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Growing Older and Staying Positive: Associations Between Diverse Aging Women's Perceptions of Age and Body Satisfaction

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Abstract As women grow older, physical changes accompanying the aging process may impact self-perceptions of body image and age. To assess these perceptions, survey data were collected from 115 European American and 100 African American aging 65+ to assess whether patterns of association between age, age discrepancy, and body satisfaction vary by ethnic group. African American women reported higher average satisfaction for all body perceptions except weight, for which there was no difference between the groups. Ethnic group moderated the association between age discrepancy and two aspects of body satisfaction: cosmetic features and overall appearance. For African American aging women, perceptions of the body were not as strongly linked to perceptions of aging. For European American women, feeling older than one's age was associated with lower body satisfaction, and women in this group may be more vulnerable to the negative impacts of the aging process on the body.

Keywords Body image · Subjective age · Age discrepancy · Age identity · Self-perceptions of aging

Introduction

Growing older is accompanied by many physical changes, including changes in body functioning as well as physical appearance and cosmetic features. Women in later stages of life may express low body satisfaction because older women's bodies are routinely devalued and youthfulness is associated with attractiveness (Garner 1999; Peat et al. 2008). However, evidence also suggests that body satisfaction remains relatively stable across the adult years (Bedford and Johnson 2006; Pruis and Janowsky 2010; Tiggemann 2004), and that many older adults report an increase in life satisfaction, despite the potential increase in disability (Jeste et al. 2013). This may be because older adults factor their attitudes and outlook into their definitions of successful aging, rather than focusing solely on physical health factors (Reichstadt et al. 2007). We do not yet know if increased age is associated with lower body satisfaction through later stages of life (e.g., 65 and older) or whether the discrepancy between subjective age and chronological age are associated with body satisfaction for women in different ethnic groups. This research is critical because body image is a key concern for aging women (Kilpela et al. 2015) and body perceptions have been linked to mental health as well as health behaviors for women at midlife and older (Clarke and Korotchenko 2011; Lewis and Cachelin 2001; Mangweth-Matzek et al. 2006; Sabik 2015; Webster and Tiggemann 2003). This study will examine patterns of body satisfaction and subjective age among women age 65 and older. Additionally, we will examine whether there are differences in body satisfaction and perceptions of age, specifically examining the discrepancy between chronological age and subjective age, between African American and European American women age 65 and older.

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Body Image and Aging

Body image is a multidimensional construct associated with many aspects of life, including health, psychological well-being, and quality of life (Cash and Fleming 2002; Grogan 2006). Body image develops throughout the lifespan as a result of individual experience, cultural norms and cues, physical appearance and changes in the body, and relationships with others (Chrisler and Ghiz 1993). Older women may be particularly at risk for negative body image and poor mental health because beauty is associated with youth, and aging women's bodies are often portrayed as unattractive, desexualized, or are made invisible (Saucier 2004).

Theorists have suggested that social and cultural factors strongly influence body perceptions by reinforcing the notion that women are evaluated and judged based upon their appearance (Fredrickson and Roberts 1997; Thompson et al. 1999). In particular, researchers have theorized that women may internalize societal views of their bodies as objects, leading to body shame (Fredrickson and Roberts 1997). Further, social expectancy theory proposes that cultural values shape how individuals perceive and evaluate others, and that this, in turn, influences how individuals evaluate themselves (Jackson 2004). Although some research has indicated that older women in countries with predominantly western culture (e.g., the U.S., Canada, and Australia) report diminished appearance investment, women in these countries remain susceptible to body concerns and eating disorders (Clarke and Korotchenko 2011; Lewis and Cachelin 2001; Mangweth-Matzek et al. 2006; Webster and Tiggemann 2003).

Bodies change with age, and older women may face or anticipate facing functional limitations and other health issues that may affect body perceptions (Wilcox 1997). For many older women, body concerns shift from appearance features to aspects of the body associated with maintaining physical function and good health (Hurd 2000), yet various aspects of both appearance and body function remain central to aging women's self-concept (Hurd 2000; Kilpela et al. 2015; Pliner et al. 1990). Older women may experience a redistribution of body fat, loss of muscle mass, and changes in skin elasticity (Kilpela et al. 2015; Tchkonia et al. 2010) which may influence perceptions of physical appearance. Women are more likely than men to experience chronic disease, and changes in the functionality of the body may lower body esteem (Chrisler and Ghiz 1993; Hurd 2000). Women also report concern with cosmetic features, such as hair color and texture and facial skin (Hurd 2000; Kilpela et al. 2015). Last, weight is of central concern to many women across the lifespan (Gagne et al. 2012), and is a distinct concern for many aging women (Hurd 2000). Thus, examining age-specific body perceptions such as satisfaction with cosmetic features, physical appearance, body function, and weight are critical among older women.

