



Published in final edited form as:

*Adv Eat Disord.* 2015 July 1; 3(2): 144–164. doi:10.1080/21662630.2015.1012728.

## Body Image in Adult Women: Moving Beyond the Younger Years

Lisa Smith Kilpela, Ph.D.<sup>a</sup>, Carolyn Black Becker, Ph.D.<sup>a</sup>, Nicole Wesley, B.S.<sup>b</sup>, and Tiffany Stewart, Ph.D.<sup>b</sup>

<sup>a</sup>Department of Psychology, Trinity University, San Antonio, TX, USA

<sup>b</sup>Pennington Biomedical Research Center, Baton Rouge, LA, USA

### Abstract

In spite of copious literature investigating body dissatisfaction and its correlates in adolescents and young adult women, exploration of body image disturbances in adult women remains an underrepresented domain in the literature. Yet, there are many reasons to suspect that body image in adult women both may differ from and possibly be more complex than that of younger women. Adult women face myriad factors influencing body image beyond those delineated in the body image literature on adolescents and young adult women. For instance, aging-related physiological changes shift the female body further away from the thin-young-ideal, which is the societal standard of female beauty. Further, life priorities and psychological factors evolve with age as well. As such, adult women encounter changes that may differentially affect body image across the lifespan. This paper aims to provide an up-to-date review of the current literature on the relationship between body image and associated mental and physical health problems and behaviors in adult women. In addition, we explore factors that may influence body image in adult women. Lastly, we use this review to identify significant gaps in the existing literature with the aim of identifying critical targets for future research.

### Keywords

body dissatisfaction; adult women; aging; body image

---

Significant research supports an association between body dissatisfaction and mental health problems in younger female populations (Haines & Neumark-Stzainer, 2006; Paxton, 2002). In fact, body dissatisfaction has been described as one of the most robust and consistent predictors of eating pathology in female adolescents and young adult women (Jacobi & Fittig, 2010). Notwithstanding the important relationship with eating disorders, body dissatisfaction is associated with other negative psychological outcomes, including depressed mood (Bearman, Presnell, Martinez, & Stice, 2006; Rawana, 2013; Stice,

---

\*Corresponding Author: Lisa Smith Kilpela, Ph.D., Trinity University, Department of Psychology, San Antonio, TX, USA, Tel: 1-210-999-8381, lsmith9@trinity.edu.

Carolyn Black Becker, Ph.D., Trinity University, Department of Psychology, San Antonio, TX, USA, Tel: 1-210-999-8326, cbecker@trinity.edu

Nicole Wesley, B.S., Pennington Biomedical Research Center, 6400 Perkins Road, Baton Rouge, LA, Tel: 1-225-763-2721, nicole.wesley@pbrc.edu

Tiffany Stewart, Ph.D., Pennington Biomedical Research Center, 6400 Perkins Road, Baton Rouge, LA, Tel: 1-225-763-2554, tiffany.stewart@pbrc.edu

Hayward, Cameron, Killen, & Taylor, 2000) and increased suicidal ideation and suicide attempts in adolescent girls even after controlling for depression (Crow, Eisenberg, Story, & Neumark-Stzainer, 2008). Further, the effects of body dissatisfaction do not appear limited to negative psychological outcomes; body dissatisfaction also negatively impacts health behaviors/outcomes, such as increased unhealthy weight control behaviors, stress, smoking behaviors, and reduced physical activity in adolescents and young adult women (Barker & Galmbos, 2007; Clark et al., 2005; Johnson & Wardle, 2005; Neumark-Stzainer, Paxton, Hannan, Haines, & Story, 2006).

In spite of profuse extant literature investigating body dissatisfaction and its correlates in younger female populations, investigation of body image disturbances in adult women (i.e., post-university across the remainder of the lifespan) remains an underrepresented domain in the literature. Yet, there are few reasons to conclude that graduation from university frees adult women from body image concerns. Furthermore, there are many reasons to suspect that body image in adult women both may differ from and possibly be more complex than that of younger women.

More specifically, adult women face myriad factors influencing body image beyond those delineated in the body image literature on adolescents and young adult women. For instance, body changes associated with aging in women shift the female body further away from the thin-young-ideal societal standard of female beauty, especially as women reach midlife (Fredrickson & Roberts, 1997). As women age, their bodies experience a shift of body fat distribution towards the torso, increased adipose tissue, decreased muscle mass, and changes in skin coloration, firmness, and elasticity (Evans & Lexell, 1995; Situm, Buljian, Cavka, Bulat, Krolo, Lugovic, 2010; Tchkonja et al., 2010). In addition, hair appearance changes, which includes graying, thinning, and alterations in texture (<http://www.nlm.nih.gov/medlineplus/ency/article/004005.htm>). Adult women also may face weight/shape changes associated with health conditions and medication administration (Johnson et al., 1993; Vanina et al., 2002; Carlson, Miller, Fowler, 1994; Janke & Kozak, 2012; Vance, Mourtzakis, McCargar, & Hanning, 2011). These involuntary body changes associated with age may increase a desire for control, which also is associated with eating disorders (Fairburn, 2008).

Additional life differences observed in adult women that can affect body image include pregnancy, reduced time for self-care and positive health behaviors due to demands of employment, household obligations, and/or child/elder care, as well life stressors more commonly experienced later in life such as death of a spouse or friends/family members (Becker, Diedrichs, Jankowski, & Werchan, 2013; Halliwell & Dittmar, 2003; McLean, Paxton, & Wertheim, 2010). In summary, adult women often have life priorities, physiological factors, and psychological changes that may differentially affect body image across the lifespan. This paper aims to provide an up-to-date review of the current literature on the relationship between body image and associated mental and physical health problems/behaviors in adult women. In addition, we explore factors that may influence body image in adult women. Lastly, we use this review to identify significant gaps in the existing literature with the aim of identifying critical targets for future research.

## Body image in adult women: Do adult women report being body dissatisfied?

As noted above, there are many reasons to expect that body image concerns do not simply dissipate as women age. Research has examined the prevalence rates of various body image-related concerns and correlates, including body dissatisfaction, weight and shape concerns, and dysregulated eating behaviors among older women. With regard to the empirical literature, data on body dissatisfaction across the lifespan in women indicate that body dissatisfaction often remains stable throughout middle-life and late-life (Lewis & Cachelin, 2001; Pruis & Janowsky, 2010; Tiggeman, 2004; Tiggeman & Lynch, 2001; Webster & Tiggeman, 2003). For instance, early research with a sample of over 1,000 adult women ages 30–74 residing in Switzerland assessed current weight and desired weight (Allaz, Bernstein, Rouget, Archinard, & Morabia, 1998). Although 73% of participants fell in the normal weight category, 71% expressed a desire to be thinner. Of the women in the sample aged 65 and older, 65% were categorized as normal weight, but 62% reported a longing to lose weight.

More recent research, with a sample of nearly 500 women (60–70 years), found that over 60% endorsed body dissatisfaction, and 56% endorsed restricting food intake as a means of preventing weight gain (Mangweth-Matzek et al., 2006). Participants in normal and underweight body mass index (BMI) categories, as well as in the elevated BMI category, endorsed body dissatisfaction; thus the prevalence rate of dissatisfaction was not likely an effect of higher BMIs. Regarding eating behaviors, 73% of women in the sample reported eating fewer than three times per day, and 86% reported engaging in weight-control behaviors, including restricting food intake to prevent weight gain (56%).

In a separate study, Gagne and colleagues (2012) assessed aspects of body satisfaction in a sample of over 1,800 women ages 50 years and older. Nearly 64% of the sample reported experiencing thoughts about their weight on a daily basis and almost 62% endorsed that weight/shape negatively affected their lives at least occasionally. Additionally, 79% reported that body weight/shape had a moderate role or greater on self-perception, and 71% reported dissatisfaction with weight. Women with higher BMIs endorsed greater weight and shape concerns, whereas women with lower BMIs reported elevated dissatisfaction with their skin. Regarding dissatisfaction with specific body parts as compared to satisfaction at a younger age, women in the sample reported the highest prevalence of dissatisfaction (nearly 84%) with their stomach. Lastly, over 71% of the sample reported current efforts to lose weight.

Most recently, Jackson et al. (2014) reported that 47% of a sample of 405 Caucasian and African American middle-aged women reported being dissatisfied with their appearance. Further, 73% of the sample reported being at least somewhat unsatisfied with their weight. No differences emerged in comparisons between the two races. These recent findings are consistent with prior research indicating that the prevalence of body dissatisfaction remains consistently high in women from young adulthood through mid- and late-life (Forbes et al., 2005; Lewis & Cachelin, 2001; Pruis & Janowsky, 2010; Tiggeman, 2004; Tiggeman & Lynch, 2001; Webster & Tiggeman, 2003;).

## Psychosocial factors associated with body dissatisfaction in older women

As noted above, compared to younger females, adult women often have different life priorities or perspectives that may affect body image differentially across their lifespan. Indeed, factors that influence body dissatisfaction in younger females may affect adult women similarly to, less than, or more than younger women/girls. Further, psychosocial factors not relevant for younger females may be particularly salient for women throughout adulthood. This section reviews factors associated with body dissatisfaction in adult women.

### Thin-ideal internalization

Internalization of the thin-ideal standard of female beauty is well-recognized as contributing to body dissatisfaction in younger females (Stice, Nemeroff, & Shaw, 1996). Evidence for the role of thin-ideal internalization in body dissatisfaction among older adult women is more mixed, however, and appears to vary across different ages. For instance, cross-sectional research indicates that older women report lower drive for thinness/fear of being fat than mid-life women (Gadalla, 2008; Lewis & Cachelin, 2001; McLaren & Kuh, 2004). Similarly, Bedford and Johnson (2006) found that younger women ( $M$  age = 21) reported higher levels of thin-ideal internalization than older women ( $M$  age = 70). We should note that it is unclear if differences in cross-sectional studies represent changes across adulthood or cohort effects.

