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Religious-body Affirmations Protect Body Esteem for Women Who Base Self-worth on Appearance or Others' Approval

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Abstract

Women who base their self-worth on appearance or others' approval are vulnerable to low body esteem when they view media images of thin models. We explored one way religion might mitigate the harmful media effects in these women. We tested whether basing self-worth on appearance or others' approval was positively related to body comparisons and body surveillance. We tested whether reading religious body-affirming statements enhanced feelings of being loved, which would increase body esteem in women who base self-worth on appearance or others' approval. This experiment manipulated the type of body-affirming statements (religious, spiritual, control) and assessed women's body esteem before and after they viewed thin models. Results showed basing self-worth on appearance or others' approval was positively related to body comparisons and surveillance. Furthermore, reading religious body-affirmations increased feeling loved, which in turn increased weight esteem in women who based self-worth on appearance or others' approval.

Religious-Body Affirmations Protect Body Esteem for Women

Who Base Self-Worth on Appearance or Other's Approval

In the United States, women frequently see media images of the ideal thin body standard. Studies have reliably found that viewing media images of thin models lowers women's body esteem. Poor body esteem has been related to eating pathology, depression, and low self-esteem (Hargreaves & Tiggeman, 2003; Stice, Ng, & Shaw, 2010). Moreover, some women are more at risk for low body esteem. Women who base their self-worth on their beauty or who base self-worth on securing others' approval are especially likely to be threatened by images of thin women, because the societal bodily standard to be perfect is unrealistic. These women are also likely to habitually make appearance-based social comparisons. Studies have shown that frequently making appearance-related social comparisons was related to body dissatisfaction, higher levels of disordered eating, and greater internalization of cultural ideals of attractiveness (Grabe, Ward, & Hyde, 2008; Homan & Lemon, 2014; Myers & Crowther, 2009). Given these psychological disturbances, it is important to identify factors that buffer the media's negative effects.

We reasoned that religion (one source of self-esteem) might buffer the effects of the media on body esteem. Specifically, reading religious body-affirming statements that emphasize a God who loves a person unconditionally—flaws and all—might mitigate the negative media effects. If a person feels affirmed and unconditionally loved by God, viewing thin women should not be threatening. The purpose of the present experiment was to test whether this buffering effect occurred with women who base self-worth on appearance and women who base self-worth on others' approval.

The threat of media ideals

There is considerable research on the impact of the thin ideal shown by the mass media (Kilbourne, 2000). Meta-analyses of experiments confirmed that presenting media images of thin women caused women's body dissatisfaction, negative affect, and increased internalization of the thin-ideal, with these effects being moderate and reliable (Grabe et al., 2008; Groesz, Levine, & Murnen, 2002; Halliwell, 2013; Want, 2009). Furthermore, meta-analyses showed that some women were more vulnerable to these media effects, presumably because they had already internalized the thin body ideal. Specifically, women who initially showed body dissatisfaction were more negatively influenced by the thin images than less vulnerable groups (Groesz et al., 2002).

Staking self-worth on appearance and others' approval

Women who make self-worth contingent on external standards such as appearance (CSW-appearance) or others' approval (CSW-others, Crocker & Wolfe, 2001) strive to meet cultural expectations, thereby heightening appearance concerns and preoccupations (Overstreet & Quinn, 2012). Indeed, basing self-worth on appearance or others' approval has been related to greater internalization of societal standards of beauty (Vartanian, 2009) and upward appearance comparisons and eating disturbances (Bailey & Ricciardelli, 2010). Overstreet and Quinn (2012) found that basing self-worth on appearance or on others' approval was related to greater body surveillance and lower appearance satisfaction in Caucasian- and African-American women.

We tested and extended this reasoning by determining whether self-worth based either on appearance or others' approval was positively related to body surveillance and appearance social comparisons—two actions that put women more at risk for poor body image and eating disturbances (Vartanian & Dey, 2013; Want, 2009). Furthermore, we then focused on women

with higher levels of these contingencies and tested one way religion might buffer the negative media effects on their body esteem.

Potentially buffering effects of religious beliefs

Several studies have shown a positive relationship between religiosity and body image (for a review see Boyatzis & Quinlan, 2006). The effects of religion on body esteem may depend on a person's religious beliefs, emotions, or experiences (Hill & Pargament, 2003). Based on this reasoning, we tested whether certain aspects of religion (i.e., beliefs, feelings) might mitigate the negative effects of the media in women who based self-worth on appearance or others' approval.

