Labelling fashion magazine advertisements: Effectiveness of different label formats on social comparison and body dissatisfaction

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Abstract

The experiment investigated the impact on women's body dissatisfaction of different forms of label added to fashion magazine advertisements. Participants were 340 female undergraduate students who viewed 15 fashion advertisements containing a thin and attractive model. They were randomly allocated to one of five label conditions: no label, generic disclaimer label (indicating image had been digitally altered), consequence label (indicating that viewing images might make women feel bad about themselves), informational label (indicating the model in the advertisement was underweight), or a graphic label (picture of a paint brush). Although exposure to the fashion advertisements resulted in increased body dissatisfaction, there was no significant effect of label type on body dissatisfaction; no form of label demonstrated any ameliorating effect. In addition, the consequence and informational labels resulted in increased perceived realism and state appearance comparison. Yet more extensive research is required before the effective implementation of any form of label.

Key words: media; disclaimer labels; body dissatisfaction; social comparison; fashion magazines

Introduction

Widespread body dissatisfaction, particularly with body shape and weight, has been well documented in women across a number of western countries (Swami et al., 2010). The pervasiveness of this body dissatisfaction has generally been attributed to sociocultural factors, most notably the mass media (e.g., Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999; Tiggemann, 2011). In particular, fashion magazines have been identified as a potent source of unrealistic thin ideals for women and girls (Harper & Tiggemann, 2008). Furthermore, images in fashion magazines are now routinely digitally altered to remove blemishes, elongate legs, trim waists and hips, and in other ways render them even more perfect (Bennett, 2008), and consequently less realistic and attainable for the average girl or woman.

The link between exposure to thin idealized media and body dissatisfaction has received extensive correlational and experimental support (for meta-analyses, see Grabe, Ward, & Hyde, 2008; Groesz, Levine, & Murnen, 2002; Levine & Murnen, 2009; Want, 2009), especially for women who already have significant body concerns (Ferguson, 2013). Accordingly, the detrimental impact on women of exposure to thin ideals has become an important social and public health issue. Governments and policy makers across the globe have begun the search for simple and cost-effective universal interventions to combat the observed negative effects (Krawitz, 2014). One strategy proposed in a number of countries is the addition of some form of disclaimer label to media images that have been digitally altered. In 2012, Israel became the first country to enact legislation requiring the advertising industry to disclose when images have been digitally enhanced to make the model thinner (Krawitz, 2014). More recently, in October 2017, France enacted a law that commercial images of models whose bodies have been digitally altered in size (to appear thinner or

larger) must be accompanied by the notice “photographie tetouchée” (retouched photograph) (Eggert, 2017).

Despite the attractiveness of disclaimer labels as a strategy that can be (and is being) relatively easily implemented, as yet there is little empirical evidence supporting their effectiveness. To the best of our knowledge, only two relatively small studies (Harmon & Rudd, 2016; Slater, Tiggemann, Firth, & Hawkins, 2012) have shown positive effects relative to a no label condition. In contrast, a growing number of studies have now found that disclaimers of digital alteration attached to fashion images confer no positive protective effect for body image (Ata, Thompson, & Small, 2013; Bury, Tiggemann, & Slater, 2016a,b, 2017; Frederick, Sandhu, Scott, & Akbari, 2016; Tiggemann, Brown, Zaccardo, & Thomas, 2017; Tiggemann, Slater, Bury, Hawkins, & Firth, 2013).

More generally, sociocultural models (e.g., the Tripartite Influence Model, Thompson et al., 1999) position social comparison as the main mechanism by which media exposure leads to body dissatisfaction. When women compare themselves to the unrealistic and idealized images presented in the media, they invariably do not measure up, resulting in dissatisfaction. Thus, the implicit rationale behind the use of disclaimer labels is that they will inform the reader that the particular image is unrealistic and therefore not relevant or appropriate for them as a target of comparison, resulting in reduced social comparison and the preservation of body satisfaction (Tiggemann et al., 2013). However, a number of the existing studies have shown that the addition of disclaimer labels does not appear to lead to either lower perceived realism or lower social comparison (Bury, Tiggemann, and Slater (2016b, 2017; Tiggemann et al., 2013, 2017), as is widely assumed.

