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Beauty is an abstract construct. We all have our own ideas about what is and is not beautiful-a particular song or painting, a man or woman. Accurately describing what exactly "it" is that makes the song, painting or person beautiful, however, is a daunting task. In this article, we attempt to make the case that beauty and physical attractiveness is a serious matter. We begin with a discussion of the role of beauty in evolutionary theory. Next, we turn to theories of the physiology of beauty, which focus on physical characteristics such as pathogen resistance, averageness, physical symmetry, body ratios, and youthfulness. We then describe changes in the societal standards of beauty through a discussion of the relatively recent history of mass media images of beauty. We then use the psychological construct of body image to begin to understand the nature of beauty on an individual level. The article concludes with a discussion of the things that we do to make ourselves more beautiful.

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## **BEAUTY AND EVOLUTIONARY THEORY**

It is often said that "beauty is in the eye of the beholder." Consistent with that belief, beauty has been described as an individual's subjective assessment of attractiveness that is influenced by current cultural standards. However, Charles Darwin and his intellectual descendants from the field of evolutionary biology offer a different theory of the nature of beauty. In his seminal The Descent of Man and Selection in Relation to Sex, Darwin puzzled over the physical characteristics that seemed to act as open lures to predators and therefore interfere with survival maintenance activities. For example, how could (and why did) the brilliant plumage of peacocks have evolved? Darwin's answer was sexual selection-that certain characteristics evolved because of reproductive advantage rather than survival advantage.1

Are human concepts of beauty (and perhaps their interest in improving their appearance through means such as cosmetic surgery) also tied to some higher purpose like reproduction? If we are on an evolutionary mission to increase the chances of our genetic material moving to the next generation, what we consider desirable in the opposite sex, or how we sculpt our own

appearance, is not simply a matter of taste or arbitrary preference. While the evolutionary mission of reproduction may be universal, research suggests substantial gender differences in humans. For men, fertility and good health are high on the list of determinants of what is considered attractive in a woman. For the International Mate Selection Project, 50 scientists studied 10,047 people in 37 cultures located on 6 continents and 5 islands. Without exception, physical cues to youth and health were seen as attractive. "In no known culture do people perceive wrinkled skin, . . . thin lips,.. poor muscle tone, and irregular facial features to be attractive."2 This seems so obvious that we might never ask why.

The evolutionary argument posits that physical signs of youth and health—full lips, smooth clear skin, clear eyes, lustrous hair, good muscle tone, animated facial expression, high energy level <sup>1</sup>— are at the top of every culture's beauty list because they are the most reliable physical markers of fertility. These characteristics are considered beautiful because, and only because, of their evolutionary advantage. While many other characteristics may make for a good mate, it is hard to imagine obvious physical markers for fidelity, parenting ability, temperament, or intelligence. These qualities certainly make a potential mate more attractive, but they are not components of beauty.

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A woman's campaign to select the man to help propel her genetic material into the future requires a very different strategy. What male characteristics are most evolutionarily useful and will therefore define attractiveness? The ability to obtain and defend resources and the willingness to commit them to a particular female and her offspring define attractiveness. Applied to the physical realm, this would seem to require men to be well muscled and athletic. Yet, raw muscle power has been partially replaced by the financial and political equivalent in humans. "Across 36 of 37 cultures from Australia to Zambia women place great(est) value on financial prospects."2 Henry Kissinger's suggestion that, "Power is the ultimate aphrodisiac," reflects the same evolutionary verity. If the man's resources are not available to the woman and children, they are irrelevant. Thus, the observation that men are more swayed by beauty, and women by a mix of physical attractiveness and the man's abilities as a provider, may be less a reflection of a more evolved cognitive perspective in women and more the result of fundamental biological differences.

More recent research also supports the idea that perceptions of beauty may be guided by universally-shared biological wirings. From this approach, standards of beauty result from fixed neuroanatomical arrangements, which have biological relevance.3 For example, facial features, such as symmetry, averageness, and youthfulness, may not only be indicative of attractiveness, but more importantly may signal health and reproductive capabilities of potential sexual partners. Similarly, nonfacial features, such as waist-to-hip ratio, may function as indicators of health and reproductive success.<sup>4</sup> Despite some unique cultural variability in aesthetic judgments, evidence has shown that similar patterns emerge across diverse cultures.<sup>2</sup>

A set of compelling studies confirm that our perceptions of attractiveness predate cultural influences.<sup>3</sup> Studies of infants have suggested that the ability to discriminate attractive from unattractive faces may be an innate ability, or at least one acquired at an earlier age than previously believed.<sup>5</sup> Three- to 6-month-old infants appear to be more attentive to "attractive" versus "unattractive" female faces<sup>5</sup>; with such preferences occurring across sex and race.<sup>6</sup> Similarly, infants express a more positive tone, are less withdrawn and play more with attractive strangers than with unattractive ones.<sup>7</sup> Infants also play for a longer period of time with attractive dolls than they do with unattractive dolls.<sup>7</sup> These findings challenge the belief that judgments of facial attractiveness are learned through exposure to cultural standards and stereotypes. Thus, beauty may not only be in the eye of a singular beholder, but rather many beholders with similar genetic wiring. Or, as suggested by Buss, "Beauty may be in the eyes of the beholder, but those eyes and the minds behind the eyes have been shaped by millions of years of human evolution."<sup>1</sup>

What are the implications of the evolutionary theory of beauty for cosmetic surgery? We would expect that patients would report the greatest unanimity around cosmetic surgical goals that have an evolutionary purpose. Thus, female surgical goals would nearly all seek to simulate youth and health. We would expect more varied agendas around physical features with no implications for fertility. In contrast, we would expect male cosmetic surgery agendas to emphasize economics motives—aiding men in appearing strong and powerful. While these hypotheses may characterize many cosmetic surgery patients, they clearly do not capture the surgical motivations of every patient. Nevertheless, surgeons who recognize the link between surgical goals and these fundamental biological imperatives may better understand their patients' motivations for surgery.

## PHYSICAL CHARACTERISTICS OF BEAUTY

Evolutionary theory suggests that an organism's ability to successfully identify a potential mate who will help propel his or her genetic material into the future is a biological imperative. Furthermore, the theory suggests that selection of an ideal, "beautiful" mate is influenced by physiological, rather than cognitive, factors. Contemporary research in this area has attempted to identify the physical features that make an individual attractive. This research has identified several factors: pathogen-resistance, facial and body symmetry, averageness, body-size ratios, and youthfulness.

