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ORIGINAL ARTICLE

Looking Good Versus Feeling Good: An Investigation of Media Frames of Health Advice and Their Effects on Women's Body-related Self-perceptions

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Abstract The present research had two goals: (1) to document how health advice is framed on the covers of women's health magazines, and (2) to investigate whether exposure to appearance frames (i.e., do something in order to look better) affected women's body-related self-perceptions compared to health frames (i.e., to do something in order to feel better). Study 1, a content analysis of 426 cover headlines on the five highest-circulating women's health magazines in the United States, revealed that appearance frames were just as prevalent as health frames. Study 2, an experiment conducted on 103 U.S. undergraduate women, showed that those assigned to appearance frames reported more body shame and appearance-related motivation to exercise than women assigned to health frames.

Keywords Framing · Health magazines · Health advice · Self-objectification · Body shame

Introduction

The goal of this two-part study is to shed light on the nature and impact of health advice present in popular U.S. women's health magazines (e.g., *Shape*, *Self*, *Fitness*). Objectification theory (Fredrickson and Roberts 1997) and framing theory (Scheufele 1999) are used to explicate how the frame of health advice (i.e., to improve one's health or to improve one's appearance) may differentially influence women's body-related beliefs. Although the present study investigates U.S. magazines and their effects on U.S. college students, the findings are of consequence to scholars, parents, and health professionals not only in the U.S. but also abroad. Although the health messages under investigation are produced in the U.S., these magazines have international editions that reach many more countries across the globe. For example, *Shape*, the highest-circulating magazine under investigation, has 14 international editions that reach 30 countries (Shape 2010b). Thus, the implications of exposure to this health advice take on global importance.

According to feminist scholars from multiple disciplinary backgrounds, women learn from an early age that their looks matter (e.g., Bartky 1990; de Beauvoir 1952). Indeed, other people's evaluations of their physical appearance can determine how they are treated in day-to-day interactions, which can shape their social and economic opportunities (for review, see Fredrickson and Roberts 1997). Many scholars argue that the media reinforce this appearance-driven culture by constructing women's appearance as their most important trait, a theme reinforced in many media, including television (Fouts and Burggraf 1999), women's magazines (Malkin et al. 1999), music videos (Sommers-Flanagan et al. 1993), and advertising (Goffman 1979).

Intuitively, one exception to this rule might be found in health magazines. One might expect that messages in health magazines would be more focused on health and well-being and less on familiar themes of attractiveness and sexiness. Thus, the present two-study paper examines the nature and effects of the framing of health advice directed to women in health magazines. In the first study, a content analysis, the extent to which the headlines on health magazine frame recommendations as appearance-related advice (e.g., "52 Moves to Make Your Butt Look Tighter") versus health-

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related advice (e.g., "52 Moves to Make You Feel Better") was investigated. I also explored whether the framing of health advice differed by type of magazine, story topic, and the story's placement in the magazine. Finally, Study 1 examines how often the headlines incorporate language that explicitly objectifies the body (e.g., "knockout legs," "flabby arms"). Using an experimental design, the second study explored whether these differing frames affect women's awareness of their bodies, feelings of shame toward their bodies, and reasons for exercise, and whether the results differ according to participants' BMI. Taken together, these studies fill a gap in the literature on media effects on body image, by examining sexual objectification in the context of a medium that purports to be dedicated to empowering women to lead healthy lives and to feel good about themselves (e.g., Shape 2010a)

Theoretical Foundations

Objectification Theory

According to objectification theory (Fredrickson and Roberts 1997), women who live in an objectifying culture learn to perceive and describe themselves by their external traits (i.e., how they look) rather than internal traits (i.e., how they feel). This tendency, called self-objectification (SO), can be viewed as a relatively stable trait as well as a transient state, which can be triggered and magnified by particular social contexts. Although influences on SO might include a variety of interpersonal, social, cultural, and even biological factors, an aggressive purveyor of sexual objectification of women's bodies, which "occurs whenever a woman's body, body parts, or sexual functions are separated out from her person, reduced to the status of mere instruments, or regarded as if they were capable of representing her," (p. 175) is undoubtedly the mass media. Thus, it stands to reason that media exposure high in sexual objectification can socialize individuals to treat their own bodies as objects. Individuals who continuously see others' bodies being objectified in the media learn the importance of appearance, which could encourage them to view themselves as objects to be looked at by others (Aubrey 2006a).

Fredrickson and Roberts (1997) argue that sexual objectification occurs through two dominant ways. First is the visual objectification of women's bodies. For example, content analytic work has demonstrated that women' bodies are more emphasized, through close-ups, dismemberment, and high body display, than men's bodies (Archer et al. 1983; Goffman 1979; Rudman and Hagiwara 1992). Relevant to the second class of objectifying media is the media's tendency to emphasize women's bodies through textual framing. That is, *verbal* references to women's bodies can underscore the importance of appearance for women's desirability just as *visual* objectification can. For example, Malkin et al. (1999) found that women's magazine covers imply weight loss will lead to a better sexual life. "Drop 8 Pounds this Month" was on the same cover as "25 Ways to Make Your Marriage Hot Again." "Stay Skinny" was on the same cover as "What Men Want Most."

Thus, through these two dominant ways that the media objectify women's bodies, research has found that not only do the media provide a socializing function for the development of a trait of SO (Aubrey 2006a), but they also provide a key eliciting condition in temporarily activated state SO (Aubrey et al. 2009; Harrison and Fredrickson 2003). A focus of the present study was on how magazine exposure might temporarily amplify SO as a state. Several studies have examined this proposition. Harrison and Fredrickson examined the difference between exposure to the body as an *instrument* versus the body as an *object* by manipulating sports exposure. In one group, late adolescent girls were exposed to "power" sports (i.e., softball, basketball), in which women athletes were judged based on their performance and skill rather than their appearance. In the other condition, girls were exposed to "lean" sports in which the athletes were judged at least in part on their appearance (i.e., gymnastics, figure skating). The results showed that exposure to clips featuring lean women athletes activated state SO for Caucasian girls; whereas exposure to clips featuring "power" women athletes activated state SO for girls of color. Thus, this study demonstrated that it is possible for media to at least temporarily activate SO.