For midlife women who do endorse thin-ideal internalization, this factor has been associated with increased body dissatisfaction (Forbes et al., 2005; Matz et al., 2002). For instance, elevated internalization of sociocultural appearance ideals predicted body dissatisfaction in a sample of overweight, adult women ( $M$  age = 45) who presented for a weight loss intervention (Matz et al., 2002). A significant limitation to the generalizability of these findings, however, is the absence of non-treatment-seeking women and women in the normal BMI range.

Forbes and colleagues (2005) investigated body dissatisfaction and thin-ideal internalization in college women ( $M$  age = 20.21) and their mothers ( $M$  age = 48.77), and found that greater internalization was related to higher body dissatisfaction in mothers. Similar to the Bedford and Johnson study, however, the college-aged daughters reported significantly higher internalization than did their middle-aged mothers. Thus, while there appears to be a difference in thin-ideal internalization between younger and older women, such that older women endorse lower internalization, this factor may be associated with elevated body dissatisfaction regardless of age.

Thin-ideal internalization also may moderate the influence of media images. For instance, Dittmar and Howard (2004) investigated the moderating impact of internalization on response to media images in 150 professional women ( $M$  age = 33). Results indicated that women who reported high internalization experienced greater body image anxiety after exposure to thin-ideal images versus women who reported lower internalization. In sum, although prevalence rates likely vary across different ages, overall, elevated thin-ideal internalization appears to negatively affect body satisfaction across the lifespan.

## Cultural perspectives on aging and aging anxiety

Cultural perspectives on aging are among the more potent factors influencing body image in adult women. More specifically, Western culture places emphasis not only on the thin-ideal standard of female beauty, but also the thin-young-ideal, equating youth with beauty. Further, Western culture rewards conformity to the thin-young-ideal via increased status, value, and power (Fredrickson & Roberts, 1997; Saucier, 2004). In a society that promotes unrealistic beauty standards even for younger women, the physiological changes associated with aging contravene the societal female ideal (Saucier, 2004). Consequently, many women express anxiety about aging and its effect on appearance (Barrett & Robbins, 2008).

Research examining the relationship between fear of aging and body dissatisfaction has produced relatively consistent findings, such that greater aging anxiety relates to higher body dissatisfaction (Gupta, 1995; Gupta & Schork, 1993; Lewis & Cachelin, 2001; Midlarsky & Nitzburg, 2008). For instance, some research indicates that greater concerns related to ageing prevention may be correlated with drive for thinness, body dissatisfaction, and disinhibited eating in middle-aged and mixed middle-aged/elderly samples (Gupta & Schork, 1993; Lewis & Cachelin, 2001). We should note that research in this area is not completely consistent. For instance, Slevic and Tiggemann (2010) did not find a significant correlation between aging anxiety and body dissatisfaction. They did find, however, a significant relationship of aging anxiety to appearance investment in middle-aged women ( $M$  age = 43.61).

In addition to perpetuating the perspective of status and value associated with the thin-young-ideal, the media also typically underrepresenting women, preferring instead to show mostly younger women (Bessenoff & Del Priore, 2007). Further, when older women (i.e. post-menopausal) and middle-aged women are given media coverage, frequently it is to hype how unusually young they look (<http://www.dailymail.co.uk/tvshowbiz/article-1035510/Helen-Mirren-bikini-queen-reigns-supreme-63.html>), which again underscores the importance of looking young. The portrayal of middle-aged and older women in the media (or lack thereof) may constitute an additional body image risk factor for aging women because it increases opportunities for adult women to engage in problematic body comparisons (Cattarin et al., 2000; Dittmar & Howard, 2004; Peat et al., 2008). More specifically, research suggests that when younger adult women (ages 18–28) view media images, social comparison may mediate the relationship between image type and increased body dissatisfaction (Tiggemann & McGill, 2004). Peat and colleagues (2008) have theorized that when middle-aged to older-aged women compare themselves to less attractive, same-age peers, they create a downward comparison thus boosting their own self-rating. Alternatively, women can create an upward comparison by comparing themselves to more youthful women, which often increases body dissatisfaction (Peat et al., 2008). The media's underrepresentation of normatively aging women across the lifespan thus sets the stage for regular engagement in upward comparisons to media images.

Preliminary evidence suggests that comparison with fashion models decreases with age in a sample of women ages 30 to 80 (Kozar & Damhorst, 2009); however, women who endorsed higher body dissatisfaction were more likely to engage in such comparisons across age.

Importantly, Slevec and Tiggemann (2011) found that social comparison, appearance investment, and aging anxiety all mediated the negative effects of media exposure on body image in adult women ages 35 to 55. In addition, research by Dittmar and Howard (2004) indicates that thin-ideal internalization and tendency to engage in social comparison may interact to moderate the effect of media images. In sum, adult women who both internalize the thin-ideal and engage in regular social comparison appear to be at greatest risk for body dissatisfaction.

Lastly, we would be remiss if we did not address the explicit pressure that adult women face from advertising to look as young as possible. Advertisements for anti-aging products not only offer solutions to aging, but convey the importance of not appearing one's age. Anti-aging products and procedures have proliferated in recent years (Smirnova, 2012), and increased ageing anxiety has been found to be associated with greater use of anti-aging products (Muisse&Desmarais, 2010). In summary, Western culture not only promotes the thin-young-ideal via direct association of youth with beauty, acceptability, fame, and value in the media and advertisements, but also indirectly by providing ubiquitous youthful prototypes which provide ample opportunities for upward comparisons by aging women.

### Self-objectification

Self-objectification occurs when females internalize the objectifying gaze of a society that tends to view the female body as a sexual object (Fredrickson & Roberts, 1997). Self-objectification has been linked to body image concerns in younger females, and various studies have assessed self-objectification in adult and older adult women (Slevec & Tiggemann, 2011). Overall, findings support a correlation between self-objectification and negative body image and disordered eating (Greenleaf, 2005; McKinley & Lyon, 2008; Slevec & Tiggemann, 2011).

It should be noted that Fredrickson & Roberts (1997) proposed that middle-aged women may experience decreased objectification as they age; thus, they may experience fewer negative sequelae, including self-objectification. Indeed, in a sample of adult women ages 20–84 years, Tiggemann and Lynch (2001) observed a linear trend of self-objectification, with women above age 60 endorsing lower ratings and women in their 20s–30s reporting the highest ratings. Similarly, Greenleaf (2005) found that middle-aged women ( $M$  age = 48.95) reported significantly lower levels of self-objectification as compared to younger women ( $M$  age = 20.96). Greenleaf, however, also found that elevated self-objectification related to increases in disordered eating and decreases in physical activity even in the middle-age sample. Further, body shame partially mediated the relationship between self-objectification and disordered eating in both the older and younger sample (Greenleaf, 2005). Thus, as with thin-ideal internalization, it appears that overall older women may report lower levels compared to younger women. Yet, those who experience higher levels of self-objectification later in life, also experience increased levels of at least some negative correlates.

As noted above, it is unclear if cross-sectional findings represent a cohort effect or a true effect of aging on body image variables (Tiggemann & Lynch, 2001). This will be important to tease out in future research. The proliferation of cosmetic products and procedures marketed to older women suggests that they are and will be under ever increasing pressure



to maintain a youthful appearance even as they age. Thus, new cohort effects may emerge such that middle-aged women today (and in the future) experience increased self-objectification in response to a culture that expects them to remain and treats them like sexual objects longer into their lifespan.

### **Importance of appearance**

Research findings regarding the importance of or investment in appearance in middle-aged and older-adult women are equivocal. More specifically, some research suggests a decrease in appearance investment with age (Tiggemann, 2004; Tiggemann & Lynch, 2001), whereas other research indicates no difference across age (Davison & McCabe, 2005; Webster & Tiggemann, 2003). Further, some studies provide support for a significant relationship between importance of appearance and weight/shape concerns (McLean, Paxton, & Wertheim, 2010), as well as participation in and enjoyment of leisure activities (Liechty, Freeman&Zabriskie, 2006). Yet, other research suggests that importance of appearance is not significantly related to body dissatisfaction in middle-aged women (Slevec & Tiggemann, 2010). Equivocal findings even emerge within single studies. For instance, in a qualitative study, Gosselink and colleagues (2008) found that older adult women, ages 73–91, expressed feeling relieved of adherence to societal appearance standards, but also reported continued concerns with appearance.

All studies to date involved cross-sectional methodology, once again highlighting a significant limitation of research with adult women across the lifespan. Additionally, various researchers utilized different measures and constructs, thereby further limiting the ability to draw firm conclusions from the findings. In summary, additional research in this area is warranted to facilitate interpretation of the currently ambiguous findings.

### **Fat talk and old talk**

Coined by Nichter and Vuckovic, the term “fat talk” refers to dialogue that implicitly or explicitly promotes the thin-ideal. In younger samples, fat talk has been experimentally demonstrated to increase body dissatisfaction (Stice, Maxfield, & Wells, 2003) and research consistently shows an association between fat talk and various indicators of body dissatisfaction (see Sharpe, Naumann, Treasure & Schmidt, 2013 for review). As with many other areas of body image, limited research has investigated fat talk in older samples.

