking than men.

Table 1. Meta-analysis of gender differences in attractiveness and body image

Moderator	Physical attractiveness		Self-rated physical attractiveness		Body image		Mixed	
	<i>d</i>	<i>VR</i>	<i>d</i>	<i>VR</i>	<i>d</i>	<i>VR</i>	<i>d</i>	<i>VR</i>
	All samples							
	-0.26 (9,187)	1.15 (8,442)	0.17 (40,807)	0.96 (27,877)	0.52 (81,172)	1.02 (22,638)	0.52 (37,627)	1.20 (8,585)
	By year of study							
Pre-1970	— (—)	— (—)	-0.43 (963)	0.72 (963)	0.00 (322)	0.87 (322)	— (—)	— (—)
1970s	-0.30 (2,975)	1.23 (2,906)	0.06 (5,957)	0.87 (3,904)	0.27 (4,377)	0.91 (2,694)	0.40 (145)	1.58 (145)
1980s	-0.28 (2,846)	1.18 (2,270)	0.20 (27,928)	0.98 (17,852)	0.38 (4,666)	0.93 (4,135)	0.50 (8,640)	1.18 (2,192)
1990s	-0.20 (3,366)	1.05 (3,266)	0.24 (5,959)	1.05 (5,158)	0.58 (61,807)	1.07 (15,487)	0.52 (28,643)	1.20 (16,049)
	By age of sample							
12-13	-0.10 (687)	1.20 (687)	0.27 (3,001)	0.89 (1,778)	0.41 (5,460)	1.02 (2,357)	0.54 (11,728)	1.20 (7,675)
14-15	— (—)	— (—)	0.25 (6,460)	0.96 (2,831)	0.57 (47,635)	0.89 (6,068)	0.61 (8,657)	1.12 (3,223)
16-17	-0.27 (963)	1.15 (963)	0.23 (7,524)	1.02 (3,358)	0.55 (11,286)	0.96 (3,348)	0.57 (4,833)	1.05 (805)
18-22	-0.33 (6,633)	1.15 (5,918)	0.07 (10,995)	0.89 (7,568)	0.42 (13,650)	1.07 (8,357)	0.38 (9,033)	1.26 (5,628)
23-34	0.00 (445)	1.05 (415)	0.13 (3,037)	0.93 (3,037)	0.23 (908)	1.20 (760)	0.33 (1,039)	1.55 (423)
35 and up	0.00 (153)	1.32 (153)	0.17 (6,864)	1.02 (8,686)	0.36 (649)	1.18 (649)	0.40 (769)	1.48 (418)
	By country of sample							
United States	-0.25 (8,859)	1.15 (8,183)	0.17 (32,369)	0.96 (25,849)	0.53 (54,005)	1.05 (12,312)	0.40 (14,238)	1.26 (11,901)
Other	-0.48 (328)	0.96 (259)	0.17 (8,438)	0.98 (2,028)	0.51 (27,167)	0.98 (10,326)	0.59 (23,389)	1.15 (6,684)

Note. Pooled sample size is in parentheses below each effect size. Dashes signify either that there were no studies in the subgroup or the mean effect size was based on an *N* less than 100. *d* = weighted standardized mean difference (positive values denote higher male means); *VR* = weighted mean variance ratio (*VR*s above 1.00 indicate greater female variability, *VR*s below 1.00 indicate greater male variability), Mixed = measures that included items for both body image and self-rated physical attractiveness.

As predicted, the male advantages in means for self-rated attractiveness and body image increased progressively over the past generation, and there was a concomitant increase in the gender differences in variability (females being more variable than males) in body image. Thus, the strongest trend involved increasing numbers of women among individuals who were the most dissatisfied with their bodies.

Although the mean differences between the sexes in both self-judged attractiveness and body image were significantly smaller in adulthood than in adolescence, the greater female variability in body image was more pronounced among adults. Thus, there was an increase with age in the proportion that was female among those individuals who were highly satisfied with their bodies, but the proportion that was female among those who were highly dissatisfied with their bodies remained constant across the life span.