Two other recent experimental studies focused on the effects of visual objectification of women's bodies on state SO. In the first experiment, women were assigned to images of women with a high degree of body display, images of women's segmented body parts (i.e., abs separated from the rest of the body), or neutral images of places and things (Aubrey et al. 2009). The results indicated that assignment to the body-display condition caused women to write more appearance-related words to describe themselves, as well as more negative words to describe their appearance, than participants assigned to the body-parts and control images. In another experiment, Harper and Tiggemann (2008) showed that women who were assigned to view advertisements with thin-ideal women reported higher state SO, as well as greater appearance anxiety and body dissatisfaction, than those assigned to control ads. Taken together, these studies have demonstrated that visual objectification of women's bodies can activate self-objectification and other body-related perceptions. However, research has not yet investigated whether exposure to purely textual objectifying content can

similarly activate self-objectification and other body-related outcomes.

Moreover, a guiding assumption of this research is that the reason for following a healthy behavior has implications for not only success at persisting at it, but also mental and emotional well-being. Consider a woman who restricts calories so that she will *look* more attractive. This is a much different scenario than a person who restricts calories to *feel* healthier. In both cases, the behavior (calorie restriction) is the same, but the reason for doing so is significant (Ryan and Deci 2000). In particular, dieting and exercise in pursuit of an improved appearance might be seen as an extrinsic motivation, whereas dieting and exercise in pursuit of better health might be seen as an intrinsic motivation. Recent research suggests that these two motivations are not equal. According to Putterman and Linden (2004), women who reported being on a diet to improve their appearance were more likely to use drastic dieting strategies, to score higher on measures of body dissatisfaction, and to experience lapses in restraint. On the other hand, dieting motivated by health concerns was associated with fewer negative sequelae. Similarly, research has shown that functional reasons for exercise such as health, enjoyment, or fitness are associated with increased body esteem and lowered body dissatisfaction (Strelan et al. 2003; Tiggemann and Williamson 2000), whereas among young women, exercise for weight control, body tone, and attractiveness has been linked to increased body dissatisfaction, disturbed eating, and lower body esteem (Furnham et al. 2002; Tiggemann and Williamson 2000). Thus, despite the physical health-related benefits of exercise, exercise motivated by appearance reasons can lead to poorer body image in some women (Prichard and Tiggemann 2007).

Some research has also investigated these issues from the objectification theory (Fredrickson and Roberts 1997) framework, showing that self-objectification and body surveillance are correlated with appearance-related motivations for exercise (Prichard and Tiggemann 2005; Strelan et al. 2003). Indeed, Prichard and Tiggemann (2007) suggest that appearance-related motivations for exercise mediate the relationships between exercise and self-objectification. This is particularly true for physical activities that are more focused on weight control and body sculpting and in contexts that are objectifying in nature, such as fitness centers (Prichard and Tiggemann 2005). Thus, these results suggest that the reasons women engage in healthy behaviors have bearing on their overall relationships with their bodies.

Framing Theory

Importantly, the focus of the present research was not on the *content* of health advice for women, but rather, the *framing* of this advice. Thus, this focus shares theoretical ground with framing theory (e.g., Sheufele 1999). The theory examines how the media make certain aspects of a story more salient than others (i.e., media frames), which, in turn, can affect how individuals come to define a problem or story for themselves (i.e., individual frames). Thus, the ideas of selection and salience suggest that framing is a way to draw attention to certain features of an issue (e.g., appearance) while minimizing attention to others (e.g., health) (Cappella and Jamieson 1996).

Framing theory (Scheufele 1999) also suggests that media frames can have an influence on the thoughts and actions of audience members, a proposition that is typically explained by the associative network model of memory effects (e.g., Price and Tewksbury 1997). In essence, when people hear, see, or read media stimuli, ideas having a similar meaning are activated for a short time afterwards, and these thoughts in turn can activate other semantically related ideas and action tendencies. Examples of short-term framing effects from sexually objectifying media are evident in a pair of studies showing that sexually objectifying media stimuli prime in men sexually motivated behaviors toward women (McKenzie-Mohr and Zanna 1990; Rudman and Borgida 1995). Also in the spirit of associative network model of memory effects, Jennings et al. (1980) found that when women were shown ads depicting women as sexual objects, they displayed less self-confidence during an impromptu public speech than those who were exposed to reverse-stereotyped ads. Thus, it is possible that media frames that highlight appearance might make women adopt a similar perspective toward the self.

Study 1

A Content Analysis of Frames in Women's Health Magazines

To date, no empirical investigations have been conducted to systematically document frames that are employed in women's health magazines. Study 1 undertakes this endeavor by examining the cover headlines of health magazines targeting female consumers. This particular medium was chosen to focus on messages about health, mostly in the form of tips and advice, packaged to women from a position of health, not beauty. For example, in beauty magazines, such as *Glamour* or *Allure*, one might expect most advice being related to appearance. In contrast, the mission statements of some of the magazines that were sampled for the present study reflect a broad goal of empowerment to women to be as healthy as they can be, while explicitly challenging women's need to conform to

cultural standards regarding appearance. For example, according to the mission statement of *Fitness*, the magazine "empowers women to embrace fitness as a lifestyle—not an age or dress size—and to change the conversation from 'skinny' to 'healthy'" (Fitness editorial 2010). Thus, it would be logical to assume that the magazines focus most prominently on health for health's sake, or for the sake of a more competent (e.g., fit, strong, flexible) body.

At the same time, it is also important to recognize that these magazines, like all magazines, are also profit driven. As Kilbourne (1999) argues, advertisers capitalize on female magazine readers' insecurities by offering solutions in the form of products. Indeed, many of the products advertised in health magazines are those related to dieting (e.g., weight loss programs and supplements, diet food) and appearance enhancement (e.g., cosmetics and hair products); thus, it is also possible that despite the mission statements of these magazines, there is an editorial emphasis on appearance this is in correspondence with the advertising mission of the magazines. Thus, the first research question was:

RQ1. To what extent do women's health magazines use health, body competence, and appearance frames in their cover headlines?

