

Body Image and Exercise

June is 19 years old and a college sophomore. Until she went away to college, June trained and competed in dance and gymnastics. An attractive girl, June was often told that much of her success in these activities was due to the appeal of her “all-American good looks.” Since retiring from competition two years ago, June has gained 10 pounds, but she is still of average weight for her 5-foot, 2-inch frame. Nonetheless, whenever she looks in the mirror, June sees herself as overweight. She is constantly saying things to herself like “I hate my body,” “My hips are too fat,” and “What good are you anyway?” Some days, she feels so bad about herself that it takes all of her effort just to get out of bed. Although June’s favorite outfits used to consist of fitted jeans and t-shirts, lately she prefers to wear baggy sweat suits that hide the shape of her body. One of June’s friends suggests that she might feel better if she exercised more regularly. However, June feels too embarrassed about her body to put on shorts and a t-shirt and attend an exercise class.

June’s story is typical of a woman with a poor or disturbed body image. Historically, body image and body image disturbance have been considered issues that affect only young women. Yet today, body image disturbance is on the rise among both men and women of all ages. This is a significant health concern, because body image disturbance may be associated with poorer psychological well-being (e.g., increased risk for depression and eating disorders) and a greater likelihood of engaging in behaviors that put one’s physical health at risk (e.g., smoking, over-exercising, or not exercising at all). Given these health concerns, exercise psychologists are interested in understanding how exercise interventions help to improve body image, and how body image can affect physical activity participation.

affective/emotional dimension
 anorexia nervosa
 • binge-eating/purging type
 • restricting type
 avoidance behaviors
 behavioral dimension
 body checking behaviors
 body composition
 body dysmorphic disorder
 body ideal
 body image
 body image disturbance
 body reality
 bulimia nervosa
 • nonpurging type
 • purging type
 cognitive dimension
 healthy body image
 lifestyle behaviors
 muscle dysmorphia
 perceptual dimension
 social physique anxiety

Body Image Defined

body image ■

Body image is a multidimensional construct that reflects how we see our own body, and how we think, feel, and act toward it. Thus, body image is generally defined in terms of four dimensions—perceptual, cognitive, affective, and behavioral.

perceptual dimension ■

The **perceptual dimension** reflects the picture of our own body that we form in our mind. It is how we see our bodies when we look in a mirror and how we imagine ourselves to look—thin or fat, short or tall, muscular or lean, and so on. How we perceive or think that we look is not necessarily the same as how we actually look. As June's story demonstrates, some people may perceive themselves as overweight when they look in a mirror even though they are actually of average weight or even underweight.

cognitive dimension ■

The **cognitive dimension** of body image reflects how we think about and evaluate our body in terms of both its appearance and function. This includes beliefs regarding the attractiveness, strength, and fitness of the body and its various parts, the extent to which we value attractiveness and function, and the things we say to ourselves about our bodies.

affective/emotional dimension ■

The **affective or emotional dimension** of body image reflects feelings experienced in relation to the body's appearance and function. People may experience positive feelings about their bodies such as comfort and pride, or negative feelings such as anxiety, shame, and disgust.

behavioral dimension ■

Finally, the **behavioral dimension** represents things we do that reflect our positive or negative perceptions, thoughts, and feelings about our bodies, such as the types of clothing we wear and the activities we choose to engage in.

Healthy Body Image Versus Body Image Disturbance

healthy body image ■

A healthy body image is reflected in positive self-evaluations along the four body image dimensions mentioned above. Individuals with a healthy body image have accurate perceptions about their body shape and size, have thoughts and feelings about their body that are predominately positive, and behave in ways that reflect these positive evaluations. In contrast, **body image disturbance** can be seen when the individual has negative self-evaluations along any or all of the body image dimensions. Along the perceptual dimension, body image disturbance is indicated when perceptions of one's body shape and size differ from one's actual shape and size. Along the cognitive and affective dimensions, negative thoughts and feelings about one's body are indicative of disturbance. And along the behavioral dimension, actions performed to hide or change the body's appearance without regard for health implications would be evidence of body image disturbance.

body image disturbance ■

Traditionally, body image disturbance has been seen as a “women’s issue.” Times are changing, however. In 1973, *Psychology Today* magazine reported that 15 percent of men and 25 percent of women were dissatisfied with their appearance. In 1986, the magazine reported that 34 percent of men and 38 percent of women were dissatisfied with their appearance. In 1997, the dissatisfaction rate was up to 43 percent of men and 56 percent of women. Over the past decade, however, there have been some indications that the prevalence of body image dissatisfaction has declined among women and remained stable among men (Cash, Morrow, Hrabosky, & Perry, 2004). As a result, body image disturbance may now be just as common among men as it is among women.

Factors in Body Image Formation and Disturbance

Body image reflects an interplay between our body reality and our body ideal. **Body reality** refers to our actual physical characteristics—height, weight, body fat, lean body mass, bone structure, fitness, strength, disease, and so on. **Body ideal** refers to how we think our body should look and function. When people’s body reality and body ideal are the same or very similar, they usually have a positive, healthy body image. But when people perceive their body reality to be worse than their body ideal—for example, when they judge their bodies to be fatter than they think they should be—this judgment often results in negative thoughts, feelings, perceptions, and behaviors that are indicative of body image disturbance.

☞ body reality
☞ body ideal

Where do body ideals come from? A healthy body ideal is derived from a recognition that human bodies naturally come in a wide range of shapes and sizes and that genetic factors are instrumental in determining one’s weight and shape. Because genetics limit how much one can reshape the body through diet and exercise (Bouchard, 2008), it would be absurd for everyone to have the same body ideal. Rather, each individual’s body ideal should reflect a realistic level of health and fitness for one’s own unique and personal body shape.

Media influence

Unfortunately, in our society personal body ideals tend to be displaced by media-driven body ideals. Instead of celebrating a range of body ideals, the media promotes a very strict and narrowly defined image of the ideal body, particularly for women and increasingly so for men. Many people fail to realize that these ideals are unrealistic and unattainable for the vast majority of the population. The predominance of “perfect” bodies in television, magazines, movies, and music videos perpetuates the misconception that the bodies of fashion models and movie stars are the norm.

Cultural influences

Cultural body ideals generally reflect those glamorized in the media. However, people who are part of ethnic groups that reject the media ideal have healthier body images than do those who belong to groups that endorse the media ideal.



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For example, although Black women are, on average, heavier than White women, Black women are significantly more satisfied with their bodies than White women (Roberts, Cash, Feingold, & Johnson, 2006). These differences are probably the result of differences in culture-bound values regarding the relative importance of thinness and the acceptance of heavier, more rounded body shapes. Such positive values result in a healthier and more realistic body ideal and, ultimately, better body image (Celio, Zabinski, & Wilfley, 2002).

Interestingly, over the past 10 to 15 years, the difference in body dissatisfaction between White and Black women has narrowed (Roberts et al., 2006). On the one hand, these changes may reflect Black women becoming more dissatisfied with their bodies as they adopt and internalize “White” standards of beauty. On the other hand, diminishing ethnic differences may be due to an increase in body satisfaction among White women (Cash et al., 2004). As Black women and women from other ethnic minorities gain greater prominence in the media, the presence of ethnically diverse body shapes and sizes may help to reshape “White” conceptions of beauty and the cultural body ideal. Thus, White women may come to see a greater range of bodies (including their own) as “ideal.”

Activity participation

The activities in which we choose to participate can influence body image by altering perceptions of the body ideal. For example, women who participate in bodybuilding have a greater acceptance of bulkier, more muscular female body shapes, despite the divergence of these shapes from cultural body ideals (Furnham, Titman, & Sleeman, 1994). Likewise, men who participate in bodybuilding have a body ideal that is considerably more hypertrophic (i.e., has greater muscle mass) than the ideal of men who participate in other sports (Blouin & Goldfield, 1995). Whether these ideals are a cause or an effect of participating in bodybuilding is unclear. Nonetheless, continued participation in activities that endorse a particular body ideal can lead the participant to adopt the ideal for that activity and to reject the media or cultural ideal. If the participant is able to achieve a body shape that approximates the new ideal, then body image may improve. However, if the participant is unable to achieve the new ideal, then body image disturbance may become worse. Some researchers have found that bodybuilders have a worse body image than men who play other sports (Blouin & Goldfield, 1995), while others have found that bodybuilders have a better body image than men involved in other physical activities (Pickett, Lewis, & Cash, 2005). These conflicting findings may reflect differences in the bodybuilders' perceptions of success in achieving their ideal body. Men in the first study (Blouin & Goldfield) may have been highly dissatisfied because they perceived that they had not achieved their (potentially extreme and unrealistic) body image ideals. The men in the second study (Pickett et al.) may have felt good about their bodies because they felt that they had achieved their ideal.

