Body Image Throughout the Lifespan

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Learning Objectives

After completing this chapter, readers should be able to do the following:

- Define body image.
- Compare and contrast positive body image with body dissatisfaction and other body image concerns.
- Discuss risk factors that contribute to body dissatisfaction in females across the lifespan.
- Compare and contrast how body image concerns affect females throughout the lifespan.
- Examine theoretical foundations that can be applied to body image and eating disorder prevention interventions.
- Discuss various strategies that can be used in body image and eating disorder prevention interventions across the lifespan.
- Examine different assessment tools for the evaluation of body image with females across the lifespan.
- Discuss future directions for body image and eating disorder prevention research and practice.

2.1 Introduction

Body image is a dynamic, multidimensional, and highly complex construct [1–3] that can be defined in general terms as "the subjective evaluation of one's appearance" ([4] p. 4). Body image can include "experiences related to one's physical functional competencies and biological integrity (e.g., health, fitness, athletic skills, and coordination)" ([2] p. 34). In a broader sense, body image encompasses cognitive, perceptual, affective, and behavioral dimensions [2, 5]. Body image can also be considered both positive and negative, and a deficiency in one does not necessarily connote the presence of the other [6]. As Tylka ([6] p. 57) clarified: "Deconstructing negative body image, then, will not automatically construct positive body image. Accordingly, positive body image should not be characterized simply as the opposite pole of a 'single body image dimension' anchored at the other end by negative body image." Although positive and negative body images have historically been viewed as opposing concepts, more recent studies have revealed that there are different body image continuums (positive and negative) that concurrently exist [7–11]. Cultural influences, interpersonal relationships, physical characteristics and changes, and personality characteristics all interact in a dynamic way to contribute to body image development [2, 12].

Positive body image is conceptualized as multifaceted and holistic [9] and is integral to healthy development and wellness throughout the lifespan. Positive body image encompasses positive body esteem, mindful connection with the body's needs, and self-appreciation for body functionality and diverse appearances [9, 13–15] and may be considered a protective factor against body dissatisfaction. Body appreciation and positive embodiment are related concepts and considered key aspects of health and quality of life [16, 17]. Both body appreciation and positive embodiment focus on body integration through appreciating, feeling connected to, and caring for the body [17, 18]. Self-compassion is another associated concept that is expressed through self-kindness rather than self-criticism and accepting imperfection as part of being human [19]. A systematic review of 28 studies revealed that self-compassion was linked to lower levels of eating pathology and appeared to be protective against poor body image and eating pathology [20].

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In contrast, negative body image is conceptualized as poor body esteem, body dissatisfaction, and feelings of body shame, anxiety, and self-consciousness [21, 22]. Various terms have been used to depict body image concerns, including negative body image, body dissatisfaction, body dysphoria, body image distortion, and body image disturbance. Due to the complexity of the body image construct, researchers have typically focused on examining disturbances within the cognitive–affective (evaluative) and perceptual components of body image. A disruption within the evaluative component is usually represented as body dissatisfaction [23], which refers to a person's negative self-evaluation of his or her body weight, size, and shape that can lead to cognitive, psychological, affective, and behavioral disturbances [24, 25]. Body dissatisfaction can also be defined by the difference between one's perceived body size and ideal body size. In contrast, a disturbance within the perceptual component is usually referred to as body image distortion, which involves a person's inability to accurately perceive body size and shape [26] and is a symptom of eating disorders such as anorexia nervosa and bulimia nervosa [27].

It is widely recognized that body dissatisfaction is ubiquitous among girls and women, particularly with regard to the desire to be thin. In fact, body dissatisfaction has become so commonplace that it has been described as "normative discontent" [28]. Body dissatisfaction is a predictor of depression [29–32] and considered one of the most robust risk and maintenance factors for disordered eating and clinical eating disorders [27, 29, 33–39]. Body image and eating disturbances have also been linked to other psychological problems, including depressive mood and low self-esteem [29, 31, 37, 40, 41] as well as anxiety [40], body dysmorphic disorder [42], self-harm and childhood sexual abuse [43], and social phobia [40, 44]. Negative body image is also linked to physical disability [10, 45] and low levels of functionality and wellness [46, 47]. Overall, body image and eating problems hinder healthy development and adversely impact health, wellness, and quality of life.

Due to the persistent rise of eating disorders and obesity, researchers continue to investigate body image and body image difficulties among diverse females with various social identities, including those from different ethnic and cultural groups, older women, females living with chronic illness or disability, and females representing other special populations who may be at risk [8, 10, 21, 30, 48–62]. In sum, negative body image and body image disturbances know no boundaries; they impact females across age groups, ethnicities, cultures, and backgrounds. It is essential for health education specialists and health care clinicians to understand body image across the lifespan, including the etiology and development of body image problems. It is also important for health professionals to be familiar with body image assessment techniques as well as evidence-based prevention strategies and interventions that promote positive body image. Furthermore, health professionals can reflect about their own perceptions of body image and eating concerns and how these perceptions may influence their own attitudes and behaviors as well as their interpersonal interactions with clients and patients.

2.2 Research Findings

2.2.1 Risk Factors for the Development of Body Dissatisfaction

A wide range of risk factors contribute to the development of body dissatisfaction, including biological and physical factors, individual characteristics, and sociocultural influences [2, 63, 64]. For example, females with a higher body mass index (BMI) that is not in line with societal expectations of a thin-ideal body type—the thin ideal—can experience body dissatisfaction [30, 65–69]. Other ideal body types can also influence how females view their bodies, including the athletic and curvy ideals [70–72]. Individual characteristics such as low self-esteem, negative emotionality, and perfectionism are additional influencing factors [2, 68]. Furthermore, sociocultural factors such as ubiquitous media influences exert a powerful influence on body image by promoting the thin-ideal. Propensity to internalize the thin ideal and engage in high levels of appearance comparisons (or social comparisons) often leads to harmful effects such as body dissatisfaction, self-objectification, and disordered eating [56, 67, 73–79]. Media-internalization is critical to the development of body dissatisfaction, both directly and indirectly [74, 75, 80]. For example, research has shown that "media-internalization precedes and predicts social appearance comparison, which in turn predicts body dissatisfaction" ([75] p. 710).

In addition, females from multiple ethnic and cultural groups can experience an internal tug-of-war regarding their body image and sense of self-worth, particularly when they are acculturated or exposed to Western or Western-influenced cultures that promote the thin ideal [56, 60, 81–83]. Some studies have indicated that there are often more similarities than differences between White females and ethnic minorities regarding body dissatisfaction [60, 84]. Cheng et al. [60] found that African Americans are at similar risk for eating disorders as Whites. The same study also suggested that ethnic minority identity and culture may protect Hispanic females from thin-ideal internalization, body dissatisfaction, and disordered eating behaviors. Still, the relationships among ethnicity, acculturation, and body satisfaction are not clear [60, 85–88]. While Cheng et al. [60] found that Asian American females experience greater thin-ideal internalization than White and African American females, Chen and

Jackson [67] suggested that body dissatisfaction may be less prominent among Chinese adolescent females compared to their U.S. counterparts. In another study involving a large, population-based sample of adolescents [84], body dissatisfaction and self-esteem were strongly related in both boys and girls across almost every weight status, racial/ethnic, and socioeconomic status (SES) group. Nevertheless, there were some differences across race/ethnicity and SES. For example, Black girls had higher self-esteem and lower body dissatisfaction than many other groups. In addition, Asian girls had a weaker relationship between body satisfaction and self-esteem compared to White girls; however, they experienced lower self-esteem and higher body dissatisfaction than many other racial/ethnic groups.

2.2.1.1 Theoretical Perspectives

In viewing body dissatisfaction from a theoretical perspective, the tripartite influence model of body image and eating disturbance [5, 40, 75, 89–93] and the dual pathway model of eating pathology [34, 37, 94–96] have received solid empirical support. The tripartite influence model [92] (see Fig. 2.1) posits that three major sociocultural influences—peers, parents, and media—play a role in the development of body dissatisfaction, eating disorders, and negative affect. The model also proposes that internalization of the thin ideal and appearance comparison mediate the relationships between these influences and body image and eating concerns [91, 92]. The dual pathway model of eating pathology [95] (see Fig. 2.2) posits that thin-ideal internalization and social pressure to be thin (from family, peers, and media) both contribute to body dissatisfaction leading to dieting and negative affect, thereby increasing the risk for eating disorders [34, 37, 94–96]. Both models have been used with diverse cultural samples and appear to be viable models for studying risk factors leading to body dissatisfaction and eating disorders [34, 37, 40, 75, 91–96].

2.2.2 Body Image Concerns Across Age Groups

2.2.2.1 Preadolescent and Adolescent Females

Body image difficulties often begin at an early age as body dissatisfaction has been shown to affect approximately 40% of children aged 6 to 11 [97]. Approximately 50% of preadolescent girls experience body dissatisfaction with a majority of these girls wanting to be thinner [98, 99]. Psychological processes related to body dissatisfaction are already established by the age of 8 [100, 101], and the "normative discontent" with body shape and size that is so common among adolescent females and young adult women is applicable to young girls as well [102–104]. For example, studies have shown that girls as young as 5–8 years old can experience a greater awareness and internalization of the thin ideal in ways that negatively impact their body image development and self-esteem [36, 105]. Research involving girls aged 7–11 years (N = 127) also revealed that thin-ideal internalization predicted disordered eating attitudes [74]. Additionally, a longitudinal population-based study revealed that 63.2% of girls expressed concern about gaining weight by age 13 [106]. In another study involving 1515 preadolescent children (51.2% girls), a majority of the girls wanted a thinner body shape [98]. Other research revealed that a sizable percentage of preadolescents experienced body dissatisfaction [104], and body dissatisfaction in young adolescents developed concurrently with eating disorder symptoms rather than preceding them [107].