There were two magazines in the sample—*Self* and *Shape*—that might be better considered a hybrid of beauty and health magazines (Hardin et al. 2005). They focused on readers' dual needs of wanting to be healthy *and* attractive. Indeed, some scholars have critiqued such magazines as having an athletic veneer (Hardin et al. 2005), but falling short of empowering women (Hargreaves 1994; Thomsen et al. 2004).

RQ2. Will the framing of health advice differ by type of magazine (health versus hybrid)?

Study 1 also focused on the interplay between frame and topic to understand whether certain types of stories were more likely to be framed as appearance or health than other topics.

RQ3. Will framing of health advice vary according to the story topic?

Additionally, given that frames make certain information salient, one of the contextual features examined was the prominence of the headline. Each magazine cover had one headline that was more dominant than the others. These dominant cover headlines might be considered the most salient headline of the issue, typically teasing the lead feature article of the issue.

RQ4. Are appearance frames more frequent in dominant headlines than other headlines?

Finally, the extent to which health magazines used overtly sexually objectifying phrases—defined as phrases that draw attention to bodies or body parts—in their cover headlines was also examined.

RQ5. How frequently are objectifying phrases used in cover headlines?

Method

Sample

To construct the sample, the Audit Bureau of Circulations list of the top-100 magazines in terms of circulation was consulted (Audit Bureau of Circulations 2010). The list contained five magazines that were primarily about health and targeted to women: *Shape* (circulation: 1.7 million), *Fitness* (1.6 million), *Self* (1.5 million), *Health* (1.4 million), and *Women's Health* (1.2 million). From these five titles, the sampling strategy was to randomly choose two issues from each of six consecutive years (2003–2008). Then, the issues were purchased through the magazine's website or through private sellers via an online auctioning site (Ebay). This strategy resulted in a total of 55 magazines. *Shape*, *Self*, and *Health* each had 12 issues represented. However, *Fitness* had 11 issues because only one issue from 2003 could be obtained. *Women's Health* magazine only had eight issues represented because it did not go into production until 2005, thus 2 years from the sampling period were not available.

Coder Training

Two female undergraduate students and one female graduate student served as coders. They were trained for approximately 15 h on magazines outside of the actual sample. During these sessions, the coders practiced on several issues so that the coders and the principal investigator could identify and resolve problems with the coding scheme. After the coding scheme was modified on the basis of these practice rounds, coding was independent. Reliabilities were computed based on their coding of four magazine issues (two issues of *Fitness*, one issue of *Health*, and one issue of *Shape*) that were not included in the final sample. Cohen's Kappa was used to assess reliability.

Coding Procedures

In the following, we describe the coding decisions that we used for the present content analysis.

Unit of Analysis

The unit of analysis was the cover headline, defined as the discrete text on the magazine cover that highlights a single story in the issue. Each issue had between five and 12 (M=7.82; SD=1.59) cover headlines. In the 55 issues, 426 cover headlines were coded.

Frame

Cover headlines were coded for whether the salient information in the headline instructed readers to do something in order to look better (appearance frame), in order to improve a body's instrumental traits, such as fitness, strength, flexibility (body competence frame), or in order to get healthier in general (health frame). In the rare case that one cover headline elicited more than one motivation (e.g., appearance and health), the first frame was coded. However, many cover headlines were strictly about weight loss (e.g., "do something in order to lose weight"), which can be seen as conflating both appearance and health, as losing weight can have health benefits, as well as culturally valued appearance benefits. Thus, a separate "weight loss frame" category was coded. All other cover headlines were coded as "other/miscellaneous," and this category included such diverse frames as convenience ("beauty tricks for busy women"), efficiency ("work out smarter"), and budget ("summer meals that won't break the bank"). Cohen's κ for this variable = .91.

Topic

To code the topic of the article, coders looked inside the magazine, at the article referenced by the cover headline, to code what the actual article was about. In the hypothetical example of "do something to look better," the "something" would be the topic, whereas the "to look better" would be the frame. The coding categories for this topic were compiled by examining the featured "departments" of each of the five magazines. From this process, we compiled seven topics: (1) beauty/fashion/skincare; (2) fitness/exercise; (3) food/nutrition; (4) physical health; (5) mental health; (6) relationships; and (7) other. There was high inter-coder agreement (Cohen's κ=.97).

Prominence of Headline

The most dominant headline on each issue was coded. There was only one per issue, and it was operationalized as the headline with the biggest font. Typically, it was in the upper-left corner under the masthead. Coders achieved perfect agreement on this variable (Cohen's κ=1.0).

Objectifying Phrase

Objectifying phrase was defined as one that specifically mentions a desire to achieve desirable bodies or body parts (e.g., "knockout legs," "sculpted butt," "firm thighs," "bikini body") or to avoid unsightly bodies or body parts (e.g., "flabby arms," "dimply derriere"). The coder coded the presence of an objectifying phrase (Cohen's κ=.70).

Results

To investigate the RQs, the data analysis strategy was two-fold. First, overall chi-square goodness-of-fit tests were conducted to determine if the distribution among categories was *not* equal. Second, in order to investigate pairwise comparisons among distributions with more than two categories, Marascuilo contrasts, which allow for pairwise comparisons between categories that consist of proportion data (Glass and Hopkins 1996), were used.

RQ1 examined the distribution amongst the frames of the cover headlines. Of the 426 cover headlines in the sample, 33.3% (n=142) were coded as appearance frames, 29.3% (n=125) as health frames, 19.0% (n=81) as weight loss frames, and only 3.3% (n=14) as body competence frames. The remaining 64 cover headlines (15.0%) were in the other/miscellaneous category. Because the overall χ^2 statistic was significant, χ^2 (4, N=426) = 121.44, p<.001, it can be concluded that the categories were not evenly distributed. However, the findings suggest that there was not a statistically significant difference in the frequency of appearance frames versus health frames, χ^2 (1) = .026, p=.48, but there were significantly more appearance frames than both weight loss, χ^2 (1) = 5.90, p=.02, and body competence frames, χ^2 (1) = 23.42, p<.001. Additionally, health frames outnumbered body competence frames, χ^2 (1) = 17.17, p<.001, but only outnumbered weight loss frames at a level approaching significance, χ^2 (1) = 2.98, p=.08.