To date, the precise wording, content, or format of the label has received little research attention, although a few studies have shown that disclaimer labels that specify the body parts altered (e.g., “This image has been digitally altered to lengthen and thin legs”) can

actually result in increased, rather than decreased, body dissatisfaction for some women (Bury et al., 2016b; Tiggemann et al., 2013). Thus, it remains possible that there may be other wordings or formats of label that are indeed more effective at reducing social comparison and hence preserving body satisfaction. Accordingly, the present experiment aimed to investigate the impact of the addition of different forms of label to fashion magazine advertisements that might better protect women's body satisfaction.

Although labels have not proved effective in the body image context, they have had some demonstrated success in other domains, such as alcohol and tobacco advertising (Mackinnon & Lapin, 1998; Smith, 1990; Strahan et al., 2002). However, the latter are quite different from the proposed disclaimer labels on fashion images in that they typically contain public health warnings that focus on consequences (e.g., "Smoking kills", "Alcohol can harm unborn babies"). Indeed, John (2009) concluded that to be effective, messages need to be direct and consequence-based. Thus, the present study included a consequence-based label indicating that viewing thin and unrealistic fashion images might make women feel bad about themselves. This has a different focus from the warning label used in one condition by Ata et al. (2013) ("Warning: Trying to look as thin as this model may be dangerous to your health") and found to confer no benefit.

Another potential form of label comes from the work of Veldhuis, Konijn, and Seidell (2012) who have investigated the effect of the addition of weight information to bikini model images. In particular, they showed that exposure to an image containing an extremely thin model induced less social comparison and body dissatisfaction among adolescent and preadolescent girls when accompanied by a label indicating that the model was 3- or 6-kg underweight than when the label indicated that the model was of normal weight (although it should be noted that body dissatisfaction in the latter case was particularly high). This did not occur for a thin or normal-weight model and there was no no-label control condition. The

authors reasoned that the (underweight) information label appropriately confirmed the model's extremely thin appearance and counteracted the usual negative effect of thin-ideal media exposure. Thus, we wished to test the effect of such an informational label here.

The final type of label tested differed not in wording but in format. We wanted to test a disclaimer label presented in graphic form, that is, as a symbol, to which women may respond more readily and perhaps without the degree of cognitive processing inherent in reading a label. Using a visual image as a warning may be more apposite in some way when paired with a visual fashion image. The use of some kind of logo or 'kitemark' on images that have been digitally altered was an early recommendation of the UK Campaign for Body Confidence (Topping, 2010).

Thus, in the present experiment we sought to manipulate different forms of label appended to fashion magazine advertisements, with a view to determining which (if any) is the most effective. In particular, we aimed to test whether other forms of label might be more successful at protecting women's body satisfaction than the generic disclaimer labels tested so far. Although somewhat exploratory in nature, on the basis of the reasoning presented above, we predicted that fashion images with consequence, informational, or graphic labels might evoke less social comparison and therefore lower body dissatisfaction than images with no (or generic) labels.

Method

Design

The study employed a between-subjects experimental design, with five levels of the independent variable of label type: no label, generic disclaimer label, consequence label, informational label, or a graphic label. The main dependent variables were state appearance comparison and body dissatisfaction.

Participants

Participants were 340 female undergraduate students at Flinders University (in South Australia) aged between 18 and 30 years. They were randomly allocated to one of the five experimental conditions (subject to equal *n*), resulting in 68 participants in each condition.