#### Pathogen-resistance

The pathogen-resistance theory of beauty suggests that physical beauty is a "marker" or "signal" that a potential mate is pathogen free.<sup>8</sup> This model of sexual selection indicates that only healthy, pathogen-resistant animals can develop and maintain their secondary sex characteristics. Furthermore, the heritability of parasite resistance increases the chance that mates can provide genetic resistance to their offspring.<sup>8</sup> Therefore, attractiveness may be a visible sign that a prospective partner is pathogen-free.

This theory may influence human assessment of potential mates. For example, men and women of cultures with high pathogen and disease prevalence (such as Nigeria, Zambia, and India) rated physical attractiveness as more important in the selection of their long-term mates than men and women from cultures in which the pathogen prevalence was low (such as West Germany, Sweden, and Norway).9 While certainly open to other interpretations, these findings are not surprising, given that selecting a healthy partner may be more challenging in countries where pathogens are more abundant. However, there is no empirical evidence showing that physically attractive humans have greater parasite resistance than unattractive humans.

#### Facial and Body Symmetry

Bilateral symmetry has been proposed as one phenotypic indicator of a pathogen-free organism.<sup>10</sup> Animal studies show that highly symmetrical creatures are at an advantage in competition for sexual partners as compared to their lopsided competitors.11 For example, female peahens prefer males with long tails containing large numbers of bilaterally symmetrical eye spots.<sup>12</sup> Female barn swallows select male sexual partners with symmetrical tails over those with asymmetrical tails.11 Female zebra finches also prefer symmetrically leg-banded males.13 The attraction for symmetrical features has also been found in scorpion flies.14 It appears that bilateral symmetry may be an advertisement for quality potential mates who may offer a greater probability for reproductive success.

Humans are also thought to respond to visual cues of symmetry to identify potentially desirable mates. Both male and female humans with more bilaterally symmetrical facial features are judged to be more attractive, regardless of the gender of the judges.<sup>10,15-16</sup> Facial symmetry for men and women is positively correlated with judgments of facial attractiveness by cross-sex raters.<sup>16</sup> In one study, for example, body symmetry and facial attractiveness of hundreds of college-aged men and women was examined by using right-left disparities of 7 body measurements. A positive relationship was found for symmetry and facial attractiveness for men.<sup>15</sup> Furthermore, ratings of attractiveness of faces are increased when bilateral symmetry is enhanced through digital technology that blend images of the normal face and its mirror image.<sup>17</sup> This preference for symmetry was found for both sexes, although the preference for symmetrical faces was stronger for men than for women, as would be expected from the beautyfertility theory proposed by the evolutionary biologists. In addition, men with the most symmetrical features reported both more sexual experiences and being sexually active at an earlier age than men with more asymmetric features.<sup>18</sup> Thus, it may be that symmetrical facial and body features are not only aesthetically pleasing, but also convey a message of reproductive health.

According to evolutionary theorists, facial symmetry is an attractive quality as it signals health and fitness. Under ideal developmental conditions, paired body features (ie, eyes, ears, elbows), develop in synchronicity, leading to more-symmetrical, and therefore more attractive, persons. External factors, such as pollutants, pathogens, and physical trauma, are thought to adversely affect symmetrical development. For many of the same reasons, bilateral symmetry of secondary sexual traits is a difficult developmental accomplishment. As a result, evolutionary theorists believe that only the hardiest and healthiest of the population possess the ability to develop facial and body symmetry in spite of harsh environmental conditions.10

#### Averageness of Appearance

Somewhat surprisingly to many individuals, averageness can equal attractiveness. Averageness is traditionally associated with the ordinary or unexceptional, and certainly does not connote beauty. Studies of averageness in facial appearance have used a mathematical mean of a composite of facial dimensions to generate an "average" appearance.<sup>19-20</sup> To do this, a face is digitally computerized and rated on a scale of "1" to "10," indicating increasing levels of physical attractiveness. The rater then assesses a series of faces that are subsequently "bred" with the preceding face. For both men and women, composite faces of the opposite sex are judged more attractive than the individual faces that made up the composite.<sup>19</sup> Moreover, the more faces that are used to make up the composite, the more attractive the final picture is rated.<sup>20</sup>

The notion that averageness is associated with attractiveness is consistent with evolutionary theory. Arguably, individuals who fall within the mean of the population distribution should be less likely to carry potentially harmful genes or mutations.<sup>20</sup> The parasite theory of sexual selection contends that heterozygosity is greatest amongst individuals who have the "average expression of continuously distributed, heritable traits."<sup>21</sup> Given this theoretical relationship between heterozygosity and pathogen resistance, averageness may be indicative of an organism's parasite-resistant genetic composition.<sup>10</sup>

However, while average faces are considered to be attractive, the most beautiful of the digital faces are certainly not average.<sup>22-23</sup> In fact, these beautiful faces are not common among the general population, rather they are atypical in terms of both the specific facial features and overall facial structure. Studies that have used digital composites of faces have found that the most highly rated composite female faces produced an image that was rated considerably more attractive than the typical face that went into creating the final composite.<sup>22</sup> Overall, the ideal composite female face had facial features that were rather petite. The ideal face had a mouth that was smaller than average, but had considerably fuller lips. This face also had a preadolescent's tiny jawline, delicate lower face and pronounced eyes and cheekbones.<sup>22</sup> In addition, the distance from the eyes to the nose and from the eyes to the mouth, as well as from the mouth to the chin, were smaller than these distances in the individual faces that were used to develop the composite.<sup>22</sup> These findings are a consistent with the evolutionary theory, which suggests that beauty is characterized by youthfulness, as discussed below.

#### **Body-size Ratios**

Body ratios, specifically the waist-hip ratio (WHR), also are thought to play a role in determining opposite-sex attractiveness for both men and women.<sup>4</sup> The WHR reflects the distribution of fat between the upper and lower body and the relative amount of abdominal fat. Before puberty both men and woman have comparable WHRs.<sup>4</sup> During puberty, increased levels of estrogen in women aid in the development of breasts and hips by adding fat deposits to these areas of the body. In men, testosterone stimulates fat deposits in the abdominal region and inhibits fat deposits in the area of the hips and thighs.<sup>4</sup> Therefore, it may be that specific body ratios signal that a prospective mate is sexually mature and has the biological capability to be reproductively active.