To investigate RQ2, which inquired about differences in frames between types of magazines, we compared the frames between the magazines that have been called hybrid beauty/health magazines (i.e., *Self* and *Shape*) and the other health magazines (i.e., *Health*, *Women's Health*, and *Fitness*). The overall χ^2 goodness of fit test approached statistical significance, χ^2 (4, N=426)=8.98, p=.06, Cramer's V=.06. The cross-tabulation is presented in Table 1. The pairwise comparison revealed that the hybrid magazines had significantly more appearance frames than health magazines, whereas the health magazines had significantly more health frames than the hybrid magazines. There were no statistically significant differences between the types of magazines on any other frames.

Table 1 Comparison of frames by type of magazine.

	Beauty/health magazines (Self & Shape) % (n)	Health magazines (Fitness, Health, & Women's Health) % (n)
Appearance frame	54.9_a (78)	45.1_b (64)
Health frame	38.4_a (48)	61.6_b (77)
Body competence frame	35.7_a (5)	64.3_a (9)
Weight loss frame	40.7_a (33)	59.3_a (48)
Other/miscellaneous frame	43.8_a (28)	56.2_a (36)
Total	45.1 (192)	54.9 (234)

Pairwise comparisons were done using Marascuilo contrasts (Glass and Hopkins 1996). Frequencies in the same row that do not share subscripts differ at $p<.05$

RQ3 examined the use of frames by topic of the story. A cross-tabulation of the topic X frame variables is presented in Table 2. The χ^2 for the overall model was statistically significant, χ^2 (24, N=426) = 590.41, $p<.001$, Cramer's V=.59. The results indicated that one frame dominated each topic. The most frequent topic was fitness/exercise (29.6%, n=126). Within these articles, there were significantly more appearance frames than any other frame. The next-most prevalent category was stories about food/nutrition (21.8%, n=93), in which weight loss frames predominated. Next, stories about physical health (14.1%, n=60) and mental health (9.6%, n=41) were dominated by health frames, whereas stories about beauty/fashion/skin-care (13.4%, n=57) were dominated by appearance frames. For the two remaining topics– relationships and "other" topics—the other/miscellaneous frames were most frequent.

In relation to RQ4, which investigated the differences in frames by the dominance of the headline, I isolated only the dominant cover headlines on each of the 55 magazines in the sample and examined the frequency of frames. The overall χ^2 test was statistically significance, χ^2 (3, N=55) = 22.46, $p<.001$. The most frequent frame used in the dominant headlines was the appearance frame (50.9%, n=28), followed by the weight loss frame (25.5%, n=14), the health frame (12.7%, N=7), and the body competence frame (10.9%, n=6). Thus, in answer to RQ4, appearance frames occurred in just over one-half of the dominant headlines, and they occurred more frequently in the dominant headlines than in non-dominant headlines (30.7%, n=114), χ^2 (1)=3.78, p=.05.

Finally, RQ5 examined the extent to which explicitly objectifying phrases were contained in the cover headlines. Of the 426 cover headlines coded, 20.9% (n=89) contained an objectifying phrase. Although the results clearly suggest that headlines without objectifying phrases were more frequent than headlines with objectifying phrases, χ^2 (1, N=426) = 144.38, $p<.001$, it also should be noted that the 95% confidence interval of this proportion is +/−3.86, so the incidence of objectifying phrases was significantly greater than zero. Also, 40.0% (n=22) of the 55 dominant headlines coded, contained an objectifying phrase.

Brief Discussion

The purpose of the content analysis was to examine how often health magazines targeting women employ appearance-related frames, as compared to general health or body competence frames. The results revealed that in the headlines featured on the covers of 6 years' worth of five of the most

Table 2 A comparison of article frames by topic.

	Appearance frame % (n)	Health frame % (n)	Body competence frame % (n)	Weight loss frame % (n)	Other/misc. frame % (n)
Beauty/fashion/skincare	89.5_a (51)	7.0_b (4)	0	0	3.5_b (2)
Fitness/exercise	61.1_a (77)	7.1_b (9)	10.3_b (13)	11.9_b (15)	9.5_b (12)
Food/nutrition	9.7_a (9)	17.2_a (16)	0	65.6_b (61)	7.5_a (7)
Physical health	3.3_a (2)	95.0_b (57)	0	1.7_a (1)	0
Mental health	0	75.6_a (31)	2.4_b (1)	0	19.5_b (8)
Relationships	0	31.3_a (5)	0	0	68.8_a (11)
Other	9.1_a (3)	9.1_a (3)	0	0	72.7_b (24)
Total	33.6 (142)	30.0 (125)	4.0 (14)	18.8 (81)	13.6 (64)

Pairwise comparisons were done using Marascuilo contrasts. Frequencies in the same row that do not share subscripts differ at $p<.05$.

highly-circulated women's health magazines, appearance frames were used just as often as health frames and much more often than body competence frames. Indeed, in the beauty/health hybrid magazines *Self* and *Shape* appearance frames actually outnumbered health frames. This finding supports the argument of objectification theory (Fredrickson and Roberts 1997) that women are taught to value their appearance; in health magazines, the reasons to do healthy things, is not just for health, but just as equally, for appearance. Other evidence that supports this theme was found in the dominant headlines predominately featuring appearance frames, as well as the finding that 40% of dominant headlines included objectifying phrases.

One way to interpret these findings is that they highlight the tension between the magazines' purported mission statements, which are to empower women to be as healthy as they can be, and their missions to make profit. Given that many of the advertisers in the magazines were for weight-loss and cosmetic products, it is not surprising that the magazines' editorial emphasis follows suit. In the magazine industry, this is known as "complementary copy;" advertisers expect content in the magazines to support (and preferably name) their products in return for their ads (Steinem 2003).