In perhaps the first study to examine fat talk in adult women, Martz and colleagues investigated exposure to fat talk in a sample of women with a mean age of 45. Participants reported a mean rating of fat talk exposure of 2.74 (a score of 3 corresponded to “usually”). Martz and colleagues interpreted this as a fairly low frequency. Yet, results from Stice et al. (2003) indicate that even minimal exposure to fat talk (i.e., 3–5 minutes) can have a significant impact on body dissatisfaction. Participants in Martz et al.’s study also reported that they were significantly more likely to find themselves in fat talk situations as compared to those with accepting or positive body talk.

Becker and colleagues (2013) also examined fat talk in a large (N = 914) international internet sample with women who ranged in age from 18–87. Results indicated that women across the lifespan reported engaging in fat talk and that only women in the oldest cohort

(ages 61+) reported significantly less fat talk than the youngest cohort (ages 18–29). In other words, rates of fat talk remained stable through midlife. Unfortunately, the cross-sectional nature of this research means that it is impossible to separate cohort effects from changes across the lifespan. This study also assessed the degree to which fat talk correlated with a variety of body image measures in both the total sample and women over age 45. In both samples, fat talk was significantly correlated with thin-ideal internalization, body dissatisfaction, self-objectification, appearance ageing anxiety, drive for thinness, and global scores on the Eating Disorder Examination Questionnaire (EDE-Q).

Becker et al. (2013) also examined the degree to which participants reported engaging in “old talk.” They defined old talk as speech that implicitly or explicitly reinforces the young component of the thin-young-ideal. Participants ages 46 and older reported engaging in significantly more old talk than the 18–29 year old cohort and the 30–45 year old cohort. Participants in the 30–45 year old cohort also reported engaging in significantly more old talk than the youngest cohort, indicating that old talk increased with age. For women aged 46 and over, old talk was significantly correlated with thin-ideal internalization, body dissatisfaction, self-objectification, ageing anxiety, drive for thinness and global EDE-Q scores. This study represented the first published study of old talk and results suggest that further research in this area is warranted.

## **Body image and psychological disorders**

### **Body image and depression**

Although substantial research supports a relationship between body dissatisfaction and depressed mood in younger females (e.g., Bearman et al., 2006; Rawana, 2013; Sice et al., 2000), to our knowledge, only one study (Jackson et al., 2014) has directly examined this relationship in adult women and not conflated body dissatisfaction with eating disorders.

In a cross-sectional study, 405 African-American and Caucasian women between the ages of 42–52 completed body image measures and a measure of depression (Jackson et al. 2014). Results indicated that women who were classified as body dissatisfied were twice as likely to report clinically significant depression symptoms as compared to body satisfied women. These results support those found with younger women. The fact that we could identify only one study to directly investigate the relationship between body image and depressed mood highlights the need for additional research.

### **Eating disorders in adult women**

Although eating disorders (EDs) are frequently considered disorders of adolescence and young-adulthood, cross-sectional research suggests that EDs and eating pathology are prevalent among middle-aged (Mangweth-Matzek et al., 2014) and elderly women (Mangweth-Matzek et al., 2006). In a study including over 700 women, ages 40 to 60, 4.6% of women endorsed symptoms deemed to meet criteria for an ED, and 4.8% endorsed subthreshold eating pathology. The most prevalent diagnoses were eating disorder not otherwise specified (EDNOS;  $n = 23$ ) and bulimia nervosa ( $n = 10$ ; Mangweth-Matzek et al., 2014). Another study including women of middle-age (42–55 years) found that 11% endorsed binge eating multiple times per month, and 13.4% reported eating very little or



fasting for one or more days in an effort to control weight (Marcus, Bromberger, Wei, Brown, & Kravitz, 2007). In addition, Gagne and colleagues (2012) observed similar prevalence rates of at least one core ED symptom (13%) in women over the age of 50. Of note, although extant research involves large and diverse samples, existing cross-sectional research examining prevalence rates of eating pathology in older adult women is limited by self-report data and sampling biases related to response rates.

Longitudinal research further supports prevalence rates. Keel and colleagues (2010) assessed individuals in college and then at 20-year follow-up and found that 4.5% of women endorsed a clinically significant ED (BN or EDNOS) in middle-age ( $40 \pm 2$  years). Additionally, 2% of the sample that reported EDs at 20-year follow-up were new-onset thus suggesting that some risk of new onset persists into middle-adulthood for BN or EDNOS (Keel et al., 2010). Alternatively, research with adult women ( $M$  age = 53) receiving treatment for an ED did not find any cases of AN with onset later than 25 years (Scholtz, Hill, & Lacey, 2010). Therefore, there may be differential risk for late onset of EDs by diagnosis. In summary, further research is warranted in larger, non-treatment-seeking samples before drawing any firm conclusions about late-onset risk for EDs.

## Body image and physiological changes associated with ageing in women

As mentioned previously, body changes that occur during the aging process may contribute to body image concerns. Therefore, in understanding body dissatisfaction in adult women, it is important to review physiological factors relevant to aging in women along with their association with body image.

### BMI

As women age, BMI tends to increase (Allaz et al., 1998; Pruis & Janowsky, 2010; Tiggemann & Lynch, 2001), with notable increase through middle-age and a subsequent decrease beginning around age 60 (Runfola et al., 2013; Sheehan, DuBrava, DeChello, & Fang, 2003). This BMI increase during middle-age creates a greater discrepancy from the thin-young-ideal standard of beauty for women, especially during middle-life (Lewis, Medvedev, & Seponski, 2011). BMI is one of the most well-studied eating disorders risk factors in adult women (Slevec & Tiggemann, 2011), and research in middle-aged women also supports a relationship between higher BMI and elevated body dissatisfaction (Algars et al., 2009; Bucchianeri et al., 2013; Forbes et al., 2005; Gagne et al., 2012; Hrabosky & Grilo, 2007; Lewis & Cachelin, 2001; Mangweth-Matzek et al., 2006; McLean et al., 2010; Runfola et al., 2013).

In spite of such steady findings, a few discrepancies have emerged throughout various research studies. For instance, Mangweth-Matzek and colleagues (2006) assessed body image in older adult women ages 60–70. Although women in the overweight/obese category reported significantly lower satisfaction with weight and shape than did normal or underweight older adult women, over one-third of those in the normal/underweight endorsed feelings of fatness and body dissatisfaction, thus indicating that body dissatisfaction is not uniquely related to BMI in this population. Furthermore, Pruis and Janowski (2010) found that BMI predicted body dissatisfaction, body shape concern, and drive for thinness in

young-adult women ( $M$  age = 27.5 years; age range = 25–33) only, while BMI did not predict body dissatisfaction in older adult women ( $M$  age = 72.9 years; age range = 65–80). Rather, societal influence predicted body image concerns in older adult women, even though younger women reported greater societal influence overall. Additionally, older and younger women did not differ in reported body shape concerns (Pruis&Janowski, 2010).

Lastly, in a longitudinal study, McLaren and colleagues (2003) found that women who endorsed low body esteem in mid-life had a higher BMI as early as age seven, and lifetime trajectory of BMI was significantly different for women in the high versus low weight esteem groups. Specifically, women with low weight esteem experienced a steeper increase in lifetime BMI trajectory as compared to high weight esteem women, and women in the low weight esteem group showed a spike in BMI at midlife as well. The cause for this pattern remains unknown, as numerous factors across the lifespan likely contributed to BMI trajectory (McLaren et al., 2003). Further research investigating the longitudinal transaction between BMI and body dissatisfaction in women across the lifespan is warranted.

## Pregnancy

Pregnancy is an exceedingly complicated body image experience in modern Western culture. As noted by Dworkin and Wachs (2004), a pregnant woman is maternally successful while simultaneously failing to conform to societal thin-ideal standards. Further, in addition to potentially having to juggle work and the infant care, postpartum women are expected to invest considerable time in fitness to obtain the best post-baby body possible (Dworkin&Wachs, 2004). Thus, pregnant women find themselves on the receiving end of considerable pressure to not only limit their weight gain during pregnancy, both for appearance health reasons (Mehta, Siega-Riz, & Herring, 2010), but also to get their “pre-baby bodies back” (<http://www.sheknows.com/parenting/articles/841153/10-steps-to-getting-your-pre-baby-body-back>), ideally as quickly as possible. In addition, the media promotes celebrity mothers to demonstrate the feasibility of returning to pre-baby status (<http://www.nydailynews.com/life-style/health/hollywood-moms-baby-gallery-1.29461>), and even sensible websites that promote the slow approach to losing pregnancy weight still imply that ultimately it is reasonable for women to mold their bodies with sufficient effort and patience (<http://www.webmd.com/parenting/baby/features/get-your-body-back-after-pregnancy>).

To counter this barrage, some women have taken to trying to normalize the changes that happen to women’s bodies as a result of pregnancy and convey that it is unrealistic to expect bodies to return to their pre-pregnancy status ([http://www.abeautifulbodyproject.com/the\\_bodies\\_of\\_mothers#.U2fnm2RdX\\_Z](http://www.abeautifulbodyproject.com/the_bodies_of_mothers#.U2fnm2RdX_Z)). Adding to the various messages is marketing from cosmetic surgeons directly aimed at postpartum women in the form of “mommy makeovers” (<https://associatedplasticsurgeons.com/blog/get-pre-baby-body-back-mommy-makeover/>). In summary, pregnant and postpartum women, who are experiencing enormous physical and life changes, find themselves at the center of a cultural storm regarding their bodies.