Research also suggests that parental communication and modeling can influence body image and eating concerns in young girls. One study showed that girls whose parents encouraged them to diet prior to age of 11 were eight times more likely to report early dieting than girls whose parents did not promote dieting [108]. In another study, Rodgers et al. [109] found that mothers' comments about their child's

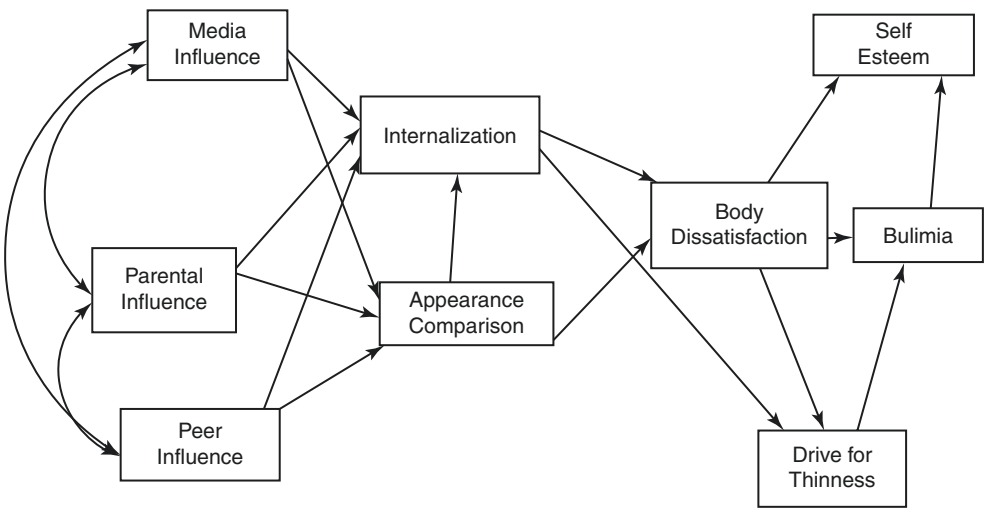

Fig. 2.1 The theoretical tripartite model [92]. Reprinted from Body Image, Vol. 8/Issue 3, Rodgers R, Chabrol H, Paxton SJ. An exploration of the tripartite influence model of body dissatisfaction and disordered eating among Australian and French college women, pages 208–215, 2011, with permission from Elsevier

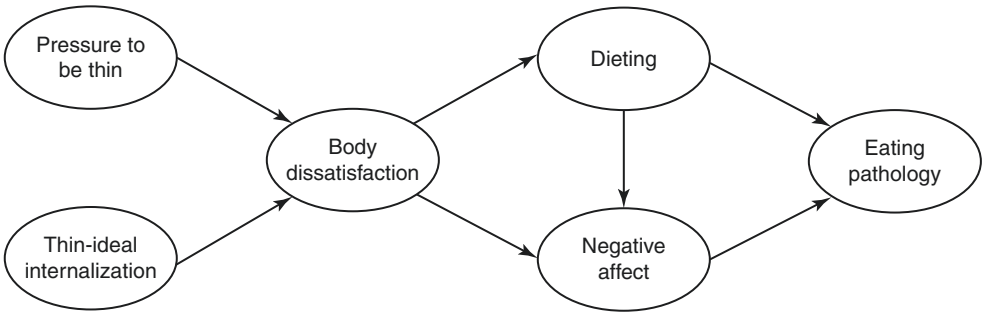

Fig. 2.2 Theoretical components of the dual-pathway model of eating pathology [96]. Reprinted with permission from Stice E, Rohde P, Shaw H. The body project: A dissonance-based eating disorder prevention intervention. 2013; New York: Oxford University Press. p. 16

weight, shape, and eating were associated with body image concerns and disordered eating in girls and boys as young as 7 and 8 years old. Maternal body dissatisfaction also predicted lower body esteem in both girls and boys, which is consistent with studies involving adolescents [110, 111].

Adolescence is another critical transitional period of significant growth and development [112] that is marked by the key developmental task of identity establishment [113]. Body image is a central focus of self-concept during the teen years [114], and adolescent females are particularly vulnerable to body dissatisfaction and eating difficulties [115]. Negative body image spikes during early adolescence and is often maintained throughout adolescence and emerging adulthood [21]. Findings from a study by Wojtowicz and von Ranson [68] suggested that self-esteem and BMI are pertinent factors to help identify middle-adolescent girls who may be at risk for experiencing increased body dissatisfaction. In addition, negative body image that persists over time can also lead to depressed mood in both adolescent girls and boys [41, 116]. In attempting to cope with negative affect, adolescents are at risk of engaging in unhealthy behaviors such as restrictive dieting, over-exercise, substance use, and excessive tanning [114]. In turn, these factors can initiate a vicious cycle of health-risk behaviors that can negatively impact body image.

Sociocultural factors are predominant influences during preadolescence and adolescence, and the peer group is a key sociocultural influence in the development of body image concerns [117, 118]. Young females are constantly exposed to sociocultural messages promoting the thin ideal; and these age groups are particularly vulnerable to experiencing body dissatisfaction in response to internalization of the thin ideal promoted through a variety of media channels, including social media platforms [105, 117–120].

According to a recent Pew Research Center Report [121], 95% of teens have a smartphone or access to one; and 45% of teens report they are online most of the time. The majority of this online activity revolves around social media networks; and the most prolific social media networks among teens are Snapchat and Instagram [121], with TikTok rising in popularity. With nearly constant access to mobile devices along with concomitant images and messages, preadolescent and adolescent females are highly susceptible to engaging in appearance comparisons. Body talk or appearance-focused conversation has been defined as "interpersonal interactions that focus attention on bodies and physical appearance, reinforce the value and importance of appearance, and promote the construction of appearance ideals" ([122] p. 2). Appearance comparisons are linked with body dissatisfaction, and body talk on social network sites has shown to be positively associated with body surveillance and body shame [122]. Studies have also shown that more time on social network sites is positively related to higher thin-ideal internalization, body surveillance, and drive for thinness [105, 114, 123]. In one study, adolescents with frequent (>2 h per day) engagement with highly visual social media (e.g., Instagram and Snapchat) reported high levels of body image concerns and internalizing symptoms such as depression and anxiety. In the same study, body image concerns mediated the positive relationship between highly visual social media use and internalizing symptoms [114]. In addition, vulnerability to media influence is mediated/moderated by individual factors such as self-esteem, personality traits, and investment in body image and social comparisons [84, 123–127]. These findings support an array of research indicating that frequent social media use may negatively impact body image and mental health [53, 119, 120, 123, 128–130].

In sum, body dissatisfaction that begins at a young age often extends through puberty into adolescence and young adulthood [21, 115, 131]. Although levels of body dissatisfaction vary among girls, various factors help predict these trajectories, including individual characteristics of BMI, self-esteem, and perfectionism as well as environmental influences such as parental communication and modeling, peer dieting, appearance comparisons, and weight teasing. Overall, it appears that body dissatisfaction takes root in early adolescence, indicating that childhood and early adolescence may be crucial periods for shaping body image [21, 53, 109, 115]. Therefore, focusing on body dissatisfaction during childhood or early adolescence may reduce the development of eating disorder behaviors in adolescence and into emerging adulthood [21, 74, 104, 107, 115, 132, 133]. According to Wang et al. ([115] p. 1411), strategies and interventions "aimed at enhancing self-esteem, decreasing

depression, increasing parent/child connectedness, and reducing and responding effectively to weight-based teasing and peer dieting may be particularly influential in altering body dissatisfaction over time."

2.2.2.2 Young Adult Women

Body image, body weight, and eating concerns are prevalent among college-aged females as well. According to the American College Health Association National College Health Assessment (ACHA-NCHA II) [134], 59% of college women are trying to lose weight, 57% are exercising to lose weight, and 44% are dieting to lose weight. Other studies have also demonstrated that college-aged females struggle with body dissatisfaction as well as disordered eating [94, 96, 135, 136]. Multiple factors influence body image and eating concerns in young women, including sociocultural pressures surrounding the thin ideal, copious social media usage, and negative self-talk.

There is support for the sociocultural model as it relates to body image and eating disorders among college-aged women [92]. Sociocultural pressures aimed at the thin ideal exert the most negative impact on young women when they are internalized [137]. To explicate how internalization of the thin ideal may lead to body dissatisfaction, Fitzsimmons-Craft et al. ([137] p. 48) found that social comparison and body surveillance mediated the relationship between thin-ideal internalization and body dissatisfaction among college-aged females. Yet, "only body surveillance emerged as a significant specific mediator of this relation—that is, neither general social comparison tendencies nor appearance-related social comparison tendencies emerged as specific mediators." In a different study [40], the combination of media influence and social phobia emerged as a significant predictor of body dissatisfaction in college-aged females.

