



4-1-2001

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Carroll, AnnMarie and Spangler, Diane L. (2001) "A Comparison of Body Image Satisfaction among Latter-day Saint and Non-Latter-day Saint College-Age Students," *Issues in Religion and Psychotherapy*: Vol. 26 : No. 1 , Article 2.
Available at: <https://scholarsarchive.byu.edu/irp/vol26/iss1/2>

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A Comparison of Body Image Satisfaction among Latter-day Saint and Non-Latter-day Saint College-Age Students

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Several sociocultural factors have been shown to impact body image. The purpose of the present study was to determine whether the sociocultural variable of religion, specifically represented by the Church of Jesus Christ of Latter-day Saint (LDS) religion, affects body image in college-age students. Questionnaires assessing body image and beliefs about appearance were administered to male and female LDS and non-LDS students at Brigham Young University, University of Utah, Boston University, and California State University at Fullerton. Results indicated that male students, regardless of religion, were more satisfied with their bodies than their female counterparts. Within-gender comparisons indicated that LDS men had higher body satisfaction on all subscales than non-LDS men. In contrast, LDS women did not significantly differ from non-LDS women in mean level of body satisfaction. However, among LDS women, those in Utah differed from those in other states in appearance evaluation, overweight preoccupation, and beliefs about appearance. Regression analyses revealed that beliefs about appearance were a strong predictor of body image for both men and women, but that religion predicted body image only among men. Possible explanations and implications of these results are discussed.

Body image has been defined as the perception and evaluation of one's own bodily appearance as either positive or negative. Some theorists have hypothesized that for some individuals a large portion of their self-concept is based upon body image, and have thus suggested that body image plays an important role in many aspects of these individuals' everyday lives (e.g., Geller, Johnston & Madsen, 1997; Rodin, 1993; Spangler 2002; Vitousek & Hollon, 1990). Hesse-Biber, Clayton-Matthews & Downey (1987) found that poor body image was associated with low levels of self-perceived physical attractiveness,

self-acceptance, social self-confidence, popularity with the opposite sex, assertiveness, and athletic ability. Additionally, other investigators report that those who

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have higher levels of satisfaction with their appearance had more social activities, greater satisfaction at home, and were more likely to believe that people value each other (Rauste-von Wright, 1989).

Body image, particularly body image dissatisfaction, has also been consistently linked with eating dysfunction. Indeed, several theorists posit that dissatisfaction with body shape and weight are prominent factors in the etiology of eating disorders (e.g., Bruch, 1962; Cash & Deagle, 1997; Monteath & McCabe, 1997; Spangler, 1999; Stice, Shaw & Nemeroff, 1998), and a number of studies have documented poor body image as a prominent risk factor for disordered eating (see Cash & Deagle, 1997, for review). Moreover, studies of the obese by McCarroll-Bittel (1993) found that poor body image hindered weight loss, while improvement of body image played a significant role in helping obese people lose weight. From these studies, it appears that a key to maintaining healthy body weight and eating patterns is to first develop a positive body image.

Research during the last two decades has documented a rise in concern about body image and in weight preoccupation to a level that some term an obsession (Rodin, 1993). Girls as young as eight years old report dissatisfaction with their weight and shape, and 50% of nine-year-olds as well as 80% of ten-year-olds have dieted in an effort to change their physical appearance (Council On Size & Weight Discrimination, 1996). A study of girls ages 13 to 16 found that only 23% had never dieted, 40% were classified as "dieters," and 16% were "often" or "always" dieting (Strong & Huon, 1998). Of adult women in the United States, 48% report a negative body image, 63% were dissatisfied with their current weight, and 49% report being preoccupied with their body weight (Cash & Henry, 1995). Surveys document that body image dissatisfaction is also frequent in men, although less prevalent than in women. In a study conducted in 1986, 34% of men reported a negative body image, 41% were dissatisfied with their current weight, and 44% were preoccupied with concerns about their body weight (Cash, Winstead & Janda, 1986). By contrast, in 1972 only 17% of men were dissatisfied with their appearance (Cloud, 2000). This increase in body dissatisfaction and weight preoccupation parallels a rise in eating disorders (see Stice, 1994, for review), as would be expected because body image dissatisfaction constitutes a risk factor for eating disorders. As body image dissatisfaction is a major predictor of dieting

behavior and eating disorders, it is crucial to understand the factors related to body image dissatisfaction.

FACTORS RELATED TO BODY IMAGE

Culture

Levels of body-image dissatisfaction have been shown to vary as a function of culture and subculture. Within the United States, body image dissatisfaction is highest among Caucasian-American women, whereas African-American and Hispanic women consistently score higher in positive body image than Caucasian Americans (Gray, 1977). Similarly, body image dissatisfaction and eating pathology have been shown to be significantly higher in the United States as compared to several other countries, particularly non-Western countries. Additionally, in persons immigrating to the United States, positive correlations between degree of Westernization and body dissatisfaction and eating pathology have been found (see Stice, 1994, for review). Becker (1995) has explained such findings as demonstrating that cultural-specific aesthetic and moral ideals regarding the body are developed by cultures and that cultures vary in their values and expectations for body shape and weight. Additionally, within-culture variation can occur where the culture assigns different standards and values to the body for particular subgroups within that culture (e.g., ethnic minorities or women).