Typically, women rated as attractive are normal weight and have a low WHR.4 Healthy, fertile women typically have WHR of .60 to .80, meaning waists are 60% to 80% the size of the hips.<sup>24</sup> Female figures with a WHR of greater than .80, independent of overall body weight, were judged as less attractive and less healthy than those figures with a WHR of .80 or smaller.4 The perceptions of attractiveness of men are also influenced by WHR as well as relative weight. Specifically, healthy men have WHRs in the range of .85-.95.25 In spite of WHR, underweight and overweight male figures were not judged to be highly attractive or healthy; only normal weight male figures with typical WHRs were perceived as healthy and attractive.26

WHR is thought to convey information about both current reproductive and health status of women.<sup>26</sup> Typically, menopausal women have a WHR that is comparable to the WHR of men.<sup>27</sup> Besides being an indicator of reproductive potential, a relatively low WHR also signals health status. The risk factor profile for many obesityrelated diseases, such as type 2 diabetes, hypertension, and coronary heart disease, varies with the distribution of fat.<sup>28</sup> A WHR greater than 0.8 for women and 1.0 for men is considered an independent risk factor for many weight related illnesses.

#### Youthfulness

Youthfulness marks an extended period of reproductive potential.<sup>29</sup> Given the theoretical model of sexual selection proposed by the evolutionary biologists, it is not surprising that ratings of facial attractiveness and youthfulness are highly correlated.<sup>30</sup> Ratings of physical attractiveness of men and women declined with age, but the effects were more pronounced for women's faces.<sup>31</sup> Women were rated as less feminine as they aged, whereas ratings of masculinity were unaffected.<sup>32</sup> These findings suggest that standards for attractiveness for men are less stringent and less connected to youth than they are for women, a conclusion again consistent with evolutionary theories of reproduction.

Looking young may be more important than actually being young. Male raters from 5 populations judged faces that appear to be younger than the actual age of the face to be more attractive than faces that appeared age-appropriate or older than the actual age.33 Altering facial features in the direction of youth results in higher ratings of attractiveness.<sup>34</sup> Such preferences for youthfulness exist in the real world, where more female models, as compared to female college students, have younger looking faces.<sup>34</sup> While this quality has been shown to be an asset for ratings of female attractiveness, the same influences have not been found for men. It may be more adaptive for men to prefer youthful female features because of a strong association with fertility.35

It appears that specific physical features are deemed attractive because they serve an evolutionary purpose. Throughout the eons, reliance on phenotypic expressions for mate selection has been necessary to result in successful reproduction and survival of the species. While overall facial attractiveness may be interpreted as a sign that an organism is healthy, reliance on this feature alone is inadequate to ensure selection of high quality mates. Therefore, other facial and bodily features may influence sexual selection. The presence of symmetrical features may indicate that an organism has overcome or avoided developmental stressors and may denote a durable and hardy creature. Averageness may act as an indicator that the organism is safeguarded against potential pathogens. Proportionate body ratios may be the most obvious advertisement that the organism has reproductive potential. Finally, a youthful face has long been associated with fertility. Taken together, these physical attributes-facial and body symmetry, averageness, body ratio and youthfulness-not only have aesthetic appeal but very well may guide decisions in successful sexual selection.

#### SOCIOCULTURAL IDEALS OF BEAUTY

Evolutionary theories of beauty are most compelling when used to explain preferences that are stable across history and culture. Nevertheless, these theories only provide part of the answer to the question of who or what is considered beautiful. Sociocultural approaches to beauty are intuitively pleasing and are helpful in understanding aspects of beauty which change over time. These changes in sociocultural images of beauty are best reflected in a variety of popular beauty icons from pinup girls, magazine models, and Hollywood stars to Ms. America and the Playboy Centerfold.

## Pinup Girls, Magazine Models, and Hollywood Stars

Culture imparts a great deal of variability to ratings of attractiveness.<sup>2</sup> For example, shortlived subcultural variants that are maladaptive in an evolutionary sense, such as the "heroin chic" look of the mid-1990s, can become very popular. Western culture has touted a range of body types as "the ideal" depending on the decade. This is perhaps no better exemplified than through the changes of the ideal Western female figure of the last century.

In the 19th century, 2 idealized figures of female beauty in the United States were the "steel engraving lady," idolized for her fragile and delicate features, and the "voluptuous woman," whose full, rounded figure epitomized female sexuality. During the late 1890s, a new model emerged, the "Gibson Girl," who, in addition to a slender, athletic frame, had larger breasts and hips.36 After the Victorian era, the 1920s promoted an image that was curveless and almost boyish in shape.<sup>36</sup> While models of the following decade became more curvaceous, these beauties conspicuously lacked extraneous fat. The "Petty Girl," as the icon of the 1930s was known, had a slim lower body and a flat abdomen.<sup>36</sup> This theme continued through the 1940s as depicted by one of the most famed pinups, Betty Grable.

Curves accentuating a woman's breasts and hips made a dramatic return during the 1950s, perhaps most visibly when Marilyn Monroe posed for the first Playboy magazine centerfold. The voluptuous hour-glass figures of Monroe, as well as those of Jane Russell and Jane Mansfield, were glorified as the ideal shape during this decade.<sup>37</sup> Soon after, the waist size of the ideal woman declined sharply, and by the 1960s the ideal torso required an unnatural curvature, with fat distributed away from the waist to the hips and breasts.<sup>36</sup> Similar to the beauty icons of the late 19th century, Western culture during the 1950s also admired the elegant sophisticated lines of Audrey Hepburn and Grace Kelly.

By the late 1960s, thinner fashion icons such as Twiggy replaced the curvaceous figures of the previous decade. This slender trend has endured and has been accentuated by the increasing height and decreasing weights of fashion models and beauty icons since that time.37 The stringent guidelines for weight and shape relaxed somewhat during the 1970s. Beauty icons such as Farrah Fawcett and Cheryl Tiegs were more curvaceous then models from the previous decade, but still remained slender. By the 1980s, another physical characteristic helped define beauty. Media stars such as Christy Brinkley and Bo Derek not only had the desired curves but also well-developed musculature. Moreover, during the 1990s "supermodels" such as Cindy Crawford, Elle McPherson, and Tyra Banks continued to advertise lean and muscular figures that were feminine and curvy as well.

Comparable trends have been evident in models depicted in popular women's magazines. During the period of 1967-1987, there was an increase in height and waist measurements of female fashion models, but no increase in hip measurements.40 The bust to waist ratio of models in Ladies Home Journal and Vogue has fluctuated greatly over the century, with the combined average of the bust-to-waist ratios of the 2 magazines remaining at a low through the early 1980s.<sup>41</sup> While this issue has been studied extensively in magazines marketed toward adult women, research on fashion models depicted in magazines geared toward younger female audiences, who may be most susceptible to the influence of such images, has been sparse. One of the few studies that examined teen magazines uncovered similar trends as found in adult magazines. Guillen and Barr<sup>42</sup> reported that the overall mean hip-to-waist ratio of models in young women's magazines had significantly declined over time, depicting a less curvaceous shape.