Much like the paradox that older adults do not necessarily report lower subjective well-being, not all older women express dissatisfaction with their bodies. For example, Montepare (2006) found that older adults were more positive in their body perceptions as compared to younger adults. Older women also have expressed internalization of ageist norms and dissatisfaction with some aspects of their bodies while simultaneously reporting that health is more important than appearance (Hurd 2000). A growing body of work on positive body image emphasizes broader conceptualizations of beauty that move beyond sexual attractiveness and do not emphasize the association between self-worth and appearance (Tylka and Wood-Barcalow 2015). For many older adults, embracing and appreciating body features may be part of an adaptive process of aging. Further, understanding the links between perceptions of age and body image are critical because these factors are associated with better health-related quality of life.

Is subjective age associated with body satisfaction? Perceptions of the body have been linked to perceptions of age, as positive perceptions of aging among older adults have been linked to better physical functioning (Levy et al. 2002). Positive age identity, which includes perceptions of physical, social, and psychological aspects of aging, has been associated with higher evaluations of body competence among adults aged 17–85 (Montepare 2006). Additionally, subjective age, which has been defined as how old a person feels (Kaufman and Elder 2002), was a stronger predictor of body perceptions than chronological age among women aged 17–85 (Montepare 1996). Researchers have distinguished between 'felt age' and 'physical age,' where felt age reflects the age that one feels, and physical age reflects the age an adult feels when they look in the mirror (Kleinspehn-Ammerlahn et al. 2008). When examining the trajectories of these in relation to chronological age over time, Kleinspehn et al. (2008) found a decrease in the discrepancy between physical age and actual age over time, indicating that as adults aged, their perceptions of their appearance were affected. They suggested that the association between appearance and age may be more salient for women than for men because women were less satisfied with their aging overall and reported more accurate perceptions of their physical age (Kleinspehn-Ammerlahn et al. 2008). It is also possible that some older women view their bodies favorably because they maintain a young age identity and view themselves as in better physical shape than a stereotypic older adult (Montepare 1996; Ross et al. 1989). Given the role of physical and appearance changes in the aging process, we expect that women who report feeling younger will also report greater body satisfaction. To extend previous work on subjective age

(Kleinspehn-Ammerlahn et al. 2008; Montepare 1996, 2006), we propose that a high discrepancy between chronological age and subjective age (i.e., feeling younger than one's age) will be associated with higher body satisfaction on dimensions of body image relevant to older women (e.g., physical appearance, physical function, weight, and cosmetic features).

Ethnic Differences in Body Satisfaction

Body image research shows that there are often small yet significant differences between ethnic groups in levels of satisfaction with the body (Breitkopf et al. 2007; Molloy and Herzberger 1998). Body concerns and the associations between body perceptions and mental health vary for women in different ethnic groups (Roberts et al. 2006; Sabik 2015; Siegel et al. 2000). However, the majority of this work has considered variation based on ethnicity and gender, while age is often overlooked as a factor in body image research (Peat et al. 2008). Younger African American women are more satisfied with their bodies on average (Grabe and Hyde 2006; Roberts et al. 2006); yet we do not know whether positive perceptions of the body extend into old age for women in this ethnic group. Alternatively, later in life, the shared experience of aging may become more salient than experiences that differ between ethnic groups, in which case African American and European American women may show the same body concerns.

Researchers (Abrams et al. 1993; Molloy and Herzberger 1998) have suggested that some aspects of ethnic culture could act as a buffer against this body dissatisfaction for African American women. First, there is a preference for larger body sizes within the African American community, and people who hold these preferences associate a larger body size with health and prosperity (Ofosu et al. 1998). A number of studies have shown that African American culture is accepting of a variety of different body shapes and sizes (Craig 2006; Lovejoy 2001; Poran 2002). Second, African American women may hold a different definition of attractiveness than do European American women. For African American women, definitions of beauty are multifaceted and include factors beyond body size, such as stylishness, attire, and race (Bedford and Johnson 2006; Davis et al. 2010). These significant cultural differences regarding the body may account for different levels of body satisfaction that have been repeatedly observed (Grabe and Hyde 2006). Based on previous research, we expect that the associations between body satisfaction and perceptions of age may not be uniform among different ethnic groups. However, we know little about whether older women from different ethnic groups vary in their perceptions of body image or age.