Media effects

One factor strongly linked to body image dissatisfaction, which may also mediate cultural differences in body dissatisfaction, is the degree of exposure to thin-ideal media. At present, the Western female body ideal is considered ectomorphic or thin. This has changed from a past body norm for women that was more voluptuous. The media in Western cultures have portrayed a steadily thinning ideal of the female body (e.g., Garner, Garfinkel, Schwartz & Thompson, 1980; Stice, 1994). An example of the media's portrayal of an increasingly thinner ideal body size is evident in beauty pageants. In the 1960's, the average Miss America contestant weighed 93% of her expected weight for her respective age and height category. In contrast, in 1988, 60% of the contestants weighed only 85% of their expected weight. Several additional studies report a significant decrease in the average body mass index of women models and actresses over the last two decades (Levine & Smolak, 1996;

Silverstein, Perdue, Peterson & Kelly, 1986; Wiseman, Gray, Mosimann & Ahrens, 1992). Beginning in 1980, the average female model was consistently at least 85% or below of her expected body weight (Wiseman et al., 1992). A body weight this low (85% or less of expected body weight) constitutes one DSM-IV criterion for anorexia nervosa (American Psychiatric Association, 2000). Thus for the first time in history, the weight norm for women as presented by the media fell within a clinically-significant, dysfunctionally low range.

Exposure to such thin-ideal media has been consistently shown to increase body image dissatisfaction, increase weight concerns, and increase dieting among women (Irving, 1990; Levine & Smolak, 1996; Posavac, Posavac & Posavac, 1998; Stice & Shaw, 1994; Stice, Spangler & Agras, 2001). In addition, Turner, Hamilton, Jacobs, Angood, & Dwyer (1997) found that women who viewed fashion magazines endorsed a lower ideal body weight than those who viewed news magazines. Those persons who viewed fashion magazines as compared to those who viewed news magazines were more likely to be frustrated with their bodies after viewing the magazines for only 13 minutes. Posavac et al. (1998) suggest that the effect of thin-ideal media exposure on women's weight concerns results from a social comparison with standards set by the media. According to Posavac et al. (1988), as women are repeatedly exposed to increasingly thinner female images in the media – many of which have been altered by computer – they believe they ought to look as these images do and become increasingly dissatisfied with their own bodies as they compare themselves to an unattainable ideal. Thus, pressure to comply with the thin-ideal “norm” set by the media causes many women to develop body dissatisfaction and consequently resort to unhealthy eating behaviors.

Age

Body satisfaction tends to vary as a function of age and developmental stage. Teenagers are significantly less satisfied with their bodies than pre-adolescents (Brodie, Bagley & Slade, 1994). Furthermore, Gray (1977) found that adult (non-adolescent) individuals tend to have more positive affect about their bodies than adolescent individuals. Research specifically related to college populations has shown that body dissatisfaction and body image concern is higher among this

group than in older adults (Gray, 1977). Furthermore, college-age female students have been shown to have higher rates of eating disorders than the general female population (Schlundt & Johnson, 1990). Some have suggested that this may be due to pressures young adults feel to establish themselves materially and socially during these years, making them more self-conscious about how they appear.

Gender

Confirming within-culture variability in body expectations discussed above, gender appears to significantly contribute to body image, where men consistently report greater satisfaction with their bodies than women. Muth & Cash (1997) found that women have more negative body image evaluations and have a stronger investment in how they look. At all age levels, men were on average more satisfied with their bodies (Rauste-von Wright, 1989). Eighty-four percent of women surveyed about their dieting behavior expressed a desire to lose weight compared to only 45% of men (Hesse-Biber et al., 1987). Women typically want to weigh 3.25 kg less while men want to weigh on average 0.75 kg more (Dolan, Birtchnell & Lacey, 1987). When compared with men, physical appearance seems to have a greater influence on self-esteem for women (Hesse-Biber et al., 1987; Rodin, Silberstein & Striegel-Moore, 1984). Women are more distressed by a weight gain of a few pounds than men are, tend to weigh themselves more often, and are more likely to seek medical help to lose weight (Hesse-Biber et al. 1987).

There are several possible reasons for the existence of a gap in body image satisfaction between men and women. One explanation is that the media plays a role in influencing stereotypes of men and women. A content analysis of magazines showed that women's magazines contained 10.5 times as many body weight related articles as men's magazines (Anderson & DiDomenico, 1992). These media messages and models emphasizing thinness for women demonstrate the different weight and body expectations that society has established for men and women.