The present study follows the lead of other content analyses of magazines (e.g., Davalos et al. 2007; Malkin et al. 1999) that focused on cover headlines. Cover headlines are important to readers because they communicate the overall sentiment of the magazines. However, the textual frames should be understood in the context of the actual magazines. Alongside the cover headlines is a full-page visual image of one person, typically a model or a celebrity. On the covers of four of the five magazines in the sample (all but *Health* magazine), the model is either shown in swimming or fitness attire with a high degree of body display. Indeed, a recent experimental study showed that women who were exposed to models with a high degree of body display reported a higher level of state SO than a control group (Aubrey et al. 2009). Thus, the visual framing of women's bodies on the actual covers of these magazines would likely serve to further reinforce to women the importance of adhering to cultural expectations about appearance. Thus, future research should explore the visual images, in complement to the textual frames, on women's health magazines.

In addition to considering the textual frames in relation to the context of the magazine as a whole, it is also important to consider health-related advice in relation to individuals' larger media diet of health-related media. That is, media consumers are likely to receive mixed health-related and appearance-related messages. For example, whereas some articles might encourage readers to eat chocolate because of the health benefits of the antioxidants contained in cocoa, other articles might warn readers against eating too many empty calories. According to Kilbourne (1999), media often induce women to process contradicting selves. For example, women are encouraged to be sexy, but not sexual, to be strong and powerful and yet sweet and nice. Women's health magazines are likely also to contain such contradicting messages, chief among them might be to encourage women to be healthy but not to let health impede on their commitment to look good. Future research should investigate these potential contradictions in health magazines as well.

The results also showed that body competence frames were woefully underrepresented. An emphasis on making women's bodies more competent, which theoretically links to a focus on what women's bodies can do, rather than what they look like (Fredrickson and Roberts 1997), is lacking in women's health magazines. Whereas fitness was the most frequent topic represented in this sample, they were most often framed as having appearance-related benefits rather than instrumental benefits, reinforcing the idea that women should exercise to sculpt their bodies into desirable shapes and to generally look more attractive, rather than to enhance their body competence (e.g., get stronger, faster, more flexible).

One might think that the health frame is a suitable substitute for body competence frame, but it is important to recognize here that health frames typically did not assume this instrumental view of the body. Rather, many of the general health frames were focused on a need to *protect* the body, from flu season, from pesticides, from cancer, or were of a *warning* nature: warnings against fake pharmaceuticals, against crooked medical professionals. In fact, a post-hoc analysis revealed that 24.8% (n=31) of the 125 health frames contained at least one of the following words: risk, warning, threat, or prevention. Thus, the health frame often contains a view of the body as something to protect, rather than health being something that can be achieved.

Another noteworthy finding was that the third-most prevalent frame was weight loss. Indeed, this frame dominated articles about food/nutrition, thus implying that these articles were focused on how to consume fewer calories in order to lose weight, rather than to increase nutrition. Further, given that the emphasis was typically on losing a modest amount of weight (e.g., 10 pounds), it might be argued that many—if not most of these articles—can be interpreted as allusions to the enhancement of appearance. That is, losing a large amount of weight may yield health benefits for those with BMIs over 25; losing "those last 10 pounds" is likely to be appearance-motivated. However, our decision to code the weight loss frame as separate from appearance frames makes for a conservative estimate of appearance frames. Indeed, if we included the weight loss frames in a larger appearance frame category, then more than half of all frames (52.3%, n=223) would fall into this category. And if this were the case, appearance

frames would greatly outweigh the use of health frames, χ^2 (1) = 19.06, $p<.001$.

Study 2

An Experiment Examining Effects of Frames on Body-related Self-perceptions

The goal of Study 2 was to investigate whether the use of appearance versus health frames influences women's body-related self-perceptions, and, from an objectification theory perspective (Fredrickson and Roberts 1997), whether appearance frames could temporarily activate SO more so than health frames.

H1. Participants assigned to appearance frames will report more state SO than participants assigned to health frames.

In addition to media's influence on SO, there is an extensive literature that has shown that for women, exposure to the media thin ideal can have small but consistent effects on such dimensions as body dissatisfaction, distortions in body image, and the internalization of the thin ideal (see Groesz et al. 2002, for meta-analysis). However, there has not yet been a study examining the framing of health advice on such body-related outcomes. Closer to the goals of the present study, a recent study demonstrated that regularly reading fitness magazines was linked to body shape concerns for college women (Thomsen 2002). The present study examined the framing of health advice on body shame. Body shame is likely to result from an internalization of cultural body standards for women (Fredrickson and Roberts 1997). This internalization can result in body shame for two reasons: (1) the standards of beauty are virtually impossible to fully realize, and (2) cultural messages frame the standards of beauty as if meeting them is a matter of personal choice rather than a product of social pressure (Bordo 1993). A youthfully slim and firm body symbolizes will power and self-discipline; an overweight body symbolizes lack of self-control. Thus, when the health advice is framed as a matter of appearance, rather than a matter of health, notions of guilt and shame that women feel if they perceive themselves as failing at following strict health-related behaviors might be provoked.

H2. Participants assigned to appearance frames will report more body shame than participants assigned to health frames.

To further capture an objectified body consciousness, participants rated how likely they were to exercise for appearance-related reasons versus non-appearance reasons. The rationale for investigating this outcome measure was two-fold. First, the content analysis results demonstrated that of all of the topics coded in women's health magazines, appearance frames were most dominant in these articles, which might communicate the notion that exercise is primarily a quest for an attractive appearance. Second, recent research has shown that SO is positively related to appearance-related reasons for exercise (Prichard and Tiggemann 2005; Strelan et al. 2003), suggesting that an objectified body consciousness is related to behavioral motivation to improve one's appearance through exercise.

H3. Participants assigned to appearance frames will report more motivation to exercise for appearance-related reasons than participants assigned to health frames.