One line of research studying religion and body esteem adopts attachment theory (Homan & Lemmon, 2014). They argue that being securely attached to God provides an internal working model of being loved unconditionally even with one's bodily flaws. This secure (less anxious) attachment to God was related to being less influenced by media ideals, lower risk for body disorders, and greater appreciation for one's body (Homan, 2012; Homan & Boyatzis, 2010; Homan & Cavanaugh, 2013; Homan & Lemmon, 2014; Homan & Tylka, 2014).

A second line of research on religion and body esteem that is consistent with the attachment perspective proposes that specific religious beliefs are positively related to body image in women (Boyatzis, Kline, & Backof, 2007; Idler, 1995; Inman, Iceberg, & McKeel, 2014; Kim, 2006; Mahoney et al., 2005). Boyatzis et al. (2007) argued that many religions promote beliefs pertaining to body esteem (e.g., assertions that people are made in the image of God, the body is a gift from God, the body is a temple of God, God is loving and forgiving, people should focus on theistic virtues and not body appearance, and keep a balanced perspective of the body, p. 553).

Both lines of research suggest religion can be a source of self-acceptance and promote healthy body esteem by providing a source of self-affirmation (Steele, 1988) because religion encourages people to connect to and serve a God who loves them unconditionally (Boyatzis et al., 2007; Idler, 1995; Kim, 2006). Religion may also serve as a self-schema in which people base self-worth on religious and spiritual principles (e.g., serving God, serving others) instead of seeking the societal body ideal (Avants, Warburton, & Margolin, 2001; Inman et al., 2014). In sum, religious beliefs make societal beauty pressures less influential on body esteem because the person affirms the self (Steele, 1988) with God's unconditional love of an imperfect body. Supporting this idea, basing self-worth on God's love showed a weak negative relationship with body surveillance (Overstreet & Quinn, 2012).

Two experimental studies examined the effects of religious beliefs on media effects and body esteem by using a pre-test post-test design. These studies showed that religious beliefs not only hindered the negative media effects, but they also caused increases in body esteem in college-aged women who attended a secular college (Boyatzis et al., 2007) or religious college (Inman et al., 2014). Boyatzis et al. (2007) first assessed women's body esteem. They later manipulated the type of statements read, showed images of thin models, and then assessed body esteem again. Women randomly received one of three groups of statements: *Theistic-body-affirming statements* that explicitly mentioned God's unconditional love and the body being a manifestation of God, g*eneral-body-affirming statements* that were spiritual and body-affirming in nature but did not mention God, and *control-nonaffirming statements* about the women's college. Results showed that women who read theistic-body-affirming statements showed increases in their appearance esteem, women who read spiritual statements showed modest

increases, while women who read control statements showed the expected decrease in appearance esteem.

Inman, et al.'s (2014) experiment tested the hypothesis that religious commitment would moderate the religious-statement effect on body esteem. They argued that people who already endorse the theistic body-affirming statements (i.e., high in religious commitment) would likely show larger increases in body esteem because these statements were consistent with their existing beliefs. They repeated Boyatzis et al.'s (2007) procedure at a religious-affiliated college. As expected, women who were high in religious commitment showed larger increases in appearance esteem after reading theistic body affirmations than similar women reading control statements or women who were lower in religious commitment who read theistic body-affirming statements. Furthermore, as they predicted, reading theistic (but not other) statements caused stronger feelings of love and acceptance in college-aged women (Inman et al., 2014) and men (Inman, 2014).

We proposed these feelings of love and acceptance would mediate the statement manipulation's effect on women's body esteem. Specifically, the purpose of the present study was to test whether theistic affirmations protected body esteem in women who based self-worth on appearance or others' approval. Our sample consisted of women because cultural standards of beauty for women are more firm and more prevalent than those for men (Buote, Wilson, Strahan, Gazzola, & Papps, 2011). Our two-part experiment first assessed conditions of self–worth, body esteem, social comparison, and body surveillance. Two to three weeks later, we manipulated the type of body-affirming statements (as in Boyatzis et al., 2007, and Inman et al., 2014), assessed feelings of love and acceptance, showed images of thin women, and assessed body esteem again. Afterwards, we focused on women who based self-worth on appearance or others' approval.