Evolutionary theorists also hypothesize that gender differences in body image satisfaction occur because women tend to base their ability to attract a mate on their physical appearance. According to this theory, the more a woman believes she can use her body to attract

others, the more she will be satisfied with her body (Koff, Rierdan & Stubbs, 1990). In contrast, men's social status is hypothesized to be determined predominantly by income and occupation. In summarizing 30 years of research, Powers (1971) found that in the United States women typically seek mates with good earning potential, while men seek mates who are physically attractive. According to evolutionary psychology, this is due largely to the different role that each parent plays in raising a child. Fathers typically invest more indirect resources such as food and money, whereas mothers tend to invest more direct physical and psychological resources (Eagly & Wood, 1999). As a result, to ensure their survival and their reproductive success, the two sexes developed different criteria for mate selection and mate attraction.

Religion

While there exists a great amount of research on some sociocultural factors that influence body image, little to no research has been conducted on the effects of religion on body image. Given that research has demonstrated that other sociocultural factors have a large impact on body image, it is also possible that religion affects body image. For example, religious subcultures may develop their own norms and values about the body that could counteract or moderate the effects of mainstream cultural values or norms about the body. Various religions have viewed the body as ranging from "carnal and devilish" to "holy" and a "temple of God." Religion often prescribes body rituals of what to wear and how to look. Many religions also have rules about how and what to eat. Thus there are several avenues by which religion could impact body image, weight preoccupation, and eating patterns.

Research on body image within the Latter-day Saint (LDS) community is particularly sparse. LDS doctrine teaches that bodies are a gift from God, that gaining a body is one of the primary objectives of mortal life, and that the Lord "looketh not on the outward appearance" but "looketh on the heart" (1 Samuel 16:7). However, it is unknown whether these religious tenets affect actual body image of LDS church members. Due to these prescribed beliefs, one might expect to find higher body satisfaction and a more positive body image among LDS persons.

However, other LDS subculture factors may negate this proposed positive effect or even lead to higher body

dissatisfaction among LDS persons. LDS members are simultaneously commanded, "be ye therefore perfect" (Matthew 5:48) and to be self-disciplined. The directive for perfection and self-discipline may be misapplied and lead LDS persons to be overly critical of themselves, including their bodies. Thus, the pressure to be perfect may cause LDS persons to be more critical of their bodies than non-LDS persons.

There is also a phenomenon somewhat unique to the LDS culture, and especially at Brigham Young University, where a great deal of pressure is put on LDS young adults to get married. At the 1963 commencement address, university president Ernest L. Wilkinson presented a quote attributed to Brigham Young: "any unmarried man over the age of 25 is a menace to society." Another president of the LDS church, Harold B. Lee, has said, "No man who is of marriageable age is living his religion who remains single" (Lee, 1973, p. 99; quoting President Joseph F. Smith, 1919, p. 272). In some preliminary interviewing of BYU students, it was found that many young women feel this pressure to get married causes them to almost abuse their bodies in order to fit the ideal body shape. Consistent with evolutionary theory (noted above), they believe that to attract a mate, they must look a certain way – which is usually perceived as conforming to the media-portrayed thin-ideal. A study in the general population conducted by Berschied & Walster (1972) supports this perception. They found "an unexpectedly high correlation between physical attractiveness and a woman's social experience." In blind-date tests they conducted, the more physically attractive the date, the more he/she was liked, irrespective of other characteristics such as a higher intelligence level or an exceptional personality (Berschied & Walster, 1972). Additionally, in a meta-analysis of studies examining the relationship between women's physical attractiveness and social success, Feingold (1992) reported that attractive women were perceived as more sociable, dominant, mentally healthy, intelligent, and socially skilled than their less attractive counterparts. Thus, if it is the case that women in the marriage-imperative LDS subculture believe that marriage is dependent upon appearance, then their concern for appearance may be particularly heightened.

The objective of the current study was to determine whether the sociocultural factor of religion had any impact on level of body image satisfaction, and specifically to

compare LDS and non-LDS students on levels of body satisfaction. Additionally, LDS students in Utah were compared to LDS students outside of Utah to determine whether there was any difference in body image within the more LDS-dominated subculture of Utah. Based on past research findings, it was expected that female students – regardless of religion – would have a more negative body image and greater body dissatisfaction than male students. It was also hypothesized that LDS female students would be more critical of their bodies than non-LDS women due to the real and perceived pressures to attract a mate.

METHOD

Participants

Participants consisted of 307 LDS and 190 non-LDS students selected from Brigham Young University, the University of Utah, California State University Fullerton, and Boston University. Both LDS and non-LDS students at each university were sampled. Students were taken from different parts of the country and different universities in order to compare LDS students' perceptions of body image to non-LDS students, and to compare students in Utah to those outside of Utah. Of the participants, 268 were women and 229 were men. Sixty-four percent fell between the ages of 18-21, 27% between the ages of 22-25, 7% between the ages of 26-29, and 2% fell in the category of 30 and older. Ninety-three percent of the participants were single, and 7% were married.