Approximately 84% of young adults (aged 18–29) actively use social media [138], and studies demonstrating a relationship between social media and body image concerns are vast. Social media use has a demonstrated effect on appearance concerns. Researchers found that participants who took and uploaded a selfie on social media without the options of editing, applying a filter, or taking multiple photos felt more anxious, less confident, and less physically attractive afterward; and these differences were significantly greater than the control condition (i.e., reading a neutral news article online) [139]. In addition, engagement with appearance-based social media has been determined to increase body dissatisfaction, negative mood, and social comparison among young women [72, 78, 140–143]. Hogue and Mills [143] argued that young women's increasing struggle with appearance satisfaction can be explained by upward social comparisons that result from engaging with appearance-based social media. Their study showed that women are more likely to compare themselves to peers and celebrities they consider superiorly attractive, which increases negative body image. Social media has also propelled an exercise culture driven by a desire for an ideal fit appearance rather than a desire to be healthy [72]. Even though fitness posts are often promoting strong bodies instead of thin ones, these photos are idealized and often unrealistic, causing young women to "invest in their body as a self-worth index and place importance on their appearance" ([123] p. 11). Therefore, it is no surprise that studies have validated an existing relationship between appearance-motivated exercise and negative body image, further illustrating that young women's body satisfaction suffers when they internalize sociocultural pressures surrounding the thin ideal [144].

Furthermore, a related aspect of body image centers on "fat talk," which is a term for how females talk with each other about the size and shape of their bodies, generally in disparaging terms [145]. Although females of all ages engage in fat talk, research indicates that these conversations occur most frequently during late adolescence and young adulthood [146]. Young women have indicated that engaging in fat talk acts as a type of coping mechanism because it helps them express distress about "feeling" fat as opposed to "being" fat ([147] p. 27). However, engaging in fat talk may actually be maladaptive because this type of talk is linked with thin-ideal internalization, body dissatisfaction, negative affect, depression, anxiety, body image disturbance, and eating pathology [147, 148]. In addition, research has demonstrated that body dissatisfaction significantly mediates relationships between weight discrepancy, upward appearance comparison, body surveillance, and fat talk [149]. As fat talk is a frequently occurring sociocultural phenomenon among females, more studies are needed to examine strategies that females can implement to successfully navigate through these conversations. For example, one proposed strategy is to help females interrupt the fat talk cycle by using socially acceptable, positive body talk [150].

Female athletes represent a subgroup of young women who are at particular risk for experiencing body image and eating concerns. Collegiate and elite athletes, particularly those participating in "weight-sensitive sports," such as gymnastics, dance, swimming and diving, track/cross-country, are at risk for thin-ideal idealization, body dissatisfaction, and disordered eating that are distinctive from non-athletes [151–154]. Females athletes who struggle with issues related to body dissatisfaction and disordered eating are also faced with concomitant pressure to remain competitive in their sport, which can exacerbate physical and emotional stress [151, 152. 155, 156]. In 2005, the International Olympic Committee (IOC) [157] addressed these concerns by recognizing the Female Athlete Triad (Triad) as the interaction among disordered eating and irregular menstrual cycles that leads to a reduction in estrogen and other key hormones,

resulting in low bone mineral density. Based on this work, the American College of Sports Medicine [158] clarified the Triad as the interrelationships among energy availability, menstrual function, and bone health that can exhibit clinical consequences via eating disorders, amenorrhea, and osteoporosis. Then in 2014, the IOC released a consensus statement redefining the Triad. Now recognized as Relative Energy Deficiency in Sport (RED-S), the IOC ([155] p. 1) defined the syndrome as "...impaired physiological function including, but not limited to, metabolic rate, menstrual function, bone health, immunity, protein synthesis, [and] cardiovascular health caused by relative energy deficiency." In a 2018 updated report, the IOC RED-S Consensus Statement authors highlighted multiple scientific developments that shed further light on the negative health and performance outcomes associated with low energy availability in both female and male athletes [156].

Female athletes who participate in sports that emphasize leanness and/or weight appear to be most at-risk for developing RED-S, which can consequently jeopardize their performance abilities and health. Furthermore, interpersonal relationships with teammates, athletic trainers, and coaches can exert influence on female athletes' body image. For example, research has shown that coaches and teammates can positively or negatively affect athletes' body image and health behaviors, including those related to eating and body weight [153, 154, 159]. Notwithstanding, knowledge and awareness of the prevention of RED-S appear to be lacking among athletes and their support staff, including coaches, athletic trainers, and physicians [156]. Therefore, there is a clear need to examine the roles of coaches, teammates, athletic trainers, and sports medicine clinicians in preventing body dissatisfaction and RED-S among female athletes. This line of research can also investigate relationships between coach communication and self-esteem, body image, and thin-ideal internalization, and whether coach communication is mediated by these and other factors [153, 154].

2.2.2.3 Older Women

Similar to younger females, body image in older women is multifaceted and varies among women [160, 161]. However, there are distinct differences. Although more attention has been devoted to studying body image in middle-aged and older women in recent years, findings are mixed regarding the relationship between aging and body image [160–162]. In a scoping review of literature Pearce, Thogerson-Ntoumani, and Duda [163] found that women often simultaneously experience positive and negative body image; and the relationship between aging and body image is complex. Body satisfaction can increase even when women's body dissatisfaction remains stable [9].

Many correlates and risk factors associated with body dissatisfaction and disordered eating that are found in younger females have also been found in older women, such as BMI, sociocultural influences, and internalization of the thin ideal. In a systematic review, Bouzas et al. [164] found that low physical activity, high caloric intake, or a significant reduction in caloric intake are associated with body dissatisfaction in women aged 55 and older. Other factors can also present unique body image challenges to older women, including menopause and anxiety related to the aging process [23, 161]. Women in midlife and beyond may face similar eating- and weight-related obstacles as younger girls and women, including body dissatisfaction and body image distortions; and these issues are often intensified by the aging process. For example, life events that often take place in midlife, such as career changes, marital problems, divorce, "empty-nest" syndrome, and chronic illness, can create significantly more distress for women who are already struggling with body image and eating difficulties [163].

There also has been a 42% increase in the number of women over the age of 35 seeking eating disorder treatment within the past 10 years, indicating an increase of body image and disordered eating struggles in this population [165]. In a large Internet survey study of women aged 50 and older, 13% of the sample reported current eating disorder symptomatology. In addition, over 70% of the participants reported experiencing body dissatisfaction, with a large percentage (83.9%) expressing dissatisfaction with the stomach. Researchers also found that higher BMI was associated with higher rates of diet pill/diuretic use, both of which are considered maladaptive weight management behaviors and have been reported in other studies [166]. However, regardless of BMI, excessive concern with body shape and weight and body dissatisfaction can negatively impact women's self-esteem and overall quality of life, and even lead to full-blown clinical eating disorders [166].

In spite of these challenges and risk factors, Liechty's ([160] p. 84) qualitative study of older women revealed "complex cognitive and behavioral means by which older women were able to feel satisfaction with their bodies despite desire for physical change." Participants conveyed that health and functionality were more important to their body image than their physical appearance. Those with positive body image focused on controllable elements of their physical appearance (e.g., clothing) and had developed at least some degree of acceptance of their physical imperfections. Conversely, participants who highly valued youthfulness and conforming to society's thin ideal experienced increasing body dissatisfaction as they aged. According to McLean et al. [167], appearance acceptance and placing less emphasis on the appearance aspect of self-concept may serve as protective factors that buffer aging women from the negative impact of body dissatisfaction. In addition, Liechty and Yarnal ([162] p. 1213, 1215) found that women's body image exhibited both stable and fluctuating patterns throughout the

lifespan. The participants' thoughts about body image went beyond "level of satisfaction" and "included evaluations of health and ability, beliefs about the importance of appearance, and feelings about their overall lives."

2.2.3 Body Image Assessment

Due to the multidimensionality of the body image construct and the wide availability of various instruments, it is particularly important to carefully consider the selection of body image assessment tools as there is no particular instrument or battery of tests that is appropriate for use in all situations [168, 169]. Thompson [169] outlined ten tips for enhancing body image assessment in clinical and research settings, including the importance of selecting instruments with established reliability and validity and using selected instruments with appropriate target populations. In addition, Banasiak et al. [170] pointed out that many instruments used to assess body image concerns in adolescents have been validated using adult samples. Nevertheless, many of these measures can still be used with adolescent females when care is taken to ensure that girls understand the terms used in the particular instrument. For example, the Physical Appearance State and Trait Anxiety Scale [171] was validated with an adult sample yet exhibited excellent internal reliability (0.93) in measuring weight-related body dissatisfaction in adolescent girls aged 14–16 [172]. In the same study [172], researchers measured appearance dissatisfaction with an adapted version of the Body Image State Scale, a six-item scale that has good construct validity [173] and demonstrated high internal reliability with an adolescent sample in a previous study [174]. As illustrated in these examples, researchers must establish new reliability and validity scores whenever they use an instrument with a target population that differs from the standardized sample [169]. In addition, researchers have acknowledged the need to develop valid and reliable instrumentation for studying body image in diverse female populations, including younger girls [175], older women [48, 160], and females from diverse ethnic and cultural backgrounds [59, 86, 92, 160, 176].

2.2.3.1 Body Image Assessment Scales and Questionnaires

There are a number of well-validated instruments that have been developed to assess body image and eating concerns in children, adolescents, and adults; many of these measures are discussed in more detail elsewhere [5, 168, 176–180]. Table 2.1 lists a few of the body image measures that have been reported in the research literature with an internal consistency rating and test–retest reliability rating of at least 0.70 [171, 173, 181–190].