With regard to the empirical literature on pregnancy and body image, research paints an equally complex picture. For instance, Mehta et al. (2010) investigated the effect of body

image on weight gain during pregnancy ( $M$  age = 29.1). Results indicated that women who desired a thinner body and started pregnancy with a BMI of  $\geq 26$  were at increased risk of gaining excessive weight. In contrast, women who desired a thinner body and started their pregnancy overweight or obese were at decreased risk.

Research also links body image dissatisfaction with pregnancy and postpartum depression (e.g., Clark, Skouteris, Wertheim, Paxton, & Milgrom, 2009; Downs, Dinallo, & Kirner, 2008; Rallis, Skouteris, Wertheim, & Paxton (2007). As with other areas, results suggest a complex relationship. For instance, whereas Downs et al. (2008) found that first trimester body dissatisfaction was a significant predictor of depression later in pregnancy and postpartum, Rallis and colleagues found that depressive symptoms at 6-months postpartum predicted body dissatisfaction at 12-months postpartum.

Qualitative research suggests that women experience both positive and negative changes in body image during pregnancy. For example, Clark, Skouteris, Wertheim, Paxton & Milgrom (2009) found that pregnant women experienced an increased appreciation of the functionality of their bodies. Yet, at postpartum they experienced negative body attitudes when they were unable to lose weight and reduce their stomach size as fast as they had expected.

It is beyond the scope of this paper to fully explore the complex quantitative and qualitative literature on body image both during pregnancy and postpartum. Nonetheless, it is clear that this life period is highly relevant to the study of body image in adult women. Further, additional research is needed to explore the complex body image issues adult women face.

### **Body image and menopause**

Yet another natural physiological evolution in women is menopause, which occurs when women stop menstruating permanently because ovarian follicular activity ceases; menopause is identified by twelve consecutive months without menstruation (Sherman, 2005; Utian, 2004). The transition into menopause typically occurs by age 55 (Khaw, 1992). For many women, menopause serves as a tangible marker of aging (Rubinstein & Foster, 2013). Body changes that occur during this transitional phase of life may contribute to changes in body image, particularly since common body changes during menopause conflict with the Western beauty standard. For instance, women may experience increases in body weight and fat mass (Ley, Lees, & Stevenson, 1992; Lovejoy et al., 2008; Poehlman & Tchernof, 1998). Body shape also may change, as body fat redistributes towards the waist/hips and muscle mass decreases (Aloia, McGowan, Vaswani, Ross, & Cohn, 1991; Svendsen, Hassager, Christiansen, 1995). Additional changes include alterations in skin tone, reduced skin firmness, and breast changes (Dillaway, 2005; Genazzani & Gambacciani, 2006; Ley et al., 1992). As a result of these changes, women may experience reductions in feelings of youthfulness, beauty, and sexual attractiveness (Hurd, 2000).

It is important to note that cultural views and individual perspectives may moderate the effect of menopause on women's body image. For instance, in Western culture, body changes associated with menopause may predominantly be viewed as straying further away from the thin-young-ideal, and thus can elicit fears of looking and feeling older and less

attractive (Rubinstein & Foster, 2013). Additional fears include worry about no longer being noticed, or becoming “invisible,” in society. Yet research indicates that such fears may be stronger in women high in self-objectification (Rubinstein & Foster, 2013). Further, although some women experience negative emotions regarding menopause, other women experience an increase in enjoyment of sexual activity and sexual freedom, as well as relief from fertility (Dillaway, 2005). Similarly, Busch and colleagues (2003) found that women who endorsed a perspective that aging is a natural and manageable part of life, and who associated aging with other positive characteristics (e.g. freedom, maturity), had more positive views of menopause and their evolving bodies.

With regard to research investigating menopause and body appearance satisfaction, cross-sectional findings on women pre- and post-menopause are both equivocal and limited. Koch and colleagues (2005) assessed self-perceived attractiveness in a sample of over 300 heterosexual women ages 39–56. Results indicated no significant differences in self-perceived attractiveness between pre-, peri-, or post-menopausal women. Conversely, in a sample of over 300 women ages 35–65, Deeks and McCabe (2001) found that pre-menopausal women endorsed higher positive evaluations of their appearance and identified smaller ideal body figures than did post-menopausal women.

More recently, cross-sectional research in a sample of women aged 40–60 indicated that perimenopausal women reported significantly higher body image distress, even after controlling for age and BMI. These finding suggests that elevated body dissatisfaction in perimenopausal women was not exclusively due to the weight gain often experienced during menopause (Mangweth-Matzek et al., 2013). In addition, women with surgically-induced menopause evidenced significantly higher body image pathology than did premenopausal women.

Hormone replacement therapy (HRT) is a counter-measure for menopause which involves consuming supplements of hormones that the body stops producing during menopause. Consequently, HRT can slow down the physiological evolution that occurs through menopause. To our knowledge, only one study to date has examined the effects of HRT on body image related variables. McLaren and colleagues (2003) found that women who began HRT before the onset of menopause endorsed higher body satisfaction than did premenopausal women, and that the elevated satisfaction in HRT users was in part due to being thinner. Further research is needed in this area, particularly in light of mixed data regarding the health benefits and costs of HRT (British Menopause Society, 2013).

In sum, menopause neither invariably nor uniquely engenders body dissatisfaction in women. Further, a variety of factors affect the experience of menopause on women’s body image, including attitudes towards the menopausal transition and the use of hormone replacement therapy.

### **Body image and medical conditions/disease**

Any illness or disease has the potential to affect body image, and women become more prone to illnesses and chronic medical conditions as they age. Both the stress of disease/ medical conditions and the process of adjusting to body function and appearance changes

can subsequently affect body image. A full review of medical conditions and illnesses associated with human aging in general, and in women in particular, is beyond the scope of this paper; however, we provide a review of a few common medical issues older adult women face to offer examples of the relationship between medical conditions and body image. Overall, with the exception of breast and gynecological cancers, more research in this area is needed.

**Breast and gynecological cancers**—The risk for cancer increases as people age (DePinho, 2000). In women, the risk for breast cancer increases with age through menopause, at which point the slope of increase lessens (McPherson, Steel, & Dixon, 2000). As women age they become more likely to develop ovarian cancer because risk increases with years of ovulation (Greene, Clark, & Blayney, 1984; Yancik, 1993). Thus, mid- and late-life women are more likely to be affected both by cancer and its body image sequelae as compared to younger women.

Cancers and their treatments (e.g. mastectomy, reconstructive or organ removal surgeries, chemotherapy; radiotherapy) also often affect both body form and function. For instance, mastectomy, breast-conserving surgery, or breast reconstructive surgery can leave scarring and sensory impairment. Chemotherapy and radiotherapy can cause alopecia, scarring, swelling, pain, and sensory loss (Fingeret, Teo, & Epner, 2014; White, 2000). These aforementioned effects often require a process of adjustment (Fingeret et al., 2014b), and can induce body image concerns (White, 2000). In fact, ample research has investigated the impact of breast and gynecological cancers, and associated treatments, on women's body image (for a review, see Helms, O'Hea, & Corso, 2008).

While a comprehensive review of research on body image and breast and gynecological cancers is beyond the scope of the current paper, we highlight specific findings within this field. Overall, research indicates that body image concerns are highly prevalent among female breast cancer patients (Fobair et al., 2005), though rates, chronicity, and extent of such concerns may vary. For instance, alopecia secondary to chemotherapy may have differential effects. For instance, in a review of alopecia due to chemotherapy, Lemieux and colleagues (2008) found that whereas some studies evidenced body image concerns related to alopecia, others indicated that women viewed this side effect as symbolic of treatment effectiveness (Lemieux et al., 2008). In contrast, research in adult Turkish women (ages 30 – 55 years) indicated that physical changes associated with gynecological cancers and its oncological treatments, specifically alopecia, elicited body image concerns related to loss of femininity (Bal, Yilmaz, & Beji, 2013).

Type of surgery also may affect women's body image, although research findings are again somewhat mixed. Some cross-sectional research suggests that patients who undergo mastectomy alone or with reconstructive surgery experience greater body image concerns than found with breast-conserving surgery (Janz et al., 2005; Rowland et al., 2000). For instance, in a longitudinal study, Collins and colleagues (2010) found that women ( $M$  age = 58) who received a mastectomy with reconstructive surgery reported greater body image concerns than did those who underwent breast-conserving surgery at one-year after surgery, though this relationship was completely explained by surgery side effects (e.g. swelling,

numbness, discomfort, limited mobility). Interestingly, women who underwent mastectomy with breast reconstruction also reported poorer body image than mastectomy alone even after controlling for surgical side effect at 6-months post-operation. By 2-years post-operation, however, the surgery type groups did not differ in body image concerns (Collins et al., 2010). In contrast, other cross-sectional research indicates that adult women with breast-conserving surgery ( $M$  age = 60.59) or mastectomy with reconstruction ( $M$  age = 51.6) endorsed less body image concerns than did women who underwent mastectomy alone ( $M$  age = 64.5; Nano et al., 2005). In sum, body image concerns while diagnosed with cancer, during treatment, or post-treatment appear to be a normative experience (Fingeret, 2010), and should be considered when exploring the body image concerns of adult women (Collins et al., 2010; Helms et al., 2008).