Procedures

After permission was obtained from instructors, participants in courses that fulfilled General Education requirements received a packet of questionnaires to complete on a voluntary basis. They either completed and returned the packet at the end of the class period or took the packet home and returned it the following class period, depending upon the instructor's wishes. General Education classes were chosen to avoid any bias that could arise from sampling participants that were largely from one particular field of study.

Measures

The *Multidimensional Body-Self Relations Questionnaire (MBSRQ)* (Brown, Cash & Mikulka, 1990) is a 69-item standardized, attitudinal assessment of body image composed of 10 subscales. Respondents rate their level

of (dis)agreement with statements on a 1 (*definitely disagree*) to 5 (*definitely agree*) scale. Four MBSRQ subscales (described below) were used in the current study. The numeric responses for each scale were averaged so that the possible scores for each scale ranged from 1 to 5. Factor analytic studies have confirmed the factor structure and construct validity of the MBSRQ, and several additional studies have shown the MBSRQ to possess convergent and divergent validity as well as internal consistency and test-retest reliability (see Cash, 1994, for a review of the psychometric properties of the MBSRQ). The four subscales used in this study were:

1. The *Appearance Evaluation scale (APPEVF)* consists of seven items that determine satisfaction with one's looks. Higher scores indicate a more positive feeling about appearance, whereas lower scores indicate greater unhappiness with physical appearance. The internal consistency (Cronbach's *alpha*) of the Appearance Evaluation scale was .88 and the 1-month test-retest reliability was .86 (Cash, 1994).
2. The *Appearance Orientation scale (APPORF)* includes 12 items that measure the extent of investment in one's appearance (e.g., time spent in grooming behaviors). Higher scores on this scale indicate greater time and effort devoted to grooming and greater investment in appearance. Lower scoring subjects are less concerned about and less invested in their physical appearance. The internal consistency of the Appearance Orientation scale was .86 and the 1-month test-retest reliability was .89 (Cash, 1994).
3. The *Overweight Preoccupation scale (OWPR)* assesses level of fat anxiety, weight vigilance, dieting, and eating restraint. A higher score in this area indicates a greater level of preoccupation and concern about becoming overweight. The internal consistency of the Overweight Preoccupation scale was .74 and the 1-month test-retest reliability was .84 (Cash, 1994).
4. The *Body Areas Satisfaction scale (SATIS)* measures degree of (dis)satisfaction with specific areas of the body (face, hair, torso, muscle tone, height, and weight). Individuals rate their satisfaction with each body part on a 1 (very dissatisfied) to 5 (very satisfied) point scale. The internal consistency for the Body

Areas Satisfaction scale was .75 and the 1-month test-retest reliability was .80 (Cash, 1994).

In addition, a fifth scale was also used:

5. *Beliefs About Appearance Scale (BAAS)*. The BAAS (Spangler, 1997) is a 20-item, self-report scale that assesses the degree of endorsement of beliefs about the consequences of appearance for relationships, achievement, self-view, and feelings. Higher scores indicate greater endorsement of beliefs that positive feelings, self-worth, and interpersonal and work success are dependent upon appearance. Degree of agreement with statements about appearance in each of these domains is rated on a 5-point scale ranging from 0 (*not at all*) to 4 (*extremely*). This scale possesses acceptable internal consistency (coefficient alpha = .95), test-retest reliability [$r(9\text{-month}) = .74$], as well as convergent, discriminant, and predictive validity (Spangler, 2002; Spangler & Stice, 2001).

Data Analyses

An analysis of variance (ANOVA) was used to compare the means on the subscales of the MBSRQ and the BAAS between four groups consisting of: male LDS, male non-LDS, female LDS, and female non-LDS. Several planned (*a priori*) contrasts were made between: (a) men and women; (b) LDS men and LDS women; (c) non-LDS men and non-LDS women; (d) LDS and non-LDS men, (e) LDS and non-LDS women. An additional independent t-test was conducted between LDS students in Utah versus LDS students in other states. Finally, a regression analysis was performed to determine whether religion or other demographic variables predicted body image satisfaction and appearance orientation. The order of entry of variables in the regression equations was: age, LDS status, state (living in or outside of Utah), and beliefs about appearance (BAAS).

RESULTS

ANOVA

The overall ANOVA was significant for all subscales of the MBSRQ and for the BAAS, indicating the existence of group differences on all measures. Table 1 displays the overall ANOVA F-values and their respective p values. Results from the planned contrasts are presented below.

Table 1
ANOVA Analysis

Scale	F	df(b, w)	p
APPEVF	13.66	(3, 489)	.000
APPORF	2.74	(3, 493)	.043
SATIS	15.56	(3, 465)	.000
OWPR	40.20	(3, 463)	.000
BAAS	3.52	(3, 486)	.015

APPEVF = Appearance Evaluation Scale; APPORF = Appearance Investment Scale; SATIS = Body Satisfaction Scale; OWPR = Weight Preoccupation Scale; BAAS = Beliefs About Appearance Scale

Between-Gender Contrasts

Men versus Women. The planned contrast comparing men and women (regardless of religion) revealed significant mean differences on every scale (see Table 2). Specifically, men had more positive feelings about their physical appearance and were significantly more satisfied with their bodies than women. In addition, men had lower levels of appearance investment and weight preoccupation, and were less likely to believe that their success, happiness and self-worth were dependent upon their appearance than were women.