Table 2.1 Instruments for assessing body image with high internal consistency and/or test–retest coefficients (>0.70)

Author	Test name	Description of test	Reliability IC: Internal consistency TR: Test–retest	Standardization sample
Cash and Fleming [181]	Body Image Quality of Life Inventory	A 19-item instrument designed to quantify the impact of body image on aspects of one's life Participants rate the impact of their own body image on each of the 19 areas using a 7-point bipolar scale from −3 to +3	IC: 0. 95 TR: 0.79	116 college-aged women (M = 21.3 ± 5.1)
Cash et al. [173]	Body Image States Scale	A multi-item measure of momentary evaluative/affective experiences of one's physical appearance	IC: 0.77 (women) IC: 0.72 (men) TR-state: 0.69 (women)[a] TR-state: 0.68 (men)[a]	174 college students—116 women, 58 men (median age = 20)
Cash and Szymanski [182]	Body-Image Ideals Questionnaire	A measurement of self-perceived discrepancies from and importance of internalized ideals for multiple physical characteristics	IC: BIQ discrepancy: 0.75 IC-BIQ importance: 0.82 IC-weighted discrepancy: 0.77 TR: none given	284 college undergraduate women at a mid-Atlantic urban university

(continued)

Table 2.1 (continued)

Author	Test name	Description of test	Reliability IC: Internal consistency TR: Test–retest	Standardization sample
Garner [183]; Garner and Olmstead [184]	Eating Disorder Inventory (EDI and EDI-2). Body Dissatisfaction Scale	9-item subscale assesses feelings about satisfaction with body size; items are 6-point, forced choice; reading level is fifth grade	IC: Adolescents (11–18): Females = 0.91 Males = 0.86 Children (8–10): Females = 0.84 TR: None given	610 males and females ages 11–18 (Shore and Porter, 1990) [185] 109 males and females ages 8–10 (Wood et al., 1996) [186]
Littleton et al. [187]	Body Image Concern Inventory	A *brief* instrument for assessing dysmorphic concern; only takes a few minutes to answer. Despite its brevity, the BICI provides an assessment of body dissatisfaction, checking and camouflaging behavior, and interference due to symptoms—such as discomfort with and avoidance of social activities (see Appendix 2)	IC: 0.93 TR: None given	184 undergraduates at a medium-sized Southeastern University; approximately 89% were women
Reed et al. [171]	Physical Appearance State and Trait Anxiety Scale	Participants rate the anxiety associated with 16 body sites (8 weight relevant, 8 non-relevant); trait and state versions available	IC: Trait: 0.88–0.82 State: 0.82–0.92 TR: 2 weeks, 0.87	205 female undergraduate students
Shisslack et al. [188]	McKnight Risk Factor Survey III (MFRS-III)	Participants use 5-item subscale that assesses concern with body weight and shape	IC: Elementary = 0.82 Middle school = 0.86 High school = 0.87 TR: Elementary = 0.79 Middle school = 0.84 High school = 0.90	103 females, 4–fifth grade; 420 females, 6–eighth grade; 66 females, 9–12th grade
Wooley and Roll [189]	Color-A-Person Body Dissatisfaction Test	Participants use five colors to indicate level of satisfaction with body sites by masking on a schematic figure	IC: 0.74–0.85 TR: 2 weeks (0.72–0.84) 4 weeks (0.75–0.89)	102 male and female college students, 103 bulimic individuals
Mutale et al. [190]	Body Dissatisfaction Scale	A pictorial scale used to measure body dissatisfaction. Includes 9-female and 9-male images that are computer generated to construct bodies of varying sizes. Participants place body types in descending order based on size, select the most desirable body size (ideal), and choose their perceived size (actual). The discrepancy between one's ideal and actual body size indicates their body dissatisfaction score	IC: TR: 5 weeks, 0.88–0.97	190 male and female undergraduate students

[a] Acceptable for a *state* assessment

In addition, examples of body image questionnaires that have been validated for college-aged women and have internal consistency and test–retest reliability scores above 0.70 are located in Appendices 2.1–2.3: Body Image Quality of Life Inventory [181], Body Image Concern Inventory [187], and Physical Appearance State and Trait Anxiety Scale [171]. In addition, Cash and Grasso [191] reported the normative data and acceptable internal reliability measures of four body image instruments—Body Image Disturbance Questionnaire [192], Appearance Schemas Inventory-Revised [193], Body Image Coping Strategies Inventory [194], and Body Image Quality of Life Inventory [181, 195]. These instruments measure various facets of the body image construct and were used across seven studies with female and male college students. Other valid and reliable scales that can be used in body image research include Body Image Assessment Scale-Body Dimensions [196]; Body Shape Questionnaire [197], which has a shortened version [198] and is available in different languages [199]; Eating Disorder Inventory-3 [200], which contains the Drive for Thinness and the Body Dissatisfaction subscales; the Sociocultural Attitudes Towards Appearance Scale-3 for measuring

multiple societal influences on body image and eating disturbances [201]; and Children's Body Image Scale [97, 202–203]. Researchers have also explored using realistic 3-dimensional body-scan images for body image research and found that the scanned images are a viable alternative to contour line drawings [204]. Innovative tools for investigating changes in adolescent body perception have also been developed, such as the Adolescent Body-Shape Database and Adolescent Body Morphing Tool [205].

2.3 Contemporary Understanding of the Issues

2.3.1 Theoretical Foundations

Body image and eating disorder prevention programs focus on preventing or delaying the onset of subclinical and full-blown clinical eating disorders by reducing risk factors and increasing protective factors that promote resilience and overall health and well-being [206–209]. Health education and health behavior theories and models can guide the development and evaluation of health promotion and education programs and interventions [210–211]. For example, the ecological model can be effective for prevention programs aimed at promoting positive body image and decreasing eating disorder risk [212, 213]. The underlying premise of the ecological model is that there are multiple levels of influences on health attitudes and behaviors, including intrapersonal (biological, psychological), interpersonal (social, cultural), institutional and organizational, community, physical environmental, and public policy. The ecological model forms a type of meta-model in which other health behavior theories and models are integrated into a broader, coherent whole. As a meta-model, "ecological models are a useful [comprehensive] framework for conceptualizing multiple levels of determinants of health behaviors, and they are used widely as guides for the design of comprehensive multilevel interventions" ([213] p. 47). For example, healthy body image can be promoted through targeting individual attitudes, knowledge, beliefs, and behaviors (intrapersonal); involving family, peers, and other supportive individuals (e.g., teachers and coaches) in reinforcing positive body image in concert with healthy and balanced nutrition and physical activity (interpersonal, environmental); integrating healthy body image, nutrition, physical activity, and mind–body wellness interventions into school and worksite health programs (organizational, environmental); advocating for health education/promotion and health communication campaigns with messages that promote healthy body image (community); and enacting legislation to support body image and eating disorder prevention programs and research (policy).

Additional theoretical frameworks that can be used to guide body image interventions include social cognitive theory (SCT) [214] and social marketing [215, 216]. The hallmark of SCT is reciprocal determinism, which is the dynamic interaction of individuals and groups, their behavior, and the environment. Other SCT concepts relevant to the promotion of positive body image include outcome expectations (beliefs about the likelihood and value of the consequences associated with behavioral choices), self-efficacy (beliefs about one's ability to successfully engage in positive behavior change), observational learning (learning to perform new behaviors by observing others, e.g., via peer modeling), facilitation (providing tools and resources or modifying the environment to facilitate behavior change), and self-regulation (controlling oneself through self-monitoring, goal setting, self-reward, and social support) [217]. School- and community-based body image interventions can reinforce key SCT concepts by emphasizing personal and group goal setting, teaching media-literacy skills, encouraging healthy peer group interaction, providing regular opportunities to practice decision-making and problem-solving skills linked to real-life body image issues, and incorporating meaningful family involvement activities.

Healthy body image can also be fostered through social marketing, which is designed to influence voluntary behavior change that can positively impact health and quality of life at the intrapersonal, interpersonal, organizational, community, and public policy levels, thereby contributing to an ecological approach to promote positive body image and mitigate eating problems. Social marketing includes communication that focuses on the four "Ps" of the marketing mix: product, price, place, and promotion [216]. Effective social marketing campaigns should promote a "superior offer" ([218], slide 10) and consider appropriate segmentation of their target audience (e.g., using demographic, psychological, and behavioral variables) [219]. For example, with positive body image as the *product*, health professionals can develop messages and slogans in conjunction with the use of diverse body images to promote positive body image and emphasize the benefits of healthy body image while identifying the negative costs associated with body dissatisfaction. These messages can influence females' perceptions of the cost–benefit ratio associated with adopting and maintaining attitudes and behaviors reflecting positive body image, sound nutrition, and healthy physical activity (*price*). Health professionals can also increase access to quality information about body image through various *places*, such as schools and other education centers, medical offices, health clinics, community centers, churches and other places of worship, hair and nail salons, Internet ads, and social media outlets. *Promotion* of healthy body image can occur by making incentives accessible to the target audience,

including popular items such as T-shirts and water bottles, sling bags, posters, social media contests, and games.

With a consumer focus in mind, targeting social norms and normative beliefs has proven to be another successful social marketing strategy. A person's normative beliefs include "whether important referent individuals approve or disapprove of performing the behavior, weighted by the person's motivation to comply with those referents" ([220] p. 97). Therefore, because perception is paramount, social marketing can be used to target social norms and promote shifts in normative beliefs. Social marketing campaigns can promote shifts in normative beliefs by informing females about the actual frequency of certain attitudes and behaviors linked with body image dissatisfaction (e.g., dieting among peers, unrealistic expectations for body type, internalizing the thin ideal, use of "fat talk"), with the intent to create social pressure for change. Additionally, as "positive body image is more than... the mere absence of body dissatisfaction" ([53] p. 624), health professionals can also implement programs to promote a new social norm [221] emphasizing attitudes and behaviors that support a healthy body image. Campaign messages can be geared towards encouraging females to "appreciate the unique beauty of their body and the functions that it performs for them; accept and even admire their body, including those aspects that are inconsistent with idealized images; feel beautiful, comfortable, confident, and happy with their body … [and] emphasize their body's assets rather than dwell on their imperfections" ([15] p. 22). These messages should be followed by positive reinforcement at different levels of influence within the ecological framework (e.g., social support from family and peers, "body image friendly" messages and environments that facilitate the development of positive body image). For additional discussions involving theoretical approaches and prevention programs aimed at promoting healthy body image and preventing disordered eating, see Bauer et al. [222], Levine and Smolak [211], Massey-Stokes et al. [208], and Sinton and Taylor [207].