**Chronic pain conditions**—Certain chronic pain conditions, such as fibromyalgia, systemic lupus erythematosus (SLE), and rheumatoid arthritis (RA), are more commonly reported in women than in men (Fillingim, 2000; Munce & Stewart, 2007), and prevalence rates rise with age (Johannes et al., 2010). Research has indicated an association between chronic pain conditions and body image disturbances. For instance, Akkaya and colleagues (2012) found that adult female patients with fibromyalgia ( $35.5 \pm 9.9$  years) endorsed poorer body image than did healthy control participants ( $33.3 \pm 7.4$  years), and that body image disturbances were related to pain severity and quality of life. Similarly, Jolly and colleagues (2012) found that women with SLE ( $M$  age = 42.4) reported significantly lower body image quality of life as compared to healthy controls ( $M$  age = 38.7). Consistent with some studies (e.g., Novy, Nelson, Averill, & Berry, 1996) but not others (e.g., Akkaya, Akkaya, Atalay, Balci, & Sahin, 2012), SLE patients with increased depression were more likely to report decreased body image quality of life.

In another study examining body image in adult women ( $M$  age = 50 years) with RA, SLE, and healthy controls, Cornwell and Schmitt (1990) found that patients with SLE reported poorer body image than did RA patients and healthy women. Notably, however, for those RA patients with body image disturbances, the focus of concerns was on specific body parts and associated disability. Vamos and colleagues (1990) also found that female RA patients ( $M$  age = 55 years) perceived their hands as less attractive than did objective observers.

Lastly, although substantial research investigating body image in patients with chronic pain conditions exists, much of this literature includes mixed-gender samples and therefore it is difficult to tease out possible female-specific outcomes. Given the elevated risk and prevalence rates of chronic pain conditions in women, it is important to further investigate how these conditions affect adult women's body image and the relationship with other factors that also affect body image.

### **Body image and health behaviors**

As noted above, body image problems have been associated with a variety of health behaviors in younger females. Research exploring the relationship between body image and a number of health behaviors in adult women throughout the lifespan, however, is scant. Despite this, there are reasons to expect that body image and health behaviors interact. Note



that because most of the literature on body image and eating behavior in older women is confounded with disordered eating and eating disorders, which were already reviewed, we do not include eating behaviors below. Research that investigates the relationship between body image and normative variations in eating is needed.

**Sleep**—Sleep disorders are common in adult women (Phillips, Collop, Drake, Consens, Vgontzas, & Weaver, 2008). For instance, although the estimated prevalence of insomnia is between 9–15% for the general population, research indicates that female gender is a significant risk factor for insomnia (Soares, 2005). More specifically, women are 41% more likely to develop insomnia than are men, and the gender in somnia discrepancy emerges at puberty and increases across the lifespan (Phillips et al., 2008). Pregnancy also is commonly recognized as sleep-disrupting (Soares, 2005), and menopause is associated with an increase in obstructive sleep apnea (Phillips et al., 2008). Other problems that have been theorized or found to worsen sleep in adult women include a range of life transitions including caring for adult parents, divorce, re-entry to the workforce, and death of a spouse (Soares, 2005).

In our review, we were unable to identify any studies that specifically investigated the relationship between sleep and body image. Yet, there are good reasons to speculate an association between sleep and body image in adult women. For instance, in addition to contributing to impaired cognitive and psychomotor functioning and reduced feelings of physical wellness (Soares, 2005), sleep deprivation can lead to changes in physical appearance. More specifically, Sundelin and colleagues(2013) found that compared to photos of well rested individuals, photos of sleep deprived individuals were rated as having significantly more hanging eyelids, red and swollen eyes, dark circles under the eyes, eye wrinkles, and droopiness around the mouth. Overall, photos were rated as looking more fatigued. Notably many of these descriptors are associated with aging appearance, and a desire to look younger was a primary motivator for cosmetic surgery in a qualitative study of midlife women (Thorpe, Ahmed & Steer, 2004).

Second, sleep and depression are bi-directionally related such that depression can lead to sleep problems and sleep problems increase risk for depression (<http://sleepfoundation.org/sleep-disorders-problems/depression-and-sleep>). As noted above, preliminary evidence suggests a relationship between clinically significant depression and body dissatisfaction in midlife women, though the nature of the relationship is currently unclear (Jackson et al., 2014). It should be noted, however, that in younger females body dissatisfaction has been found to predict subsequent increases in depression (Bearman et al., 2006; Rawana, 2013; Stice et al., 2000). As such, it seems warranted for future research to investigate to what degree sleep, body image and depression may all be inter-related, particularly given the observation that short sleep duration is associated with weight gain over time (Taheri, Lin, Austin, Young,&Mignot, 2004).

**Smoking**—Research in younger women (i.e. college-aged) supports a relationship between body image and smoking behavior (Clark et al., 2005; Nademin et al., 2010). Smoking and body image are directly linked via the common belief that cessation of smoking may lead to weight gain, although, on average, the amount of weight individuals gain after cessation tends to be quite moderate (White, McKee, & O'Malley, 2007). Regarding adult women and

smoking, research indicates that women are more weight concerned than men (i.e., would return to smoking if cessation resulted in weight gain; Meyers et al. 1997). Further, mixed gender research indicates that increased weight concerns are associated with increased beliefs in the weight suppressing power of cigarettes (White et al., 2007).

Research also supports the supposition that more negative body image can negatively impact smoking cessation in adult women ( $M$  age = 39.5; King, Matarin, White, & Marcus, 2005). Addressing body image concerns, however, may improve cessation rates. For instance, Perkins and colleagues (2001) explored differential quit rates in a large sample of adult females (ages 18–65) with a mean age in the mid 40's. Results indicated that women who received adjunctive CBT aimed at reducing weight concerns reported significantly higher continuous abstinence rates as compared to a standard counseling. Behavioral weight management was not superior to standard counseling. These results suggest that addressing body image concerns in adult women smokers may improve their ability to quit.

**Exercise**—As noted above, in younger females, body dissatisfaction has been associated with decreased physical activity (Neumark-Stzainer et al., 2006), despite the common belief that body dissatisfaction is a good motivator for exercise. Recent research supports a similar outcome for adult females. Segar, Spruijt-Metz, and Nolen-Hoeksema (2006) investigated if motivation for exercise influenced 59 midlife women's ( $M$  age = 45.6) participation in physical activity. Participants who reported engaging in physical activity for body shape reasons (e.g., to tone, maintain weight, get in shape) were found to be significantly less physically active as compared to those who endorsed other reasons (e.g., pleasure, feeling good, feeling strong). Concerns about body dissatisfaction negatively affecting physical activity in adult women were further supported by qualitative data (Liechty et al., 2006); mothers of college-aged females reported giving up activities secondary to body image concerns making statements such as “[I enjoy swimming, but] I’m too big to swim in public” and “I used to love ballroom dancing, but I quit because I got too fat.” The authors note that the BMI of the woman making the latter comment was in normal range, indicating that actual weight status is not the primary driver of disengagement with physical activity.

## Conclusions

Although the literature regarding body dissatisfaction and associated predictors, correlates and outcomes is substantially stronger in younger women, increasingly researchers are recognizing the importance of investigating body image in adult women across the lifespan. This is a significant improvement in the literature given that existing research supports the supposition that one cannot simply generalize from younger females to older females in the domain of body image.

Despite significant gains, we found many weaknesses in existing research. With a few exceptions (e.g., eating disorders, breast and gynecologic cancers, and pregnancy), most domains explored in this paper simply lack sufficient attention by researchers. Although some gaps mirror those seen in the literature on younger females (e.g., more research is needed on younger females, body image and wellness behaviors), others appear to be very specific to adult women. For instance, we were surprised by the almost complete lack of

research investigating depression and body image (alone without eating disorders) in adult women given the reasonably strong corresponding literature in younger females. Further, researchers need to be careful not to conflate body dissatisfaction with eating disorders. This can be easy to do given a) the strong link between weight/shape concerns and eating disorders and b) the desire by many body image experts to convey the importance of body image. After all, what better way to show that body image matters than to highlight its association with quite lethal disorders. Yet, as demonstrated in this review, body image is associated with a host of predictors, outcomes and correlates beyond eating disorders across the female lifespan, and it is past time to focus on these to the same extent as eating disorders. This research also should help continue improve the gradual recognition in both the healthcare fields and general public that body image is neither a problem exclusively associated with young females nor simply an issue of vanity.

In addition, the literature is in desperate need of longitudinal research. Although more cross-sectional research also is warranted, as noted repeatedly throughout this paper, it is virtually impossible to disentangle the effects of aging (and associated life and body changes) on body image from cohort effects using cross-sectional research. Longitudinal research is also needed to determine which correlates predict body dissatisfaction and vice versa, and to disentangle other more complex relationships with respect to body image in adult women. We hope this paper will serve as a call to action on this and other matters raised in this review.

## Acknowledgments

This manuscript is in response to an invited review from Dr. Deborah Reas to Dr. Carolyn Becker for a review paper on body image across the lifespan.

This work was supported by the National Institute of Mental Health [NIMH R01 MH094448-01A1].