Changes to body reality

Body image dissatisfaction has been shown to emerge in children as young as 6 or 7 years old (Ricciardelli & McCabe, 2001) and to get worse at puberty and the transition to adolescence (Eisenberg, Neumark-Sztainer, & Paxton, 2006). As we age, the body grows and alters in size, shape, proportion, and function. These changes can have a profound effect on feelings about oneself and one's body. For example, the growth of facial hair may be a source of pride for a pubescent boy who is eager to take on the appearance of a man. In contrast, a 12-year-old girl may be devastated by the increase in body weight that accompanies puberty. Indeed, normal developmental weight gain during puberty is associated with declines in body satisfaction (Eisenberg et al., 2006). Among older adults, age-related changes in body reality—such as the graying of hair and the wrinkling of skin—can also affect body image (Martin, Leary, & Rejeski, 2000). Thus, not surprisingly, body image dissatisfaction is prevalent among people of all ages—not just young adults. However, the importance that people place on physical appearance does tend to decrease in older adulthood (Tiggemann, 2004).

Sex Differences in Body Image Dissatisfaction

Until recently, it was believed that in general, women have greater body dissatisfaction than men (Feingold & Mazzella, 1998). This belief was based largely on the results of studies that measured body dissatisfaction in terms of people's desire to lose weight. (Participants who wanted to lose more weight were considered to have greater body dissatisfaction.) Overall, these studies showed that regardless of their age, a majority of women—but not men—wanted to lose weight. On the basis of these data, researchers concluded that women were more dissatisfied with their bodies than men. However, this conclusion is now being questioned.

Certainly, for most women, body dissatisfaction stems from a desire to be thinner. Countless studies have shown that among women, body image is positively correlated with body mass index (BMI), such that the smallest women have the lowest levels of body dissatisfaction and the largest women have the greatest body dissatisfaction. Yet, for men, the root of body dissatisfaction is not as straightforward. Among men, the relationship between body image and BMI is curvilinear, such that the largest *and* the smallest men have the greatest body dissatisfaction (Muth & Cash, 1997). This relationship is reflected in studies showing that more than one-third of men want to lose weight, while a similar proportion want to gain weight (McCabe & Ricciardelli, 2004). Of those who want to gain weight, some want to increase their muscle mass, some want to increase their body fat, and some want to increase both muscle and fat mass. Thus, whereas female body dissatisfaction typically stems from concerns about being too fat, male body dissatisfaction can stem from concerns about being too fat, too thin, too scrawny, or a combination of these concerns. If researchers do not measure all of the different ways that men may be dissatisfied with their bodies, the prevalence of male body dissatisfaction may be underestimated. Indeed, when the range of potential male body image concerns is taken into consideration, body image dissatisfaction is probably just as common among men as among women (McCabe & Ricciardelli, 2004).

Differences in the types of body image concerns felt by men and women reflect differences between the male and female body image ideals that are glamorized by the media and endorsed by Westernized culture. These ideals set the standard of female bodily attractiveness as ultra-thin, shapely, and toned. Thus, women who are dissatisfied with their bodies typically want to lose weight so that they can achieve this ideal. The male standard is considered the V-shaped physique: broad, muscular shoulders, toned “six-pack” abdominal muscles, a narrow waist, and muscular legs. As such, men often want to increase their muscle mass and reduce their body fat in order to achieve this ideal.

However, differences in gender-role orientation can influence the extent to which men endorse and pursue the male cultural body ideal (McCabe & Ricciardelli, 2004). Gender-role orientation refers to the extent to which people identify with stereotypically masculine (e.g., strength, assertiveness) versus feminine (e.g., gentleness, affection) traits. Because the male sociocultural body ideal is associated with the possession of typically masculine traits, men who score high on measures of masculinity may be more concerned with obtaining this physique than men who

score high on measures of femininity. In contrast, because a smaller, thinner male body is associated with more typically feminine traits, feminine men may be primarily concerned with weight loss and attaining a thinner ideal. Likewise, women with high scores on measures of masculinity may be less concerned with weight loss and thinness than women who score high on measures of femininity. These tendencies suggest that body image comparisons based on biological sex (i.e., whether one is male or female) are overly simplistic. To fully understand differences in body image between men and women, gender-role orientation must also be considered. Comparisons between masculine- and feminine-oriented individuals may be more meaningful than comparisons between male and female individuals.

Why Is Body Image Important?

Relationship to Psychological Well-Being

A healthy body image is related to better psychological well-being in at least two ways: better self-esteem and lowered risk for depression and anxiety. Extreme body dissatisfaction can sometimes be indicative of severe psychological disturbances such as body dysmorphic disorder (see p. 234).

Self-esteem

A positive correlation exists between body image satisfaction and self-esteem (Miller & Downey, 1999), which indicates that people who feel better about their bodies tend to feel better about themselves overall. The positive relationship between body image and self-esteem has been demonstrated in studies of both male and female adolescents (Davison & McCabe, 2006) and adults (Davison & McCabe, 2005). However, the strength of the relationship seems to depend on the extent to which people value their physical appearance. For people who place a good deal of value on their physical appearance, their feelings of self-worth appear to be more influenced by their body image than for people who put less value on their appearance.

Depression and anxiety

A poor body image has been associated with greater anxiety and depressive symptomatology (Cohen & Esther, 1993; Kirkcaldy, Eysenck,

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"Before you try on any bathing suit, you're required to sign this waiver releasing us from liability should you incur permanent damage to your self-esteem."

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Furnham, & Siefen, 1998). Specifically, depressed and anxious individuals view their appearance more negatively than do nondepressed and nonanxious individuals, despite the fact that there are no differences between these groups' actual body shape or size. Preliminary data suggest that body image disturbance is an antecedent, rather than a consequence, of increased depression (Paxton, Neumark-Sztainer, Hannan, & Eisenberg, 2006) and anxiety (Stice & Whitenton, 2002). In other words, having a poor body image may cause other psychological disturbances.

Body dysmorphic disorder

body dysmorphic
disorder

In some extreme cases, body dissatisfaction may be indicative of a serious, underlying psychiatric condition known as **body dysmorphic disorder (BDD)**. People diagnosed with BDD are excessively preoccupied with an imagined defect in their physical appearance (e.g., breast size, body weight, facial features). Although they may have a minor physical abnormality, people with BDD have grossly excessive anxiety and concern over this aspect of their appearance. They engage in obsessive-compulsive activities such as constantly checking their appearance in a mirror or weighing themselves, and they avoid social situations because they do not want others to see them (Veale, 2009). Given these behaviors, BDD can severely interfere with one's ability to go to school or to work, to have relationships, and, ultimately, to enjoy life.

muscle
dysmorphia

Muscle dysmorphia (MD) is a particular type of BDD that is characterized by a preoccupation with muscularity (Phillips, O'Sullivan, & Pope, 1997). People with muscle dysmorphia have inaccurate beliefs about their muscularity, believing that they are far less muscular than they actually are. They might use steroids and work out compulsively, yet they remain deeply anxious and dissatisfied with their degree of muscular development.

Currently, the prevalence of BDD and MD in the general population is unknown. It has been estimated, however, that between 0.7 and 2.3 percent of the general population have BDD (Phillips & Dufresne, 2000) and, among those who are diagnosed with BDD, approximately 9 percent are men with MD (Olivardia, 2001).

Relationship to Physical Well-Being

Body image is also related to physical well-being, insofar as it can affect one's tendency to engage in health-damaging and health-promoting behaviors.

Health-damaging behaviors

Eating disorders and unhealthy weight control strategies. Body image disturbance has been identified as a risk factor for the development of eating disorders and is a key feature of eating disorder symptomatology (Polivy & Herman, 2002). A review of more than 60 studies found that women diagnosed with eating disorders reported greater body image dissatisfaction and more distorted body image perceptions than the general population (Cash & Deagle, 1997).