Finally, participants' BMI was investigated as a moderator of the effects of conditions on the preceding outcome variables. Because women with higher BMIs are at heightened risk for feeling dissatisfied about their bodies (e.g., Barker and Galambos 2003; O'Dea and Abraham 1999), it is likely that exposure to appearance frames on SO, body shame, and appearance-related motivation to exercise would be greater among women with a higher BMI because the attention to bodies would be most detrimental to those whose bodies do not match the ideal portrayed in women's magazines (Aubrey 2006b).

H4. BMI will moderate the effects of exposure to appearance versus health frames on state SO, body shame, and appearance-related motivation to exercise.

Method

Participants

In total, 103 undergraduate women from a public Midwestern university participated in the experiment. Their ages ranged from 18 to 30 (M=20.11; SD=1.55). Their racial breakdown was 77.7% (n=80) European American, 9.7% (n=10) African American, 6.8% (n=7) Asian American, and 5.8% (n=6) identified with another category.

Design and Procedure

The design was a between-subjects experiment with two conditions: exposure to appearance frames (n=53) and exposure to health frames (n=50). Participants were recruited from introductory communication classes and invited to participate in a "magazine study." Participants were run in groups of three to six, and each session was run by a female research assistant. When they arrived at the

session, participants were seated at a private table or desk and were given a folder of materials. They were told that they would participate in two separate studies. The purpose of the first was to get feedback on a new magazine targeting college women. The second was to fill out a "Health Concerns Questionnaire" that they were told was being administered by another faculty member at the university. They were told that this questionnaire would cover one of three topics related to their health: (1) stress and well-being, (2) drugs and alcohol, or (3) exercise and body image. In actuality, all questionnaires covered the third topic.

Before exposure to the stimulus, participants answered questions regarding their interests in magazines and their overall exposure to them. Next, participants read a series of six articles, pausing after each to answer two questions about them. To mask the purpose of the experiment, for each article, participants were asked to write a short open-ended statement describing whether the article would be appealing to female readers of their age group. They also identified which magazine (from a list of four) the article would be best suited. The purpose of this task was to prompt participants to spend some time reflecting on each article (rather than quickly glancing at them). On average, it took participants two to three minutes per article to complete this task.

After exposure to the stimuli, participants immediately filled out the Twenty Statements Test (TST; see measures below). Participants were told that to understand their reactions to the articles, the researcher needed to get to know them a little better. Then, they moved on to the Health Concerns Questionnaire, which contained the two other outcome variables.

Stimulus Materials

The articles were 100–200 words each and were based on articles located in women's health magazines (e.g., *Self, Shape, Fitness)*. In each article, readers were encouraged to engage in a healthy activity but the reason for doing so was manipulated, so that either the reason was for the purpose of improving their appearance or for their health/body competence. In one article, participants were encouraged to try yoga (a) in order to "look leaner in your clothes" or (b) in order to "increase flexibility and strength." The other five articles followed suit in terms of the manipulation, and they covered increasing protein consumption, getting enough sleep, avoiding triggers that cause overeating, avoiding exercise burnout, and wearing comfortable shoes.

Measure

In the following, we describe each of the measures used in the present experiment.

State SO

For the TST, participants were asked to make up to 20 statements about themselves that complete the sentence, 'I am _____'. Participants were encouraged to fill in as many blanks as they could. Following the coding technique of Fredrickson et al. (1998), two independent coders (both female) classified responses into one of six groups: (1) body shape and size (e.g., "I am chubby," "I am tall"); (2) other physical appearance (e.g., "I am pale," "I am good looking"); (3) physical competence (e.g., "I am in good shape"); (4) traits or abilities, not body-related (e.g., "I am friendly"); (5) states or emotions (e.g., "I am tired," "I am bored") or (6) miscellaneous (e.g., "I am from Chicago"). To test inter-coder reliability, 9.4% (n=10) of the surveys were double-coded (Cohen's κ=.91) by the author and a female graduate student. The actual measure of state SO was the number of statements that participants made about the self that fit into category 1 (body shape and size) or 2 (other physical appearance).

Body Shame

As part of the Health Concerns Questionnaire, participants completed the Body Shame Questionnaire (Noll & Fredrickson, 1998). They were given a list of 25 body parts and asked if they would like to change each body part. If they indicated "yes", they would like to change a particular body part, participants answered two further questions, how intense their desire to change it was (1–9 scale, where 1 = very mild and 9 = very intense) and how often they thought about changing it (1–9 scale, where 1 = seldom and 9 = very often). Thus, three scores were derived: (1) number of body parts/attributes participants desired to change, (2) intensity of desire to change, and (3) frequency of thoughts about changing body parts. Each of these three scores was standardized and averaged to create a composite score of body shame.

Noll (1996) demonstrated convergent validity for the BSQ, showing that it was positively correlated with neuroticism, general shame proneness, and body dissatisfaction. She also reported that the BSQ explained a significant amount of variance in eating disorder symptoms, beyond that explained by existing/traditional measures of body image.

Motivations for Exercise

The Reasons for Exercise Inventory (Silberstein et al. 1988) measured motivations to exercise. The inventory consisted of seven motivations, both appearance-related (slim body shape, attractiveness, muscle tone) and non-appearance related (fitness, health, enjoyment, improvement of mood),

rated on a seven-point scale (1 = *not at all important*; 7 = *extremely important*). The three appearance-related reasons for exercise were averaged, α=.74.

Body Mass Index

Participants' self-reported weight and height were used to calculate participants' body mass index (kilograms/meters-squared).

Interest in Magazines

A priori interest in health magazines was measured in the initial pre-stimulus surveys. Participants were asked if a new magazine came out that focused on each of 10 topics (careers, dieting, fitness, current events, celebrities, nutrition, exercise, hair/makeup/skincare, relationships, and fashion), how interested would they be in reading them. Their responses were coded on a 4-point scale (4 = *very much*; 1 = *not at all*). Then, an exploratory factor analysis was performed on the 10 items using principal-components extraction with varimax rotation. The number of factors extracted required that a factor's eigenvalue exceeded 1.0. The criterion-level for factor loadings was set at .50.