Thin ideals are also found in other mass media

sources. In a study investigating perceptions of the appearance of popular television characters, 69% of female characters were rated as thin, while only 18% of male characters were rated as thin. In contrast, more male (26%) than female (5%) characters were rated as overweight.<sup>41</sup> Similar thinning trends have been observed in an analysis of popular female movie stars from 1933 through 1978.<sup>41</sup> In the last 5 years, several prominent female television and movie stars (ie, Jennifer Aniston. Calista Flockhart, and Lara Flynn Boyle) have become dramatically thinner. Many women and men have been openly critical of this current trend in Hollywood, both out of concern for the message this sends to young women and also for the health of the actresses themselves. Nevertheless, there is little to suggest that this trend will change anytime soon.

## Miss America and the Playboy Centerfold

The Western ideal of physical beauty has changed repeatedly over the past 100 years. However, it has not always been clear that impressions of change have accurately reflected actual change in these standards. To investigate this issue, several researchers have examined changes in the physical features of 2 of America's most enduring images of physical beauty—Miss America and the Playboy Centerfold.

In the 1920s, the mean bust-to-hip measurements of Miss America winners were 32-25-35.36 By the 1930s, waist and hip measurements remained constant but the average bust line grew by 2 inches. This trend continued through the mid-1960s.36 Over a 20-year period (1959-1978) the weights of Miss America contestants gradually declined, while height climbed steadily.38 Bust and hips were still symmetrical but the height of contestants rose by an average of 1 inch, while weight fell by an average of 5 pounds per decade.<sup>36</sup> Miss America finalists in the 1960s, for example, averaged 66 inches in height and 120 lbs. In contrast, finalists in 1983 and 1984 also weighed 120 pounds, but were 2 inches taller on average.36 Body weight for Miss America was 13% to 19% below their expected weight, with 60% of contestants at weights 15% or more below the expected weight for their age and height, a characteristic found in women with Anorexia Nervosa.<sup>39</sup> In contrast to normal height and weight relationships

which are highly correlated, while Miss America has gotten taller, she has lost weight.

Similar trends have been found for another icon of Western beauty, Playboy Centerfolds. Over a 20-year period (1959-1978), the weight of Playboy Centerfolds decreased while height has risen steadily.38 A more recent update of this study found that the weight of Playboy Centerfolds continued to fall during the period 1978-1988 and has stabilized at a very low level.39 For example, during the time period 1979-1983 the mean weight of Playboy Centerfolds was 111.5 pounds, a weight significantly less than the 115.7 pound mean reported by Garner et al<sup>38</sup> for the years 1959-1978. Similar to Miss America contestants, over the 10year period (1979-1988) 69% of the Playboy centerfolds weighed 15% or more below the expected weight for their age and height.<sup>39</sup> Troublingly, the current height-weight ratios for both Miss America and the Playboy Centerfold has reached the point where the majority of these women now reflect an underweight, and potentially unhealthy, body type.

#### Cross-cultural Studies of Beauty

Although many argue that Western society establishes the current ideals of beauty, it is often assumed that there are distinct cultural variabilities in aesthetic judgments. Most of the cross-cultural literature on beauty has focused on preferences in facial attractiveness. Across 37 cultures, both males and females prioritized physical attractiveness over personality characteristics like dependability, emotional stability and maturity in their choice of mates.<sup>2</sup> Furthermore, standards of physical attractiveness are not arbitrarily isolated to certain cultures.<sup>33</sup> Ratings of facial attractiveness of Greek men by women in China, England, and India were consistent across the cultural groups.44 In a similar study, the attractiveness of female faces of international contestants from the Miss Universe Pageant were rated by Caucasian males. Those faces that were rated as highly attractive also correlated with young looking features, such as wide eyes, small chin, and small nose.33 In addition, features such as prominent cheekbones and narrower cheeks were also associated with high ratings of attractiveness.33 These findings have been replicated across female faces of Asian, Hispanic, and African American decent,<sup>45</sup> further suggesting the cross-culture commonalities of certain aspects of beauty.

In looking at the variety of images of Western beauty from the last century, it appears that ideals of beauty have principally "evolved" from the round voluptuous figures of female models to the strikingly linear figures of fashion models and actresses today. Unfortunately, it also appears that many of these images have evolved to the point of projecting a potentially physically unhealthy ideal to society. Given the theoretical relationship between mass media images of beauty and eating disorders and body image problems, the potential influence of these ideals on young women in particular is of great concern to many mental health professionals.

Many people argue that the mass media (magazines, movies, television, and Internet) is an influential promoter of beauty ideals. Others contend that the media is simply reflecting a trend of public preferences. Even if this thin ideal did not originate in the media, many believe that the media exploits this ideal and promotes the message that thinness is equated with success and popularity. One feminist perspective offered by Naomi Wolf<sup>43</sup> suggests that the multi-billion dollar diet, cosmetics, and cosmetics surgery industries, in her view, seek to keep women in frantic pursuit of this "beauty myth." As such, the mass media functions as a counter-feminist movement that seeks to maintain and extend economic, political and sexual control over women. Regardless of how one understands the relationship between the mass media and these images, the images themselves are inescapable. While some would argue that these images inspire us to visualize our appearance in the idealized form, others would suggest that they, as one patient put it, "... leave me feeling that I look like chopped liver?" Given that the vast majority of women will never attain the idyllic standards reflected by media, it is not surprising that women who are dissatisfied with their appearance are motivated to use a variety of methods, including cosmetic surgery, to improve what they perceive as bodily imperfections.

## WHAT DO WE THINK ABOUT BEAUTIFUL PEOPLE

Thirty to forty years ago, mental health professionals did not give much thought to beauty. If beauty was considered, it was seen as a trivial pursuit of vanity or a misplaced effort at enhancing self-esteem. Women who were interested in changing their appearance through cosmetic surgery during this time were typically seen in a negative light—their motivations for changing their appearance viewed as a misplaced attempt to solve an internal emotional conflict. Since that time, a body of research from the field of social psychology has greatly increased our understanding of the role of physical beauty in daily life. This research has suggested that, whether we like to admit it or not, our appearance really does seem to matter.