Hypotheses

H1 African American women will report greater satisfaction with physical appearance, cosmetic features, and weight as compared to European American women. We expect to find no differences on body function, given that this is an area of body image that may represent an aspect of aging common to women across ethnic groups. Additionally, we do not expect to find differences in age discrepancy.

H2 Higher age and higher age discrepancy will be associated with lower body satisfaction for both African American and European American women on all four dimensions of body satisfaction assessed. That is, we expect that increased chronological age and feeling older than one's age will be associated with feeling less satisfied with the body.

H3 Lower age discrepancy (i.e., feeling younger than chronological age) will be associated with greater body satisfaction. Given that we know little about ethnic differences in these patterns, we will examine whether ethnic group moderates these associations.

Method

Participant Recruitment

Data were collected from 127 European American and 119 African American women aged 65 and older. Of these participants, 115 European American and 100 African American women had complete data for all measures and were included in the analyses. Eleven participants did not provide data on their body mass index, and 20 were missing data on age discrepancy. Participants missing BMI data did not differ significantly on any study variables from participants who reported BMI, nor did participants missing age discrepancy data differ from participants who reported age discrepancy (for all t tests, $p > .05$). Participants were recruited in two ways. First, flyers were posted at senior residential communities. Participants responded to the flyers by calling or emailing the researchers, and a meeting time was arranged to drop off and pick up the survey. This recruitment strategy yielded a small number of participants ($n = 22$). The second recruitment strategy involved mailing a letter with information about the study to individuals who had opted to be on a list of participants for research studies maintained by the Institute of Gerontology at the University of Michigan or the Healthier Black Elders Center at the Institute of Gerontology at Wayne State University. Contact

information for participants who met the study criteria was obtained from the Institute of Gerontology, and packets were mailed to those women containing a letter providing background information about the study, as well as the consent forms, questionnaire, and a return envelope. Women who chose to participate completed the survey and consent forms which they filled out and returned by mail. All participants were compensated fifteen dollars and received a debriefing and thank you letter via mail.

Measures

Surveys were printed in booklet form on 8½×11-inch paper using 18 point font in order to increase readability.

Demographic Questions

A brief questionnaire assessed basic demographic information including age, partner status, education, and number of children they had raised.

Body Satisfaction

For this study, the researchers developed a body satisfaction measure that reflected concerns about aging women's bodies that have arisen in previous research (Gagne et al. 2012; Hurd 2000; Kilpela et al. 2015). Specifically, features were assessed that reflected four major dimensions of body image, including physical functioning, overall physical appearance, weight, and cosmetic features. Participants were asked to rate their satisfaction with 14 distinct aspects of the body on a scale ranging from 1 (not very satisfied) to 4 (very satisfied). Items on each subscale were averaged and higher scores reflect greater satisfaction with body features.

The physical functioning subscale contained three items, including muscle tone and definition, strength, and physical coordination. For both European American (EA) women and African American (AA) women in the study, the alpha for this subscale was acceptable (EA $\alpha = 0.75$; AA $\alpha = 0.73$). The overall physical appearance subscale contained 5 items, including overall physical appearance, firmness of skin on the body, bust, proportions, and height. The alpha levels for this subscale were good for both ethnic groups (EA $\alpha = 0.70$, AA $\alpha = 0.74$). Weight satisfaction was assessed using the individual question. Last, the cosmetic features subscale contained 5 items that assessed women's satisfaction with skin complexion, facial features, hair texture, hair thickness, and hair color. The alpha levels for this subscale were acceptable for both ethnic groups (EA $\alpha = 0.68$, AA $\alpha = 0.61$).

Body Mass Index Category

Body mass index (BMI) is calculated by multiplying weight in pounds by 703 and dividing by height in inches squared, and can be an indicator of an individual's level of body fat (Centers for Disease Control and Prevention 2015). Participants were asked to find their height and corresponding weight range and to circle this value in a table (National Institutes of Health, 2015). This method allowed participants to report their height and select the range that their weight falls within. Data were coded to reflect BMI categories, including underweight (<18.5), normal weight (18.5–24.99), overweight (25–29.99), and obese (>30) (Centers for Disease Control and Prevention 2015). For this study, a score of 1 corresponds to underweight, 2 = normal weight, 3 = overweight, and 4 = obese. We collected information about BMI category only and did not ask participants to report their exact height and weight.