LDS Men versus LDS Women. Furthermore, when comparisons were made between LDS men and LDS women the differences became even more pronounced in beliefs about appearance. LDS men had more positive feelings about their physical appearance, and higher body satisfaction than LDS women. LDS men also had significantly lower levels of weight preoccupation and markedly lower levels of beliefs that their success, happiness, and self-worth were dependent upon their appearance than LDS women, but did not differ from LDS women in the amount of time and effort devoted to appearance.

Non-LDS Men versus Non-LDS Women. In contrast, comparisons of non-LDS men with non-LDS women revealed that non-LDS men and non-LDS women did not differ in their level of beliefs that their appearance was central to their success, happiness and self-worth, nor did these non-LDS groups differ in their levels of

body satisfaction. However, non-LDS men were less preoccupied with their weight and invested less time and effort into their appearance than non-LDS women.

Within-Gender Contrasts

LDS Men versus non-LDS Men. Significant differences were found between LDS and non-LDS men on all the

subscales of the MBSRQ and on the BAAS. Specifically, LDS men were significantly higher than non-LDS men in positive feelings about their physical appearance, were significantly more satisfied with their bodies, and invested more time and effort into their appearance. LDS men were also significantly less preoccupied with their weight than non-LDS men. Scores on the BAAS indicated that

Table 2
ANOVA Planned Contrasts, between gender

Scale		mean (sd)	t	p
Men (n = 229) vs. Women (n = 268)				
APPEVF	Men	3.16 (.40)	4.54	.000
	Women	2.99 (.40)		
APPORF	Men	3.09 (.39)	-2.42	.016
	Women	3.18 (.36)		
SATIS	Men	3.60 (.60)	4.87	.000
	Women	3.30 (.68)		
OWPR	Men	1.88 (.72)	-9.93	.000
	Women	2.70 (.95)		
BAAS	Men	22.71 (13.55)	-1.67	.096
	Women	25.07 (16.24)		
LDS Men (n = 155) vs. LDS Women (n = 152)				
APPEVF	Men	3.25 (.44)	-5.37	.000
	Women	3.00 (.42)		
APPORF	Men	3.15 (.39)	-.92	.358
	Women	3.19 (.37)		
SATIS	Men	3.76 (.56)	5.95	.000
	Women	3.31 (.67)		
OWPR	Men	1.77 (.70)	-9.45	.000
	Women	2.72 (.95)		
BAAS	Men	20.62 (12.69)	-3.13	.002
	Women	25.98 (16.51)		
Non-LDS Men (n=74) vs. Non-LDS Women (n=116)				
APPEVF	Men	3.07 (.37)	1.62	.107
	Women	2.97 (.38)		
APPORF	Men	3.04 (.39)	-2.35	.019
	Women	3.17 (.35)		
SATIS	Men	3.44 (.64)	1.52	.129
	Women	3.29 (.69)		
OWPR	Men	2.01 (.74)	-5.21	.000
	Women	2.68 (.96)		
BAAS	Men	24.79 (14.40)	.28	.776
	Women	24.15 (15.97)		

APPEVF = Appearance Evaluation Scale; APPORF = Appearance Investment Scale; SATIS = Body Satisfaction Scale; OWPR = Weight Preoccupation Scale; BAAS = Beliefs About Appearance Scale

Table 3
ANOVA Planned Contrasts, within gender

Scale		mean (sd)	t	p
Men				
APPEVF (n=155)	LDS	3.25 (.44)	3.11	.002
	Non-LDS	3.07 (.37)		
APPORF	LDS	3.15 (.39)	2.03	.043
	Non-LDS	3.04 (.39)		
SATIS	LDS	3.76 (.56)	3.46	.001
	Non-LDS	3.44 (.64)		
OWPR	LDS	1.77 (.70)	-1.97	.049
	Non-LDS	2.01 (.74)		
BAAS	LDS	20.62 (12.69)	-1.96	.050
	Non-LDS	24.79 (14.40)		
Women				
APPEVF (n=152)	LDS	3.00 (.42)	.55	.580
	Non-LDS	2.97 (.38)		
APPORF	LDS	3.19 (.37)	.34	.731
	Non-LDS	3.17 (.35)		
SATIS	LDS	3.31 (.67)	.21	.836
	Non-LDS	3.29 (.69)		
OWPR	LDS	2.72 (.95)	.37	.712
	Non-LDS	2.68 (.96)		
BAAS	LDS	25.98 (16.51)	.98	.326
	Non-LDS	24.15 (15.97)		

APPEVF = Appearance Evaluation Scale; APPORF = Appearance Investment Scale; SATIS = Body Satisfaction Scale; OWPR = Weight Preoccupation Scale; BAAS = Beliefs About Appearance Scale

LDS men were significantly less likely than non-LDS men to believe that their success in either relationships or work was dependent upon their physical appearance or that positive feelings and self-esteem were dependent upon their physical appearance. Table 3 lists the means and standard deviations in these subgroups.