2.3.2 Body Image Intervention Strategies

2.3.2.1 Socioecological Framework

In line with the socioecological framework and environmental factors within SCT, it is beneficial for health professionals to implement body image and eating disorder prevention strategies to address multiple levels of influence [208, 223], including the individual, family and peers, institutions (e.g., schools, universities, and worksites), the broader community (e.g., multimedia messaging and advocacy), and policy. Tailoring interventions to meet the interests and needs of the priority audience increases the relevance for program participants and has the potential to promote sustainable changes in mindsets and behaviors. At the intrapersonal level, it is crucial to help females of all ages and backgrounds cultivate positive body image, which includes an integrated sense of self [39] and appreciation for one's authentic and functional self [224–226]. Autonomous motivation and a sense of competence help comprise an integrated sense of self and can lead to healthy behaviors [39]. In addition, high, general self-determination (a strong sense of self that is "integrated, unified, and non-contingent") can buffer females from having an adverse response to the thin ideal portrayed through the media ([227] p. 490). Furthermore, autonomous motivation, self-determination, positive sense of self, and perceived self-competence are related to the concept of presence, which Cuddy ([228], p. 24) portrayed as "the state of being attuned to and able to comfortably express our true thoughts, feelings, values, and potential." When females are present, they are able to access their authentic best selves [228], which can lead to greater self-acceptance and resilience in the face of challenges. Resilience development is a related approach that allows girls and women to acknowledge their areas of challenge and vulnerability while embracing their strengths and areas of competence [229]. Resilience can be fostered by helping females develop healthy self-esteem, self-determination, self-efficacy, and an array of essential life skills, including interpersonal, communication, critical-thinking, and adaptive coping skills. Adaptive coping includes skill development for recognizing and effectively managing sociocultural pressures espousing the thin ideal. All of these intrapersonal strengths can help buffer females against body dissatisfaction and promote body image.

Due to the longitudinal "reciprocal relationships" that exists among the mediational variables of media-internalization, appearance comparison, and body dissatisfaction, it is important to address all three of these concerns through well-designed strategies and programs aimed to enhance body image at multiple levels of influence [75, 79, 90–94]. For example, Happy Being Me [64] is a theory- and school-based body image intervention for young adolescent girls that targets internalization of the thin ideal, body comparison, appearance conversations, appearance teasing, body image, and self-esteem. The brief, interactive program also aims to teach girls how to effectively contend with sociocultural factors that can threaten self-esteem and body image. Evaluation results demonstrated that the intervention group reported significantly more positive outcomes than the control group concerning program content knowledge, risk factors for body dissatisfaction, body image, and dietary restraint and self-esteem. The positive results were sustained at 3-month follow-up, and qualitative results indicated that the majority of program participants agreed or strongly agreed that they enjoyed the program [64]. In another study, Bird et al. [230] examined the effects of Happy Being Me among a population of UK preadolescents. Results for the

girls showed significant improvements in body satisfaction, appearance-related conversations, appearance comparisons, eating behaviors, and content knowledge. There was also a significant decrease in thin-ideal internalization from baseline to follow-up. However, body satisfaction was the only improvement sustained at follow-up [230].

Promoting body functionality is an additional approach for combating the adverse effects of thin-ideal media images on body image [231]. Research has shown that educating females to concentrate on and appreciate the *functionality* of their bodies, rather than mere aesthetics, increases body satisfaction following exposure to thin-ideal imagery. Moreover, addressing these concerns in childhood and early adolescence may also help mitigate negative outcomes in later adolescence and emerging adulthood [21, 75, 135]. Although programs promoting positive body image in children and adolescents have demonstrated a degree of efficacy, a systematic review by Guest et al. revealed that there are a small number of studies with "good evidence of efficacy of increasing body appreciation and body-esteem in adolescent girls using cognitive dissonance, peer support, and psychoeducation" ([232] p. 624). The researchers also identified a lack of evidence for effective interventions aimed at children aged 11 years and younger. Thus, more research is needed, particularly involving more rigorous evaluation across different components of body image in children and adolescents, such as body functionality and self-care [232].

Health education specialists, clinicians, and other health professionals working at the interpersonal, institutional, and community levels can integrate the aforementioned strategies within interactive programs designed to increase knowledge and skills to foster positive body image and reduce internalization of appearance ideals and social comparisons. These programs can emphasize self-awareness and self-care, self-compassion, self-esteem, and self-efficacy [59, 64, 100, 223, 232–235]; body appreciation and body functionality [232, 236–239]; multimedia literacy [64, 78, 79, 97, 239]; physical activity and healthy weight management [239–245]; peer relationships [118, 231], as well as healthy emotions and positive coping [209]. Research has also highlighted the importance of parental connection and support [118, 246, 247] when promoting positive body image among preadolescent and adolescent girls. Parents need to learn how to communicate about body image and eating that focuses on wellness as opposed to attaining a particular body weight or shape. In conjunction with these efforts, health professionals can call parents' attention to their own body image and eating behaviors and how they can serve as positive role models for girls and young women [109, 246–249]. Parental attitudes and behaviors related to physical activity and media messaging can also be addressed.

The policy level of the socioecological framework is also important to consider. For example, body image friendly policies within the school environment can support the development of positive body image among students. Examples include refraining from weighing students in school, providing the opportunity to engage in non-weight-loss-focused physical activity, and training teachers to use body friendly language with their students [250]. At a broader level, public policy has the potential to create changes in attitudes and behaviors among a wide audience. Although lack of government willingness or ability to create and enact public policies aimed at improving body image and reducing the prevalence of eating disorders continues to be a challenge [251], governments around the world are beginning to take action to address body image and eating disorders. Bills, laws, and government actions targeted to address body image issues have been termed Body Image Law [252]. Some countries have implemented voluntary and self-regulated codes and charters (e.g., Australia and Canada) with the intent of encouraging the media, fashion, and advertising industries to take action to promote positive body image messages [250, 253]. Other countries have successfully passed laws targeting eating disorder prevention. For example, France passed a law in 2016 requiring retouched images of models to be labeled [254]. Israel also regulates the use of Photoshop and image editing in media and advertising [255]. The use of underweight models has also been banned in some countries such as Spain, France, and Italy [256].

Currently, there are few public policy approaches to improving body image and decreasing eating disorders in the United States [256]. Multiple federal- and state-level policies have been proposed, but many were not passed (e.g., Federal Response to Eliminate Eating Disorders Act, LIVE Well Act) [256, 257]. The Anna Westin Act was passed in 2016 and is the first legislation passed by Congress that specifically aims to help individuals affected by eating disorders [258]. Overall, it is unclear if policy-level strategies have been effective in promoting positive body image and reducing the risk of developing an eating disorder [253, 256]. For example, a systematic review of 15 experimental studies on the effects of media disclaimers on young women's body image revealed that disclaimers did not reduce women's body dissatisfaction and in some cases increased it [259]. These findings indicate that negative effects of exposure to thin-ideal images are not mitigated by informing girls and women that the images are Photoshopped. Exposure to diverse body images such as content used in body-positive social media posts may be a more effective approach for improving female's body image [260]. For additional discussions involving public policy approaches aimed at promoting positive body image and preventing disordered eating, see Puhl and Himmelstein [256] and Paxton [253].

2.3.2.2 Dissonance-Based Prevention

Studies have also supported the use of dissonance intervention to increase females' resistance to internalizing the thin ideal that often resonates from peer appearance conversa-

tions and other appearance-related messages that are so prevalent in the lives of adolescent females [9, 94–96, 238, 242]. Cognitive dissonance-based prevention programs address body dissatisfaction risk factors by teaching participants how to effectively counter unrealistic body image messages through verbal, written, and behavioral exercises [9, 95, 96]. For example, the Body Project is an effective dissonance-based eating disorder prevention program designed for young adolescents and women who experience body dissatisfaction [95, 96, 261]. This program is based on the dual pathway model of eating pathology [95] (Fig. 2.2) that highlights the negative effects of thin-ideal internalization on body image, which, in turn, can lead to dieting, negative affect, and disordered eating behaviors [95, 96]. There is strong empirical evidence supporting the efficacy of the Body Project in reducing thin-ideal internalization, body dissatisfaction, and disordered eating behaviors [238, 261, 262]. Moreover, the Body Project has been replicated in a variety of settings, including multiple global settings through strategies such as peer-led programs, train-the-trainer models, and collaborating with partners such as National Eating Disorder Association, Dove, World Association of Girl Guides and Girl Scouts, and Eating Recovery Foundation [261].