Age Discrepancy

Subjective age was measured using one item asking women the age they feel. This was an open-ended question and participants were instructed to write their answer in the space provided. Allowing participants to specify an age provides a continuous scale that does not rely on pre-set categories and allows for greater variance (Kaufman and Elder 2002). Chronological age was subtracted from subjective age to calculate the age discrepancy score. This approach has been widely used in research on subjective age and allowed us to assess directly how much younger or older a participant felt in years relative to their actual age (Kleinspehn-Ammerlahn et al. 2008). For example, an 80-year-old woman who reports feeling 65 would have a subjective age of −15, whereas a 74-year-old women who reports feeling 78 would have a subjective age of +4.

Analytical Plan

First, to test for ethnic group differences on BMI category, body satisfaction subscales, and age discrepancy, a multivariate analysis of variance (MANOVA) controlling for age was computed, and follow-up post hoc tests were examined. Second, correlations among the study variables controlling for BMI category were examined separately for each ethnic group. Last, to test whether age discrepancy was associated with body satisfaction and whether this association differed by ethnic group, we ran multiple regression analyses with each body satisfaction subscale as the dependent variable. We followed the steps outlined by Aiken and West (1991) to test for moderation. We centered the independent variable included in the interaction (age discrepancy) and then created an interaction term by multiplying this variable by

ethnic group, which had been dummy coded. We also centered the control variable to increase the interpretability of the results. Next, we regressed the dependent variable on the predictors. Finally, we graphed the significant interaction by calculating values based on scores of one standard deviation above and below the mean for the independent variable.

Results

Several demographic differences between the samples were found. European American women were older (81.01 years, $SD = 7.52$) on average as compared to African American women (75.49 years, $SD = 6.55$; t (213) = 5.70, $p < .001$). Highest level of education was reported on scale in which 3 = completing high school, 4 = completing trade or technical school, 5 = attending some college, 6 = graduating from college, 7 = some graduate or professional school, 8 = earned a postgraduate degree; European American women reported completing higher levels of education (χ^2 (7) = 22.33, $p < .01$). On average, European American women indicated attending or graduating from college ($M = 5.69$, $SD = 1.92$, Median = 6), and African American participants reported, on average, attending some college ($M = 4.88$; $SD = 1.83$; Median = 5). It is important to note that this sample is more highly educated than the national average (He, Sengupta, Velkoff, & DeBarros). There were not significant differences in partner status (χ^2 (3) = 5.10, $p = .16$) and the most common status was widowed. Participants who did not provide complete data were compared to those with complete data on key study measures (age, subjective age, and all body satisfaction scales) and no differences emerged (all p values > 0.12).

To test for mean-level differences between the two ethnic groups on study variables (hypothesis 1), a one-way multivariate analysis of variance (MANOVA) was run with ethnic group as the independent variable and BMI, satisfaction with body function, satisfaction with overall appearance, satisfaction with cosmetic features, satisfaction with weight, and age discrepancy as the dependent variables. The multivariate effect for ethnic group was significant (Pillai's trace: $F(6, 208) = 9.48$, $p < .001$, $\eta^2 = 0.215$).

A comparison of the group means (see Table 1) showed that African American women were higher in BMI, and reported higher average scores on all measures of satisfaction with body perceptions except weight, for which there was no difference between the groups. There was no difference between the groups on age discrepancy. Thus, our hypothesis that African American women would have higher average scores on body satisfaction measures was supported except for weight satisfaction.

Correlations were examined separately for the ethnic groups (Table 2). Correlation analyses included both age and age discrepancy in order to assess the association between each of these separately with body satisfaction subscales, and BMI was included as a control due to the ethnic group differences in BMI category. Analyses revealed that for both ethnic groups, age was not associated with age discrepancy. Among African American women,

Table 1 Ethnic comparisons for BMI, age discrepancy, and body perception subscales

Item	African Americans *M (SE)*	European Americans *M (SE)*	*F*	*p*
BMI	3.28 (.10)	2.74 (.09)	16.98	.000
Age discrepancy	−14.79 (1.15)	−15.11 (1.07)	.42	.837
Satisfaction with cosmetic features	3.33 (.06)	2.88 (.06)	29.43	.000
Satisfaction with physical appearance	3.03 (.06)	2.72 (.06)	14.32	.000
Satisfaction with body function	2.70 (.08)	2.38 (.07)	9.04	.003
Satisfaction with weight	2.32 (.12)	2.41 (.11)	.76	.383

Note M represents the estimated marginal means, *SE* represents the standard error of the mean

Table 2 Correlations between age, subjective age, and body satisfaction subscales controlling for BMI for African American women (above diagonal) and European American women (below diagonal)