Materials

Experimental manipulation: Label type. Participants viewed a set of 15 fashion magazine advertisements that had been shown by Bury et al. (2017) to evoke increased body dissatisfaction. All advertisements were for fashion related items, such as clothes, accessories, and perfume, and were initially sourced from locally available popular women's fashion magazines, such as *Cleo*, *Marie Claire*, and *Vogue.* The set contained 11 thin-ideal advertisements, plus four product advertisements. The thin-ideal advertisements featured the face and at least three-quarters of the body of a different thin and attractive Caucasian female model. The models had previously been rated by a small panel of female raters in the target age range as representative of the thin ideal (M = 4.30, SD = 0.34; 1 = *not at all*, 5 = *extremely thin*). The advertisements were printed on high quality photographic paper and presented in a folder similar to the format of a fashion magazine.

Five different versions of the thin-ideal advertisements were constructed: with no label (i.e., unchanged original image), with a disclaimer label that was generic in nature ("Note: This image has been altered to enhance appearance"), with a consequence label ("Note: Viewing thin and unrealistic images of women can make you feel bad about yourself"), with an informational label ("Note: This model is underweight"), and a graphic label, which showed an image of a paint brush with the word "Retouched" underneath. The labels were written in 12pt Calibri font, in either black or white (to contrast with the colour of the background), enclosed within a thin border, and were positioned in the most appropriate corner of the page. Previous studies have demonstrated that participants do notice labels of

this form and size (Ata et al., 2013; Bury, Tiggemann, & Slater, 2014; Tiggemann et al., 2013).

Body dissatisfaction. Following Heinberg and Thompson (1995), seven visual analogue scales (VAS) were used to obtain measures of mood and state body dissatisfaction, both before and immediately after viewing the 15 advertisements. The five mood items (not analysed here) were included to dilute the focus on body dissatisfaction. Each scale consisted of a 100mm horizontal line (with poles labelled "none" to "very much"). Participants were instructed to make a small vertical mark on the line to indicate how they felt "right now". Responses were measured to the nearest millimetre from the left-hand pole. The two body dissatisfaction dimensions ('weight dissatisfaction' and 'appearance dissatisfaction') were averaged to produce a body dissatisfaction score ranging from 0 to 100, with higher scores indicating greater body dissatisfaction. VAS have been shown to provide valid measures of body dissatisfaction, correlating significantly with longer and more complex measures of body image disturbance (Heinberg & Thompson, 1995). In the current study, internal reliability for body dissatisfaction was acceptable at both pre-exposure (α = .80) and post-exposure (α =.84).

Perceived realism. Perceived realism was measured by the 4-item Perceived Realism Scale developed by Tiggemann et al. (2013). Exemplar items included "The models in the advertisements looked like they would look like in person" and "The models in the advertisements present a realistic goal for the average woman." Participants rated their agreement with the statements on a 7-point Likert scale (1 = *strongly disagree,* 7 = *strongly agree*). An overall perceived realism score was calculated by averaging scores on the four items. The resulting scale had acceptable internal reliability (α = .81).

State appearance comparison. The level of appearance comparison participants engaged in while viewing the advertisements was measured by the State Appearance

Comparison Scale of Tiggemann and McGill (2004). Participants indicated on three 7-point Likert-type scales the extent to which they thought about their appearance when viewing the images (1 = *no thought about appearance*, 7 = *a lot of thought*), and the extent to which they compared their overall appearance and specific body parts respectively with those of the people they saw in the images they viewed (1 = *no comparison*, 7 = *a lot of comparison*). The score for state appearance comparison was calculated by averaging the three items, producing a scale ranging from 1 to 7. Items in this scale have been shown to be highly inter-correlated (r = .71 - .82) (Tiggemann & McGill, 2004). In the current study, the scale had good internal reliability (α =.90).

Trait tendency for appearance comparison. The Physical Appearance Comparison Scale Revised (PACS-R) developed by Schaefer and Thompson (2014) was used to measure the trait tendency to engage in social comparison based on appearance. Participants indicated how often they make physical appearance or body size comparisons to others in a range of situations (e.g., "When I'm out in public, I compare my physical appearance to the appearance of others") on a 5-point Likert-type scale (0 = *never*, 4 = *always*). Scores on the 11 items were averaged to create a measure of trait appearance comparison ranging from 0 to 4, with higher scores indicating a greater tendency to engage in appearance comparison. The PACS-R has established convergent validity and good internal consistency (α = .97) (Schaefer & Thompson, 2014). In the present sample, internal reliability was similarly high (α = .93).