LDS Women versus non-LDS Women. In contrast to the men, no statistical differences were found on any of the MBSRQ subscales or on the BAAS between LDS and non-LDS women. Table 3 lists the means and standard deviations in these subgroups.

Mean comparisons of LDS students in Utah versus outside Utah

LDS Men in Utah versus LDS Men outside of Utah. Comparisons of LDS men in Utah with LDS men in the other states revealed little difference. LDS men in Utah scored marginally higher on the Appearance Evaluation scale than men in other states. No statistically significant differences were found on any of the other subscales. Table 4 lists the means and standard deviations in these subgroups.

LDS Women in Utah versus LDS Women outside of Utah. Analyses comparing LDS women in Utah to LDS women in other states revealed several differences. LDS women in Utah invested significantly more time and effort into their appearance than LDS women in other states, and reported a greater level of preoccupation with weight. Scores on the BAAS indicated that LDS women in Utah were significantly more likely than LDS women from other states to believe that their success in relationships and work is dependent upon their appearance and that the occurrence of positive feelings and self-esteem are dependent upon their appearance. Table 4 lists the means and standard deviations in these subgroups.

Regression Analyses

Male. Four separate regression analyses were conducted for each of the four MBSRQ subscales used as dependent variables. Predictors were age, LDS status, state (i.e., in or outside of Utah) and BAAS scores, respectively. As shown in Table 5, the overall models (*F* values) were significant for all four regressions. For men, LDS status and beliefs about appearance (i.e., the BAAS) were significant predictors of appearance orientation, body satisfaction and weight preoccupation. Specifically, being LDS was associated with greater

feelings of body satisfaction and positive feelings about one's appearance, greater investment in appearance, and lower weight preoccupation. Having lower levels of dysfunctional beliefs about appearance (as measured by the BAAS) was associated with higher body satisfaction, and lower investment in appearance and lower weight preoccupation. No other variable consistently predicted

Table 4
Scale means of LDS students in Utah versus outside of Utah, by gender

Scale	m (SD)	t	df	p
Men				
APPEVF (n=99)	Utah	1.975	152	.051
	Non-Utah			
APPORF	Utah	.300	152	.765
	Non-Utah			
SATIS	Utah	.224	137	.823
	Non-Utah			
OWPR	Utah	-.569	137	.570
	Non-Utah			
BAAS	Utah	.111	152	.912
	Non-Utah			
Women				
APPEVF (n=94)	Utah	.106	148	.915
	Non-Utah			
APPORF	Utah	2.710	150	.008
	Non-Utah			
SATIS	Utah	-.339	143	.735
	Non-Utah			
OWPR	Utah	2.152	142	.033
	Non-Utah			
BAAS	Utah	2.347	148	.020
	Non-Utah			

APPEVF = Appearance Evaluation Scale; APPORF = Appearance Investment Scale; SATIS = Body Satisfaction Scale; OWPR = Weight Preoccupation Scale; BAAS = Beliefs About Appearance Scale

MBSRQ subscales in men.

Female. For women, the only variable that predicted body image satisfaction and related variables was beliefs about appearance (see Table 5). Having lower levels of beliefs that success, happiness and self-worth are dependent on appearance was associated with higher body image satisfaction and more positive feelings about

one's appearance, as well as lower levels of investment in grooming and lower weight preoccupation.

DISCUSSION

Consistent with previous research, women in the present study regardless of religion had a more negative