The factor analysis yielded three factors accounting for a combined 64.1% of the variance. Factor 1 contained four topics (exercise, fitness, dieting, and nutrition) with loadings ranging from .74 to .91. Factor 1 was labeled Interest in Health-Related Magazine Topics, and it explained 33.9% of the variance. The four items were averaged, and the resultant index was internally consistent, α=.88. The remaining items factored into interpretable categories, but because they were not related to the Hs, they were dropped from analysis.

Results

Preliminary Analyses

On average, participants made 12.29 (*SD*=5.08) statements on the TST, and of these, 1.49 (*SD*=1.41) related to appearance. This is certainly a low level of state SO but is comparable to other studies (Aubrey et al. 2009; Harrison and Fredrickson 2003). On average, the standardized score on body shame was just below the midpoint (*M*=−.04, *SD*=.79), whereas participants' average score on appearance-related motivations to exercise was quite high (*M*=5.86; *SD*=1.17).

Immediately before dismissal, participants were asked to report, in an open-ended manner, what they remembered from the articles that they read earlier in the session. The responses were coded into one of two categories: any response about that mentioned "appearance," "bodies," "looks," or "attractiveness" or any response that did not mention any of these issues. As a check on the manipulation, participants assigned to the appearance frame were expected to be the most likely to mention issues related to appearance. This was the case. Of the 53 participants assigned to the appearance frame condition, 74.0% (*n*=37) specifically mentioned at least one of these issues, whereas 28.0% (*n*=13) assigned to the health frame mentioned these issues. Notably, appearance issues were not absent in the health frame condition, presumably because the topics that *could* improve one's appearance, also could improve one's health.

Main Effects

H1 predicted that participants who were exposed to the appearance frames would report more state SO than participants assigned to the health frames. To investigate the main effect of condition on state SO, an ANCOVA was run with one factor, experimental condition, and one covariate, interest in health-related magazine topics. The results did not support H1. Condition had no impact on participants' state SO scores, $F(1, 103) = .00$, p=.99, observed power = .05.

H2 and H3 made similar predictions to H1, but examined the impact of appearance frames on participants' body shame and appearance-related motivation to exercise. ANCOVAs were again run, and both models yielded statistically significant effects of condition on body shame, $F(1, 103) = 3.92$, p=.05, η^2=.04, and appearance-related motivation to exercise, $F(1, 103) = 4.68$, p=.03, η^2=.05. In the body shame model, participants assigned to reported significantly more body shame the appearance frame condition (*M*=.09, *SD*=.76) than participants assigned to health frames (*M*=−.17, *SD*=.80). Similarly, participants assigned to the appearance frames were significantly more likely to report appearance-related motivations to exercise (*M*=6.03, *SD*=1.06) than participants assigned to the health frames (*M*=5.69, *SD*=1.26). Thus, both hypotheses were supported by these results.

Interaction Effects

H4 predicted differences in the main effects by participants' BMI. To analyze H4, we tested for interactions between condition and BMI, which was split into three groups. According to the Centers for Disease Control (2010), BMIs between 18.5–24.9 are categorized as "normal" or "healthy weight." Those under 18.5 are categorized as underweight, and those 25.0 and higher are overweight. We used this classification to categorize the sample into three groups, but to even out the distribution, we used a slightly more lenient 19.0 as the cut-off between underweight and normal weight. This procedure yielded 23.3% (*n*=24) categorized

in the underweight group, 54.4% (n=56) in the normal weight group, and the remaining 21.4% (n=22) in the overweight group. Next, we ran three ANOVAs for each of the dependent variables with both condition and BMI entered as factors. Of the three models, only one yielded a statistically significant interaction; for appearance-related motivation to exercise, $F(2, 102) = 3.33$, p=.04, η^2=.07. Post-hoc tests by the LSD procedure revealed that within the appearance frame condition, normal-weight participants reported significantly less appearance-motivated reason to exercise (M=5.26, SD=1.49) than both overweight (M=6.30, SD=1.25) and (at a level approaching significance, p=.08) underweight participants (M=5.98, SD=.75). There were no differences by BMI group within the health frame condition. Thus, there was partial support for H4, such that those who were underweight *and* overweight were more affected by the appearance frames than those who were normal weight.

Brief Discussion

After reading six short articles that encouraged readers to follow healthy advice for the ultimate goal of *looking* good, participants reported higher body shame and appearance-related motivation to exercise than participants who read the same articles but for the goal of maintaining good health, or *feeling* good.

A plausible explanation for the effect on body shame is that underlying issues of guilt and morality (Bordo 1993) are activated for women when they are told to do something in order to look better. After all, women are taught that they are judged primarily based on how they look, and if they are told, for example, that they need to get more sleep in order to look better (rather than to *feel* better), they might be reminded of their needs to adhere to impossible-to-achieve appearance standards (Noll and Fredrickson 1998).

In terms of appearance-related motivation to exercise, certainly, this is not an argument that being motivated to exercise in and of itself is damaging or harmful. Nevertheless, being motivated to exercise for health reasons or for the enjoyment of the activity is quite different than being motivated to adhere to a cultural standard of attractiveness. Indeed, women who are motivated to exercise for appearance-related purposes are more likely to experience increased body dissatisfaction, disturbed eating, and lower body esteem (Furnham et al. 2002; Tiggemann and Williamson 2000).

The results of H4 further elucidated the effects of framing on appearance-related motivation to exercise. Essentially, the effects of the appearance frame on appearance-related motivation to exercise were less prevalent for women who were categorized in the healthy weight category. This might be because being at a "normal weight" means that appearance issues are simply less salient than for overweight and underweight individuals. In contrast, it appeared that both the underweight and overweight women were comparatively more sensitive to the appearance frames. This could suggest that these sub-groups were more open, or "ready to respond" (Oliver 2002, p. 509), to media's framing of health as appearance because these messages were particularly salient to them. Why would that be the case? As we noted earlier, for the overweight women, they might be sensitive because their BMI means that they do not adhere to cultural standards of weight and attractiveness (Aubrey 2006b), so those messages might provoke them to commit to more exercise so that they can come closer to those standards. In contrast, the finding for the underweight women was unanticipated. It might be speculated that for the underweight women, the appearance frames might prime an awareness that in order to maintain their low BMI, which is likely to be socially rewarded, they must be vigilant about exercise.