Procedure

Participants were recruited for a study examining the "effectiveness of magazine advertising" and were tested individually in the Media and Psychology laboratory. They were randomly allocated to one of the five experimental conditions. To support the cover story, participants first completed a questionnaire about their magazine consumption, and then

completed the pre-exposure VAS measures of mood and body dissatisfaction. Next, participants were presented with the folder and viewed the fashion advertisements for 40 seconds each. To ensure attention and consistent with the basis for recruitment, they were asked to rate each advertisement on three items ("If I saw this advertisement in a magazine, it would catch my eye", "This advertisement is visually appealing", "On a whole, this advertisement is effective at promoting the product") on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

After viewing the 15 fashion magazine advertisements, participants completed post-exposure VAS measures of mood and body dissatisfaction, as well as measures of perceived realism and state appearance comparison processing. Finally, participants completed the trait measure of appearance comparison tendency, before having their height and weight measured (with their consent). Testing sessions lasted approximately 30 minutes. Participants received course credit for their participation and were debriefed via an online system following completion of data collection. This protocol had received approval from the Institutional Research Ethics Committee.

Results

Sample Characteristics

The women in the sample had a mean age of 20.22 years (SD = 2.75). Their mean body mass index (BMI) of 23.08 (SD = 4.67) was in the normal weight range (BMI = 18.5-24.9). The majority identified as Caucasian/White (77.2%), with 18.9% Asian, 1.2% African and 2.7% 'other'. The most popular magazine was *Women's Weekly* (read at least 'sometimes' by 55.9%), followed by *Cosmopolitan* (50.0%). The median time spent reading magazines per month was 10-30 minutes.

A series of one-way ANOVAs showed that the five experimental groups did not differ in age, $F(4, 333) = 0.17$, $p = .95$, $\eta_p^2 < .01$; BMI, $F(4, 316) = 0.35$, $p = .84$, $\eta_p^2 < .01$; or time

spent looking at magazines, $F(4, 335) = 1.46$, $p = .21$, $\eta_p^2 = .02$. They also did not differ on initial level of body dissatisfaction, $F(4, 335) = 0.32$, $p = .86$, $\eta_p^2 < .01$, or trait appearance comparison, $F(4, 335) = 1.27$, $p = .28$, $\eta_p^2 = .02$, $\eta_p^2 < .01$, confirming that random assignment to experimental condition was successful.

The Effect of Label Type on Body Dissatisfaction

An initial 5 (condition) × 2 (time) repeated measures ANOVA showed a significant main effect of time, whereby body dissatisfaction increased significantly following exposure, $F(1, 335) = 36.79$, $p < .001$, $\eta_p^2 = .10$, but no effects of condition, $F(4, 335) = 0.27$, $p = .90$, $\eta_p^2 < .01$, or interaction, $F(4, 335) = 0.53$, $p = .71$, $\eta_p^2 < .01$. In order to test the effect of specific label conditions against the no label condition, an ANCOVA (pre-exposure score entered as covariate) using the LMatrix subcommand was conducted. The resulting adjusted means are displayed in Table 1. The first planned comparison (contrast: +4 -1 -1 -1 -1) showed no significant difference in body dissatisfaction between the no label and label conditions as a whole, $F(1, 334) = 1.14$, $p = .29$, $\eta_p^2 < .01$. Subsequent individual comparisons confirmed that no type of label differed significantly from the no label condition (all Fs < 1.8, ps > .10).