Table 5
Regression Analyses

Model	Predictor	Beta (std error)	t	p
Men (n=229)				
APPEVF F(4,216)=3.90, p<.004 R ² = .13	AGE	-.08 (.04)	-1.18	.24
	LDS	-.15 (.06)	-2.06	.04
	STATE	-.10 (.06)	-1.44	.15
	BAAS	-.11 (.00)	-1.65	.10
APPORF F(4,217)=6.18, p<.000 R ² = .11	AGE	-.09 (.04)	-1.42	.16
	LDS	-.17 (.06)	-2.42	.01
	STATE	.00 (.05)	0.03	.98
	BAAS	.29 (.00)	4.47	.00
SATIS F(4,202)=10.65, p<.000 R ² = .18	AGE	-.14 (.06)	-2.19	.03
	LDS	-.22 (.09)	-3.10	.00
	STATE	-.04 (.08)	-0.62	.54
	BAAS	-.29 (.00)	-4.49	.00
OWPREOC F(4,202)=4.94, p<.001 R ² = .09	AGE	.10 (.07)	1.48	.14
	LDS	.16 (.11)	2.26	.03
	STATE	.01 (.10)	0.17	.87
	BAAS	.21 (.00)	3.05	.00
Women (n=268)				
APPEVF F(4,255)=7.92, p<.000 R ² = .12	AGE	-.19 (.03)	-0.31	.75
	LDS	-.03 (.05)	-0.45	.63
	STATE	-.03 (.05)	-0.52	.60
	BAAS	-.33 (.00)	-5.61	.00
APPORF F(4,257)=6.21, p<.000 R ² = .13	AGE	-.08 (.03)	-1.35	.18
	LDS	-.01 (.05)	-0.14	.89
	STATE	-.07 (.05)	-1.11	.27
	BAAS	.27 (.00)	4.52	.00
SATIS F(4,245)=15.16, p<.000 R ² = .21	AGE	-.02 (.05)	-0.41	.68
	LDS	-.03 (.08)	-0.42	.67
	STATE	-.04 (.08)	0.66	.51
	BAAS	-.45 (.00)	-7.70	.00
OWPREOC F(4,243)=27.15, p<.000 R ² = .31	AGE	.07 (.07)	0.97	.33
	LDS	.00 (.11)	-0.44	.96
	STATE	.01 (.11)	0.11	.91
	BAAS	.55 (.00)	10.28	.00

APPEVF = Appearance Evaluation Scale; APPORF = Appearance Investment Scale; SATIS = Body Satisfaction Scale; OWPR = Weight Preoccupation Scale; BAAS = Beliefs About Appearance Scale

Table 6
Correlations between variables, male participants

Scale	APPEVF	APPORF	SATIS	OWPR EOC	BAAS
APPEVF	--				
APPORF	.26**	--			
SATIS	.52**	.17*	--		
OWPR EOC	-.17*	.17*	-.21**	--	
BAAS	-.14*	.27**	-.33**	.24**	--

*p < .05

**p < .01

APPEVF = Appearance Evaluation Scale; APPORF = Appearance Investment Scale; SATIS = Body Satisfaction Scale; OWPR = Weight Preoccupation Scale; BAAS = Beliefs About Appearance Scale

Table 7
Correlations between variables, female participants

Scale	APPEVF	APPORF	SATIS	OWPR EOC	BAAS
APPEVF	--				
APPORF	.16**	--			
SATIS	.63**	.06*	--		
OWPR EOC	-.33*	.35*	-.41**	--	
BAAS	-.33*	.28**	-.44**	.55**	--

*p < .05

**p < .01

APPEVF = Appearance Evaluation Scale; APPORF = Appearance Investment Scale; SATIS = Body Satisfaction Scale; OWPR = Weight Preoccupation Scale; BAAS = Beliefs About Appearance Scale

body image than their male peers. However, religion (i.e., being LDS or not) was significantly associated with the pattern of differences between men and women. LDS men and women differed primarily in their views of their body such that LDS women were significantly less satisfied with their bodies than LDS men and significantly more likely to believe that their success, happiness, and self-esteem are dependent upon their physical appearance than LDS men. In contrast, non-LDS men and women differed primarily in their investment in appearance such that non-LDS women were more preoccupied with their body weight than non-LDS men and invested more time and effort into their appearance than non-LDS men.

The pattern of differences *within* gender were also associated with being LDS or not. For men, results indicated that male LDS college students had a more positive body image than their non-LDS counterparts. Specifically, LDS men had higher satisfaction with their overall appearance, greater satisfaction with their individual body parts, were less preoccupied with body weight, and were not as likely to believe their interpersonal or occupational success nor their personal worth depended upon their appearance than non-LDS men. It also appears that LDS men tend to put more time and effort into their appearance than their non-LDS male counterparts. Regression analyses confirmed the significant contribution of being LDS to the prediction of body image for men. These findings suggest that the LDS subculture does have an impact on the body image of the LDS male. Of all groups, LDS men had the most positive views of their bodies and were the least likely to believe that their success, happiness and worth were based on their physical appearance. One possible explanation for these findings is that the pro-body principles in LDS doctrine cause LDS men to be more accepting and appreciative of their bodies, and less likely to view them as a commodity for interpersonal, occupational or esteem gain. Consistent with LDS doctrine, LDS men may actually view their bodies as sacred and as gifts from God, thereby instilling greater satisfaction with their bodies. Additionally, LDS doctrine and scripture which discourage vanity and de-emphasize physical appearance as central to a meaningful life may have contributed to the significantly lower endorsement of beliefs that appearance is central to success, happiness and esteem observed among LDS men.