Within these groups, we compared changes in feelings and body esteem across the experimental conditions.

We tested three hypotheses based on the literature and rationale presented earlier. First, staking self-worth on appearance or others' approval should be positively related to appearance social comparisons and body surveillance (Hypothesis 1). We first wanted to establish that women who based self-worth on these domains reported engaging in behaviors that put them at risk for developing eating disorders. We then focused on only women who strongly based self-worth on appearance or others' approval. The flowchart in Figure 1 depicts the relationships expected between the experimental condition, feelings, and body esteem increases. Second, we predicted that reading theistic body-affirming statements would increase a) feeling loved and accepted and b) body esteem compared to reading general affirmations or control statements (Hypothesis 2). Third, we explored whether feelings of love and acceptance mediated the manipulation's effects on increases in body esteem (Hypothesis 3).

Method

Participants

A total of 98 women ($M = 18.7$ years, $SD = 0.80$) in introductory psychology courses at an American private religious-affiliated college participated in two sessions to earn class credit. Most (97 percent) were Caucasian and 99 percent reported they were Christian. Given that our experiment showed thin models, we excluded women who self-reported that they had been diagnosed with an eating disorder ($N = 3$). They were given alternative materials in the second session and were not included in the final sample of 98. Fifty percent of the sample said religion was very important.

Procedure

Women completed two sessions. The Time 1 pretest survey included domains of self-worth, demographics, and body esteem measures. Time 2 included the religious-statement manipulation, exposure to thin models, and the body-esteem measures again.

For Time 1, women answered 165 items privately online and were told they were eligible to complete the "Media Study" two to three weeks later. Like Boyatzis et al. (2007), we matched participants on self-reported importance of religion and overall body esteem. The matched participants were randomly assigned to the three statement conditions. The mean Time 1 body esteem scores did not differ, $F(2, 95) = 0.14$, $p = .87$, $\eta^2 = .00$, indicating the conditions were comparable. After all the data were in from Time 2, we then focused on women with high concerns (CSW) about appearance or others' approval.

At Time 2, two to three weeks later, women individually completed three different tasks in groups of 12 to 16. Women were seated away from each other to ensure privacy and were told their responses were anonymous. The first task was the statement (affirmation) manipulation. After reading the 15 statements for 3 minutes, they were asked to summarize the statements in a sentence to reinforce the manipulation. They then indicated their emotions after having read the statements. Task 2 showed six photographs of fashion models to all participants for 4 minutes. The photographs were black-and-white and had no text or products in them. Photographs were taken from online noncopyrighted sources. Models were generally the same age as participants, had thin arms and legs, and were not endorsing a product. Task 3 contained filler items related to the cover story, other filler items, and body esteem measures. Participants were debriefed and thanked. The order of the scales was counterbalanced for Time 1 and Time 2.

Measures and materials

Domains of self-worth (Time 1). Reliabilities for our scales are shown in Table 1. At Time 1, we used the CSW-appearance and CSW-others' approval subscales from the CSW Scale (Crocker, Luhtanen, Cooper, & Bouvrette, 2003) to assess conditions of self-worth on these domains. Women indicated the extent to which they agreed with five appearance items (e.g., My sense of self-worth suffers whenever I think I don't look good) and five others'-approval items (e.g., My self-esteem depends on the opinion others hold of me) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Reliability analyses showed one item for CSW-appearance was poor, so it was dropped. Items were summed for each subscale, with higher scores reflecting greater self-worth staked in a particular domain. Reliabilities of the CSW subscales have been established (Crocker et al., 2003; Overstreet & Quinn, 2012).

Body surveillance (Time 1). We used the surveillance subscale of the Objectified Body Consciousness scale (McKinley & Hyde, 1996) to measure the extent to which women monitor or think about the appearance of their bodies. Women indicated the extent to which they agreed with eight items (e.g., *During the day, I think about how I look many times*) rated on a scale from 1 (*strongly disagree)* to 7 (*strongly agree)*. Responses were summed, with higher scores indicating greater body surveillance. This scale has good reliability (.76 to .84 in Overstreet and Quinn's, 2012, study).