Body image disturbance is also a risk factor for relapse after successful eating disorder treatment. In one study, predictors of relapse were examined among women who had been successfully treated for **bulimia nervosa** or **anorexia nervosa** (Keet et al., 2005). Bulimia nervosa is an eating disorder characterized by binge eating, excessive compensatory behaviors to prevent weight gain, and a self-evaluation that is highly influenced by body shape and weight. Bulimia is further classified as the **purging type** (e.g., regular episodes of self-induced vomiting or the misuse of laxatives or diuretics) or **nonpurging type** (regular use of other compensatory behaviors such as fasting or excessive exercise, but no purging episodes). Anorexia nervosa is an eating disorder characterized by the refusal to maintain a minimally normal body weight, an intense fear of gaining weight, and body image disturbance. Anorexia can be further classified as the **restricting type** (no binge-eating or purging behaviors) or **binge-eating/purging type** (regular binge-eating and purging episodes; American Psychiatric Association, 2000). Keel, Dorer, Franko, and colleagues (2005) found that eight to nine years after treatment, approximately one-third of women experienced a relapse after being successfully treated for these disorders. Women with higher levels of body image disturbance were more likely to relapse than women with healthier body images.

- bulimia nervosa
- anorexia nervosa
- purging type
- nonpurging type
- restricting type
- binge-eating/purging type

Body image disturbance can also lead to steroid use among men who want to increase their lean muscle mass. A study conducted at the Centers for Disease Control and Prevention in Atlanta, Georgia, reported that, in 1997, 3.7 percent of young men in grades 9 to 12 had used steroids at least once. Although nearly half of these men were using steroids to improve their sports performance, just as many were using steroids to change their physical appearance (Centers for Disease Control and Prevention, 2001).

Smoking. Many smokers (particularly women and adolescents) report that they smoke to maintain or lose weight. Some smokers may even experience an increased urge to smoke when they are exposed to situations that make them feel badly about their bodies (e.g., when looking at photographs of ultra-thin models; Lopez, Drobos, Thompson, & Brandon, 2008). Thus, body image concerns can lead some people to start smoking or to continue smoking (Stice & Shaw, 2003; Wiseman, Turco, Sunday, & Halmi, 1998). However, a longitudinal study of nearly 4,000 men and women between the ages of 18 and 30 found that over a seven-year period, smokers and nonsmokers gained the same amount of weight (Klesges, Ward, Ray, et al., 1998). Apparently, smoking is not as effective a weight management strategy as many people believe.

Health-promoting behaviors

One might expect that body image concerns could prompt people to take better care of their health (Heinberg, Thompson, & Matzon, 2001), perhaps by motivating them to start an exercise program or to eat more healthfully. However, emerging data do not support this hypothesis, at least not among adolescents. A longitudinal study of 2,500 adolescents found that having a poor body image did

not motivate adolescents to become more physically active or to eat more fruits and vegetables (Neumark-Sztainer, Paxton, Hannan, et al., 2006). Although study participants with low levels of body satisfaction were more likely to diet to lose weight than participants with higher levels of body satisfaction, they were also more likely to engage in unhealthy weight loss behaviors (e.g., fasting, skipping meals) and to be less physically active. Thus, for adolescents, there appear to be virtually no health advantages associated with being dissatisfied with one's body. Whether a small amount of body dissatisfaction can prompt healthy weight-loss behaviors in adults remains to be seen.

Measurement

Exercise psychologists are interested in understanding the relationship between exercise behavior and body image. In order to study this relationship, however, we need valid and reliable measures of all four dimensions of body image (i.e., perceptual, cognitive, affective, and behavioral). Although many more body image measures exist than can be discussed in this chapter, some of the most common approaches to measuring body image are described next. For an excellent overview of body image measures used by exercise psychologists, see Bane and McAuley (1998).

Perceptual Measures

Perceptual measures of body image assess the level of accuracy of judgments about the size of one's body parts or the body as a whole. Body-part procedures require individuals to indicate the perceived width of a particular body part. One particularly innovative body-part procedure involves using specially designed morphing software to digitally alter a photographic image of a study participant (Stewart, Benson, Michanikou, et al., 2003). Highly sophisticated computer algorithms are applied to distort the arms, legs, and torso so that they appear larger or smaller than the actual size of the participant's body part. Next, the participant is shown the morphed photograph and asked to adjust it to match his or her *perceived* body shape and size (see Exhibit 9.1). A ratio is calculated comparing the actual dimensions of the respondent's body parts (as depicted in the original photograph) with the respondent's perceived dimensions. This ratio indicates the degree to which the person overestimates or underestimates his or her body size and reflects the accuracy of the body image perceptions. Body-part estimation can also be done by simply asking participants to mark their body widths on a sheet of paper attached to a wall. Again, perceived widths are compared with actual body-part widths, and the ratio of over- or underestimation is calculated.

For assessing whole-body perceptions, a commonly used technique requires individuals to view a range of real-life photographic or videotaped images of themselves that have been morphed (modified) to appear larger or smaller than

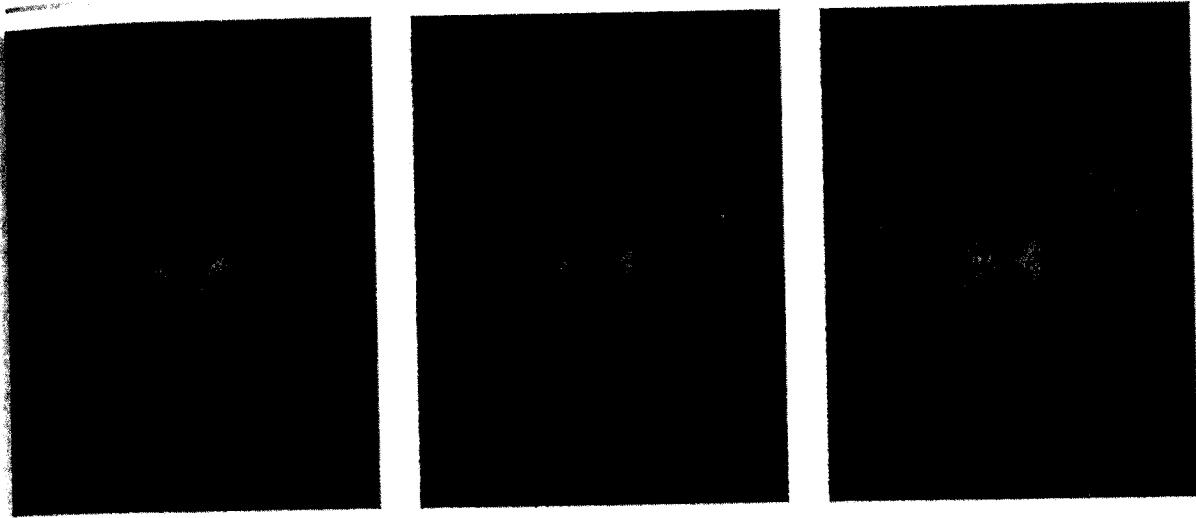
Examples of an individual's actual body and the corresponding estimated and ideal bodies.

exhibit 9.1

ACTUAL

ESTIMATED

IDEAL



The individual has an actual BMI of 25.3, an estimated BMI_{PAR} of 27.3, and an ideal BMI_{PAR} of 18.3.

Source: Tovée, Benson, Emery, et al. (2003). Used with permission.

actual body size. From the array of images, respondents are asked to choose the one that best represents their actual body size. The difference between what people think they look like and what they actually look like represents the accuracy of their body-size perception. For both the body-part and the whole-body perception tests, when individuals perceive themselves to be different from their actual size, this is evidence of body image disturbance.