## References

- Akkaya N, Akkaya S, Atalay NS, Balci CS, Sahin F. Relationship between the body image and level of pain, functional status, severity of depression, and quality of life in patients with fibromyalgia syndrome. *Clinical Rheumatology*. 2012; 31(6):983–988. [PubMed: 22395855]
- Algars M, Santtila P, Varjonen M, Witting K, Johansson A, Jern P, Sandnabba NK. The adult body: how age, gender, and body mass index are related to body image. *Journal of Aging Health*. 2009; 21(8):1112–1132. [PubMed: 19897779]
- Allaz AF, Bernstein M, Rouget P, Archinard M, Morabia A. Body weight preoccupation in middle-age and ageing women: a general population survey. *International Journal of Eating Disorders*. 1998; 23(3):287–294. [PubMed: 9547663]
- Aloia JF, McGowan DM, Vaswani AN, Ross P, Cohn H. Relationship of menopause to skeletal and muscle mass. *The American Journal of Clinical Nutrition*. 1991; 53(6):1378–1383. [PubMed: 2035465]
- Bal MD, Yilmaz SD, Beji NK. Sexual health in patients with gynecological cancer: a qualitative study. *Sexuality and Disability*. 2013; 31(1):83–92.
- Barker ET, Galambos NL. Body dissatisfaction, living away from parents, and poor social adjustment predict binge eating symptoms in young women making the transition to university. *Journal of Youth and Adolescence*. 2007; 36(7):904–911.
- Barrett AE, Robbins C. The multiple sources of women's aging anxiety and their relationship with psychological distress. *Journal of Aging Health*. 2008; 20(1):32–65. [PubMed: 18089765]

- Beall J. The bodies of mothers. 2014 Retrieved from [http://www.abeautifulbodyproject.com/the\\_bodies\\_of\\_mothers#.U2fnm2RdX\\_Z](http://www.abeautifulbodyproject.com/the_bodies_of_mothers#.U2fnm2RdX_Z).
- Bearman SK, Martinez E, Stice E. The skinny on body dissatisfaction: A longitudinal study of adolescent girls and boys. *Journal of Youth Adolescence*. 2006; 35(2):217–229. [PubMed: 16912810]
- Becker CB, Diedrichs PC, Jankowski G, Werchan C. I'm not just fat, I'm old: Has the study of body image overlooked "old talk". *Journal of Eating Disorders*. 2013; 1(1):6. [PubMed: 24764529]
- Bessenoff GR, Del Priore RE. Women, weight, and age: Social comparison to magazine images across the lifespan. *Sex Roles*. 2007; 56(3–4):215–222.
- Bouchez C. Get your body back after pregnancy. 2013 Sep 28. In WebMD. Retrieved from <http://www.webmd.com/parenting/baby/features/get-your-body-back-after-pregnancy>.
- Bucchianeri MM, Arikian AJ, Hannan PJ, Eisenberg ME, Neumark-Sztainer D. Body dissatisfaction from adolescence to young adulthood: findings from a 10-year longitudinal study. *Body Image*. 2013; 10(1):1–7. [PubMed: 23084464]
- Busch H, Barth-Olofsson AS, Rosenhagen S, Collins A. Menopausal transition and psychological development. *Menopause*. 2003; 10:179–187. [PubMed: 12627045]
- Carlson KJ, Miller BA, Fowler FJ. The Maine women's health study: I. outcomes of hysterectomy. *Obstetrics & Gynecology*. 1994; 83(4):556–565. [PubMed: 8134066]
- Cattarin JA, Thompson K, Thomas C, Williams R. Body image, mood, and televised images of attractiveness: the role of social comparison. *Journal of Social and Clinical Psychology*. 2000; 19(2):220–239.
- Clark A, Skouteris H, Wertheim EH, Paxton SJ, Milgrom J. The relationship between depression and body dissatisfaction across pregnancy and the postpartum. *Journal of Health Psychology*. 2009; 14(1):27–35. [PubMed: 19129334]
- Clark A, Skouteris H, Wertheim EH, Paxton SJ, Milgrom J. My baby body: a qualitative insight into women's body-related experiences and mood during pregnancy and the postpartum. *Journal of Reproductive and Infant Psychology*. 2009; 27(4):330–345.
- Clark MM, Croghan IT, Reading S, Schroeder DR, Stoner SM, Patten CA, Vickers KS. The relationship of body image dissatisfaction to cigarette smoking in college students. *Body Image*. 2005; 2(3):263–270. [PubMed: 18089193]
- Collins KK, Liu Y, Schootman M, Aft R, Yan Y, Dean G, Jeffe DB. Effects of breast cancer surgery and surgical side effects on body image over time. *Breast Cancer Research and Treatment*. 2011; 126(1):167–176. [PubMed: 20686836]
- Cornwell CJ, Schmitt MH. Perceived health status, self-esteem and body image in women with rheumatoid arthritis or systemic lupus erythematosus. *Research in Nursing & Health*. 1990; 13:99–107. [PubMed: 2320762]
- Coy W. Steps to getting your pre-baby body back. 2011 Sep 15.10 Retrieved from <http://www.sheknows.com/parenting/articles/841153/10-steps-to-getting-your-pre-baby-body-back>.
- Crow S, Eisenberg ME, Story M, Neumark-Sztainer D. Suicidal behavior in adolescents: Relationship to weight status, weight control behaviors, and body dissatisfaction. *International Journal of Eating Disorders*. 2008; 41(1):82–87. [PubMed: 17922538]
- Daily Mail Reporter. Helen Mirren the bikini queen reigns supreme at 63. 2008 Jul 21. Retrieved from <http://www.dailymail.co.uk/tvshowbiz/article-1035510/Helen-Mirren-bikini-queen-reigns-supreme-63.html>.
- Daily News. Hollywood moms before & after birth. 2014 May 1. Retrieved from <http://www.nydailynews.com/life-style/health/hollywood-moms-baby-gallery-1.29461>.
- Davison TE, McCabe MP. Relationships between men's and women's body image and their psychological, social, and sexual functioning. *Sex Roles*. 2005; 52(7–8):463–475.
- Deeks AA, McCabe MP. Menopausal stage and age and perceptions of body image. *Psychology & Health*. 2001; 16(3):367–379.
- DePinho RA. The age of cancer. *Nature*. 2000; 408:248–254. [PubMed: 11089982]
- Dillaway HE. (Un)changing menopausal bodies: how women think and act in the face of a reproductive transition and gendered beauty ideals. *Sex Roles*. 2005; 53(1–2):1–17.

- Dittmar H, Howard S. Thin-ideal internalization and social comparison tendency as moderators of media models' impact on women's body-focused anxiety. *Journal of Social and Clinical Psychology*. 2004; 23(6):768–791.
- Downs DS, DiNallo JM, Kirner TL. Determinants of pregnancy and postpartum depression: prospective influences of depressive symptoms, body image satisfaction, and exercise behavior. *Annals of Behavioral Medicine*. 2008; 36(1):54–63. [PubMed: 18773252]
- Dubois EB. Get your pre-baby body back with a mommy makeover. n.d. Retrieved from <https://associatedplasticsurgeons.com/blog/get-pre-baby-body-back-mommy-makeover/>.
- Dugdale, DC. Aging changes in hair and nails. 2012 Nov 5. Retrieved from <http://www.nlm.nih.gov/medlineplus/ency/article/004005.htm>
- Dworkin SL, Wachs FL. "Getting your body back": postindustrial fit motherhood in *Shape* fit pregnancy magazine. *Gender & Society*. 2004; 18(5):610–624.
- Evans WJ, Lexell J. Human aging, muscle mass, and fiber type composition. *Journal of Gerontology: Biological Science & Medical Sciences*. 1995; 50:11–16.
- Fairburn, CG. *Cognitive behavior therapy and eating disorders*. New York, NY: The Guilford Press; 2008.
- Fillingim RB. Sex, gender, and pain: women and men really are different. *Current Review of Pain*. 2000; 4(1):24–30. [PubMed: 10998712]
- Fingeret, MC. Body image and disfigurement. In: Duffy, J.; Valentine, A., editors. *MD Anderson Manual of Psychosocial Oncology*. Columbus, OH: McGraw-Hill; 2010. p. 271-288.
- Fingeret MC, Irene T, Epner DE. Managing body image difficulties of adult cancer patients: lessons from available research. *Cancer*. 2014; 120(5):633–641. [PubMed: 24895287]
- Fingeret MC, Nipomnick S, Guindani M, Baumann D, Hanasono M, Crosby M. Body image screening for cancer patients undergoing reconstructive surgery. *Psycho-Oncology*. 2014
- Fobair P, Stewart SL, Chang S, D'Onofrio C, Banks PJ, Bloom JR. Body image and sexual problems in young women with breast cancer. *Psycho-Oncology*. 2006; 15(7):579–594. [PubMed: 16287197]
- Forbes GB, Adams-Curtis L, Jobe RL, White KB, Revak J, Zivcic-Becirevic I, Pokrajac-Bulian A. Body dissatisfaction in college women and their mothers: cohort effects, developmental effects, and the influences of body size, sexism, and the thin body ideal. *Sex Roles*. 2005; 53(3–4):281–298.
- Fredrickson BL, Roberts TA. Objectification theory. *Psychology of Women Quarterly*. 1997; 21(2): 173–206.
- Gadalla TM. Eating disorders and associated psychiatric comorbidity in elderly Canadian women. *Archives of Women's Mental Health*. 2008; 11(5–6):357–362.
- Gagne DA, Von Holle A, Brownley KA, Runfola CD, Hofmeier S, Branch KE, Bulik CM. Eating disorder symptoms and weight and shape concerns in a large web-based convenience sample of women ages 50 and above: results of the gender and body image (GABI) study. *International Journal of Eating Disorders*. 2012; 45(7):832–844. [PubMed: 22729743]
- Genazzani AR, Gambacciani M. Effect of climacteric transition and hormone replacement therapy on body weight and body fat distribution. *Gynecological Endocrinology*. 2006; 22(3):145–150. [PubMed: 16835076]
- Gosselink CA, Cox DL, McClure SJ, DeJong ML. Ravishing or ravaged: women's relationships with women in the context of aging and Western beauty culture. *International Journal of Aging and Human Development*. 2008; 66:307–327. [PubMed: 18507332]
- Greene MH, Clark JW, Blayney DW. The epidemiology of ovarian cancer. *Seminars in Oncology*. 1984; 11(3):209–226. [PubMed: 6091274]
- Greenleaf C. Self-objectification among physically active women. *Sex Roles*. 2005; 52(1–2):51–62.
- Gupta MA. Concerns about aging and a drive for thinness: a factor in the biopsychosocial model of eating disorders? *International Journal of Eating Disorders*. 1995; 18(4):351–357. [PubMed: 8580921]
- Gupta MA, Schork NJ. Aging-related concerns and body image: possible future implications for eating disorders. *International Journal of Eating Disorders*. 1993; 14(4):481–486. [PubMed: 8293030]