Body comparisons (Time 1). We used the body comparison subscale of the Body Orientation measure (Fitzsimmons-Craft, Bardone-Cone, & Harney, 2012) to assess appearance social comparisons. Women indicated the extent to which they engaged in six behaviors (e.g., *I pay attention to whether or not I am as thin as, or thinner, than my peers.*) rated on a scale from 1 (*never)* to 7 (*always)*. Responses were summed to compare with previous samples, with higher

scores reflecting greater body comparisons. Past research showed the subscale to be reliable (.93,

Fitzsimmons-Craft et al., 2012).

Statement-affirmation manipulation (Time 2). Two to three weeks later, two

experimental groups read a different set of affirmations that were meant to be uplifting in nature.

Each group read its 15 statements for three minutes and summarized the content in a sentence.

The *religious-body statements* were taken from Boyatzis et al. (2007) and Inman et al. (2014).

These statements were explicitly theistic because most mentioned God, many were Christian

based, four were quotations from the Bible (e.g., *Do you not know that your body is the temple of

the Holy Spirit with you, which you have from God? . . . So glorify God in your body*), and others

were inspired by New Testament passages. The *spiritual* condition read 15 similar affirmations

without references to God (e.g., *With love and joy, I am able to accept and embrace the body

that I have*). These affirmations emphasized a positive and holistic view of the body without any

explicit religious intonations (Boyatzis et al., 2007, p. 556) and were pilot tested by Boyatzis et

al. (2007) and rated somewhat to strongly spiritual. The *control condition* read 15 statements

about facts about their college (similar to Boyatzis et al.'s, 2007, and Inman et al.'s, 2014,

procedures). Control statements described the college's size of the freshmen class, historical

dates, and other college-related facts (e.g., *Fall Recess begins at 6 p.m. on Friday, October 11,

and ends on Wednesday, October 16)*. To reduce the likelihood of self-affirmation processes, we

deleted statements about student groups and activities that participants might have joined.

Emotions (Time 2 only). After reading the statements, participants, indicated "the extent

to which you felt [emotion] after reading the statements," on a scale from 1 (*not at all)* to 9

(*extremely)*. Fourteen emotions were listed, with the two primary ones being *loved* and *accepted.*

We averaged the two responses to create a love/acceptance emotion score ($r = .94$). Six items

were fillers (e.g., obligated, anxious). Six emotions reflected emotions associated with religious

transcendence (Griffith, 2004) such as *at peace, validated, encouraged, happy,* and *reassured*.

Body esteem (Time 1 and Time 2). Body esteem was assessed using Mendelson,

Mendelson, and White's (2001) scale, with subscales assessing how women felt about their

appearance (13 items, *I feel ashamed of how I look. I think I have a good body. I like what I look*

like in pictures, reversed scored) and weight (four items, *I feel I weigh the right amount for my*

height). These subscales were given at Time 1 and Time 2 to assess changes after women

experienced one of the three statement conditions and saw thin models. Women indicated how

often they agreed with the statements on a scale from 1 (*never)* to 5 (*very often*). Negatively

worded items were recoded so that high numbers reflected more positive appearance or weight

esteem. We summed responses to the weight items at Time 1 and summed responses to the

weight items at Time 2 to create total weight esteem scores at Time 1 and 2, respectively. We

subtracted a person's weight Time 1 score from her weight Time 2 score to examine changes in

weight esteem over time. An identical scoring rubric was used to make appearance-esteem Time

1 and Time 2 scores and appearance-esteem difference scores. Positive difference scores reflect

higher body esteem at Time 2 than at Time 1.

Participants also completed demographic items that assessed their age, height, weight,

race, religious affiliation, and religious importance. Self-reported height and weight were

converted to body mass index (BMI) scores using the following formula: (weight x 703)/height^2.

BMI was calculated to describe its relation to conditions of self-worth and to determine whether

conditions were equivalent.

<div align="center">

Results

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Analysis plan

The results are presented in three sections. Descriptive statistics for the whole sample are presented first. This includes examining the correlates of CSW scores (Hypothesis 1), a photograph/threat manipulation check, and the statement effect on feelings (Hypothesis 2). Second, we selected data from women who strongly based self-worth on appearance or others' approval and tested the statement effect on feelings and on increases in body esteem (Hypothesis 2). Specifically, we selected women whose CSW-appearance scores were at or above the 67th percentile ($n = 44$) and ran two oneway (statement condition) ANOVAs (one on weight esteem, one on appearance esteem). We repeated this analysis on data from women who were highly concerned with others' approval (CSW-others, $n = 36$). Finally, mediation analyses testing whether emotions explained esteem differences between theistic and nontheistic conditions (Hypothesis 3) were conducted. We followed Baron and Kenny's (1986) four-step procedure using regressions and PROCESS bootstrapping (Hayes, 2012).