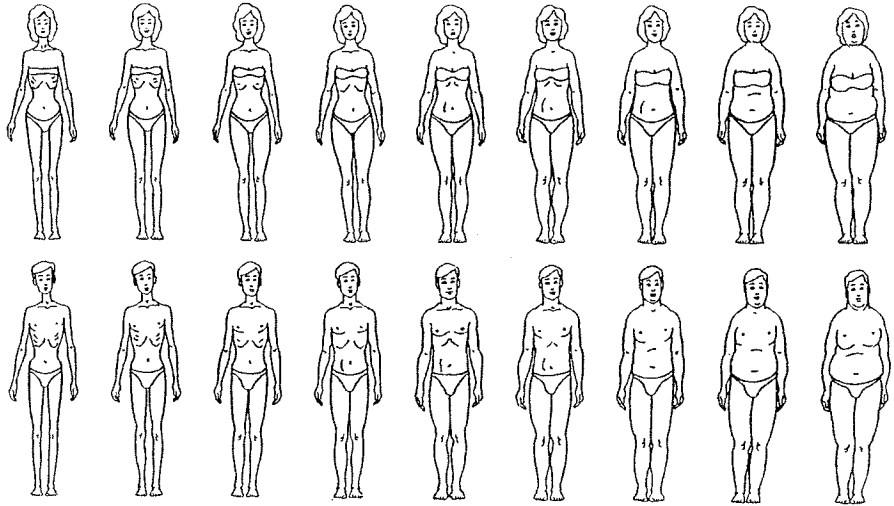
Cognitive Measures

Of the four dimensions of body image, there are more measures of the cognitive dimension than any other. Measures of the cognitive dimension typically consist of questionnaires that assess the degree of satisfaction with one's body shape, size, and function, as well as one's attitudes, beliefs, and thoughts about body shape, size, and function.

Degree of satisfaction is usually measured by presenting respondents with a list of various body parts (chest, legs, etc.) or aspects of physical function (energy level, strength, etc.) and asking them to rate their level of satisfaction or dissatisfaction with each item on the list. The Body Esteem Scale (Franzoi & Shields, 1984) is an example of this type of measure.

exhibit 9.2**Line drawings used as a cognitive measure of body image.**

Respondents are asked to choose the drawing they think best represents their current size and the drawing that best represents their ideal size. The discrepancy between the two chosen figures is taken as an indication of body size dissatisfaction.



From Thompson, M. A. and Gray, J. J. (1995) Development and validation of a new body assessment scale. *Journal of Personality Assessment*, 64(2), 263. Used by permission of Taylor & Francis Group, www.informaworld.com.

Another way in which satisfaction is measured is by presenting respondents with a series of drawings that represent a range of possible body shapes and sizes, from very thin to very muscled, or from very thin to very overweight, such as the drawings presented in Exhibit 9.2. Respondents are asked to choose the drawing they think best represents their current size and the drawing that best represents their ideal size. The discrepancy between the two chosen figures is taken as an indication of body size dissatisfaction. Likewise, as discussed previously, Stewart and colleagues (2003) have used their body-morphing software to assess body size satisfaction by asking people to create their “ideal” body from a distorted image of their own body (see Exhibit 9.1). The difference in size between the ideal and actual images is also considered an index of body size dissatisfaction.

Attitudes, beliefs, and thoughts about one’s body are typically measured using a series of questionnaire items. The Multidimensional Body–Self Relations Questionnaire (MBSRQ; Cash, Winstead, & Janda, 1986) is an example of this type of measure. The most comprehensive cognitive measure of body image, the MBSRQ consists of 10 subscales that assess body image cognitions related to the body’s appearance, health, and physical functioning. Two subscales of the MBSRQ are shown in Exhibits 9.3 and 9.4.

Despite being one of the most widely used body image measures, the MBSRQ has been criticized for not adequately assessing men’s body image concerns (Cafri & Thompson, 2004). Among men, body image disturbance generally stems from

Appearance evaluation scale from the MBSRQ.*

exhibit 9.3

Please indicate the extent to which you agree with each statement.

	<i>Definitely Disagree</i>	<i>Mostly Disagree</i>	<i>Neither Agree nor Disagree</i>	<i>Mostly Agree</i>	<i>Definitely Agree</i>
1. I like my looks just the way they are.	1	2	3	4	5
2. My body is sexually appealing.	1	2	3	4	5
3. Most people would consider me good looking.	1	2	3	4	5
4. I like the way I look without my clothes on.	1	2	3	4	5
5. I like the way my clothes fit me.	1	2	3	4	5
6. I dislike my physique.	1	2	3	4	5
7. I am physically unattractive.	1	2	3	4	5

Note: This scale is scored by reverse-scoring items 6 and 7 and then averaging the scores for all items. Higher scores indicate more positive evaluations of one's appearance.

Source: Cash, Winstead, & Janda (1986).

Body-areas satisfaction scale from the MBSRQ.*

exhibit 9.4

Please use this 1 to 5 scale to indicate how satisfied you are with each of the following areas or aspects of your body:

	<i>Very Dissatisfied</i>	<i>Mostly Dissatisfied</i>	<i>Neither Satisfied nor Dissatisfied</i>	<i>Mostly Satisfied</i>	<i>Very Satisfied</i>
1. Face (facial features, complexion)	1	2	3	4	5
2. Hair (color, thickness, texture)	1	2	3	4	5
3. Lower torso (buttocks, hips, thighs, legs)	1	2	3	4	5
4. Mid torso (waist, stomach)	1	2	3	4	5
5. Upper torso (chest or breasts, shoulders, arms)	1	2	3	4	5
6. Muscle tone	1	2	3	4	5
7. Weight	1	2	3	4	5
8. Height	1	2	3	4	5
9. Overall appearance	1	2	3	4	5

Note: This scale is scored by averaging the scores for all items. Higher scores indicate greater body satisfaction.

Source: Cash, Winstead, & Janda (1986).

*The MBSRQ (© Thomas Cash, Ph.D.) is available from its author's website, www.body-images.com. Use of the MBSRQ requires permission of the author.

concerns about not being sufficiently muscular. In contrast, female body image disturbance usually emanates from concerns about not being sufficiently thin. The MBSRQ does an excellent job of measuring concerns about thinness, but it does not adequately measure concerns about muscularity. Recognizing the importance of muscularity to male body image, McCreary and Sasse (2000) developed the Drive for Muscularity Scale, which includes seven items to assess body image cognitions related to the body's muscularity (see Exhibit 9.5).

exhibit 9.5**Drive for Muscularity Scale.**

Please read each item carefully. Then, for each statement, circle the number that best applies to you.

	1	2	3	4	5	6
	<i>Always</i>	<i>Very often</i>	<i>Often</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>
I. ITEMS TO ASSESS MUSCULARITY-ORIENTED BODY IMAGE COGNITIONS						
I wish that I were more muscular.	1	2	3	4	5	6
I think I would feel more confident if I had more muscle mass.	1	2	3	4	5	6
I think that I would look better if I gained 10 pounds in bulk.	1	2	3	4	5	6
I think that I would feel stronger if I gained a little more muscle mass.	1	2	3	4	5	6
I think that my arms are not muscular enough.	1	2	3	4	5	6
I think that my chest is not muscular enough.	1	2	3	4	5	6
I think that my legs are not muscular enough.	1	2	3	4	5	6
II. ITEMS TO ASSESS MUSCULARITY-ORIENTED BEHAVIORS						
I lift weights to build up muscle.	1	2	3	4	5	6
I use protein or energy supplements.	1	2	3	4	5	6
I drink weight-gain or protein shakes.	1	2	3	4	5	6
I try to consume as many calories as I can in a day.	1	2	3	4	5	6
I feel guilty if I miss a weight-training session.	1	2	3	4	5	6
Other people think I work out with weights too often.	1	2	3	4	5	6
I think that my weight-training schedule interferes with other aspects of my life.	1	2	3	4	5	6

Note: This scale is scored by calculating separate sums for the cognition items and the behavior items. Higher scores indicate greater muscularity satisfaction and less use of behaviors to increase muscularity.

From McCreary, D. R., Sasse, D. K., Saucier, D. M., & Dorsch, K. D. (2004). Measuring the drive for masculinity: Factorial validity of the Drive for Muscularity Scale in men and women. *Psychology of Men & Masculinity, 5*, 49–58. Copyright © 2004 by the Educational Publishing Foundation. Adapted with permission.