2.3.2.3 Physical Activity

There is additional empirical support regarding the positive relationship between body image and physical activity [244, 245, 263–267]. Research has also shown that physical activity, body image, self-esteem, and eating attitudes are interrelated [59, 267]. As health-related attitudes and behaviors often become established at a young age, interventions aimed at decreasing body dissatisfaction and increasing physical activity among young girls are particularly important. These interventions can promote positive body image through physical activity, nutrition education, multimedia literacy, self-efficacy, self-compassion and self-esteem, social support, and leadership. One example is Go Girls!, a 10-week interactive intervention targeting diverse groups of preadolescent and adolescent girls (aged 10–16). Topics include body image and self-esteem, goal setting, personal safety and assertiveness, healthy eating and physical activity, trust and confidence, and peer connections. Evaluation results showed that preadolescent and adolescent participants experienced a significant increase ($p < 0.05$) in self-esteem and self-efficacy (mental and physical health self-efficacy), while adolescent females also demonstrated decreased dieting. Furthermore, these improvements were sustained at 6-month follow-up [59]. In addition, research has demonstrated that training young women to serve as positive role models and mentors for younger girls has the potential to increase physical activity as well as decrease body dissatisfaction and drive for thinness among younger girls [241].

Other studies have shown that adolescent females can benefit from physical activity as higher levels of physical activity appear to mitigate body dissatisfaction and increase self-esteem [245, 267, 268]. Body image interventions with a physical activity component can foster positive embodiment, healthy behaviors, and social support among adolescent females. For example, New Moves [243] is a school-based intervention designed to prevent weight-related concerns among adolescent girls by incorporating physical activity, healthy eating, social support, individualized coaching, and parent involvement. Study results showed improvements in girls' body satisfaction and self-image, physical activity, dietary behaviors, and unhealthy weight control practices. Girls and parents also reported strong support for the program [243, 244]. Another example is the Healthy Body Image (HBI) intervention, a multi-component health promotion intervention focusing on positive embodiment and health-related quality of life among Norwegian high school students [17, 269]. HBI includes three main domains related to body image, media literacy, and healthy lifestyle (e.g., nutrition and physical activity). Results of a cluster-randomized controlled study in 30 schools demonstrated that the HBI intervention caused an immediate change in positive embodiment and health-related quality of life in girls, which was sustained at 3- and 12-month follow-ups [17].

Overall, physical activity can foster body awareness and functionality as well as elicit enjoyment related to health, movement, fitness, and quality of life [17, 224, 225]. Females of all ages can participate in a range of physical activities in a variety of settings, including homes, schools (EC-12), colleges and universities, worksites, health care facilities, community centers, and online. In addition, it can be beneficial to examine the relationship between positive body image and physical activities such as martial arts, hiking, rock climbing, horseback riding, swimming, scuba diving [7], pilates, and weight training. Yoga is of particular interest as it appears to be a promising medium for promoting mindfulness, embodiment, and positive body image with diverse females. Studies have shown that practicing yoga can foster mind–body awareness, body appreciation, and positive changes in body satisfaction [225, 226, 270]. There may be even more pronounced improvements among those beginning with lower levels of body satisfaction; and it also appears that body satisfaction improves as frequency of yoga practice increases [226]. There is also evidence to support yoga as an intervention strategy to prevent and treat eating disorders [226, 271].

2.3.2.4 Female Athletes

Body image and eating disorder programs aimed at female athletes are also warranted. A review by Bar et al. [152] identified several elements that are shared by successful eating

disorder prevention programs tailored for athletes. For example, effective interventions target coaches and sports administrators in addition to the athletes. In addition, programming is interactive and employs several methods of instruction, including lecture, skills-based assignments, and activities involving teamwork. The IOC Consensus Statement authors [155] recommended multiple strategies for preventing RED-S among female athletes, including:

- education concerning RED-S, healthy eating, energy availability, the risks of dieting and energy deficiency, and how these factors affect health and performance;
- emphasis on nutrition and health with less focus on weight;
- incorporation of credible sources of information;
- development of realistic goals related to weight and body composition;
- restrain from critical comments concerning an athlete's body weight or shape; and
- awareness that quality performance does not necessarily infer the athlete is healthy.

To address further gaps, recommendations from the updated IOC Consensus Statement report included the need to address:

- evidence-based identification of athletes at risk for RED-S;
- enhanced awareness of RED-S through required prevention education for athletes, coaches, support staff, and sport organizations;
- further awareness and education concerning the health and performance risks associated with RED-S; and
- guidelines for treatment and safe return to play for athletes with RED-S [156].

2.3.2.5 Health and Wellness Coaching

Health and wellness coaching is another arm of prevention and wellness that can bring about healthy attitudes and behaviors. A health and wellness coach focuses on the whole person, fosters a relationship of mutual trust, and helps a person achieve transformational change [272–274]. Moore et al. ([273] p. 1) aptly described coaching as "a growth-promoting relationships that elicits autonomous motivation, increases the capacity to change, and facilitates a change process through visioning, goal setting, and accountability, which at its best leads to sustainable change for the good." At its core, coaching is a conversation. As Kinsey-House et al. ([274] p. 1) illustrated: "…this is no ordinary, everyday conversation. An effective coaching conversation gets to the heart of what matters. It is a focused, concentrated conversation designed to support the client in clarifying choices and making changes." In the realm of body image, a health and wellness coach can help females: (1) explore expectations about health, wellness, and body image; (2) develop a personal wellness vision; (3) discern possible discrepancies between values and current behaviors; and (4) set goals to develop positive body image. Action-oriented strategies can generate forward movement in areas the client has indicated readiness to change. For example, writing about aspects they value and respect about their body (and life) in a daily journal can help promote a surplus mindset. Additional experiential strategies include practicing mindfulness to connect with their body's needs, critiquing media messages promoting the thin ideal, expressing appreciation for their body's functionality, and focusing on their body's assets versus dwelling on imperfections [15].

2.3.2.6 Health Communication Strategies

Health communication can be employed to promote positive body image among females, and the dynamics of health communication influencers in social networks will continue to gain in importance over the next few years [275]. Schiavo ([276] p. 9) comprehensively defined health communication as:

> a multifaceted and multidisciplinary field of research, theory, and practice. It is concerned with reaching different populations and groups to exchange health-related information, ideas, and methods in order to influence, engage, empower, and support individuals, communities, health care professionals, patients, policymakers, organizations, special groups and the public, so that they will champion, introduce, adopt, or sustain a health or social behavior, practice, or policy that will ultimately improve individual, community, and public health outcomes.

Although health communication is multidimensional and complex, it plays an essential role within an overall prevention initiative and is an effective adjunct to other body image programming. Health communication campaigns are more likely to effect change when they are tailored to specific target audience characteristics [275, 276]. In addition, online health communication strategies and interventions are of increasing relevance [276, 277] as they can foster eHealth literacy and provide space for the development of online social networks, which can foster trust and strengthen healthy behavioral norms [278, 279].

Mobile Apps

Widespread health communication to a large audience may strengthen the effect of positive body image interventions as it can help with supporting and reinforcing changes in attitudes, values, and language associated with body image. Considering the prolific use of mobile devices, mobile-based interventions show promise as a strategy for reaching a wider audience. For example, Appreciate a Mate was implemented during 2013–2014 as a positive messaging social marketing campaign employing an online tool (website) and a mobile

application (app) to promote positive body image, self-esteem, and enhance respect for self and others. Through this campaign, participants were able to "create and share crafted and customizable messages that emphasized physical and character traits as strengths" ([15] p. 31). The messages were customizable using different fonts, colors, and images and were intended to be shared across social media sites such as Instagram and Facebook. Examples of some of the messages include "You Rock," "Do What Makes You Happy," and "100% Swag" ([15] p. 31). Study results indicated that Appreciate a Mate provided young people an opportunity to create inspirational online content that helped them feel self-confident and empowered to promote positivity in others. Through their involvement in the campaign, young people engaged in positive behaviors (e.g., supporting and complimenting friends) and reported improved self-esteem and social connectedness [280]. A key to this campaign was its participatory design, which allows for the ideas and experiences of members of the target audience to be combined with expert perspectives, thereby leading to an intervention that is authentic and user-centered. The young people actively involved in the development of Appreciate a Mate highlighted the importance of interactivity, personalization, and shareability, which were then integrated into the campaign [15].

BodiMojo is another mobile-based intervention (app) that promotes positive body image. BodiMojo promotes positive body image via three elements: intervention messages, mood tracking and emotional regulation, and gratitude journaling [281]. The content of the intervention messages centers around self-compassion (mindfulness, self-kindness, and common humanity), body image (media literacy, fat talk, appearance comparison, and teasing), and health behaviors (healthy eating, physical activity, and sleep). The messages vary in format, including affirmations, behavioral tips, and psychoeducation. Additionally, quizzes and audio meditations are used to support learning and engagement. A randomized controlled evaluation of BodiMojo found that appearance esteem and self-compassion increased in the intervention in comparison to the control group [281]. These findings show promise for the effectiveness of an app-based intervention to promote positive body image.

Diverse Ad Campaigns

Extensive research has revealed there is a clear relationship between media exposure and body dissatisfaction [275]. This link is pronounced, indicating that "the mass media play an outsized role in the communication of cultural stereotypes about the aesthetics of body image" ([275] p. 363). Although the thin ideal continues to be prevalent in media, increasingly more retailers are beginning to use models with diverse bodies in their media campaigns along with meaningful hashtags (#), which are used to categorize social media content around a particular topic, theme, or conversation [282]. For example, Lane Bryant has #ImNoAngel (a response to Victoria Secret's campaign using thin-ideal models) and Plus Is Equal; and Aerie has the #AerieReal campaign [283]. Other retailers such as ModCloth, Target, and JCPenney also use body-positive strategies in their ad campaigns such as using affirming messages (e.g., "I am enough"), including their employees as their campaign models, and featuring plus-size male models [284]. Although few studies have examined the effect of these types of campaigns on body dissatisfaction in women, initial findings are encouraging. Studies by Convertino et al. [285] and Rodgers et al. [286] found that the Aerie Real campaign images were less harmful to female's body image than typical advertisements using models representing the thin ideal, and most of the participants reported that the Aerie Real images helped them feel more confident and accepting of their own bodies. Another study by Clayton et al. [283] examined the impact of viewing fashion models of varying body types on women and found that females experienced less social comparison and better body satisfaction when viewing plus size models. Rodgers et al. [286] also found that women want to see more diverse bodies in the media and view companies who use diverse bodies in their campaigns positively. Continued depictions of diverse and realistic bodies in advertisements and campaigns can be instrumental in promoting positive body image across the lifespan.