- Haines J, Neumark-Sztainer D. Prevention of obesity and eating disorders: A consideration of shared risk factors. *Health Education Research*. 2006; 21(6):770–782. [PubMed: 16963727]
- Halliwell E, Dittmar H. A qualitative investigation of women’s and men’s body image concerns and their attitudes towards aging. *Sex Roles*. 2003; 49(11–12):675–684.
- Helms RL, O’Hea EL, Corso M. Body image issues in women with breast cancer. *Psychology, Health & Medicine*. 2008; 13(3):313–325.
- Hrabosky JI, Grilo CM. Body image and eating disordered behavior in a community sample of Black and Hispanic women. *Eating Behaviors*. 2007; 8(1):106–114. [PubMed: 17174858]
- Hurd LC. Older women’s body image and embodied experience: an exploration. *Journal of Women & Aging*. 2000; 12(3–4):77–98. [PubMed: 11151356]
- Jackson KL, Janssen I, Appelhans BM, Kazlauskaitė R, Karavolos K, Dugan SA, Kravitz HM. Body image satisfaction and depression in midlife women: the Study of Women’s Health Across the Nation (SWAN). *Archives of Women’s Mental Health*. 2014; 17(3):177–187.
- Jacobi, C.; Fittig, E. Psychosocial risk factors for eating disorders. In: Agras, S., editor. *The Oxford Handbook of Eating Disorders*. USA: Oxford University Press; 2010.
- Janke AE, Kozak AT. “The more pain I have, the more I want to eat”: Obesity in the context of chronic pain. *Obesity*. 2012; 20(10):2027–2034. [PubMed: 22334258]
- Janz NK, Mujahid MS, Lantz PM, Fangerlin A, Salem B, Morrow M, Katz SJ. Population-based study of the relationships of treatment and sociodemographics on quality of life for early stage breast cancer. *Quality of Life Research*. 2005; 14:1467–1479. [PubMed: 16110927]
- Johannes CB, Le TK, Zhou X, Johnston JA, Dworkin RH. The prevalence of chronic pain in United States adults: results of an internet-based study. *The Journal of Pain*. 2010; 11(11):1230–1239. [PubMed: 20797916]
- Johnson CP, Gallagher-Lepak S, Zhu Y, Porth C, Kelber S, Roza AM, Adams MB. Factors influencing weight gain after renal transplantation. *Transplantation*. 1993; 56(4)
- Johnson F, Wardle J. Dietary restraint, body dissatisfaction, and psychological distress: A prospective analysis. *Journal of Abnormal Psychology*. 2005; 114:119–125. [PubMed: 15709818]
- Jolly M, Pickard AS, Mikolaitis RA, Cornejo J, Sequeira W, Cash TF, Block JA. Body image in patients with systemic lupus erythematosus. *International Journal of Behavioral Medicine*. 2012; 19(2):157–164. [PubMed: 21380770]
- Keel PK, Gravener JA, Joiner TE, Haedt AA. Twenty-year follow-up of bulimia nervosa and related eating disorders not otherwise specified. *International Journal of Eating Disorders*. 2010; 43(6): 492–497. [PubMed: 19718666]
- Khaw KT. Epidemiology of the menopause. *British Medicine Bulletin*. 1992; 48(2):249–261.
- King TK, Matacin M, White KS, Marcus BH. A prospective examination of body image and smoking cessation in women. *Body Image*. 2005; 2(1):19–28. [PubMed: 18089171]
- Koch PB, Mansfield PK, Thureau D, Carey M. “Feeling frumpy”: the relationship between body image and sexual response changes in midlife women. *The Journal of Sex Research*. 2005; 42(3):215–223.
- Kozar JM, Damhorst ML. Comparison of the ideal and real body as women age: relationships to age identity, body satisfaction and importance, and attention to models in advertising. *Clothing and Textiles Research Journal*. 2009; 27:197–210.
- Lemieux J, Maunsell E, Provencher L. Chemotherapy-induced alopecia and effect on quality of life among women with breast cancer: a literature review. *Psycho-Oncology*. 2008; 17(4):317–328.
- Lewis DC, Medvedev K, Seponski DM. Awakening to the desires of older women: deconstructing ageism within fashion magazines. *Journal of Aging Studies*. 2011; 25(2):101–109.
- Lewis DM, Cachelin FM. Body image, body dissatisfaction, and eating attitudes in mid-life and elderly women. *Eating Disorders: The Journal of Treatment and Prevention*. 2001; 9:29–39.
- Ley CJ, Lees B, Stevenson JC. Sex-and menopause-associated changes in body-fat distribution. *The American Journal of Clinical Nutrition*. 1992; 55(5):950–954. [PubMed: 1570802]
- Liechty T, Freeman PA, Zabriskie RB. Body image and beliefs about appearance: constraints on the leisure of college-age and middle-age women. *Leisure Sciences*. 2006; 28(4)



- Lovejoy JC, Champagne CM, de Jonge L, Xie H, Smith SR. Increased visceral fat and decreased energy expenditure during the menopausal transition. *International Journal of Obesity*. 2008; 32:949–958. [PubMed: 18332882]
- Mangweth-Matzek B, Hoek HW, Rupp CI, Lackner-Seifert K, Frey N, Whitworth AB, Kinzl J. Prevalence of eating disorders in middle-aged women. *International Journal of Eating Disorders*. 2014; 47(3):320–324. [PubMed: 24293379]
- Mangweth-Matzek B, Rupp CI, Hausmann A, Assmayr K, Mariacher E, Kemmler G, Biebl W. Never too old for eating disorders or body dissatisfaction: a community study of elderly women. *International Journal of Eating Disorders*. 2006; 39(7):583–586. [PubMed: 17078123]
- Marcus MD, Bromberger JT, Wei H, Brown C, Kravitz HM. Prevalence and selected correlates of eating disorder symptoms among a multiethnic community sample of midlife women. *Annals of Behavioral Medicine*. 2007; 33(3):269–277. [PubMed: 17600454]
- Martz DM, Petroff AB, Curtin L, Bazzini DG. Gender differences in fat talk among American adults: results from the psychology of size survey. *Sex Roles*. 2009; 61:34–41.
- Matz PE, Foster GD, Faith MS, Wadden TA. Correlates of body image dissatisfaction among overweight women seeking weight loss. *Journal of Consulting and Clinical Psychology*. 2002; 70(4):1040–1044. [PubMed: 12182267]
- McKinley NM, Lyon LA. Menopausal attitudes, objectified body consciousness, aging anxiety, and body esteem: European American women’s body experience in midlife. *Body Image*. 2008; 5(4): 375–380. [PubMed: 18753020]
- McLaren L, Kuh D. Body dissatisfaction in midlife women. *Journal of Women & Aging*. 2004; 16(1–2):35–54. [PubMed: 15149923]
- McLaren L, Rebecca H, Kuh D. Women’s body satisfaction at midlife and lifetime body size: a prospective study. *Health Psychology*. 2003; 22(4):370–377. [PubMed: 12940393]
- McLean SA, Paxton SJ, Wertheim EH. Factors associated with body dissatisfaction and disordered eating in women in midlife. *International Journal of Eating Disorders*. 2010; 43(6):527–536. [PubMed: 19718668]
- McPherson K, Steel CM, Dixon JM. ABC of breast diseases. Breast cancer-epidemiology, risk factors, and genetics. *British Medical Journal*. 2000; 321(7261):624–628. [PubMed: 10977847]
- Mehta UJ, Siega-Riz AM, Herring AH. Effect of body image on pregnancy weight gain. *Maternal and Child Health Journal*. 2011; 15(3):324–332. [PubMed: 20204481]
- Meyers AW, Klesges RC, Winders SE, Ward KD, Peterson BA, Eck LH. Are weight concerns predictive of smoking cessation? A prospective analysis. *Journal of Consulting and Clinical Psychology*. 1997; 65(3):448. [PubMed: 9170768]
- Midlarsky E, Nitzburg G. Eating disorders in middle-aged women. *The Journal of General Psychology*. 2008; 135(4):393–408. [PubMed: 18959229]
- Muise A, Desmarais S. Women’s perceptions and use of “anti-aging” products. *Sex Roles*. 2010; 63(1–2):126–137.
- Munce SEP, Stewart DE. Gender differences in depression and chronic pain conditions in a national epidemiologic survey. *Psychosomatics*. 2007; 48(5):394–399. [PubMed: 17878497]
- Nademin ME, Napolitano MA, Xanthopoulos MS, Fava JL, Richardson E, Marcus B. Smoking cessation in college-aged women: a qualitative analysis of factors important to this population. *Addiction Research & Theory*. 2010; 18(6):649–666.
- Nano MT, Grantly G, Kollias J, Bochner MA, Malycha P, Winefield HR. Psychological impact and cosmetic outcome of surgical breast cancer strategies. *ANZ Journal of Surgery*. 2005; 75(11):940–947. [PubMed: 16336382]
- National Sleep Foundation. Depression and Sleep. 2013 Retrieved from <http://sleepfoundation.org/sleep-disorders-problems/depression-and-sleep>.
- Neumark-Sztainer D, Paxton SJ, Hannan PJ, Haines J, Story M. Does body satisfaction matter? Five-year longitudinal associations between body satisfaction and health behaviors in adolescent females and males. *Journal of Adolescent Health*. 2006; 39(2):244–251. [PubMed: 16857537]
- Nichter, M.; Vuckovic, N. Fat talk. In: Sualt, N., editor. *Many mirrors: body image and social relation*. New Jersey: Rutgers University Press; 1994. p. 109-131.