Affective Measures

In contrast to the multitude of cognitive and perceptual measures of body image that are available, there are relatively few measures of the affective dimension. Affective measures assess feelings such as worry, shame, anxiety, comfort, embarrassment, and pride in relation to the body. Greater negative feelings are associated with greater body image disturbance. An example of an affective measure is the Objectified Body Consciousness Scale (McKinley & Hyde, 1996), which measures people's feelings of shame about their outward appearance and weight. The questionnaire asks respondents to indicate their level of agreement with statements such as "When I can't control my weight, I feel like something must be wrong with me" and "I feel like I must be a bad person when I don't look as good as I could." The Social Physique Anxiety Scale (SPAS; Hart, Leary, & Rejeski, 1989) is another affective measure of body image that has been used extensively in exercise psychology research. **Social physique anxiety** is the anxiety people experience during real or imagined conditions when other people evaluate or "check out" their body. The SPAS assesses the level of that anxiety. The nine-item version of the SPAS is shown in Exhibit 9.6.

social physique anxiety

Social Physique Anxiety Scale (nine-item version).

exhibit 9.6

Read each of the following statements carefully and indicate the degree to which the statement is characteristic or true of you, according to the following scale:

	1	2	3	4	5
	<i>Not at all characteristic of me</i>	<i>Slightly characteristic of me</i>	<i>Moderately characteristic of me</i>	<i>Very characteristic of me</i>	<i>Extremely characteristic of me</i>
1. I wish I wasn't so uptight about my physique/figure.	1	2	3	4	5
2. There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.	1	2	3	4	5
3. Unattractive features of my physique/figure make me nervous in certain social settings.	1	2	3	4	5
4. In the presence of others, I feel apprehensive about my physique/figure.	1	2	3	4	5
5. I am comfortable with how fit my body appears to others.	1	2	3	4	5
6. It would make me uncomfortable to know others were evaluating my physique/figure.	1	2	3	4	5
7. When it comes to displaying my physique/figure to others, I am a shy person.	1	2	3	4	5
8. I usually feel relaxed when it is obvious that others are looking at my physique/figure.	1	2	3	4	5
9. When in a bathing suit, I often feel nervous about the shape of my body.	1	2	3	4	5

Note: The SPAS is scored by reverse-scoring items 5 and 8 and then summing the scores for all items. Higher scores indicate greater social physique anxiety.

Another affective aspect of body image—body comfort—can be measured using a body focus procedure (Butters & Cash, 1987). This procedure requires participants to examine their body in a full-length, three-panel mirror for 30 seconds and then to indicate their level of comfort.

Behavioral Measures

Of the four dimensions of body image, the behavioral dimension has the fewest measures. Measures of the behavioral component assess the frequency with which one engages in activities that might be indicative of body image disturbance. These activities fall into three general categories: avoidance behaviors, lifestyle behaviors, and body checking behaviors.

avoidance
behaviors

Avoidance behaviors are actions performed to divert attention away from the body or to prevent other people from seeing one's body. Examples include wearing baggy clothes, shunning social events, and avoiding physical or sexual intimacy.

lifestyle behaviors

Lifestyle behaviors are actions performed with the goal of altering the body or that reflect extensive body image concern. Examples include restrained eating or dieting, excessive exercising, exercising only for the purpose of losing weight (as opposed to improving health), using steroids, weighing oneself repeatedly, and seeking out cosmetic surgery to alter one's appearance.

body checking
behaviors

Body checking behaviors are actions performed to monitor or assess one's body shape or size. These behaviors are often quite idiosyncratic (i.e., unusual). Examples include pinching parts of the body to measure body fatness, measuring the diameter of one's wrist, and monitoring whether one's thighs rub together while walking.

All three categories of behavior are generally measured using questionnaires that ask participants to self-report the frequency with which they engage in these behaviors. For instance, the Drive for Muscularity Scale shown earlier in Exhibit 9.5 includes seven items that assess behaviors that a man may perform to become bigger and more muscular.

The Body Checking Questionnaire (Reas, Whisenhunt, Netemeyer & Williamson, 2002) consists of three subscales that measure checking behaviors related to general appearance and specific body parts, as well as idiosyncratic (i.e., unusual) checking behaviors. Two of these subscales are shown in Exhibit 9.7. Sometimes, it may also be possible to obtain direct measures (rather than self-report measures) of these activities. For example, it may be possible to observe and record the type of clothing that a person wears to an aerobics class as a direct behavioral index of that person's body image. There has been very little development of valid and reliable direct approaches to measure these behaviors, however.

Research on Body Image and Exercise

Given the importance of body image to psychological and physical well-being, it is important to develop strategies to improve body image. Exercise psychologists can play an important role in this endeavor

Two subscales of the Body Checking Questionnaire.

exhibit 9.7

Circle the number that best describes how often you engage in these behaviors at the present time.

	1 Never	2 Rarely	3 Sometimes	4 Often	5 Very often
1. I check to see if my thighs spread when I'm sitting down.	1	2	3	4	5
2. I pinch my stomach to measure fatness.	1	2	3	4	5
3. I check the diameter of my wrist to make sure it's the same size as before.	1	2	3	4	5
4. I pinch my upper arms to measure fatness.	1	2	3	4	5
5. I touch underneath my chin to make sure I don't have a "double chin."	1	2	3	4	5
6. I rub (or touch) my thighs while sitting to check for fatness.	1	2	3	4	5
7. I check the diameter of my legs to make sure they're the same size as before.	1	2	3	4	5
8. I check to see if my thighs rub together.	1	2	3	4	5
9. I check to see if my fat jiggles.	1	2	3	4	5
10. I check to make sure my rings fit the same way as before.	1	2	3	4	5
11. I look to see if I have cellulite on my thighs when I am sitting.	1	2	3	4	5
12. I lie down on the floor to see if I can feel my bones touch the floor.	1	2	3	4	5
13. I pinch my cheeks to measure fatness.	1	2	3	4	5

From Reas, D.L., Whisenhunt, B.L., Netemeyer, R., & Williamson, D.A. (2002). Development of the Body Checking Questionnaire: A self-report measure of body checking behaviors. *International Journal of Eating disorders*, 31, 324-333. Reprinted with permission from Elsevier Science.

by studying the effects of exercise on body image and using this information to develop body image-enhancing exercise interventions.

Exercise Can Improve Body Image

Comprehensive narrative and meta-analytic reviews of exercise interventions (Hausenblas & Fallon, 2006; Martin & Lichtenberger, 2002) have led to the conclusion that exercise training can lead to significant improvements in body image among both men and women. The results of Hausenblas and Fallon's meta-analysis indicated that exercise interventions consisting of a *combination* of aerobic training and strength training produced greater improvements in body image than interventions consisting of only aerobic training (e.g., jogging, walking) or only strength training (e.g., lifting weights). Given that the cultural body image ideal for men is lean and muscular, and the female ideal is lean and toned, it makes sense that exercise interventions designed to reduce fat and build muscle would yield the biggest improvements in body image.

When the effects of aerobic- and strength-training interventions were compared in the meta-analysis, there was virtually no difference in the effects of these exercise modalities on body image. However, it is important to note that a meta-analysis compares the average effect observed in one type of study (e.g., studies that employed a strength-training intervention) with the average effect observed in another type of study (e.g., studies that employed an aerobic-training intervention). The studies included in a meta-analysis will vary in their quality, participants involved, measures administered, exercise training protocols, and so on; these factors can influence the outcome of a particular study. Because of differences in the studies used to compare strength and aerobic training, the results of comparisons made in a meta-analysis will not necessarily parallel the results of a single study that *directly* compares the effects of strength training with the effects of aerobic training.

Indeed, in the only published study to have *directly* compared the effects of strength and aerobic training on body image (Tucker & Mortell, 1993), strength training was found to be superior. Tucker and Mortell randomly assigned 30 women to a weight-training program and 30 women to a walking program. Both programs were held three times per week. Body satisfaction was measured at the start of the study and again 12 weeks later. Upon completion of the exercise program, both groups of women showed significant improvements in body image, but those assigned to the weight-training intervention showed greater improvements than did the walkers. However, it should be noted that moderate- and strenuous-intensity exercise have been shown to produce greater improvements in body image than mild intensity exercise (Hausenblas & Fallon, 2006). It is possible that walking was not as effective as weight training because it was performed at a milder intensity. The conflicting findings produced in Hausenblas and Fallon's meta-analysis, compared with Tucker and Mortell's study, suggest that we cannot assume that aerobic exercise is always as effective as strength training for improving body image. Rather, the type and intensity of the activity also need to be considered.

An interesting question is whether exercise is as effective as traditional psychological approaches to improving body image. Unfortunately, this issue has not been well studied. Nonetheless, the results of one experiment (Fisher & Thompson, 1994) have provided encouraging results. You can read about this study in the box on page 245.

Mechanisms of Change

Exhibit 9.8 shows three proposed mechanisms by which exercise might improve body image: improved physical fitness, increased awareness of physical capabilities, and increased self-efficacy.

Improved physical fitness

Fitness reflects one's level of cardiorespiratory endurance (or aerobic fitness), muscular strength and endurance, flexibility, body composition, and ability to perform functional activities such as those associated with daily living.