It is not surprising that mean gender differences in body image increased from early to mid-adolescence and then diminished in adulthood. For both sexes, competition for socially valued and socially determined goals (e.g., jobs, romantic partners) might increase dissatisfaction with aspects of the self, such as physical appearance, that limit one's success in obtaining maximum outcomes. Once individuals marry and settle into careers in early adulthood, this source of pressure wanes. Furthermore, because the social conditioning emphasizing the importance of appearance is greater for women (e.g., physical attractiveness is a stronger determinant of popularity with the opposite sex for women than it is for men; Feingold, 1990, 1992a), women would be expected to benefit more when people reach the stage in life when looks are less important.

Gender Differences in Body Image

Table 2. Temporal trends in left- and right-tail effect sizes

Year group	Physical attractiveness		Self-rated physical attractiveness		Body image		Mixed	
	Left tail	Right tail	Left tail	Right tail	Left tail	Right tail	Left tail	Right tail
Pre-1970	—	—	-0.60	-0.27	-0.07	0.07	—	—
1970s	-0.20	-0.41	-0.01	0.13	0.22	0.32	0.64	0.16
1980s	-0.19	-0.36	0.19	0.21	0.34	0.41	0.59	0.41
1990s	-0.18	-0.22	0.26	0.22	0.62	0.55	0.62	0.43

Note. Tail effect sizes were calculated from the corresponding *ds* and *VRs* reported in Table 1. Mixed = measures that included items for both body image and self-rated physical attractiveness. For positive values, the left-tail effect size equals the *d* that would—under homogeneity of variance—indicate the ratio of females to males among low scorers (i.e., individuals scoring one or more standard deviations below the mean in the combined distribution) found from the additive effects of the *d* and *VR*, and the right-tail effect size equals the *d* that would indicate the ratio of males to females among high scorers, as estimated from *d* and *VR*. For negative values of tail effect sizes, females are overrepresented among high scorers and underrepresented among low scorers.

Moreover, women may vary in their reactions to aging. For example, women who were beautiful in their youth may become particularly dissatisfied with their appearance once that beauty fades, whereas other women may feel better about their looks once appearance has become less socially relevant. If so, older women would be more variable in body satisfaction than are younger women.

It is important to remember that moderator-variable analyses in general—and those relating to year-related sex differences in particular (Knight, Fabes, & Higgins, 1996)—involve confounding of

various factors coded as study characteristics in meta-analyses, which limits the ability to draw causal inferences. Because all effect sizes for gender differences in body image and self-rated attractiveness were based on the same self-report-type scales in all years, however, the problem of confounding of method with publication year (noted by Knight et al., 1996) was mitigated in this meta-analysis.

Whether gender differences are best explained by a biological (evolutionary), a sociocultural, or a biosocial model continues to be hotly debated (Feingold, 1996). The results from the moderator-variable analysis suggest a nurture rather than a nature explanation because the male advantages in self-rated physical attractiveness and body image were not observed in the oldest studies, but evolved gradually. Moreover, although these gender differences were found both in the United States and elsewhere, there was marked heterogeneity of effect sizes within the subsets of studies conducted in other countries. By comparison, gender differences in broad dimensions of personality (Feingold, 1994) and mate selection preferences (Buss, 1989; Feingold, 1992a) have been more consistent, both cross-culturally and temporally, thus suggesting a biological or biosocial model might be a more appropriate explanation for them than for the body-image differences observed in the literature reviewed in this article.

Most important, although the findings of the meta-analysis are consistent with the popular wisdom that women’s body satisfaction has decreased while men’s body satisfaction has either remained the same or declined less steeply, our results are also congruent with other hypotheses. For example, the current findings would be consistent with the prediction that body satisfaction has increased for both sexes but more sharply for men than for women. Unfortunately, the meta-analysis could not examine year-related changes in body image for either gender because the studies used in the literature reviewed had not examined temporal changes in body image. However, if one is willing to rule out the hypothesis that body satisfaction has increased for men, the meta-analytic findings afford evidence of a decrease in women’s body satisfaction.

Table 3. Age-related trends in left- and right-tail effect sizes for body image and mixed measures

Age group	Body image		Mixed	
	Left tail	Right tail	Left tail	Right tail
12–13	0.41	0.40	0.65	0.44
14–15	0.51	0.63	0.68	0.55
16–17	0.53	0.57	0.59	0.56
18–22	0.46	0.39	0.49	0.27
23–34	0.32	0.13	0.56	0.11
35 and up	0.46	0.27	0.61	0.21

Note. Tail effect sizes were calculated from the corresponding *ds* and *VRs* reported in Table 1. Mixed = measures that included items for both body image and self-rated physical attractiveness. The left-tail effect size equals the *d* that would—under homogeneity of variance—indicate the ratio of females to males among low scorers (i.e., individuals scoring one or more standard deviations below the mean in the combined distribution) found from the additive effects of the *d* and *VR*. The right-tail effect size equals the *d* that would indicate the ratio of males to females among high scorers based on *d* and *VR*.