The Effect of Label Type on Perceived Realism

Table 1 also displays the means for perceived realism for the five conditions. A ONEWAY with planned comparisons showed that the difference between the no label and label conditions approached significance, $F(1, 335) = 3.55$, $p = .06$, $\eta_p^2 = .01$. Specific comparisons showed that while there was no significant difference between the no label and generic disclaimer, $F(1, 335) = 0.78$, $p = .38$, or graphic labels, $F(1, 335) = 0.49$, $p = .49$, $\eta_p^2 < .01$, there was a significant difference between the no label and consequence $F(1, 335) = 3.79$, $p = .05$, $\eta_p^2 = .01$, and informational labels, $F(1, 335) = 5.94$, $p = .02$, $\eta_p^2 = .02$. In sum,

the consequence and informational labels led to greater perceived realism than the no label condition.

The Effect of Label Type on State Appearance Comparison

Table 1 also displays the means for state appearance comparison. The planned comparisons showed a significant difference in state appearance comparison between the no label and label conditions, $F(1, 335) = 7.24$, $p = .01$, $\eta_p^2 = .02$. More specifically, exposure to the consequence, $F(1, 335) = 6.07$, $p = .01$, $\eta_p^2 = .02$, and informational labels, $F(1, 335) = 11.84$, $p < .01$, $\eta_p^2 = .03$, resulted in more appearance comparison than the no label condition. There was no significant difference between the no label condition and the generic, $F(1, 335) = 3.30$, $p = .07$, $\eta_p^2 = .01$, or graphic labels, $F(1, 335) = 0.61$, $p = .43$, $\eta_p^2 < .01$.

The Role of Appearance Comparison

As state appearance comparison was strongly correlated with post-exposure body dissatisfaction ($r = .51$, $p < .01$), a hierarchal regression analysis was conducted to test whether state appearance comparison was a significant predictor of change in body dissatisfaction. Accordingly, pre-exposure body dissatisfaction was entered on Step 1, followed by state appearance comparison on Step 2. It was found that Step 2 explained a significant amount of additional variance in post-exposure body dissatisfaction over and above initial body dissatisfaction, $\beta = .21$, $F_{change}(1, 337) = 67.21$, $p < .01$. Thus, regardless of label condition, state appearance comparison significantly predicted an increase in body dissatisfaction in response to the thin-ideal advertisement images.

Given the above demonstrated role played by state appearance comparison in body dissatisfaction, a final regression analysis was conducted to examine potential predictors of state appearance comparison itself. Predictors entered were perceived realism, label type (four dichotomous dummy-coded variables, with product as the reference group), and trait tendency for appearance comparison. The overall prediction proved significant, multiple $R^2 =$

.400, $F(4, 333) = 37.07$, $p < .001$. From the regression coefficients displayed in Table 2, it can be seen that perceived realism, the informational label, and trait appearance comparison all made significant independent contributions to the amount of state appearance comparison participants engaged in.

Discussion

The present study aimed to test the effectiveness of different forms of label in preserving body satisfaction in the face of thin-ideal media exposure. The major findings are clear. There was no significant effect of label format on body dissatisfaction. However, label format did affect amount of social comparison, and to a lesser extent, perceived realism. Social comparison was itself predicted by perceived realism, an informational label, and trait appearance comparison.

The first major finding was that the addition of the labels had no effect on women's resulting body image. Although we had reasoned (and hoped) that other forms of label might mitigate body dissatisfaction more effectively than a generic disclaimer label, they clearly did not. The null result for the generic disclaimer label is consistent with the growing body of research which likewise shows no positive benefit of the addition of such labels to fashion images (Ata et al., 2013; Bury et al., 2016b; Frederick, Sandhu, Scott, & Akbari, 2016; Tiggemann et al., 2013, 2017). Likewise, the null finding for the consequence label is consistent with Ata et al.'s (2013) differently worded one, albeit in contrast to positive findings in the tobacco and alcohol domain (e.g., Mackinnon & Lapin, 1998; Smith, 1990; Strahan, White, Fong et al., 2002). The findings for the informational and graphic labels are new. Together, the present results expand considerably the range of labels for which there has been no demonstrated positive effect. Furthermore, the observed main effect of time indicated that exposure to the fashion images led to greater body dissatisfaction, confirming that the experimental materials were suitable for testing the potentially mitigating effect of the labels.