Variable	1	2	3	4	5	6
1. Age	–	.05	.23*	.11	.28**	.05
2. Age discrepancy	−.12	–	.13	−.14	.03	.08
3. Satisfaction with cosmetic features	.00	−.21*	–	.26**	.39***	.10
4. Satisfaction with body function	−.13	−.23*	.48***	–	.56***	.19
5. Satisfaction with physical appearance	−.09	−.29**	.50***	.55***	–	.38***
6. Satisfaction with weight	.14	−.13	.15	.16	.33***	–

Note *$p < .05$, **$p < .01$, ***$p < .001$

there was a significant positive association between age and satisfaction with cosmetic features, as well as satisfaction with physical appearance. That is, women at older ages reported greater satisfaction with these aspects of the body. There was not a significant association between age and satisfaction with physical function. Age discrepancy was not associated with any aspect of body satisfaction for this group.

In contrast, a different pattern emerged for European American women. For women in this group, age was not associated with any of the body satisfaction measures. However, age discrepancy had a negative association with three aspects of body satisfaction: cosmetic features, overall appearance, and body function. For both groups, weight satisfaction was unrelated to all study measures except for a positive association with satisfaction with physical appearance.

To test the hypothesis that age discrepancy would be associated with different aspects of body satisfaction and to examine whether ethnic group moderated this association (hypothesis 3), multiple regression analyses controlling for BMI were conducted. As shown in Table 3, ethnic group and age discrepancy were each independently associated with satisfaction with body function. However, there were no significant interactions, indicating that no moderation was taking place. Both ethnic group and age discrepancy were associated with satisfaction with cosmetic features, and there was a significant interaction between these predictors. A graph of this interaction was created using predicted values for the outcome variable at 1 standard deviation (SD) above the mean and 1 SD below the mean on age discrepancy (see Fig. 1). An analysis of the significance of simple slopes (Holmbeck 2002) showed that age discrepancy was negatively associated with satisfaction with cosmetic features for European American women ($B = -0.01$, $SE = 0.00$, $\beta = -0.19$, $p = .018$), whereas for African American women, the association between age discrepancy and satisfaction with cosmetic features was not significant ($B = 0.01$, $SE = 0.01$, $\beta = 0.08$, $p = .412$).

Ethnic group was significantly associated with satisfaction with overall appearance, and there was a negative association between satisfaction with physical appearance and age discrepancy, as well as between satisfaction with physical appearance and BMI. Additionally, the interaction between age discrepancy and ethnic group was a significant predictor of satisfaction with physical appearance, indicating that moderation was taking place. A graph of this interaction (Fig. 1) and an analysis of simple slopes showed that, similar to the previous interaction, age discrepancy was negatively associated with satisfaction with physical appearance for European American women ($B = -0.01$, $SE = 0.00$, $\beta = -0.24$, $p = .004$), whereas for African American women, the association between age discrepancy and satisfaction with physical appearance was not significant

Table 3 Regression analysis summary for variables predicting body satisfaction

Variable	*B*	*SEB*	β
Regression 1: satisfaction with body function ($R^2 = .095$, $p < .001$)			
BMI	−0.09	0.05	−0.12
Ethnic group	0.38	0.11	0.24**
Age discrepancy	−0.01	0.01	−0.21*
Ethnic group × age discrepancy	0.00	0.01	0.02
Regression 2: satisfaction with cosmetic features ($R^2 = .153$, $p < .001$)			
BMI	−0.04	0.04	−0.07
Ethnic group	0.47	0.09	0.37***
Age discrepancy	−0.01	0.01	−0.19*
Ethnic group × age discrepancy	0.02	0.01	0.18*
Regression 3: satisfaction with physical appearance ($R^2 = .172$, $p < .001$)			
BMI	−0.17	0.04	−0.27***
Ethnic group	0.41	0.08	0.33***
Age discrepancy	0.00	0.00	−0.07
Ethnic group × age discrepancy	0.01	0.01	0.16*
Regression 4: satisfaction with weight ($R^2 = .342$, $p < .001$)			
BMI	−0.711	0.07	−0.60***
Ethnic group	0.24	0.14	0.10
Age discrepancy	−0.01	0.01	−0.10
Ethnic group × age discrepancy	0.02	0.01	0.10