One of the first experiments in this area was designed to test the belief first offered by the Greek philosopher Sappho<sup>46</sup> that, "What is beautiful is good." To test this idea, men and women were asked to look at pictures of good-looking, average-looking, or unattractive individuals (the pictures were categorized by another group of raters) and rate them on a variety of personality characteristics. As compared to the average and unattractive pictures, good-looking individuals were rated as more kind, interesting, sociable, and outgoing. In addition, they were predicted to have happier marriages, better jobs, and more fulfilling lives.47 Over the next 25 years, numerous studies found similar results, strengthening the belief that more beautiful individuals are viewed more positively than those who are less attractive.

Not only are beautiful individuals judged more positively than their less attractive peers, attractive individuals appear to receive preferential treatment from others. Throughout the lifespan, beautiful men and women appear to be treated more favorably. For example, elementary school teachers typically assume that cute boys and girls were more intelligent and were more likely to achieve academic success than less attractive children.<sup>48-49</sup> Such biases also occur when schooling has been completed. As compared to less attractive persons, attractive individuals are more likely to be hired for jobs and receive higher starting salaries.<sup>50</sup>

# Appearance and the Medical, Mental Health, and the Legal Systems

Medical and mental health professionals (who we would like to think are immune to such beauty biases) appear to treat attractive and unattractive patients differently. Numerous studies have documented the negative, indifferent, or demeaning behavior that unattractive individuals, such as those who are facially disfigured or who are obese, have received from their physicians. Mental health professionals also fall victim to the same stereotypes about the beautiful and the homely as everyone else. In general, psychotherapists tend to attribute greater psychopathology to their unattractive patients. For years, psychotherapists have acknowledged that they prefer working with YAVIS (young, attractive, verbal, interesting, and successful) clients rather than old, unattractive, and unsuccessful clients.<sup>51</sup> Not surprisingly, several studies have suggested that psychotherapy patients also prefer to work with more attractive therapists.52-53

Physical appearance also influences our interactions with the legal system. Reviewing the literature on the relationship between physical appearance and criminal behavior, Hatfield and Sprecher<sup>54</sup> concluded that more attractive individuals are less likely to be caught committing a crime and are less likely to be severely punished by judges and jurors. There is one exception to the benefits of beauty in legal proceedings-if one's physical beauty is used to prey on others. Attractive female defendants, for example, will receive longer prison sentences than less attractive defendants in cases of embezzlement.55 The benefits of physical beauty apply to victims as well, as attractive victims appear to be more successful in winning their legal cases.54

#### Appearance and Helping Behaviors

Physical beauty also determines who we help and who we ask for help. Across several studies, men have been shown to be more likely to help an attractive woman than an unattractive woman with tasks ranging from mailing letters to providing directions.<sup>56-57</sup> While good-looking individuals appear to be more likely to receive help, they are less likely to be asked for help. Whether it is out of fear of rejection or concern about looking helpless in front of a beautiful person, we are more likely to ask less attractive friends and strangers for help in times of need.<sup>54</sup>

#### Appearance in Romantic Relationships

Physical appearance obviously plays a central role in the selection of our romantic partners. It is

frequently the first bit of information we gather about a potential romantic partner. If the "spark" of physical attraction does not exist, the romantic relationship will most likely not flourish. In a perfect world, almost all men and women would prefer to be with the most physically attractive partner available, even at the expense of exceptional intelligence or a sense of humor. When the possibility of rejection is added to the romantic equation, however, desire for the most attractive partner is balanced by the fear of rejection. The end result is that people will typically end up selecting people who are similar to themselves in attractiveness. For example, if a woman views herself as a "7," she may desire to be with a "10," but the fear of possible rejection by a more attractive partner will lead her to become interested in another "7." In these more realistic settings, the other personality characteristics that attract people to one another, such as intelligence, sense of humor, compassion, and loyalty, play a more central role in romantic relationships. Nevertheless, similarity in physical attractiveness remains important, as couples who are matched on physical attractiveness, as well as on other desirable personality characteristics, are more content in their romantic relationships.54

Over the last several decades, a significant body of research has demonstrated the benefits of physical beauty. Not only are physically attractive individuals judged more positively by other individuals, they have been shown to receive preferential treatment in numerous interpersonal encounters across the lifespan. Even in situations where we would like to think our appearance does not matter-when we trust that others will help usbeauty strongly influences how we are treated. Physical attractiveness plays a vital role in our interpersonal interactions, yet it is almost completely unrelated to how we truly feel about our appearance. In fact, no discussion of beauty is complete without an exploration of the inner view of beauty-one's body image.

## **BODY IMAGE**

At the beginning of the new century, body image is clearly one of the hottest topics in the field of psychology. In the 1990s, numerous professional textbooks and hundreds of journal articles were devoted to the study of body image. Unfortunately, as with any rapidly developing area, there is often disagreement as to what exactly "body image" is. In his landmark text, Exacting Beauty, Thompson et al<sup>58</sup> suggested that no less that 14 terms can be used to describe body image. In some respects, body image is similar to its closely related construct of self-esteem. That is, we all have an idea of what self-esteem is; however, if we were asked to put that idea into words, we would struggle to come up with a concise definition that accurately represents the complexity of the construct. Thompson et al58 suggested that "body image" has come to be accepted as the internal representation of your own outer appearance.58 Regardless of the exact definition used, body image plays a significant role in how people feel about both their appearance and themselves.

#### Dimensions of Body Image

While there is little agreement to the exact definition of body image, there is little disagreement that body image is a multidimensional construct. Relevant psychological influences of body image typically include perceptual, developmental, and sociocultural dimensions.<sup>59-60</sup> Perceptual influences account for an individual's ability to accurately determine the physical features of a given body part. This accounts for our ability to perceive ourselves in time and space, as well as our ability to accurately (or inaccurately) make judgments about the size and shape of our bodies and its features. Developmental influences consider the contribution of childhood and adolescent experiences to the adult body image. The strongest of these influences may be the experience of appearancerelated teasing. Recent empirical studies, as well as anecdotal clinical reports, highlight the often devastating effects that childhood and adolescent teasing can have on the adult body image. Each of us, in our psychotherapeutic work, has been struck by patients who, even as highly successful adults, can recall the pain of being teased about their appearance decades earlier as if it just occurred. These patients often ask cosmetic surgeons to correct the feature that elicited the schoolyard teasing, often years after the last episode of teasing. Finally, sociocultural influences (as discussed in detail above) account for the interaction of the mass media and cultural ideals of appearance (which frequently portray unrealistic and exaggerated images of beauty which have been digitally-enhanced and airbrushed to perfection) with the tendency of individuals to compare themselves to others. These 3 factors are thought to play a significant role in the adult body image.