Despite the lack of difference in body dissatisfaction, the labels were not uniform in their effects. Indeed, far from decreasing social comparison, the consequence and informational labels led to greater perceived realism and social comparison than the no label, disclaimer label, and graphic labels. It may be that telling women that viewing the images may make them feel badly about themselves (consequence label) or accurately describing the model as underweight (informational label) are truthful statements that serve to reinforce, rather than undermine, the realism of the images. In addition, it may be that explicitly describing the images as "thin and unrealistic" (consequence label) and "underweight" (informational label) have the unintended consequence of encouraging women to pay even more attention to the model's body than they normally do, in line with Tiggemann et al.'s (2013) speculation about specifically-worded disclaimer labels. Whatever the reason, this is a novel finding of considerable importance.

Here it was found that, irrespective of label condition, the more state appearance comparison participants reported engaging in, the greater the increase in body dissatisfaction in response to viewing the fashion magazine advertisements. This is consistent with both theoretical accounts of the negative effects of thin ideal media exposure (Thompson et al., 1999; Tiggemann, 2011) and some previous research (Bessenoff, 2006; Tiggemann & McGill, 2004; Tiggemann, Polivy, & Hargreaves, 2009; Tiggemann & Slater, 2004). We further extended this line of enquiry by investigating the predictors of state appearance comparison. The finding that perceived realism, the informational label, and trait appearance comparison all made independent contributions to the amount of appearance comparison women engaged in shows that state appearance comparison can be evoked by aspects of the situation (label type), its interpretation (perceived realism), and by women's natural (trait) tendencies for making comparisons, the latter emerging as the strongest predictor. More generally, it appears that it is relatively easy to experimentally increase social comparison (by

stimuli or instructions, e.g., Tiggemann & McGill, 2004), but much harder to decrease it. In particular, women seem to find it very difficult to inhibit comparison on the basis of appearance (see also Tiggemann & Polivy, 2010), in line with suggestions that such comparisons are often made spontaneously and automatically (Gilbert, Giesler, & Morris, 1995).

Taken together, the findings have important practical implications. No matter how intuitively appealing proposals for the addition of labels to thin ideal images sound, they cannot simply be assumed to be effective. The present study adds to and extends the small but growing body of research that would caution against the implementation of labels as a public health strategy. Interestingly, in their survey of consumer opinion, Paraskeva, Lewis-Smith, and Diedrichs (2017) found that the majority of women themselves were sceptical about the effectiveness of labelling in improving body image. They thought that labels were likely to be disregarded and were insufficient to counter the powerful impact of the visual image. Although these comments were directed at specifically disclaimer labels, logically they would apply equally to the other forms of label tested in the present study. Nevertheless, if labels are to be implemented (as is increasingly the case globally), the research suggests that they should be generically disclaimer in nature. Previous research has shown that specifically worded disclaimer labels that offer more fulsome description of air-bushing can actually be harmful in terms of body dissatisfaction (Bury et al., 2016; Tiggemann et al., 2013). The present research has shown that other forms of label, in particular consequence and informational labels, may be harmful in increasing rather than decreasing social comparison. While not having any demonstrated positive effects, to the best of our knowledge, generic disclaimer labels have not been found to have any negative effect in any study. In this, it is pleasing that the recently legislated French label (“photographie tetouchée”) is entirely generic.