Descriptive statistics

Descriptive statistics for the measures and key correlations are shown in Table 1. The average BMI was similar to that found in earlier studies (Inman et al., 2014; Overstreet & Quinn, 2012). Supporting Hypothesis 1, greater concerns with appearance were positively related to body surveillance and appearance comparisons, rs $>.52$, ps $<.001$. In addition, greater concern with others' approval was related to body surveillance and appearance concerns, rs $>.42$, ps $<.001$.

We also conducted a manipulation check with the full sample. If the pictures of thin models threatened body esteem, participants should have decreased their weight and appearance esteem from Time 1 (no picture) to Time 2 (pictures). We found that 33% of the sample's weight

esteem decreased (i.e., showed negative values) and 31% of the sample's appearance esteem decreased, showing that some women were hurt by seeing the images.

Finally, to test if religious statements increased feelings of love and acceptance in all women (Hypothesis 2), we ran a oneway (statement) ANOVA on feeling love scores, with Tukey follow-up tests. The statement effect was significant, $F(2,95) = 20.22$, $p < .001$, with the three conditions differing from each other. Supporting Hypothesis 2, women who read the religious statements reported stronger feelings of love and acceptance ($M = 7.95$, $SD = .1.32$) than women in either of the other two conditions ($M_{spiritual} = 6.84$, $SD = 1.81$; $M_{control} = 5.24$, $SD = 1.90$, Tukey ps $< .03$).

Analyses on women with high CSW-appearance or CSW-approval[1]

Statement effects on changes in esteem. We then selected the data from women with greater *appearance* concerns. We ran two oneway (statement condition) ANOVAs--one on changes in weight and one on appearance esteem. We also selected the data from women with greater concerns about *approval from others.* We conducted the same two ANOVAs for this group. The results are shown in Table 2. The results supported predictions for weight esteem but not appearance esteem. As shown in Table 2, women concerned with appearance or others' approval showed greater increases in weight esteem when reading religious statements than when reading control statements, ps $< .03$. For changes in appearance esteem, though means were in the predicted direction, no significant differences emerged.

Statement effects on feeling loved. The oneway ANOVA showed that the statement effect on feelings of love was significant, $F(2,33) = 5.07$, $p < .02$, for women with high-approval concerns. Women who staked self-worth on others' approval and who read religious statements reported feeling loved ($M = 7.42$, $SD = 1.54$) more than similar women in the other two

conditions ($M_{spiritual}$ = 6.27, SD = 2.43; $M_{control}$ = 4.96, SD = 1.80), $t(33)$ = 2.69, $p < .02$.

Similarly, the oneway ANOVA showed that the statement effect on feeling loved was

significant, $F(2,41)$ = 8.61, $p < .01$, for women with high-appearance concerns. Women who

staked self-worth on appearance and who read religious statements reported feeling loved (M =

7.58, SD = 1.49) more than women in the other two conditions ($M_{spiritual}$ = 6.77, SD = 2.20;

$M_{control}$ = 4.95, SD = 1.72), $t(41)$ = 2.79, $p < .01$.

Mediation analyses (Hypothesis 3). We tested whether religious emotions of love and

acceptance mediated the relationship between reading religious-body affirmations and increases

in body esteem in women with higher CSW-appearance or CSW-others' approval, by running

mediation analyses: We followed Baron and Kenny's (1986) 4-step procedure using regressions

and PROCESS bootstrapping analyses (Hayes, 2012). As shown in Figure 2a, mediation occurs

when the mediator (feelings) carries the effect of the independent variable (IV) on the dependent

variable (DV). Mediation is established if a) the religious condition (the IV) predicts feeling

loved (the mediator), see link *a*, b) the religious condition predicts changes in weight esteem (the

DV), see link *c*, c) the mediator predicts changes in weight esteem, see link *b*, and d) the effect of

the IV on the DV weakens or becomes null (full mediation) with the inclusion of the mediator

(see link *c'*). Given the reservations with using Baron and Kenny's (1986) procedure (Hayes,

2012), we ran these regressions with PROCESS (Hayes, 2012) to test the significance of the

indirect effect of feeling loved. Indirect effect size estimates were calculated from 5,000

bootstraps. Significance of an indirect effect of the statement effect on body esteem via feelings

is indicated when the 95% confidence interval does not include the value of zero (Hayes, 2012).