- Novy DM, Nelson DV, Averill PM, Berry LA. Gender differences in the expression of depressive symptoms among chronic pain patients. *Clinical Journal of Pain*. 1996; 12(1):23–29. [PubMed: 8722731]
- Panay N, Hamoda H, Arya R, Savvas M. The 2013 British menopause society & women’s health concern recommendations on hormone replacement therapy. *Post Reproductive Health*. 2013; 19(2):59–68.
- Paxton, SJ. Prepared for the Victorian Government Department of Human Services. Melbourne: Victoria; 2002. Research review of body image programs: an overview of body image dissatisfaction prevention interventions.
- Peat CM, Peyerl NL, Muehlenkamp JJ. Body image and eating disorders in older adults: a review. *The Journal of General Psychology*. 2008; 135(4):343–358. [PubMed: 18959226]
- Perkins KA, Marcus MD, Levine MD, D’Amico D, Miller A, Broge M, Shiffman S. Cognitive-behavioral therapy to reduce weight concerns improves smoking cessation outcome in weight-concerned women. *Journal of Consulting and Clinical Psychology*. 2001; 69(4):604.
- Phillips BA, Collop NA, Drake C, Consens F, Vgontzas AN, Weaver TE. Sleep disorders and medical conditions in women. *Journal of Women’s Health*. 2008; 17(7):1191–1199.
- Poehlman ET, Tchernof A. Traversing the menopause: changes in energy expenditure and body composition. *Coronary Artery Disease*. 1998; 9(12)
- Pruis TA, Janowsky JS. Assessment of body image in younger and older women. *Journal of General Psychology*. 2010; 137(3):225–238. [PubMed: 20718224]
- Rallis S, Skouteris H, Wertheim EH, Paxton SJ. Predictors of body image during the first year postpartum: a prospective study. *Women & Health*. 2007; 45(1):27–35.
- Rawana JS. The relative importance of body change strategies, weight perception, perceived social support, and self-esteem on adolescent depressive symptoms: Longitudinal findings from a national sample. *Journal of Psychosomatic Research*. 2013; 75(1):49–54. [PubMed: 23751238]
- Rowland JH, Desmond KA, Meyerowitz BE, Belin TR, Wyatt GE, Ganz PA. Role of breast reconstructive surgery in physical and emotional outcomes among breast cancer survivors. *Journal of the National Cancer Institute*. 2000; 92(17):1422–1429. [PubMed: 10974078]
- Rubinstein HR, Foster JL. “I don’t know whether it is to do with age or to do with hormones and whether it is do with a stage in your life”: making sense of menopause and the body. *Journal of Health Psychology*. 2013; 18(2):292–307. [PubMed: 22904151]
- Runfola CD, Von Holle A, Trace SE, Brownley KA, Hofmeier SM, Gagne DA, Bulik CM. Body dissatisfaction in women across the lifespan: results of the UNC-SELF and Gender and Body Image (GABI) studies. *European Eating Disorder Review*. 2013; 21(1):52–59.
- Saucier MG. Midlife and beyond: issues for aging women. *Journal of Counseling & Development*. 2004; 82(4):420–425.
- Segar M, Spruijt-Metz D, Nolen-Hoeksma S. Go figure? Body-shape motives are associated with decreased physical activity participation among midlife women. *Sex Roles*. 2006; 54(3–4):175–187.
- Sharpe H, Naumann U, Treasure J, Schmidt U. Is fat talking a causal risk factor for body dissatisfaction? A systematic review and meta-analysis. *International Journal of Eating Disorders*. 2013; 46(7):643–652. [PubMed: 23818118]
- Sheehan TJ, DuBrava S, DeChello LM, Fang Z. Rates of weight change for black and white Americans over a twenty year period. *International Journal of Obesity Related Metabolism Disorders*. 2003; 27(4):498–504.
- Sherman S. Defining the menopausal transition. *The American Journal of Medicine*. 2005; 118(12):3–7. [PubMed: 16414321]
- Sholtz S, Hill SH, Lacey H. Eating disorders in older women: does late onset anorexia nervosa exist? *International Journal of Eating Disorders*. 2010; 43(5):393–397. [PubMed: 19536881]
- Situm M, Bulijan M, Cayka V, Bulat V, Krolo I, LugovicMihic L. Skin changes in the elderly people – How strong is the influence of the uv radiation on skin aging? *Collegium antropologicum*. 2010; 34(2):9–13.
- Slevec J, Tiggemann M. Attitudes toward cosmetic surgery in middle-aged women: body image, aging anxiety, and the media. *Psychology of Women Quarterly*. 2010; 34(1):65–74.

- Slevec J, Tiggemann M. Predictors of body dissatisfaction and disordered eating in middle-aged women. *Clinical Psychology Review*. 2011; 31(4):515–524. [PubMed: 21239098]
- Smirnova MH. A will to youth: the women's anti-aging elixir. *Social Science & Medicine*. 2012; 75(7):1236–1243. [PubMed: 22742924]
- Soares CN. Insomnia in women: an overlooked epidemic? *Archives of Women's Mental Health*. 2005; 8:205–213.
- Stice E, Hayward C, Cameron RP, Killen JD, Taylor CB. Body-image and eating disturbances predict onset of depression among female adolescents: A longitudinal study. *Journal of Abnormal Psychology*. 2000; 109(3):438–444. [PubMed: 11016113]
- Stice E, Maxfield J, Wells T. Adverse effects of social pressure to be thin on young women: an experimental investigation of the effects of "fat talk". *International Journal of Eating Disorders*. 2003; 34(1):108–117. [PubMed: 12772175]
- Stice E, Nemeroff C, Shaw HE. Test of the dual pathway model of bulimia nervosa: Evidence for dietary restraint and affect regulation mechanisms. *Journal of Social and Clinical Psychology*. 1996; 15(3):340–363.
- Sundalin T, Lekander M, Kecklund G, Van Someren EJ, Olsson A, Axelsson J. Cues of fatigue: effects of sleep deprivation on facial appearance. *Sleep*. 2013; 36(9):1355–1360. [PubMed: 23997369]
- Svendsen OL, Hassager C, Christiansen C. Age- and menopause-associated variations in body composition and fat distribution in healthy women as measure by dual-energy x-ray absorptiometry. *Metabolism*. 1995; 44(3):369–373. [PubMed: 7885283]
- Taheri S, Lin L, Austin D, Young T, Mignot E. Short sleep duration is associated with reduced leptin, elevated ghrelin, and increased body mass index. *PLoS Medicine*. 2004; 1(3)
- Tchkonina T, Morbeck DE, Von Zglinicki T, Van Deursen J, Lustgarten J, Scoble H, Kirkland JL. Fat tissue, aging, and cellular senescence. *Aging Cell*. 2010; 9(5):667–684. [PubMed: 20701600]
- Thorpe SJ, Ahmed B, Steer K. Reasons for undergoing cosmetic surgery: a retrospective study. *Sexualities, Evolution & Gender*. 2004; 6(2–3):75–96.
- Tiggemann M. Body image across the adult life span: stability and change. *Body Image*. 2004; 1(1): 29–41. [PubMed: 18089139]
- Tiggemann M, Lynch JE. Body image across the life span in adult women: the role of self-objectification. *Developmental Psychology*. 2001; 37(2):243–253. [PubMed: 11269392]
- Tiggemann M, McGill B. The role of social comparison in the effect of magazine advertisements on women's mood and body dissatisfaction. *Journal of Social and Clinical Psychology*. 2004; 23(1): 23–44.
- Utian WH. Menopause-related definitions. *International Congress Series*. 2004; 1266:133–138.
- Vamos M, White GL, Caughey DE. Body image in rheumatoid arthritis: the relevance of hand appearance to desire for surgery. *British Journal of Psychology*. 1990; 63:267–277.
- Van den Berg P, Neumark-Sztainer D. Fat 'n happy 5 years later: Is it bad for overweight girls to like their bodies? *Journal of Adolescent Health*. 2007; 41:415–417. [PubMed: 17875468]
- Vance V, Mourtzakis M, McCarger L, Hanning R. Weight gain in breast cancer survivors: Prevalence, pattern and health consequences. *Obesity Review*. 2011; 12(4):282–294.
- Vanina Y, Podolskaya A, Sedky K, Shahab H, Siddiqui A, Munshi F, Lippman S. Body weight changes associated with psychopharmacology. *Psychiatric Services*. 2002; 53(7):842–847. [PubMed: 12096167]
- Webster J, Tiggemann M. The relationship between women's body satisfaction and self-image across the life span: the role of cognitive control. *Journal Genetic Psychology*. 2003; 164(2):241–252.
- White CA. Body image dimensions and cancer: a heuristic cognitive behavioural model. *Psycho-Oncology*. 2000; 9(3):183–192. [PubMed: 10871714]
- White MA, McKee SA, O'malley SS. Smoke and mirrors: magnified beliefs that cigarette smoking suppresses weight. *Addictive Behaviors*. 2007; 32(10):2200–2210. [PubMed: 17428615]
- Yancik R. Ovarian cancer: age contrasts in incidence, histology, disease stage at diagnosis, and mortality. *Cancer*. 1993; 71(S2):517–523. [PubMed: 8420671]