## Body Image Valence and Value

Sarwer et al<sup>60</sup> have suggested that attitudes toward the body have at least 2 dimensions. The first consists of a valence, defined as the degree of importance of body image to one's self-esteem. Persons with a high body image valence, in contrast to those with a low valence, are thought to derive much of their self-esteem from their body image. In addition, body image has a value (ie, positive or negative), which can also be understood as the degree of satisfaction or dissatisfaction with the body image. Large-scale surveys have indicated that, in general, Americans are dissatisfied with their appearance.<sup>61</sup> Comparisons of survey results conducted in 1972, 1985, and 1996 have suggested that dissatisfaction with overall appearance among women increased from 23% to 56%, and in men increased from 15% to 43%, in just 25 years. The number one concern for both genders was dissatisfaction with weight. For example, the percentage of women dissatisfied with their weight increased from 48% to 66%, an increase that closely parallels the change in the prevalence of obesity and overweight in the United States. This dissatisfaction is no trivial matter. Weight was so associated with personal happiness that 24% of women and 17% of men said they would give up more than 3 years of their lives to be thinner.61

It is difficult, however, to determine the point at which an individual's body image dissatisfaction becomes extreme and problematic. It has been hypothesized that body image dissatisfaction falls on a continuum.<sup>59-60</sup> Such dissatisfaction may range from a dislike of a specific appearance feature to psychopathological dissatisfaction, in which thoughts about appearance distress and preoccupy the individual, and behavior is negatively influenced by these concerns.<sup>59-60</sup> While extreme dissatisfaction may be a symptom of clinically significant psychopathology, mild dissatisfaction may motivate a whole range of behaviors to improve body image.

#### ADDRESSING BODY IMAGE DISSATISFACTION

As discussed above, it appears that many women (and some men) desire to achieve increasingly unrealistic body shapes portrayed by the mass media. Not only are these body ideals unattainable for most people, the comparisons between the self and the ideal are thought to contribute to the dramatic increase in discontent about their own appearances.<sup>58-61</sup> This dissatisfaction is thought to motivate many behaviors: dieting and exercise, cosmetics use, and cosmetic surgery.

## **Dieting and Exercise**

Perhaps the most common response to body image dissatisfaction is dieting and exercise. It is estimated that the weight-loss industry contributed \$32.6 billion to the nation's economy in 1994.<sup>62</sup> The sale of self-help books, videos, and audio cassettes focusing on dieting toppled over \$380 million in 1994, while commercial weight loss programs, such as Jenny Craig and Weight Watchers, reported earnings of \$1.7 billion.<sup>62</sup> Americans also spend billions of dollars annually on health club memberships; fitness club revenue grew from \$6.7 billion in 1991 to \$8.4 billion in 1994.<sup>62</sup>

Reports of dieting among women are extremely common—such a large percentage of women diet that it can almost be considered "normative eating" in Western cultures. In a sample of 60,860 adults, 38% of women and 24% of men were attempting to lose weight.<sup>63</sup> As many as 81% of high school girls desire to lose weight, and 63% have dieted in the past year.<sup>64</sup> Rosen and Gross<sup>65</sup> found in a sample of 3,000 adolescents that 63% of the girls were trying to lose weight. Even some preadolescents are attempting to lose weight. According to the National Heart, Lung, and Blood Institute Growth and Health Study, among 9 and 10 year olds, 40% of the girls were dieting to lose weight.<sup>66</sup>

Given the increasing prevalence of obesity in the United States, and the well-established relationship between obesity and health conditions such as type 2 diabetes, hypertension, and coronary heart disease, which increase the risk of mortality, one could easily assume that more people are dieting to improve their health status. In reality, the primary motivation for dieting, even among the severely obese, is almost exclusively appearance-related. Not surprisingly, women are more likely than men to indicate that their primary concern for trying to lose weight is improving their appearance.<sup>67</sup> Those who engage in frequent physical activity also report that looking good is their primary motivation for exercising.<sup>68</sup> Therefore, even given the benefits of diet and exercise on improving one's health, improving one's body image appears to be the primary motivation for improving one's diet and being more active.

### **Cosmetics Use**

From the pages of magazines to music videos and television commercials, women are exposed to thousands of messages and images instructing them how to be beautiful. Cosmetics have become a profitable means through which women can attain beauty in Western society. Given the early history of the cosmetics industry, manufacturers have done a phenomenal job at fostering the marketability of their products. Prior to the 1920s, women who "painted their faces" elicited an image of women's sexuality that Victorian society was not ready to acknowledge.<sup>69</sup> Such ideas about cosmetics clearly have not endured, as American consumers spent almost \$16 billion on cosmetics, toiletries, and perfumes in 1994.<sup>70</sup>

In her book on the history of the cosmetics industry, Piess<sup>69</sup> suggests that women use makeup to "announce their adult status, sexual allure, youthful spirit, political belief, and self-definition." Cosmetics offer women an accessible and affordable means to improve their appearance. It not only provides them with an opportunity to improve their outward appearance, it also can improve their body image and self-esteem. While strains of the feminist movement are often critical of the cosmetic industry and the messages it promotes, women from all walks of life use cosmetics as an acceptable way to enhance desirable facial features and to create the appearance of youth or sexuality.

#### **Cosmetic Surgery**

Increasing numbers of women and men use cosmetic surgery to address body image dissatisfaction. In their theory of the relationship between body image and cosmetic surgery, Sarwer et al<sup>59, 60</sup> speculate that it is the interaction between body image valence (the relationship of the body image to self-esteem) and body image value (the degree of body image dissatisfaction) that influences the decision to seek cosmetic surgery. One consistent finding of the preoperative studies of cosmetic surgery patients is that persons who seek cosmetic surgery have reported increased dissatisfaction with body image.<sup>71,72</sup> Persons with a high body image valence, for whom body image is an important part of self-esteem, and who have a heightened degree of dissatisfaction with a specific feature, are thought to comprise the majority of cosmetic surgery patients.<sup>60</sup> In contrast, persons with a low body image valence and little body image dissatisfaction are unlikely to seek cosmetic surgery.

#### THE DISFIGURED

We have spent the majority of this article discussing beauty-how we determine what is beautiful, what do we think about and how do we treat beautiful people, how do we think about our own beauty, and what do we do to make ourselves more beautiful. Nevertheless, our article would be incomplete without a discussion of those who are not beautiful. Whether as a result of a genetic deformity or traumatic insult, there are many members of our society with disfigured appearances who think about beauty in a way that those of us who are not disfigured can probably never understand. While many persons who seek aesthetic surgery hope to improve their "normal" appearance to make it "stand out from the crowd," those who are disfigured often desire nothing more than to have an appearance which allows them to blend into the crowd without being the victims of unwanted stares, looks of disgust, or relentless ridicule.