Exercise versus Psychological Interventions for Improving Body Image

Cognitive behavior therapy (CBT), a type of psychological intervention, has been used successfully to improve body image (Butters & Cash, 1987; Grant & Cash, 1995). In general, CBT consists of strategies such as relaxation training, cognitive restructuring, stress management, and desensitization procedures that individuals are trained to use to improve their thoughts, feelings, perceptions, and behaviors toward their bodies.

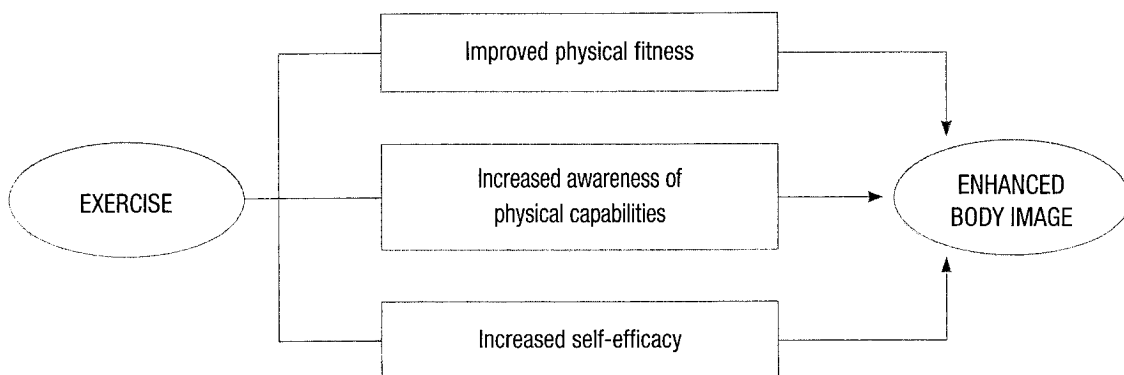
One study has shown that exercise can be just as effective as CBT for improving body image. Fifty-four women who scored very low on a measure of body satisfaction were randomly assigned to either a CBT treatment group, an exercise treatment group, or a control group (Fisher & Thompson, 1994). Those assigned to the CBT group participated in six

one-hour sessions of therapy over a six-week period. Those assigned to the exercise group participated in a one-hour exercise class each week for six weeks, and were also instructed to exercise on their own at least two additional times per week. Participants in the control group did not receive any intervention. Over the six-week study, the CBT and exercise groups showed significant and similar improvements along the cognitive and affective dimensions of body image. The control group showed no improvement. These findings suggest that exercise is just as good as psychological interventions for improving body image. Of course, unlike psychological interventions, exercise interventions have the added bonus of improving people's health and physical fitness at the same time as they improve body image.

The vast majority of exercise intervention studies have examined body image change in relation to change in just a *single* fitness component—**body composition** (the relative amount of lean body mass vs. fat in the body). Some of these studies have shown no relationship between change in body image and change in body composition (e.g., Lindwall & Lindgren, 2005; McAuley et al., 2002). Some of these studies have shown that changes in body composition are significantly related to the amount of body image change experienced during an exercise intervention, with larger decreases in body fat and body weight leading to greater improvements in body image (e.g., McAuley, Bane, Rudolph, & Lox, 1995; Taylor & Fox, 2005). However, the effects of improved body composition are fairly modest and generally account for less than 10 percent of the total change in body image. Moreover, in some exercise training studies, participants have significantly improved their body image but have shown very little or no significant change in body composition (e.g., Taylor & Fox, 2005). These findings suggest that greater decreases in body weight are not necessarily associated with greater improvements in body image, and that relatively small alterations in body composition can lead to considerably large improvements in body image.

A few studies have examined the relationship between changes in body image and changes in the cardiovascular endurance and muscular strength aspects of physical fitness. Typically, improvements in cardiovascular endurance are not related to improvements in body image (e.g., Lindwall & Lindgren, 2005; Taylor

■ body composition

exhibit 9.8**Three proposed mechanisms by which exercise might improve body image.**

& Fox, 2005), and improvements in strength account for only modest amounts of change in body image. For example, Tucker and Mortell's study (1993) found that changes in strength across a 12-week weight-training program accounted for just 12 percent of the variability in body image change. These results suggest that other variables account for much of the effects of exercise on body image.

Even if changes in muscular strength do account for some of the variability in body image change, it is unknown whether *actual* improvements in strength trigger improvements in body image, or whether the changes in physical appearance that *accompany* increased strength (e.g., improved muscle tone, firmer-looking physique) make people feel better about their bodies. Interestingly, the answer may depend on whether the exerciser is a man or a woman. Preliminary data suggest that following a weight-lifting training program, a combination of improvements in both perceived and actual strength contributed to positive changes in women's body image. In contrast, only perceived improvements in strength seemed to play a role in positively changing men's body image (Martin Ginis, Eng, Arbour, et al., 2005).

Increased awareness of physical capabilities

If changes in body composition do not fully explain the positive effects of exercise on body image, then what does? Perhaps exercise improves body image by making people more aware of their physical capabilities, while reducing the focus on their physical appearance. This shift in awareness might be particularly relevant to women, who, unlike men, tend to place greater value on physical appearance than on physical capabilities or function and, hence, are more inclined to exercise primarily to change their appearance. Because it is virtually impossible for most women to achieve the cultural body ideal through exercise, those who embark on an exercise program with the goal of

attaining this ideal are setting themselves up for inevitable failure and continued body dissatisfaction.

It is possible, however, for most women to improve their physical functioning and conditioning through exercise training. When women exercise to improve nonappearance aspects of body image (such as satisfaction with physical function), they are more likely to experience success and satisfaction than when they exercise for appearance-related reasons. This may explain why women who exercise for fitness-related motives express greater body satisfaction than those who exercise for appearance-related motives. Because our culture and the media do not have strictly defined ideals for fitness (i.e., in terms of how fast a woman should be able to run, or how much weight she should be able to lift), women who focus on improving along fitness dimensions are not constantly comparing themselves with an unattainable standard (Martin & Lichtenberger, 2002).

Increased self-efficacy

When exercisers pay attention to their physical capabilities and see themselves improving, it is likely that their physical self-efficacy also improves. Such changes in self-efficacy may lead to changes in body image. This hypothesis is consistent with the exercise and self-esteem model (see Chapter 8), which suggests that exercise-related improvements in physical self-efficacy can lead to more positive feelings about one's body. Indeed, McAuley and his colleagues (2002) found that, over the course of a 12-month study of an exercise intervention for older adults, increases in physical self-efficacy were associated with decreases in social physique anxiety (i.e., the anxiety that people experience in response to others' evaluations of their body). Although self-efficacy was only modestly associated with social physique anxiety, these results do suggest that self-efficacy may account for at least some of the effects of exercise on body image.

Who Benefits Most from Exercise Interventions?

Exercise interventions have the greatest impact on the people who have the poorest body image. In Tucker and Mortell's study (1993), for example, the women who had the poorest body image at the start of the study showed the greatest improvements over the course of the study. It follows, then, that exercise training could be particularly beneficial to people whose body image may be threatened by disease or illness (Martin & Lichtenberger, 2002). Indeed, exercise training has been associated with increased body image satisfaction among women diagnosed with breast cancer (Pinto, Clark, Maruyama, & Feder, 2003), men and women with spinal cord injuries (Hicks, Martin, Latimer, et al., 2003), adolescents with postural deformities (Dekel, Tenenbaum, & Kudar, 1996), and obese women (Foster, Wadden, & Vogt, 1997). These findings speak to the robustness of exercise for improving body image across a variety of special populations.

Breast cancer is the most frequently diagnosed form of cancer among women, with one in nine developing the disease over the course of her lifetime. Although the incidence of breast cancer has increased over the past 25 years, breast cancer death rates have steadily decreased during this same period. The decline in death rates is largely due to early detection and treatment of breast cancers, before the disease spreads to other parts of the body (Canadian Cancer Society, 2004). Improved survival rates are certainly good news, but it is important to note that breast cancer and its treatments can significantly alter physical appearance. For example, part or all of the breasts might be removed during surgery, chemotherapy might cause hair loss, radiation treatments might alter skin tone and texture, and hormone therapies might result in weight gain. Women often consider these appearance-related changes to be more severe than other treatment side effects such as nausea and fatigue. Thus, it should not be surprising that such changes can have a negative impact on a woman's thoughts, feelings, and beliefs about her body (White, 2002).