We ran two regressions for changes in weight esteem and two for changes in appearance esteem.

The standardized beta coefficients are shown in Figures 2a – 2d.

Overall, results suggest feeling loved mediated the effect of statement condition on increases in body esteem in three of the four situations. For weight esteem, for women with high-approval concerns (Figure 2a) or appearance concerns (Figure 2b), reading theistic body-affirming statements was related to increases in weight esteem (β=.35, p <.05, β=.38, p <.05, respectively) and these relationships became nonsignificant when feelings of love was added as a predictor (β = .21, p = .23; β=.26, p =.09, respectively), supporting full mediation. The full models explained 21 percent of the variation in both situations. Finally, the indirect effect of feeling loved was significant for women with high-approval concerns [.26, 95% CI = .002, .70]. The indirect effect of feeling loved was not significant for women with high-appearance concerns [.21, 95% CI = -.02, .57].

For appearance esteem, mediation was only supported for women with high-approval concerns. For women with high-approval concerns (see Figure 2c), reading theistic body-affirming statements was related to increases in appearance esteem (β=.33, p <.05), and this relationship became nonsignificant when feelings of love was added as a predictor (β = .20, p = .25), supporting full mediation. This model explained 19 percent of the variation, and the indirect effect of feeling loved was significant [.47, 95% CI = .04, 1.25], further supporting mediation.

For women with high-appearance concerns (see Figure 2d), reading theistic body-affirming statements was not related to increases in appearance esteem (β=.26, t = 1.72, p = .09, see Figure 2d), so mediation was not considered further.

Discussion

This experiment tested three hypotheses: First, basing self-worth on appearance or others' approval would be positively related to both appearance comparisons and body surveillance (Hypothesis 1). Furthermore, reading religious body-affirming (but not other) statements should

enhance feeling loved for women who base self-worth on appearance or others' approval

(Hypothesis 2), which should protect their body esteem when viewing thin models (Hypothesis

3). Nearly all the hypotheses were supported. As expected, stronger conditions of self-worth

based on appearance or others' approval were associated with more frequent appearance

comparisons and body surveillance, supporting Hypothesis 1. Second, reading theistic body-

affirmations increased feeling loved in the whole sample and in women who based self-worth on

appearance or approval, supporting Hypothesis 2. Third, for women who base self-worth on

others' approval, the statement manipulation indirectly affected both appearance and weight

esteem through feelings of love, supporting Hypothesis 3.

For women who based self-worth on appearance, reading religious statements enhanced

feeling loved which increased their weight esteem, supporting Hypothesis 3, but not their

appearance esteem, refuting Hypothesis 3, though means were in the predicted direction. A

possible reason for the weaker effects with appearance esteem is the complexity of maintaining

one's appearance versus one's weight. Maintaining appearance involves regulating skin

complexion, facial features, gait, posture, clothing, and much more, compared to regulating

weight. Women who base worth on appearance may have experienced more failure in regulating

the many aspects of appearance than in regulating their weight. Additional research is needed to

test these ideas.

The results of this experiment complement the two lines of research showing religion's

positive relation to body esteem. Both lines promote the idea that people derive their self-worth

from a God who loves them and their imperfections unconditionally (Boyatzis et al., 2007;

Homan, 2012; Inman et al., 2014). Self-acceptance decreases one's likelihood to base self-worth

on society and increases one's resilience to pressures to achieve society's definition of the ideal

body. Both lines of research propose that believing and trusting in a reliable, loving God should result in feeling loved, greater self-acceptance, lowered risk for disordered eating, and positive body outcomes such as higher body esteem and body appreciation (Boyatzis et al., 2007; Homan & Lemmon, 2014; Inman et al., 2014; Mahoney et al., 2005).