Shifting the focus to body function may be another promising health communication strategy for improving body image. Two functionality-focused media campaigns, This Girl Can and #jointhemovement, were evaluated for impact on body image and intention to exercise. Both campaigns consisted of a video less than 2 min in length. This Girl Can campaign was conducted in England and portrays females of varying ages, abilities, and body types in various active settings such as running or dancing. Motivational messaging was used along with the active images such as "Sweating like a pig, feeling like a fox" [287]. The #jointhemovement campaign was conducted in Australia and promoted an active lifestyle by using realistic depictions of the female body being physically active. Diverse models were used in the campaign representing different ethnicities, ages, and body types. Results revealed that both campaigns produced improved appearance satisfaction and intention to exercise [287]. However, these effects were not present when the models in the campaigns represented idealized images. Although the focus of the campaigns was on the body's capabilities, the "mere exposure to a functionality-based campaign may not be enough to change deeply ingrained sociocultural views regarding body image" ([287] p. 33). Multiple studies have found that models representing the thin ideal still elicit negative effects on women's body image even when presented in a physically active context (vs. traditional poses) [287].

Social Media Campaigns

It is also important to consider the role of social media in health communication strategies aimed at promoting positive body image. As "social media and contemporary digital technologies are the playing field of today's youth" ([275] p. 11), health promotion interventions and campaigns should be directed to reach the target audience. Social media can be used to effectively counter thin-ideal images and messages and foster positive body image to promote body appreciation and prevent body dissatisfaction among females [261, 275]. As such, body-positive social media campaigns may be a promising avenue for promoting positive body image. These campaigns can counter thin-ideal messaging through multiple strategies, including posting diverse body images and inspirational messages supporting positive body image; facilitating positive peer interactions as a strategy to model behavior that encourages body appreciation; using body friendly language that emphasize the body's assets; and integrating uplifting interpersonal communication such as peer affirmations. In addition, research has suggested that body-positive captions on attractive social media posts may have a protective effect on female body esteem and viewing self-compassion messages on Instagram can increase body appreciation and satisfaction, self-compassion and decrease negative mood [235, 288].

The perceived credibility of spokespeople for social media campaigns should also be considered. For example, a female who has overcome an eating disorder may be viewed as more credible than a health expert when disseminating messages about combating negative body image and eating disorders [275]. Public health professionals should seek to strengthen their social media skills to provide girls and women with evidence-based information supporting positive body image. By developing a trusted online presence, health professionals can establish social networks to influence social norms, behaviors, and attitudes related to body image and eating disorders [279]. As with any health intervention, it is important to pilot health communication messages and campaigns to ensure that the intended audience will both understand the materials and act on their message [276, 289]. This is particularly relevant when targeting individuals who may experience communication and health literacy barriers, such as those who speak English as a second language and those who experience hearing loss. To obtain more information about health communication campaigns, Pilgrim and Bohnet-Joschko [279] addressed techniques that can be used to guide the development of targeted, group-oriented campaigns. For a more comprehensive discussion of health communication and related strategies, see Schiavo [276].

2.4 Future Directions

Theory, research, and practice can be viewed as a continuum of dynamic interchange, and there is a need for insightful health professionals to move along this continuum "with ease" [210]. According to Glanz, Rimer, and Viswanath, "among the most important challenges facing us is to understand health behavior and to transform knowledge about behavior into effective strategies for health enhancement" ([210] p. 24). It is important for researchers to continue developing and refining theories and models to guide research and practice in the areas of body image and eating disorder prevention. In sync with this focus, practitioners need to be diligent in staying abreast of the literature so they can implement programs and health communication campaigns supported by empirical evidence. Regardless of the particular type of body image intervention that is implemented, it is important for researchers and practitioners to conduct formative and summative evaluations, including follow-up procedures and assessments to determine whether changes in knowledge, attitudes, and behaviors are significant and sustainable over time.

2.4.1 Emotional Intelligence and Mindfulness

Researchers have called attention to the need for a meta-theoretical model to clearly convey the pathways through which dimensions of emotional intelligence may protect against body image and eating difficulties [20, 290]. According to Goleman [291], there are five key elements to emotional intelligence: self-awareness, self-regulation, motivation, empathy, and social skills. Emotional intelligence encompasses the ability to perceive and effectively respond to one's emotions and as well as the emotions of others. Furthermore, deficiencies in emotional intelligence can inhibit healthy growth and development and lead to problems such as depression, eating disorders, and substance abuse [291]. Therefore, strengthening all five dimensions of emotional intelligence can serve as a preventive buffer against body image and eating concerns.

Mindfulness is a related concept that requires further investigation. Understanding the relationship between self-compassion and protective factors such as mindful and intuitive eating can inform theory-based interventions to prevent body image and eating concerns [20]. Mindfulness can serve as a foundation for creative body image intervention strategies that focus on a pathway toward self-awareness, self-compassion, and flourishing. Niemiec ([292], p. 6) described mindfulness as:

> shifting in the way we relate to ourselves. It's about seeing and experiencing ourselves in a different way.…Mindfulness helps us not to change our thoughts but to relate to thoughts (and ourselves) in a different way—a way that is balanced and nonjudgmental, curious, and accepting.

All of these elements can synergistically assist females of all ages to be in tune with their bodies, experience self-compassion and body appreciation, and withstand media messages that often diminish self-esteem and body satisfaction.

2.4.2 Developmental Stages and Life Transitions

There are multiple developmental trajectories of positive body image throughout the lifespan [8], indicating the need to explore various approaches for promoting positive body image during key developmental stages and life transitions. Halliwell [7] recommended studies across different developmental stages, social interactions, and cognitive processes. For example, there is a need to examine the initial development of positive body image in children, preadolescents, and adolescents [8] to inform the development, implementation, and evaluation of body image and eating disorder prevention interventions at salient life stages. Body image and eating disorder prevention interventions for preadolescents that incorporate mentoring by older teens or young adult women have the potential to deliver reciprocal benefits and should be further examined. Furthermore, Hatch's [293] "life course perspective" concerning body image can help researchers design more robust studies, such as how the body image construct might change as women age. Studies such as these can guide health practitioners' awareness about appropriate screening measures for body image disturbances among older women [161, 164, 167, 294]. Future studies can also investigate whether certain methods can enhance the sustained effects of positive body image and healthy weight interventions, such as online interventions, booster sessions, and support groups; increasing the number and duration of program sessions; and adding an intervention component involving parents [111, 242, 243, 248, 249, 295] and other supportive individuals from salient social networks. The efficacy of these methods with females at different life stages also needs to be assessed.

Due to the range of risk factors that contribute to the development of body dissatisfaction and eating disturbances across the lifespan, it is important to continue to study how the impact of acculturation, sociocultural factors, and socioeconomic factors on body image and eating may vary across different ages, ethnicities, and cultures [56, 60–62, 85, 92, 93, 296–300]. These differences can be studied between as well as within groups to provide a richer knowledge base to inform body image assessment and development of culturally relevant prevention programs that reflect distinctive ethnic and cultural factors [93, 85, 298]. Researchers have also recommended including acculturation measures when examining ethnic differences in eating disorders risk factors and prevalence [61, 62].

2.4.3 Spectrum of Body Image and Eating Concerns

Eating disorders and obesity have traditionally been considered as polar opposites; however, there is considerable overlap between the conditions [243, 301–304]. Shared risk and protective factors can be addressed through interventions targeting a spectrum of problems revolving around body image, eating, and weight [244, 301, 302]. Although the prevalence of obesity is a public health concern, obesity-prevention campaigns should consider the psychological impact of increasing focus on body weight, shape, and size. When developing campaigns and interventions aimed at obesity prevention, public health professionals should consider the potential for propagating fat stigma and shame and increasing eating disorder risk factors (e.g., body dissatisfaction, preoccupation with weight, or restrictive eating) and choose the content and messaging carefully [303, 305, 306]. Treating and preventing obesity and eating disorders should include weight-neutral interventions focusing on health and well-being that foster healthy relationships with food and bodies [303]. Evidence suggests that obesity prevention and treatment do not predispose females to eating disorders if designed and implemented appropriately (i.e., emphasizing health and wellness as opposed to body weight and shape) [307].

2.4.4 Mental Health Literacy and eHealth Literacy

Other areas to address in moving forward include mental health literacy and eHealth literacy. It is concerning that the general public's awareness about body image difficulties, eating concerns, and clinical eating disorders is lacking [308, 309]. Furthermore, many health care providers are ill-equipped to effectively respond to body image difficulties and eating disorders, particularly in the acute treatment setting [310]. Therefore, there is a need to foster awareness, knowledge, and skills related to body image and eating disorder prevention and treatment among public health professionals. These activities can be categorized within the broader lens of mental health literacy, which has been defined as:

understanding how to obtain and maintain positive mental health; understanding mental disorders and their treatments; decreasing stigma related to mental disorders; and, enhancing help-seeking efficacy (knowing when and where to seek help and developing competencies designed to improve one's mental health care and self-management capabilities) [311].