Pinto and her colleagues (2003) examined the effects of exercise on the body image of women who had been treated for breast cancer. They recruited 24 sedentary women who had undergone breast cancer surgery, chemotherapy, or radiation treatment. Half of the women participated in a 12-week, supervised exercise program that consisted of 30 minutes of aerobic activity such as treadmill walking, stationary cycling, or rowing, along with some upper body strength-training using hand-held weights. The other half was assigned to a control group and did not exercise over the 12-week study period. At the beginning and end of the study, the women completed questionnaire measures of their feelings about their bodies (i.e., an affective measure of body image). Analyses of the data revealed that body image improved significantly among the women in the exercise group. In contrast, women in the control group

reported a decline in body image over the course of the study. Given the small sample size and relatively short duration of the study, these findings cannot be considered conclusive, but the results are encouraging and suggest that women who have had breast cancer may feel better about their bodies by taking up a regular program of physical activity.

ADDITIONAL RESOURCES

- Culos-Reed, S.N., Shields, C., & Brawley, L.R. (2005). Breast cancer survivors involved in vigorous team physical activity: Psychosocial correlates of maintenance participation. *Psycho-Oncology, 14*, 594–605.
- Jones, L.W., & Courneya, K.S. (2002). Exercise counseling and programming preferences of cancer survivors. *Cancer Practice, 10*, 208–215.
- Pinto, B.M., Frierson, G.M., Rabin, C., Trunzo, J.J., & Marcus, B.H. (2005). Home-based physical activity intervention for breast cancer patients. *Journal of Clinical Oncology, 23*, 3577–3587.

ACTIVITY

Dragon boat racing has become a popular activity among breast cancer survivors.

1. Conduct an Internet search to find answers to the following questions:
 - What is dragon boat racing?
 - Where did it originate?
 - In what countries do cancer survivors participate in dragon boat racing?
 - Is dragon boat racing a competitive sport?
 - What qualities make a successful dragon boat team?
2. Conduct a search of the scientific literature to answer the following questions:
 - What are the physical benefits of dragon boat racing for breast cancer survivors?

- What are the social and psychological benefits of dragon boat racing for breast cancer survivors?
- Are there any risks associated with dragon boat racing for breast cancer survivors?

3. Using the information you have gathered, write a one-page article that would be appropriate for publication in a health magazine. The goal of the article is to educate people about dragon boat racing as a form of exercise for breast cancer survivors.

It is important to note, however, that studies of the effects of exercise on body image have involved mostly adult women. A few studies of exercise training among men have been done, but most of these investigations have involved middle-aged or older individuals. Consequently, little is known about the effects of exercise training on younger men and people drawn from other ethnic groups or socioeconomic strata. Also, little is known about the effects of exercise interventions on children's body image. Yet given that sports participation has been associated with better body image among children (Statistics Canada, 2001), it is suspected that structured exercise interventions could have a similar positive effect. In support of this idea, a case study of six obese children demonstrated that thrice weekly exercise with a personal trainer resulted in improvements in body image (see O'Brien & Martin, 1998). Similarly, in an intervention study involving 30 children who were either overweight or obese, increases in physical activity were strongly correlated with improvements in body image (Goldfield, Mallory, Parker, et al., 2007). This correlation was statistically significant even after changes in body weight were accounted for. In other words, regardless of how much weight a child lost during the study, an increase in physical activity led to more positive feelings about one's body.

Influence of Body Image on Exercise Behavior

Exercise motivation

As discussed earlier in this chapter, it has been presumed that body image concerns can motivate people to exercise. Consistent with this notion, a survey of adult men and women regarding their motivations to participate in exercise programs indicated that the desire to lose weight or increase muscle tone is a primary motive for *starting* an exercise program (Rodgers & Gauvin, 1994). However, the factors that compel a person to *start* exercising—such as body image concerns and the desire to change one's appearance—are not necessarily the same factors that compel a person to *continue* exercising.

Over time, some people who start an exercise program to change their appearance will gradually shift their motive toward exercising for continued physical and psychological well-being (Ingledeu, Markland, & Medley, 1998). A shift in motives probably occurs when exercise initiates begin to see and value the fitness and mood-related benefits associated with being active. This is an important psychological step toward becoming a regular exerciser, because

long-term maintenance of an exercise program is generally associated with endorsement of physical and psychological motives for exercise rather than with motives related to improving appearance.

For other people, the desire to change their physical appearance will remain their primary motive for exercising. Under such circumstances, long-term exercise adherence is unlikely. Markland and Ingledew (2007) have suggested that having a poor body image leads to less autonomous motivation for exercise (i.e., being motivated to exercise to obtain rewards or avoid punishment; see Chapter 3), perhaps by increasing the perceived pressure to conform to sociocultural body ideals. In turn, low levels of autonomous motivation lead to poorer exercise adherence.

In the short-term, however, body image concerns could influence motivation to participate in certain types of exercise activities. For instance, a cross-sectional study of 571 female fitness-center members found small but statistically significant correlations among body image, appearance-based motives for exercises, and the amount of time spent on aerobic exercise activities and yoga (Prichard & Tiggemann, 2008). Women who scored higher on measures of body dissatisfaction and appearance-based motives for exercise spent more time participating in aerobic exercise activities (e.g., cycling, rowing, running) and less time in yoga classes than women who had less body dissatisfaction and less motivation to exercise for appearance-based reasons. Because aerobic exercise is the type of activity typically recommended for weight loss, it makes sense that body-dissatisfied women would be particularly motivated to engage in this form of activity in order to improve their appearance. Yet paradoxically, when men and women work out primarily for appearance-related motives, exercise may actually exacerbate their body dissatisfaction (Prichard & Tiggemann, 2008; Strelan & Hargreaves, 2005). Exercise is a slow and challenging appearance-improvement tactic, and some people's bodies respond to exercise more than others. For example, there is tremendous variability in the amount of muscle mass that a person can gain from strength training (Hubal, Gordish-Dressman, Thompson, et al., 2005) and the amount of weight that can be lost with diet and exercises (Bouchard, 2008). Exercisers who are motivated primarily by the desire to change their bodies could be setting themselves up for continued disappointment and frustration if they do not see improvements as quickly or profoundly as expected.

Overall, body dissatisfaction seems to be more of a deterrent than an incentive to exercise. As was the case with June—the girl portrayed in the case study at the start of this chapter—body image dissatisfaction can cause some people to avoid exercise completely. Sometimes, people may refuse to exercise because they are worried about looking overweight, uncoordinated, weak, or unfit (Leary, 1992). This phenomenon was demonstrated in a study of Irish adolescents that found that, among teenagers who did not exercise regularly, body image concerns were cited as a major reason for avoiding exercise (Martin, Leary, & O'Brien, 2001).

Likewise, people who are severely overweight or obese frequently indicate that they avoid signing up for exercise programs and joining gyms because they

are embarrassed or ashamed of their appearance (Bain, Wilson, & Chaikind, 1989). Unfortunately, even when obese people do take the first step and sign up for exercise programs, concerns about their appearance may prevent them from adhering. For example, in a study of obese women who were part of a walking group, those who had greater anxiety about others' evaluations of their body's appearance (i.e., greater social physique anxiety) had poorer attendance than those who were not as anxious about others' evaluations of their appearance (Treasure, Lox, & Lawton, 1998).

Exercise setting and attire preferences

Exercise setting preferences appear to be influenced by body image concerns. For example, Spink (1992) administered the Social Physique Anxiety Scale (SPAS; discussed earlier in the chapter) to a sample of young women and asked them where they typically exercised. Women who had high scores on the SPAS (that is, women who reported that they experienced very high levels of anxiety when other people evaluated their bodies) were more likely to exercise in private settings (alone at home) than were women who had low scores on the SPAS (women who reported little or no anxiety when other people evaluated their bodies).

In another study, SPAS scores were associated with the spot where women preferred to stand during an aerobics class and the clothes they wore (Brewer, Diehl, Cornelius, et al., 2004). Specifically, women with higher levels of social physique anxiety preferred to stand further away from the instructor during aerobics classes, and they wore less revealing exercise clothing than women with lower levels of social physique anxiety. These findings suggest that standing at the back of an exercise studio and wearing long, baggy exercise attire are strategies that women might use to allay fears that other people will see and evaluate their bodies.