The present study extended this work by identifying two theoretically relevant groups of women, by showing that they engage in body comparisons and surveillance that put them at risk for poor body esteem, and by finding that theistic body-affirmations increased their feeling love and acceptance and protected their body esteem in three of four situations. Merely priming positive *non*theistic body-affirmations did not result in increases in body esteem, suggesting that specific theistic beliefs were important. These theistic beliefs strongly emphasized an appreciation of the body and functionality of the body (e.g., elevating the body's status as it was blessed by God, promoting a balanced view of the body). Similar body-esteem increases were shown with a general sample of women attending a secular college and a religious-affiliated college (Boyatzis et al., 2007; Inman et al., 2014).

On a theoretical note, holding these religious beliefs and integrating them into one's self-schema should require cognitive processing about the meaning of the beliefs. Thus, it is impressive that *briefly* reading theistic statements increased body esteem in women low and high in religiosity. It remains unclear how long these positive effects last in women who base self-worth on appearance or others' approval. Future research should prime these beliefs to test their long-term effects. This issue is important given that self-relevant social comparisons seem to be unconscious and automatic (Blanton & Stapel, 2008). Thus, long-term protection is likely dependent on internalizing these beliefs.

The findings of this experiment have implications for enhancing body esteem. Because our findings showed that basing self-worth (CSW) on appearance or others' approval was related to heightened body comparisons and surveillance, future work should explore ways to reduce the extent to which women invest self-worth in these domains. Furthermore, future work should explore ways to reduce body comparisons and body surveillance, two precursors to poor body image. To our knowledge, no experiments have tried to change CSW or these behaviors, though a couple correlational studies have provided support. Specifically, Overstreet and Quinn (2012) found that basing self-worth on God's love was negatively, but weakly, related to body surveillance in women, and Homan and Lemmon (2014) found that feeling loved by God was related to less frequently engaging in body-related comparisons. Future work should test whether reading religious body-affirmations might minimize conditions of self-worth on appearance and others' approval and reduce body comparisons and surveillance. Of course, deepening one's religious commitment, beliefs, and experiences requires much more time and effort than that provided by our brief manipulation.

Despite our attempts to use an experimental manipulation, this study has a few limitations. First, our sample was young, mostly Caucasian, and mostly normal weight women from middle- to upper-class backgrounds. Thus, generalization to the broader population is limited. Moreover, our relatively small sample attended a religious-affiliated college, nearly all were Christian, and half reported that religion was very important to them. Given these characteristics, our participants might have been more receptive to the religious statements than low- or non-religious women. Indeed, past work found that women low in religious commitment showed increases in body esteem with control statements more than with religious statements (Inman et al., 2014). This finding suggests it might be best to match an intervention to the

woman's worldview (religious, non-religious). Thus, the present findings may apply to similar populations, but generalizability to other gender, ethnic, or religious groups is limited.

Second, the manipulations could have been more complete and stronger. Our study's design did not have a low-threat control group that did not view thin models. We purposely showed all women images of thin models in order to increase statistical power. This procedure could have made all the groups similar (threatened) and weakened the differences between statement conditions. However, the significant findings with condition suggest this was not a problem. In addition, our photograph/threat manipulation could have been stronger. One-third of the participants showed a decrease in body esteem, despite our efforts to adopt prior successful manipulations.

Despite these limitations, this study identified one possible way to help women with strong body-image concerns. It showed that priming religious body-affirming statements can protect weight esteem in women by increasing feelings of love and acceptance. It adds to the growing literature on religion and body image that suggests that belief in a loving God is associated with being more at peace with one's body.

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Endnote

[1]Because random assignment was compromised when selecting women concerned about others' approval, we compared conditions on key variables. Preliminary analyses revealed the conditions were equivalent in terms of BMI, importance of religion, and initial body esteem. That is, oneway (condition) ANOVAs showed the groups did not differ in BMI ($M = 22.4$ to $M = 23.2$, $p = .84$), religious importance ($M = 3.08$ to $M = 3.42$, $p = .52$), Time 1 weight esteem ($M = 12.0$ to $M = 12.3$, $p = .98$), and Time 1 appearance esteem ($M = 39.3$ to $M = 41.7$, $p = .81$). Similarly, selecting women strongly concerned with appearance compromised random assignment, yet additional analyses showed that conditions were comparable in BMI ($M = 22.4$ to $M = 24.6$, $p = .38$), religious importance ($M = 3.00$ to $M = 3.15$, $p = .90$), Time 1 weight esteem ($M = 11.6$ to $M = 12.3$, $p = .88$), and Time 1 appearance esteem ($M = 38.5$ to $M = 41.2$, $p = .64$).