In contrast, comparisons of LDS women to non-LDS women revealed no statistical difference that would indicate that female LDS college students have a more positive or more negative body image than their non-LDS counterparts. It appears that for LDS women the pro-body LDS doctrine does not have an impact on body image as it does for LDS men. The lack of a "doctrinal" effect for LDS women may be because the ambient culture, with its strong emphasis on thinness for women, negates the positive impact that LDS pro-body doctrine could have on LDS women's view of their bodies. It is also possible that the emphasis on mating in the LDS subculture and the strong emphasis in Western culture on the importance of physical appearance for women's social status and marriageability interact, resulting in LDS women being more critically focused on their bodies which negates the potential positive influence of LDS pro-body doctrine on body image in LDS women. Indeed, LDS women were more likely than any other group to believe that their interpersonal success, happiness and worth were based on their physical appearance.

Also consistent with this interpretation, LDS women in Utah reported being more preoccupied with their weight, spent more time and effort on their appearance and grooming, and were more likely to believe that their happiness, worth and interpersonal and work success were dependent upon their physical appearance than LDS women living outside of Utah. In contrast, comparisons of LDS men from Utah with LDS men from other states showed little difference. The differences found between LDS women in Utah compared to LDS women in other states could be due to the large LDS population in Utah which may amplify the LDS directive to mate above that found in other states. Therefore, as evident in the current pattern of findings, LDS status does not differentiate level of body image dissatisfaction, level of dysfunctional beliefs about the body, or level of weight preoccupation among women, but living in Utah where the LDS subculture mating pressures are arguably stronger does.

The dominant LDS culture in Utah may also affect how LDS women in Utah perceive their gender role. Utah is well-known as a more conservative state. As a result, women in Utah may be more likely to adhere to a more "traditional" female gender role. The gender roles purported in evolutionary theory, that women primari-

ly nurture children and men primarily provide material resources, are encouraged within the LDS community. As such, these values may heighten "expected" gender role conformity in women in Utah. Indeed, theorists have hypothesized that physical appearance is central to the traditional female gender role. Studies have documented significant positive correlations between an individual's level of affirmation of the traditional female gender role and level of endorsement of the thin-ideal body type for women (Stice et al., 1994). Furthermore, attractive women are rated as more traditionally feminine than less attractive women, regardless of the woman's actual adherence to traditional female gender role behaviors and attitudes (Stice, 1994). Thus, if traditional female gender role expectations are higher in Utah, then it would be expected that greater conformity to central aspects of the traditional female gender role (e.g., thin, attractive appearance) would also be higher in Utah.

Another potential reason that LDS women in Utah were more likely to have a greater preoccupation with their weight and their appearance is that they were more likely to believe that positive outcomes in relationships, work, self-esteem and mood were dependent upon their physical appearance than LDS women outside of Utah. This difference in level of endorsement of such beliefs appears pivotal because greater endorsement of such beliefs consistently and significantly predicted a higher level of body image dissatisfaction in both men and women regardless of religion. In fact, the BAAS score was the only significant predictor of body image variables in women. These findings suggest that individuals' beliefs about the consequences of their appearance are central in determining their level of body image satisfaction. This finding is consistent with other studies which document that beliefs about appearance prospectively predict level of body (dis)satisfaction, thin-ideal internalization, self-esteem, and engagement in dieting (Spangler, 2002) and are an important risk factor in the development of eating pathology (Stice, Presnell & Spangler, 2002). Taken together, these findings suggest that any variable (such as traditional gender role endorsement or emphasis on appearance for marriageability) that increases the believability of dysfunctional beliefs about the body (as measured by the BAAS) will likely also increase body image dissatisfaction, thin-ideal internalization, dieting and eating pathology.

CONCLUSIONS AND FUTURE DIRECTIONS

Consistent with the growing body of literature demonstrating the effects of sociocultural variables on body image, this study found religion to have a significant impact on body image. As such, it would be valuable to conduct more research investigating the effects of religion on body image. The current findings suggest that religious beliefs and practices may have an effect on body image to the extent that they either increase or decrease the endorsement of dysfunctional beliefs about the body regarding the degree of centrality of appearance for relationships, marriageability, work, life satisfaction, and self-worth. Different aspects of religious belief and practice could be examined to determine which aspects affect body image positively and negatively. The current findings suggest that LDS doctrine about the sacredness of the body may serve to increase positive body image. In contrast, the LDS culture emphasis on mating and perceived centrality of appearance for marriageability for women, as well as strong adherence to the traditional female gender role, may serve to reduce positive body image among women. Such a pattern may not be evident in LDS men because LDS culture emphasizes a man's ability to provide and to achieve occupationally whereas LDS culture emphasizes a woman's role as a wife and mother. Given these gendered directives in LDS culture, it may be that LDS men are more susceptible to ideas that their marriageability, worth and life satisfaction are based on their performance, whereas LDS women are more susceptible to ideas that their marriageability, worth and life satisfaction are based on their appearance (i.e., ability to attract a mate and maintain a relationship using their appearance).

Future studies could examine these hypotheses more comprehensively by directly assessing attitudes about gender roles and attitudes about marriageability in addition to body image and beliefs about appearance. Future research could also explore the ways in which LDS status confers a more positive body image in men, and then apply such findings to increase body image among LDS and non-LDS men and women.

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