How do women with high social physique anxiety feel when other exercisers in the class wear revealing clothing? Crawford and Eklund (1994) conducted a study that required women to watch a videotaped exercise class in which class members wore conservative aerobics attire (shorts and t-shirts) and a second video in which participants wore revealing aerobics attire (tights and thong leotards). After watching each video, women completed a questionnaire that assessed their feelings toward that particular exercise class. The questionnaire included items such as "I would be comfortable exercising with this class" and "I would feel out of place in this exercise class." Analyses revealed a significant correlation between social physique anxiety and feelings about the exercise classes. Higher levels of social physique anxiety were associated with more negative feelings toward the class that wore the revealing attire and more positive feelings toward the class that wore the conservative attire.

Women with high social physique anxiety also prefer that their exercise leaders wear conservative attire and place more emphasis on health than appearance during exercise classes. In a study of college-aged women with high levels of social physique anxiety, participants were randomly assigned to participate in

one of two exercise classes (Raedeke, Focht, & Scales, 2007). In the appearance-oriented class, the exercise instructor wore revealing aerobics attire and made appearance-related comments throughout the exercise session (e.g., “let’s get your legs toned so they look good!”). In the health-oriented class, the same instructor wore conservative attire and made health-related (e.g., “work it—let’s get fit and healthy!”) rather than appearance-related comments. Participants in the health-oriented class enjoyed the class more than those in the appearance-related class. They also reported stronger intentions to join a similar class in the future.

To date, there have been no studies examining the effects of men’s body image concerns on their exercise setting and attire preferences. However, it has been shown that men do worry, at least a little, about what other exercisers think of them when they participate in an exercise class for the first time (Martin & Fox, 2001). Also, wearing revealing swimming attire (i.e., a Speedo briefs-style swimsuit) can increase feelings of body shame in some men (Martins, Tiggemann, & Kirkbride, 2007). Thus, it is likely that body image concerns can lead men to have certain preferences for where they exercise and what they wear during exercise.

Practical Recommendations

Given what is known about the effects of body image on exercise participation and the effects of exercise training on body image, several issues should be kept in mind when promoting exercise and developing exercise interventions to improve body image. First, with regard to exercise promotion, it is important that promotional materials show a wide range of body shapes, sizes, and physical abilities. Exercise campaigns that show only ultra-fit models send an inaccurate message that a fit appearance is a prerequisite for joining a gym or starting an exercise program. Consequently, people who are dissatisfied with their bodies may avoid joining a fitness program because they believe that they “don’t look good enough” to be seen exercising in public.

Exercise programs should also focus on improving physical function, strength, and endurance rather than on changing physical appearance. Programs that help people to set realistic and attainable goals and that teach people how to monitor progress in terms of functional fitness improvements should have a more positive impact on body image than programs with an emphasis on “building buns of steel” and “fighting flabby abs.” In short, to achieve body image change, exercise programs should focus on what people *can* realistically change, rather than draw attention to what they cannot. Granted, many people start exercising to improve their body image, but effort should be directed toward educating or orienting these individuals to the other physical and mental benefits of exercise. Fitness instructors can go one step further in de-emphasizing physical appearance by encouraging participants to wear loose-fitting, comfortable exercise attire, and donning such attire themselves (Raedeke et al., 2007).

Fitness instructors can also play an important role in shaping healthy attitudes toward exercise. People sometimes take an “all or nothing” approach to exercise, believing that if they can’t do extreme amounts of strenuous exercise, then there is no point in exercising at all. Of course, any amount of exercise is better than none, and extreme amounts are unhealthy. Fitness instructors can teach people to have a more realistic, healthy approach to physical activity.

With regard to developing interventions to improve body image, the results of a meta-analysis suggest that, in order to see significant gains in body image and exercise intensity should be moderate to high (Hausenblas & Fallon, 2006)—perhaps because this level of exercise is most likely to generate the greatest improvements in physical function, fitness, and self-efficacy. Strength training can be just as effective as aerobic exercise for improving body image.

Some evidence also suggests that people who enjoy their workouts the most show the biggest exercise-related improvements in body image. Tucker and Mortell’s (1993) study found that among women assigned to the weight-training group, the better they felt at the conclusion of each training session, the more they tended to gain in body image across the three-month program. It may be that people who enjoy their workouts exercise harder and adhere better than do those who don’t enjoy exercising, thus reaping greater improvements in fitness, function, and appearance.

Conclusion

The most recent data suggest that a large proportion of men and women are dissatisfied with their bodies. Overall, body dissatisfaction is a greater deterrent, rather than incentive, to exercise. Exercise psychologists are interested in studying the relationship between body image and exercise-related thoughts, feelings, and behaviors. They are also interested in determining whether exercise can be used to improve body image. Although the research to date has been limited primarily to studies of Caucasian women, the results of these studies suggest that exercise can significantly improve body image. Given the importance of body image to mental and physical well-being, it is encouraging to note that exercise can be a highly effective intervention for alleviating body image disturbance.

what do you know?

1. Identify and describe the four dimensions of body image.
2. Describe two factors that can influence body image formation and disturbance.
3. How does culture shape body image?
4. Why is the assumption that “men have a better body image than women” now being questioned?

5. Give two reasons why body image is important to psychological and physical well-being.
6. Describe one type of measurement strategy for each of the four dimensions of body image.
7. Describe three ways in which exercise may improve body image.
8. How might body image have a demotivating effect on exercise behavior?
9. Why might exercise be particularly useful for improving the body image of people with disease or disability?
10. What type of exercise would you recommend to a woman who wanted to improve her body image? Does the woman's body ideal influence your recommendation?
11. What type of exercise would you recommend to a man who wanted to improve his body image? Does the man's body ideal influence your recommendation?

learning activities

1. Examine how the media portrays exercise and body image for men and women. Choose one popular women's magazine and one popular men's magazine (not fitness magazines). Compare the following across the two magazines:
 - a. the number of references to exercise as a way to lose weight and change physical appearance
 - b. the number of references to exercise as a way to improve health
 - c. the number of advertisements and articles on diets and diet products
 - d. the number of models whose bodies could be considered typical or representative of the general population
 - e. the number of models whose bodies represent the ultra-trim and ultra-fit cultural ideal
2. Perform the following activities with your classmates:
 - a. Ask students to complete the Social Physique Anxiety, Body Areas Satisfaction, Appearance Evaluation, and Drive for Muscularity scales. Have everyone tally their scores for each scale and then submit a brief report listing their scores, their sex, and the number of times per week that they exercise.
 - b. Calculate the mean (average) score for each scale for the female students and then for the male students. On what scales did the women score higher than the men? On what scales did the men score higher than the women? Did the men and women have similar scores on any of the scales? Discuss biological, social, and psychological factors that might explain any differences or similarities in scale scores between men and women.

- c. Calculate the mean score for each body image scale for women who exercise at least three times per week and then for women who exercise two times or fewer per week. Repeat this procedure for the men. What trends do you notice when you compare female exercisers' and nonexercisers' body image scores? Do similar trends exist for the men? With reference to the mechanisms presented in Exhibit 9.8, explain why differences may exist between exercisers' and nonexercisers' body image scores.
3. The transition from middle school to high school can be challenging for both boys and girls. Many things are changing in their lives, including their bodies. Design an intervention program for young teenagers (ages 13 to 15) with the objective of improving or maintaining a healthy body image.
4. Imagine that you are an instructor at a fitness club and you have been asked to design an exercise program for obese people. Taking into account what you now know about body image and exercise, design a program in which obese people will feel comfortable and that will also lead to changes in their body image.
5. When people exercise in public, they may worry about what other people think of them. For instance, they may worry about looking incompetent or unfit. Ask your classmates to make a list of worries that they have experienced in different public exercise settings (e.g., at a private exercise club, at the campus fitness center, outdoors). How do the worries differ across exercise settings? Do the worries differ for men versus women? How might body image concerns play a role in the different types of worries?
6. A meta-analysis was conducted to examine the relationship between ethnicity and body dissatisfaction among women in the United States (Grabe & Hyde, 2006). Four ethnic groups were examined, representing African American, Asian American, Hispanic, and Caucasian women. Although the differences were not large, African American women were significantly more satisfied with their bodies than Caucasian and Hispanic women. There were no differences between any of the other groups. Discuss the factors that may account for the differences and absence of differences in body dissatisfaction. Should exercise programmers take these factors into consideration when developing exercise plans for women of different ethnicities?

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