Acknowledgments—This article is based on a paper presented upon the receipt of the Gardner Lindzey Award to the senior author at the 104th Annual Meeting of the American Psychological Association in Toronto in August 1996. We would like to thank Thomas Cash, Alice Eagly, and Steve Franzoi for their comments on an earlier draft of this article. We would also like to thank the following individuals for providing us with data for use in the meta-analysis: Judy Andrews, Roger Bailey, Frank Bernieri, Diane Berry, Ed Diener, Vicki Douthitt, James Fleming, Kenneth Fox, Steven Gangestad, Winston Hagborg, Gregg Henrique, Charles Hill, Judith Howard, William Ickes, Linda Jackson, Jasna Jovanovic, Rotem Kowner, Helmut Lamm, Jim-Pang Leung, Richard Lippa, Herbert Marsh, Felix Neto, Gianine Rosenblum, Norman Schultz, David Shaffer, Jeffry Simpson, Susan Sprecher, Judith Stein, David Watkins, Lars Wichstrom, Carolyn Williams, and Miron Zuckerman.

REFERENCES

- Berscheid, E., Walster, E., & Bohrnstedt, G. (1973, June). The happy American body: A survey report. *Psychology Today*, 7, 119–131.
- Buss, D.M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, 12, 1–49.
- Cash, T.F., & Deagle, E.A. (in press). The nature and extent of body-image disturbances in anorexia nervosa and bulimia nervosa: A meta-analysis. *International Journal of Eating Disorders*.
- Cash, T.F., Winstead, B.A., & Janda, L.H. (1986, April). The great American shape-up. *Psychology Today*, 4, 30–37.
- Eagly, A.H. (1995). The science and politics of comparing women and men. *American Psychologist*, 50, 145–158.
- Fallon, A. (1990). Culture in the mirror: Sociocultural determinants of body image. In T.F. Cash & T. Pruzinsky (Eds.), *Body images: Development, deviance, and change* (pp. 80–109). New York: Guilford Press.
- Fallon, A.E., & Rozin, P. (1985). Sex differences in perceptions of body shape. *Journal of Abnormal Psychology*, 94, 102–105.
- Feingold, A. (1988). Matching for attractiveness in romantic partners and same-sex friends: A meta-analysis and theoretical critique. *Psychological Bulletin*, 104, 226–235.
- Feingold, A. (1990). Gender differences in effects of physical attractiveness on romantic attraction: A comparison across five research paradigms. *Journal of Personality and Social Psychology*, 59, 981–993.
- Feingold, A. (1992a). Gender differences in mate-selection: A test of the parental investment model. *Psychological Bulletin*, 112, 125–139.
- Feingold, A. (1992b). Good-looking people are not what we think. *Psychological Bulletin*, 111, 304–341.
- Feingold, A. (1994). Gender differences in personality: A meta-analysis. *Psychological Bulletin*, 116, 429–456.
- Feingold, A. (1995). The additive effects of differences in central tendency and variability are important in comparisons between groups. *American Psychologist*, 50, 5–13.
- Feingold, A. (1996). Cognitive gender differences: Where are they, and why are they there? *Learning and Individual Differences*, 8, 25–32.
- Fisher, S. (1990). The evolution of psychological concepts about the body. In T.F. Cash & T. Pruzinsky (Eds.), *Body images: Development, deviance, and change* (pp. 3–20). New York: Guilford Press.
- Fitts, W.H. (1965). *Manual for the Tennessee Self-Concept Scale*. Los Angeles: Western Psychological Services.
- Fleming, J.S., & Whalen, J.S. (1990). The Personal and Academic Self-Concept Inventory: Factor structure and gender differences in high school and college samples. *Educational and Psychological Measurement*, 50, 957–967.
- Fox, K.R., & Corbin, C.B. (1989). The Physical Self-Perception Profile: Development and preliminary validation. *Journal of Sport and Exercise Psychology*, 11, 408–430.
- Franzoi, S.L., & Shields, S.A. (1984). The Body Esteem Scale: Multidimensional structure and sex differences in a college population. *Journal of Personality Assessment*, 48, 173–178.