Importantly, there was essentially no main effect of condition on state SO, which might seem contrary to the other main effects discovered in Study 2. Three explanations are offered to explain these seemingly inconsistent results. First, there is a theoretically important distinction between SO and the other dependent variables. In a state of objectified body consciousness, participants perceive themselves in terms of externally perceivable traits rather than internal traits (Fredrickson and Roberts 1997). Thus, because SO is an *awareness* of one's appearance, the appearance frames might influence participants' affect about their bodies but bypass the temporary awareness of their appearance. A second explanation of the results is that there might be a floor effect occurring. Because participants only reported on average 1.49 statements about their appearance, there might not have been enough variance to distinguish between the two conditions. The third explanation is that the TST simply might not be tapping into a state of SO but rather the trait of SO that perhaps is less sensitive to temporary exposure to magazine articles. Thus, for the future, we recommend that in addition to the TST, experimental investigations of objectification theory complement the TST with the inclusion of other self-report measures of self-objectification that might be developed. For example, such a scale might ask participants to report whether they are thinking about various body parts at that particular moment, e.g., "Right now, I am thinking about my body size."

Although the findings did not yield a statistically significant effect on state SO, it might be argued that appearance-related motivation to exercise reflects an internalization that looks matter, which is theoretically similar to SO's emphasis on body self-consciousness (Fredrickson et al., 1998). After all, the measurement of trait SO is similar to that of the appearance-related motivation to exercise

measurement used here. In the trait SO measure (Noll and Fredrickson 1998), participants rank a list of body attributes by how important each is to their physical self-concept. Half are based on physical appearance (e.g., weight, attractiveness), and half are based on physical competence (e.g., health, strength). For the measurement of appearance-related motivation to exercise, participants rate how important appearance-related motivations are to their decision to exercise. Thus, these measurements tap participants' appearance concerns in similar ways.

General Discussion

Taken together, these studies first show that health magazines do not give women a pass on focusing on their appearance. Just as often as women are told to do something for their health, they are also told that they need to observe healthy practices in order to look good. Indeed, *Health* magazine's tagline (used through 2003) succinctly sums up the main findings from the content analysis: *Health: It Looks Good on You*. Furthermore, the second study shows that these appearance frames (in comparison to health frames) can temporarily provoke women to feel more shameful about their appearance and more motivated to exercise to improve their appearance. Indeed, one might find it disturbing to find such effects after only a very brief exposure to articles (read over approximately 12–18 minutes), which is far less than what would be contained in a single issue of a magazine, such as *Shape* or *Self*, from which several of the articles originated. Thus, this result adds to growing evidence of "small but relatively consistent" effects of media exposure on body-related outcomes (Groesz et al. 2002, p. 11).

Notably, this study's framing approach enabled a better understanding of what it is about that media that provoke body-related outcomes for women. Whereas previous research has examined the long-term influence of sexually objectifying media exposure on trait SO (Aubrey 2006a), it was not able to delineate what it is about the media that makes women self-objectify. The present study suggests that media's use of sexual objectification does not have to be all that explicit. Indeed, the advice between conditions was the same; the only thing that differed between the conditions was the reason for following it.

In the long term, appearance frames of health advice might encourage women to take an extrinsic approach to their health, with the emphasis on being healthy for the purpose of looking good. When applied to dieting in particular, recent evidence suggests that the former motivation is related to less success and less satisfaction (Putterman and Linden 2004). However, it is important to remember that media practitioners have choices. Another possible frame is to frame *health* advice as *health* issues, in the pursuit of *feeling* good rather than to look good. By making health the salient piece of information in this frame, readers might be encouraged to take a more "authentic" approach to their health, one in which they are internally motivated to do healthy things. This is an increasingly important distinction as health professionals will continue to combat the current obesity epidemic (CDC 2007) and look for ways to effectively communicate to the public a need to follow principles of healthy living. Perhaps a cosmetic focus on appearance is counter-productive (i.e., making people feel more shame, thus more likely be discouraged) to these goals.

Based on framing theory (e.g., Scheufele 1999), the likely theoretical explanation for the framing effects is that the appearance frames led to semantically related thoughts related to their own appearance. As is the case with other media priming effects (Berkowitz 1986), however, it is possible that these effects dissolve relatively quickly after the exposure, once the viewer has turned attention away from the stimulus. Still, one must consider this possibility in the context of the typical college student's media diet, which might include reality television programs, soap operas, talk shows, music, and, of course, lots of advertising. So, even though the isolated effects are short-term, priming effects can occur often and regularly. If it is activated frequently, one might think of the overall picture of women's life to be that of chronic body consciousness (Harrison and Fredrickson 2003).

Future research will need to investigate appearance frames and health frames in other media targeting women, and whether these frames differ for male-targeted media. Also, to improve on the experimental method used here, further testing of participants' reactions to the articles is needed. For example, the present study does not tell us whether participants thought the advice was good or if they were more likely to take the advice after reading the articles.

Additionally, Study 2 relied on an over-studied population in experimental research: undergraduate students. Future research in this area would benefit from recruiting younger and possibly more vulnerable participants to understand whether the results of the current study are comparable to them. Also, the levels of state SO were relatively low, resulting in a rather restricted range on a primary dependent variable in the study. This is probably a methodological artifact of the open-ended response format of the TST.

In sum, if a goal of health magazines is to encourage women to be happy and healthy, to improve their "mind, body, and spirit" (as *Fitness* magazine claims), or to be "you at your best" (*Self* magazine's claim), then privileging women's physical appearance over their physical and

emotional health is antithetical to this goal. This is especially problematic because research suggests that a preoccupation with appearance takes a toll on women's mental health (Fredrickson et al. 1998), which is clearly an important component of their overall health.

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