All females (as well as the general public) need to be better informed regarding risk factors and symptoms associated with body image difficulties and eating disorders. This knowledge can enable females and individuals within their social networks to identify a potential problem and seek help as well as provide support to others struggling with negative body image and eating concerns. For example, adolescents with eating disorders rarely seek help for body image in the early stages; therefore, promoting early, appropriate help-seeking among young females may be particularly crucial [312].

A related concept is eHealth literacy, which is defined as the ability to locate, comprehend, and evaluate online health information and apply that understanding to address a health concern [313]. eHealth literacy encompasses six forms of literacy that can be categorized into two main types: analytic (traditional, information, media) and context-specific (computer, health, scientific) [313]. Due to the vast amount of information cascading across the Internet and the prolific online presence of individuals across the globe [314], eHealth literacy is a fundamental asset to effectively navigate through health issues that can accompany life transitions. For example, research has shown that college students may understand how to search for relevant online health information; however, they lack the self-efficacy to evaluate and use online health resources [315]. This disconnect is problematic and can hinder young adults and others from making informed decisions as health consumers. Because eHealth literacy is a dynamic "process-oriented skill," it is important for health professionals to stay abreast of a constantly changing sociocultural environment that can impact body image and eating behaviors in females of all ages. As influencers, public health professionals and other stakeholders also need to enhance their digital skills to provide females appropriate and timely information [275] regarding these important public health issues. Overall, future research and practice can be directed toward promoting mental health and eHealth literacy to address these gaps.

2.4.5 Assessment

To enhance eating disorder prevention practice, Levine ([316] p. 7) recommended additional studies focusing on "program efficacy, effectiveness, and dissemination." In addition, more robust assessment for body image is requisite for accurately detecting body image difficulties and disturbances in diverse female populations. There is also a need to examine protective factors that mitigate body image concerns and foster positive body image. Incorporating positive image assessment in prevention programs can advance understanding of mediators of change as well as protective factors [16].

The assessment process includes the development of age-appropriate measurement instruments for preadolescents and adolescents [8]. Instruments that are valid and reliable to use with a certain group of females must be reevaluated when used with other groups. For example, many body image instruments that have been validated with adolescent or young adult females may not be appropriate or relevant to use with older females. Cultural differences may also impact an individual's response to a particular instrument or assessment method [176] (e.g., self-report questionnaire, semi-structured interview, or focus group interview). Furthermore, there continues to be an increased use of online body image measures, which will require researchers to validate these assessment tools among diverse female populations across the lifespan. Overall, health professionals should be knowledgeable about body image assessment, including how to access evidence-based assessments and effectively use them in multiple practice settings. In addition, allied health mediums that focus on body awareness and functionality such as adapted physical activity, athletic training, cardiac rehabilitation, physical therapy, and occupational therapy should be encompassed.

2.5 Concluding Remarks

Body image is not fixed but rather dynamic and fluctuating [3]. Each individual constructs body image differently based on her "unique constellation of social identities" ([9] p. 127). The complexities inherent in body image are well documented, and body image concerns can range from a desire to be physically fit and look attractive to body dissatisfaction and a pathological concern with thinness or perfection. There are numerous risk factors associated with negative body image and eating concerns, including biological and physical factors, individual characteristics, and sociocultural influences. Body image difficulties impact females of all ages across different ethnic, cultural, and socioeconomic groups; therefore, it is important to examine and address body image from various angles and at different levels of influence within a socioecological spectrum. As a result of these efforts, health professionals as influencers will be in better position to foster positive body image that can lead to enhanced wellness and quality of life among females across the lifespan.

Appendices

Appendix 1: Body Image Quality of Life Inventory

Different people have different feelings about their physical appearances. These feelings are called "body image." Some people are generally satisfied with their looks, whereas others are dissatisfied. At the same time, people differ in terms of how their body image experiences affect other aspects of their lives. Body image may have positive effects, negative effects, or no effects at all. Listed below are various ways that your own body image may or may not influence your life. For each item, circle how and how much our feelings about you experience affect that aspect of your life. Before answering each item, think carefully about the answer that is most accurate about how your body image usually affects you.

BIQLI items	−3	−2	−1	0	+1	+2	+3
	Very negative effect	Moderate negative effect	Slight negative effect	No effect	Slight positive effect	Moderate positive effect	Very positive effect
1. My basic feelings about myself—feelings of personal adequacy and self-worth							
2. My feelings about my adequacy as a man or women—feelings of masculinity or femininity							
3. My interactions with people of my own sex							
4. My interactions with people of the other sex							
5. My experiences when I meet new people							
6. My experiences at work or at school							
7. My relationships with friends							
8. My relationships with family members							
9. My day-to-day emotions							
10. My satisfaction with my life in general							
11. My feelings of acceptability as a sexual partner							
12. My enjoyment of my sex life							
13. My ability to control what and how much I eat							
14. My ability to control my weight							
15. My activities for physical exercise							
16. My willingness to do things that might call attention to my appearance							
17. My daily "grooming" activities (i.e., getting dressed and physically ready for the day)							
18. How confident I feel in my everyday life							
19. How happy I feel in my everyday life							

Appendix 2: Body Image Concern Inventory

Please rate how often you have had the described feeling or performed the described behavior on a Likert scale anchored by 1 = "never" and 5 = "always"

		1	2	3	4	5
		Never	Seldom	Sometimes	Often	Always
1.	I am dissatisfied with some aspect of my appearance					
2.	I spend a significant amount of time checking my appearance in the mirror					
3.	I feel others are speaking negatively of my appearance					
4.	I am reluctant to engage in social activities when my appearance does not meet my satisfaction					
5.	I feel there are certain aspects of my appearance that are extremely unattractive					
6.	I buy cosmetic products to try to improve my appearance					
7.	I seek reassurance from others about my appearance					
8.	I feel there are certain aspects of my appearance that I would like to change					
9.	I am ashamed of some part of my body					
10.	I compare my appearance to that of fashion models or others					
11.	I try to camouflage certain flaws in my appearance					
12.	I examine flaws in my appearance					
13.	I have bought clothing to hide a certain aspect of my appearance					
14.	I feel others are more physically attractive than me					
15.	I have considered consulting/consulted some sort of medical expert regarding flaws in my appearance					
16.	I have missed social activities because of my appearance					
17.	I have been embarrassed to leave the house because of my appearance					
18.	I fear that others will discover my flaws in appearance					
19.	I have avoided looking at my appearance in the mirror					

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Appendix 3: Physical Appearance State and Trait Anxiety Scale: Trait

The statements listed below are to be used to describe how anxious, tense, or nervous you feel in general (i.e., usually) about your body or specific parts of your body.

Please read each statement and circle the number that best indicates the extent to which each statement holds true in general. Remember, there are no right or wrong answers.

Never	Seldom	Sometimes	Often	Always
1	2	3	4	5

In general I feel *anxious*, *tense*, or *nervous* about

1. The extent to which I look overweight	1	2	3	4	5
2. My thighs	1	2	3	4	5
3. My buttocks		2	3	4	5
4. My hips	1	2	3	4	5
5. My stomach	1	2	3	4	5
6. My legs	1	2	3	4	5
7. My waist	1	2	3	4	5
8. My muscle tone	1	2	3	4	5
9. My ears	1	2	3	4	5
10. My lips	1	2	3	4	5
11. My wrists	1	2	3	4	5
12. My hands	1	2	3	4	5
13. My forehead	1	2	3	4	5
14. My neck	1	2	3	4	5
15. My chin	1	2	3	4	5
16. My feet	1	2	3	4	5

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Chapter Review Questions

1. All of the following concepts are associated with positive body image **except**:
   (a) body appreciation.
   (b) body functionality.
   (c) sociocultural model.
   (d) self-determination.
2. According to the Tripartite Influence Model, which of the following mediate(s) the relationships between sociocultural influences, body image, and eating concerns?
   (a) Appearance comparison
   (b) Internalization of the thin ideal
   (c) Self-esteem
   (d) Both a and b
3. All of the following are elements within the social marketing mix **except**:
   (a) place
   (b) price
   (c) product
   (d) program
4. Which of the following is <u>not</u> a level of influence within the ecological model?
   (a) Interpersonal
   (b) Institutional
   (c) Community
   (d) Normative
5. Integrating positive body image interventions into school health programs is an example of a prevention strategy at what level of influence within the ecological model?
   (a) Intrapersonal
   (b) Interpersonal
   (c) Organizational
   (d) Policy
6. The interaction of females, dieting behaviors, and sociocultural influences promoting the thin ideal refer to the theoretical concept of:
   (a) observational learning
   (b) outcome expectations
   (c) reciprocal determinism
   (d) self-regulation
7. Which of the following are important factors to consider when selecting the correct body image assessment tool?
   (a) Reliability
   (b) Validity
   (c) Previous use with target population
   (d) All of the above
8. Which researcher (s) outlined tips for enhancing body image assessment in clinical and research settings?
   (a) Cash and Colleagues
   (b) Gardner and Colleagues
   (c) Neumark-Sztainer
   (d) Thompson
9. At what age can females experience body dissatisfaction?
   (a) College age
   (b) Preadolescence
   (c) Middle age
   (d) All of the above
10. Impaired physiological function associated with RED-S includes all of the following **except**:
    (a) lipid profile
    (b) menstrual function
    (c) bone health
    (d) cardiovascular health

Answers

1. c
2. d
3. d
4. d

5. c
6. c
7. d
8. d
9. d
10. a

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