Note *$p < .05$; **$p < .01$; ***$p < .001$

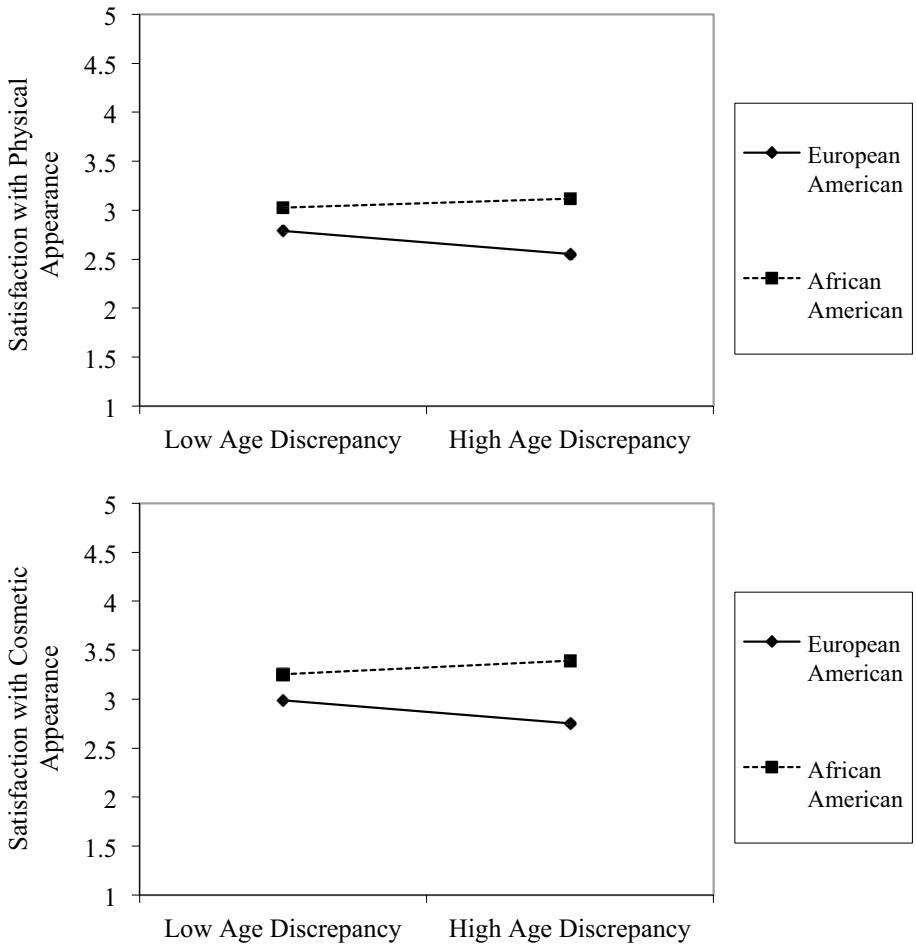

Fig. 1 The interaction between age discrepancy and ethnic group on satisfaction with physical appearance (*top*) and cosmetic appearance (*bottom*)

($B = 0.00$, $SE = 0.01$, $\beta = -0.09$, $p = .408$). The final regression analysis revealed that BMI had a negative association with satisfaction with weight, indicating that women who have a higher BMI have lower weight satisfaction.

Discussion

Given the association between beauty and youth, and the cultural imperative for women to monitor their appearance, we examined whether growing older (chronological age) or the discrepancy between how old an individual feels and her chronological age (age discrepancy) were associated with lower body satisfaction. Further, because patterns of body satisfaction differ significantly between African American and European American women at other stages of life (Abrams et al. 1993; Lovejoy 2001), we extended this work to examine ethnic group differences in overall body satisfaction as well as patterns of association between age, subjective age, and age-specific aspects of body satisfaction.

First, we compared average body satisfaction and age discrepancy scores for African American and European American women. We observed that age discrepancy (i.e., the distance between chronological age and subjective age) was not different between the groups. Women in both groups reported feeling about 15 years younger than their chronological age. Unexpectedly, there was also no difference between the groups on a measure of weight satisfaction. Both groups reported relatively lower weight satisfaction as compared to the other aspects of body image. This may be one body feature where experiences of aging are similar across ethnic groups, as all older women may tend to feel slightly lower satisfaction with weight due to the physiological changes that accompany the aging process.

African American women reported higher average satisfaction as compared to European American women on measures of physical appearance, cosmetic features, and physical function. Thus, our hypothesis was partially supported. Women in this ethnic group do retain more positive perceptions of the body through old age as compared to European American women, which reflects patterns observed among younger women (Roberts et al. 2006). However, we expected women in the two ethnic groups to be comparable on a measure of satisfaction with physical functioning given the higher rates of disability and

functional limitations that older women are likely to face (Chodzko-Zajko et al. 2009; Paulson et al. 2011), and that women live more years with disability than men (Arber and Cooper 1999). The findings suggest that African American women regard their bodies more positively in this age-specific domain, indicating that positive body image among members of this group may not only continue into old age, but may extend to aspects of the body less relevant to younger women. This may be a protective factor that is specific to older African American women, and retaining high satisfaction with body function may buffer against poor health outcomes as a result of functional limitations. More research is needed in this area to explore the potential positive benefits of retaining high body satisfaction in this domain.