- Friedman, M.A., & Brownell, K.D. (1995). Psychological correlates of obesity: Moving to the next generation of research. *Psychological Bulletin*, 117, 3–20.
- Garner, D.M., & Kearney-Cooke, A. (1996, March/April). Body image 1996. *Psychology Today*, 29, 55–61.
- Garner, D.M., Olmstead, M.P., & Polivy, J. (1983). Development and validation of a multidimensional Eating Disorder Inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders*, 2, 15–34.
- Goleman, D. (1995). *Emotional intelligence*. New York: Bantam.
- Harter, S. (1985). *Manual for the Self-Perception Profile for Children*. Unpublished manuscript, University of Denver, Denver, CO.
- Hedges, L.V., & Friedman, L. (1993). Gender differences in intellectual abilities: A reanalysis of Feingold's results. *Review of Educational Research*, 63, 94–105.
- Hedges, L.V., & Olkin, I. (1985). *Statistical methods for meta-analysis*. San Diego: Academic Press.
- Hyde, J.S., & Linn, M.C. (Eds.). (1986). *The psychology of gender: Advances through meta-analysis*. Baltimore: Johns Hopkins University Press.
- Jackson, L.A. (1992). *Physical appearance and gender: Sociobiological and sociocultural perspectives*. New York: State University of New York Press.
- Knight, G.P., Fabes, R.A., & Higgins, D.A. (1996). Concerns about drawing causal inferences from meta-analyses: An example in the study of gender differences in aggression. *Psychological Bulletin*, 119, 410–421.
- Lerner, R.M., Karabenick, S.A., & Stuart, J.L. (1973). Relations among physical attractiveness, body attitude, and self-concept in male and female college students. *Journal of Psychology*, 85, 119–129.
- Marsh, H.W. (1989). Age and sex effects in multiple dimensions of self-concept: Preadolescence to early adulthood. *Journal of Educational Psychology*, 81, 417–430.
- Mazzella, R., & Feingold, A. (1994). The effects of physical attractiveness, race, socioeconomic status, and gender of defendants and victims on judgments of mock jurors. *Journal of Applied Social Psychology*, 24, 1315–1344.
- Murstein, B.I. (1972). Physical attractiveness and marital choice. *Journal of Personality and Social Psychology*, 22, 8–12.
- Muth, J.L., & Cash, T.F. (in press). Body-image attitudes: What differences does gender make? *Journal of Applied Social Psychology*.
- Offer, D., & Diefenhaus, H. (1969). *The Offer Self-Image Questionnaire for adolescents: A manual*. Chicago: Michael Reese Hospital.
- Petersen, A.C., Schulenberg, J.E., Abramowitz, R.H., Offer, D., & Jarcho, H.D. (1984). A Self-Image Questionnaire for Young Adolescents (SIQYA): Reliability and validity studies. *Journal of Youth and Adolescence*, 13, 93–111.
- Piers, E.V., & Harris, D.B. (1969). *Piers-Harris Children's Self-Concept Scale*. Los Angeles: Western Psychological Services.
- Rodin, J. (1992). *Body traps*. New York: William Morrow.
- Rosenthal, R. (1991). *Meta-analytic procedures for social research* (rev. ed.). Beverly Hills, CA: Sage.
- Secord, P.F., & Jourard, P.F. (1953). The appraisal of body-cathexis: Body-cathexis and the self. *Journal of Consulting Psychology*, 17, 343–347.
- Shavelson, R.J., Hubner, J.J., & Stanton, G.C. (1976). Self-concept: Validation of construct interpretations. *Review of Educational Research*, 46, 407–441.
- Striegel-Moore, R.H., Silberstein, L.R., & Rodin, J. (1986). Toward an understanding of risk factors for bulimia. *American Psychologist*, 41, 246–263.
- Thompson, J.K. (1990). *Body image disturbance: Assessment and treatment*. Elmsford, NY: Pergamon Press.
- Winstead, B.A., & Cash, T.F. (1984, March). *Reliability and validity of the Body-Self Relations Questionnaire*. Paper presented at the annual meeting of the Southeastern Psychological Association, New Orleans, LA.

(RECEIVED 5/15/97; ACCEPTED 11/14/97)