Compared to the vast literature on beauty available to us for this chapter, relatively little is known about those who are not beautiful. In some respects, this is not particularly surprising, as both the lay public and mass media appears to be much more interested in talking about beauty. Nevertheless, children and adolescents with disfigured appearances are at risk for psychological problems. We also know that disfigured adults may struggle with low self-esteem and poor quality of life, and may experience discrimination both in employment and social settings. Unfortunately, we do not currently know how we can best help those who look different to cope with their disfigurement. Between what we do and do not know about disfigurement, one thing is certain. In a society which puts such a premium on physical beauty, while many people have probably dreamed of being more beautiful, probably no one dreams of being disfigured.

#### CONCLUSION

The role of physical beauty in evolutionary theory suggests that beauty is more than skin deep. Beauty is marked not just by obvious physical features such as hair color and skin tone; rather, it is also marked by more subtle features such as facial and body symmetry, averageness, and body-size ratios, all of which serve as signals for reproductive potential. The intuitively pleasing sociocultural approaches to beauty also revealed some interesting things. We traced the changing trends in ideals of

1. Buss DM: The evolution of desire: Strategies of human mating. New York, NY, Basic Books, 1994

2. Buss DM, Abbot M, Angleitner A, et al: International preferences in selecting mates: A study of 37 cultures. J Cross Cultural Psychol 21:5-47, 1990

3. Chen AC, German C, Zaidel DW: Brain asymmetry and facial attractiveness: Facial beauty is not simply in the eye of the beholder. Neuropsychologica 35:471-476, 1997

4. Singh D: Adaptive significance of female physical attractiveness: Role of waist-to-hip ratio. J Personality Soc Psychol 65:456-466, 1993

5. Langlois JH, Roggman LA, Casey RJ, et al: Infant preferences for attractive faces: Rudiments of a stereotype? Dev Psychol 23:363-369, 1987

6. Langlois JH, Ritter JM, Roggman LA, et al: Facial diversity and infant preferences for attractive faces. Dev Psychol 27:79-84, 1991

7. Langlois JH, Roggman LA, Reiser-Danner LA: Infants' differential social responses to attractive and unattractive faces. Dev Psychol 26:153-159, 1990

8. Hamilton WD, Zuk M: Heritable true fitness and bright birds: A role for parasites? Science 218:384-387, 1982

9. Gangestad SW, Buss DM: Pathogen prevalence and human mate preferences. Ethol Sociobiol 14:89-96, 1993

10. Thornhill R, Gangestad SW: Human facial beauty: Averageness, symmetry, and parasite resistance. Hum Nat 4:237-269, 1993

11. Moller AP: Female swallow preferences for symmetrical male sexual ornaments. Nature 357:238-240, 1992

12. Petrie M, Halliday TR, Sanders C: Peahens prefer peacocks with elaborate trains. Animal Behav 41:323-331, 1991

13. Swaddle JP, Cuthill 1C: Preference for symmetric males by female zebra finches. Nature 367:165-166, 1994

14. Thornhill R: Fluctuating asymmetry and the mating

beauty represented in mass media figures and found that many of the current images of beauty are not only unrealistic and unattainable, but are also potentially unhealthy. The social psychological research on physical attractiveness suggests that not only do we think more positively about beautiful people, we also treat them more favorably in interpersonal situations across the lifespan. The theory of body image can be used to understand physical appearance concerns and our relentless pursuit of an improved body image through diet, exercise, cosmetics use, and cosmetic surgery. Finally, our discussion of beauty and society revealed that, in a world that places such a premium on beauty, we know very little about living with a disfigured appearance. While we continue to learn more about the nature of beauty, it is important for us to continue to learn about the difficulties and challenges of being disfigured.

#### REFERENCES

system of the Japanese scorpionfly, Panorpa japonica. Animal Behav 44:867-879, 1992

15. Gangestad S, Thornhill R, Yeo R: Facial attractiveness, developmental stability and fluctuating asymmetry. Ethol Sociobiol 15:73-85, 1994

16. Grammar K, Thornhill R: Human facial attractiveness and sexual selection: The role of symmetry and averageness. J Compar Psychol 108:233-242, 1994

17. Rhodes G, Proffitt F, Grady JM, et al: Facial Symmetry and the perception of beauty. Psych Bull Rev 5:659-669, 1998

18. Thornhill R, Gangestad SW. Human fluctuating Asymmetry and sexual behavior. Psychol Sci 5:297-302, 1994

19. Langlois JH, Roggman LA: Attractive faces are only average. Psychol Sci 1:115-121, 1990

20. Langlois JH, Roggman LA, Mussleman L: What is average and what is not average about attractive faces? Psychol Sci 5:214-220, 1994

21. Mitton JB, Grant MC: Associations among protein heterozygosity, growth rate and developmental homeostasis. Animal Rev Ecol System15:479-499, 1984

22. Johnston VS, Franklin M: Is beauty in the eye of the beholder? Ethol Sociobiol 14:183-199, 1993

23. Alley TR, Cunningham MR: Averaged faces are attractive, but very attractive faces are not average. Psychol Sci 2:123-125, 1991

24. Lanska DJ, Lanska MJ, Hartz AJ, et al: Factors influencing anatomical location of fat tissue in 52,953 women. Int J Obesity 9:29-38, 1985

25. Jones PR, Hunt MJ, Brown TP, et al: Waist-hip circumference ratio and its relation to age and overweight in British men. Hum Nutr Clin Nutr 40:239-247, 1986

26. Singh D: Female judgement of male attractiveness and desirability for relationships: Role of waist-to-hip ratio

and financial status. J Person Soc Psychol 69:1089-1101, 1995

27. Kirschner MA, Samojilik E: Sex hormone metabolism in upper and lower body obesity. Int J Obesity 15:101-108, 1991

28. Leibel DJ, Edens NK, Fried, SK: Physiologic basis for the control of body fat distribution in humans. Ann Rev Nutr 9:417-443, 1989

29. Symons D: The evolution of human sexuality. New York, NY, Oxford University Press, 1979

30. Zebrowitz LA, Olson K, Hoffman K: Stability of babyfaceness and attractiveness across the lifespan. J Person Soc Psychol 65:453-466, 1993

31. McLellan B, McKelvie SJ: Effects of age and gender on perceived facial attractiveness. Can J Behav Sci 25:135-142, 1993