Additionally, although mean differences between ethnic groups were observed in this study, it is unclear why African American women may be relatively protected from negative body image. While it is possible that aspects of culture act as a buffer against internalizing negative body perceptions for women in this ethnic group (Ofosu et al. 1998), potential cultural buffers were not assessed in this study. Future research should examine moderators of the association between body perceptions and mental health among this group to examine who is protected. It is possible that white women put more value on youth, and for women in this group, feeling younger may also mean feeling more body satisfaction. However, in African American culture, if feeling older is more acceptable, then a higher subjective age—or higher age discrepancy—may not have the same negative effects.

For both groups, we hypothesized that growing older and the discrepancy between chronological age and subjective age may be associated with a decline in satisfaction, as this reflects societal views of older women's bodies as they age. The data supported this hypothesis for European American women, but not for African American women. For European American women, the high positive discrepancy between chronological age and subjective age may reflect an internalization of negative views of aging, and consequently body satisfaction may be relatively lower. Satisfaction with body function may decline with age, as there is an increased chance of facing physical disability or other age-related physical challenges. We found the opposite to be true for African American women, for whom chronological age was associated with higher levels of satisfaction with cosmetic features (e.g., hair, facial skin) as well as physical appearance. This may reflect the paradox that although the aging process is marked by a loss of fertility and decline in physical ability, life satisfaction and psychological well-being often increase with age, and this pattern may be due to increased wisdom (Jeste and Oswald 2014). This may be domain-specific, and African American women may benefit in old age because they tend to, on average, hold more positive views of their bodies (Molloy and Herzberger 1998). Further, African American women retain higher relative body satisfaction in the face of poorer subjective health (Sabik 2015), indicating that positive body perceptions may not be negatively influenced by age-related factors, as they are for older European American women. Relatively few studies have been conducted examining specific protective factors among aging African American women, and more research is needed in this area to further explore these associations.

Unexpectedly, no aspects of body satisfaction were associated with age discrepancy for African American women. Keeping body satisfaction separate from feelings about age may provide some psychological benefits, because this indicates that older women in this group may not necessarily experience increasing negative views of the body with feeling older. Rather, for women in this group, growing older (i.e., chronological age) was associated with staying *positive* about certain age-related aspects of the body. This was not what we expected based upon the cultural devaluation of older women's bodies. However, this pattern may reflect an age-related positivity effect, indicating that as individuals grow older, they attend to and remember positive information (Reed and Carstensen 2012). The results may reflect that this effect extends to body image, and that for older African American women, appreciating the body and in turn, feeling satisfied, may increase with age.

For European American women, higher age discrepancy was associated with lower body satisfaction on every dimension except for weight, and chronological age was unrelated to all aspects of body satisfaction assessed in the study. This finding suggests that women in this group may be vulnerable to the negative impacts of the aging process on the body, especially for women who report feeling older than their chronological age. It was surprising that weight satisfaction was not linked to age or to subjective age given the physiological changes that women's bodies undergo with age. However, in interviews with older women, Hurd (2000) found this aspect of body esteem to change little over the life-course, and women reported consistently lower satisfaction with weight as compared to other aspects of the body. Women in this study reported relatively lower satisfaction with weight as compared to other body features, and this level of dissatisfaction appears to remain high for women at older chronological and subjective ages.

As we expected, regression analyses revealed that ethnic group was a significant predictor of satisfaction with body function, cosmetic features, and physical appearance. Given the ethnic group differences on these measures, this pattern reflects that African American women are more satisfied with these aspects of the body. We also observed that age discrepancy had a significant negative association

with satisfaction with body function, and that this pattern was not moderated by ethnic group. In other words, women who had a higher age discrepancy also reported lower satisfaction with functional aspects of the body. This may be because women who feel older may be facing greater functional limitations. Interestingly, self-perceptions of aging have been linked to changes in physical functioning (Sargent-Cox et al. 2014), and experimentally manipulating subjective age to make adults feel younger has been associated with better physical functioning (Levy et al. 2014; Stephan et al. 2013). It is important to note that facing functional limitations does not necessarily indicate lower satisfaction for all older adults. For example, some adults with chronic illness and disability adapt to the challenges they face and demonstrate higher perceived quality of life and life satisfaction as well as lower perceived levels of functional limitations (Livneh et al. 2004). Although self-perceptions of the body may be tied to physical challenges faced as a result of the aging process, individuals who adapt by cultivating positive perceptions of the body may consequently enjoy better quality of life.

Interestingly, ethnic group moderated the association between age discrepancy and satisfaction with cosmetic features as well as satisfaction with physical appearance. The same pattern emerged for both interactions, and follow-up analyses showed that there was a negative association between age discrepancy and both aspects of body satisfaction for European American women, whereas for African American women these associations were not significant. These patterns indicate that age discrepancy is a key indicator of aspects of body satisfaction that are related to appearance for European American women. However, the different pattern for African American women showed that for women in this ethnic group, a discrepancy between actual and subjective age is unrelated to perceptions of appearance. This is particularly interesting to note in relation to the finding that age discrepancy is associated with satisfaction with body function for both groups, because it indicates that function, but not appearance, is linked to African American women's age perceptions, whereas for European American women function and appearance (physical and cosmetic) are linked to perceptions of age.

African American women generally feel more positively about their bodies as compared to women in other ethnic groups, and this may be one area where women in this ethnic group are engaging in selective optimization and compensation. Keeping perceptions of the body separate from perceptions of age may be a protective strategy that allows women in this group to retain higher levels of satisfaction even when reporting higher subjective age. This psychological strategy is in keeping with Baltes and Baltes (1990) theory that older adults emphasize areas associated with success and positive experiences to compensate for age-related losses. African American women may experience this as one form of cultural buffering, as this protective strategy may minimize the impact of age-related decline. It is important to note that the protective effects of positive body image may not be uniformly experienced by African American women (Sabik et al. 2010), and further research is needed to explore individual differences in selective optimization in the domain of body image.

Limitations and Future Directions

This study had a number of methodological limitations. First, the samples represent one cohort, and so we cannot rule out the possibility that the findings are associated with this specific generation rather than age per se. Younger generations may not experience the same paradox of aging as they grow older. There has been a steep increase in anti-aging products and messages in the last 20 years (Muise and Desmarais 2010; Slevec and Tiggemann 2010), and this may change the body maintenance practices and body perceptions of adults coming of age now. Evidence suggests that the internalization of ageism can impact self-perceptions of the body as well as mental health for aging women (Sabik 2015), and internalized ageism presents a threat to older adults' health and well-being (Levy 2009; Levy et al. 2009). Future research must critically examine the linkages between internalized ageism, body perceptions, and quality of life among older adults. For example, increasing positive perceptions of age may result in better physical function (Levy et al. 2014), which may in turn lead to more positive perceptions of the body. Consequently, programs aimed at increasing positive perceptions of aging may have a positive impact on physical function as well as body perceptions, particularly aspects of the body associated with function. Research has shown that among older African American women, positive body perceptions buffer against negative psychological and health outcomes associated with functional decline (Sabik and Versey 2016) and efforts to increase positive body perceptions may improve quality of life among older women.

Additionally, to address questions about cohort and developmental effects of body image on the aging process, longitudinal analyses are in order. The data were correlational and do not address causality between the variables. Future studies that are experimental or longitudinal in design can address causality and developmental changes that may account for these findings.

Another limitation is that the study did not assess objective levels of physical disability. Future studies examining whether positive body perceptions provide protective effects among those who are facing physical changes and challenges associated with aging will provide more insight into how we might promote positive views of the body to

increase positive outcomes associated with health and well-being. Last, only two ethnic groups were represented in this study, and patterns of body satisfaction and body concerns differ significantly among younger women in various ethnic groups (Grabe and Hyde 2006). Future research should examine these patterns among other ethnic groups, such as Asian American and Latina women.

Conclusion

Self-perceptions are a critical component of predicting who is aging well and who will live a longer life (Levy et al. 2002). Self-perceptions have also been associated with health-related quality of life among an aging population (Levy and Myers 2004; Levy et al. 2002). Age discrepancy reflects one aspect of age perceptions, and the differential association between age discrepancy and body satisfaction for women in different ethnic groups indicates that attention must be given to variation in these patterns. Effective interventions to promote positive body perceptions among older women may have implications for health and longevity. Body perceptions are an important component of women's self-concept (Grogan 2006), and positive self-perceptions may boost overall experiences of positive aging. This study provides foundational research that demonstrates the need to consider the unique experiences of body image among aging women in different ethnic groups.

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