32. Deutsch FM, Zalenski CM, Clark ME: Is there a double standard of aging? J Appl Soc Psychol 16:771-785, 1986

33. Cunningham MR: Measuring the physical in physical attractiveness: Quasi-experiments on the sociobiology of female facial beauty. J Person Soc Psychol 50:925-935, 1986

34. Jones D: Physical attractiveness and the theory of sexual selection. Ann Arbor, MI, Museum of Anthropology, University of Michigan, 1996a

35. Jones D: An evolutionary perspective on physical attractiveness. Evol Anthropol 5:97-109, 1996b

36. Mazur A: U.S. trends in feminine beauty and overadaption. J Sex Res 22:281-303, 1986

37. Fallon A: Culture in the mirror: Sociocultural determinants of body image, in Cash TF, Pruzinsky T (eds): Body Images: Development, Deviance and Change. New York, NY, The Guilford Press, 1990, pp 80-109

38. Garner DM, Garfinkel PE, Schwartz D: Cultural expectations of thinness in women. Psychol Rep 47:483-491, 1980

39. Wiseman CV, Gray J, Mosimann JE, et al: Cultural expectations of thinness in women: An update. Int J Eating Disorders 11:85-89, 1992

40. Morris A, Cooper T, Cooper PJ: The changing shape of female fashion models. Int J Eating Disorders 8:593-596, 1989

41. Silverstein B, Perdue L, Peterson B, et al: The role of the mass media in promoting a thin standard of bodily attractiveness for women. Sex Roles 14:519-532, 1986

42. Guillen EO, Barr SI: Nutrition, dieting, and fitness messages in a magazine for adolescent women, 1970-1990. J Adolesc Health 15:464-472, 1994

43. Wolf N: The Beauty Myth. New York, NY, William Morrow, 1991

44. Thakerar JN, Iwawaki S: Cross-cultural comparisons in interpersonal attraction of females toward males. J Soc Psychol 108:121-122, 1979

45. Cunningham MR, Roberts AR, Barbee AP, et al: "Their ideals of beauty are, on the whole, the same as ours": Consistency and variability in the cross-cultural perception of female physical attractiveness. J Persona Soc Psychol 68:261-279, 1995

46. Sappho: Fragments 101. In Poems and fragments. Translation with an introduction by G. Davenport. Ann Arbor, MI, University of Michigan Press 47. Dion K, Berscheid E, Hatfield E: What is beautiful is good. J Persona Soc Psychol 24:285-290, 1972

48. Adams GR: Racial membership and physical attractiveness effects on preschool teachers' expectations. Child Study J 8:29-41, 1978

49. Clifford MM, Hatfield E: Research note: The effects of physical attractiveness on teacher expectations. Sociol Edu 46:248-258, 1973

50. Dipboye RL, Fromkin HL, Wiback K: Relative importance of applicant sex, attractiveness, and scholastic standing in evaluation of job applicant resumes. J Appl Psychol 60:39-43, 1975

51. Schofield W: Psychotherapy: The purchase of friendship. Englewood Cliffs: Prentice Hall, 1964

52. Cash TF, Begley PJ, McCown DA, et al: When counselors are heard but not seen: Initial impact of physical attractiveness. J Counsel Psychol 22:273-279, 1975

53. Cash TF, Kehr J: Influence of nonprofessional counselors' physical attractiveness and sex on perceptions of counselor behavior. J Counsel Psychol 25:336-342, 1977

54. Hatfield E, Sprecher S: Mirror, mirror... The importance of looks in everyday life. Albany: SUNY Press, 1986

55. Sigall H, Ostrove N: Beautiful but dangerous:Effects of offender attractiveness and nature of the crime on juridic judgment. J Person Soc Psychol 31:410-414, 1975

56. Benson PL, Karabenick SA, Lerner RM: Pretty pleases: The effects of physical attractiveness, race, and sex on receiving help. J Exp Soc Psychol 12:409-415, 1976

57. Wilson DW: Helping behavior and physical attractiveness. J Soc Psychol 104:313-314, 1978

58. Thompson JK, Heinberg LJ, Altabe M, et al: Exacting beauty: Theory, assessment and treatment of body image disturbance. Washington, DC, American Psychological Association, 1999, pp 19-47

59. Sarwer DB, Pertschuk MJ, Wadden TA, et al: Psychological investigations of cosmetic surgery patients: A look back and a look ahead. Plast Recons Surg 101:1136-1142, 1998

60. Sarwer DB, Wadden TA, Pertschuk MJ, et al: The psychology of cosmetic surgery: A review and reconceptualization. Clin Psychol Rev 18:1-22, 1998

61. Garner DM: The 1997 body image survey results. Psychol Today 31:30-87, 1997

62. Johnson CA: Bound by culture. In: Self-esteem comes in all sizes. New York, NY, Doubleday, 1995, pp 37-53

63. Serdula MK, Collins E, Williamson DF, et al: Weight control practices of U.S. adolescents and adults. Ann Intern Med 119:667-671, 1993

64. Whitaker AH: An epidemiological study of anorectic and bulimic symptoms in adolescent girls: Implications for pediatricians. Pediatr Ann 21:752-759, 1992

65. Rosen JC, Gross J: Prevalence of weight reducing and weight gaining in adolescent girls and boys. Health Psychol 26:131-147, 1987

66. Schreiber GB, Robins M, Striegel-Moore R, et al: Weight modification efforts reported by black and white preadolescent girls: National heart, lung, and blood institute growth health study. Pediatrics 98:63-70, 1996

67. Levy AS, Heaton AW: Weight control practices of US adults trying to lose weight. Ann Intern Med 119:661-666, 1993

68. Cash TF, Novy PL, Grant JR: Why do women exercise?

Factor analysis and further validation of the reasons for exercise inventory. Percep Motor Skills 78:539-544, 1994

69. Peiss K: Hope in a Jar: The Making of America's Beauty Culture. New York, NY, Metropolitan Books, 1998

70. Department of Commerce Bureau of Economic Statistics, Sections: Toilet Articles and Preparation, Clothing and Shoes, in Survey of Current Business, April 1995 71. Pertschuk MJ, Sarwer DB, Wadden TA, et al: Body image dissatisfaction in male cosmetic surgery patients. Aesth Plastic Surg 22:20-24, 1998

72. Sarwer DB, Wadden TA, Pertschuk MJ, et al: Body image dissatisfaction and body dysmorphic disorder in 100 cosmetic surgery patients. Plastic Recons Surg 101:1644-1649, 1998