As always, the findings of the present study need to be interpreted in light of a number of limitations. First, the sample consisted of Australian university students and thus results may not generalize to older or younger women in other settings or geographical locations. As yet, there has been no investigation of the effectiveness of disclaimer labels for samples outside of college age. It is possible, for example, that results will differ for older women who report lower levels of social comparison tendency (Callan, Kim, & Matthews, 2015) and are more likely to have achieved identity status (Kroger, Martinussen, & Marcia, 2010). In particular, future research is urgently required to address the effectiveness of disclaimer labels for younger adolescent girls, who are in the process of identity development and for whom social comparison has a greater effect on body dissatisfaction (Myers & Crowther, 2009). On the basis of their survey results, Pareskeva et al. (2017) conclude that disclaimer labels may be effective for adolescents in a way that they are not for adult women. Second, the experiment took place in a laboratory context. Although the reading of fashion magazines is common everyday behaviour for many women, the way advertisements were viewed here is different from how they would be viewed in more naturalistic contexts. Third, the findings are limited to the specific wording and format of the labels tested. It seems that relatively small changes may alter perceived realism and social comparison. Fourth, the graphic label used here contained the word "retouched" underneath, albeit in small print. A genuine graphic (i.e., symbol only) may have fared better. Finally, it still remains possible that repeated exposure to any form of label may result in a more positive effect over the longer term than that observed here for acute exposure on a single occasion.

Despite the above limitations, the present study has made a novel contribution in investigating labels across a range of different types within a single experimental protocol. Disappointingly, the results showed that no form of label was effective in ameliorating the negative effect of viewing thin ideal fashion advertisements on women's body dissatisfaction;

some forms even increased social comparison with the models. Accordingly, more extensive, wide-ranging, and creative research is required to assist policy makers towards the most effective form of intervention.

References

Ata, R. N., Thompson, J. K., & Small, B. J. (2013). Effects of exposure to thin-ideal media images on body dissatisfaction: Testing the inclusion of a disclaimer versus warning label. *Body Image*, *10*, 472-480. doi: 10.1016/j.bodyim.2013.04.004

Bennett, J. (2008). Picture perfect. *Newsweek*. Retrieved from http://www.newsweek.com/2008/05/01/picture-perfect.html

Bessenoff, G. R. (2006). Can the media affect us? Social comparison, self-discrepancy, and the thin ideal. *Psychology of Women Quarterly*, *30*, 239-251. doi:10.1111/j.1471-6402.2006.00292.x

Bury, B., Tiggemann, M., & Slater, A. (2014). Directing gaze: The effect of disclaimer labels on women's visual attention to fashion magazine advertisements. *Body Image*, *11*, 357-363. doi: 10.1016/j.bodyim.2014.06.004

Bury, B., Tiggemann, M., & Slater, A. (2016a). Disclaimer labels on fashion magazine advertisements: Impact on visual attention and relationship with body dissatisfaction. *Body Image*, *16*, 1-9. doi: 10.1016/j.bodyim.2015.09.005

Bury, B., Tiggemann, M., & Slater, A. (2016b). The effect of digital alteration disclaimer labels on social comparison and body image: Instructions and individual differences. *Body Image*, *17*, 136-142. doi: 10.1016/j.bodyim.2016.03.005

Bury, B., Tiggemann, M., & Slater, A. (2017). Disclaimer labels on fashion magazine advertisements: Does timing of digital alteration information matter? *Eating Behaviors*, *25*, 18–22. doi:10.1016/j.eatbeh.2016.08.010

Callan, M. J., Kim, H., & Matthews, W. J. (2015). Age differences in social comparison tendency and personal relative deprivation. *Personality and Individual Differences, 87*, 196-199. doi: 10.1016/j.paid.2015.08.003

Eggert, N. (2017). Is she photoshopped? In France, they now have to tell you. *BBC News*. Retrieved from http://www.bbc.com/news/world-europe-41443027.

Ferguson, C. J. (2013). In the eye of the beholder: Thin-ideal media affects some, but not most, viewers in a meta-analytic review of body dissatisfaction in women and men. *Psychology of Popular Media Cultures, 2*, 20-37. doi: 10.1037/a0030766

Frederick, D. A., Sandhu, G., Scott, T., & Akbari, Y. (2016). Reducing the negative effects of media exposure on body image: Testing the effectiveness of subvertising and disclaimer labels. *Body Image*, *17*, 171-174. doi: 10.1016/j.bodyim.2016.03.009

Gilbert, D. T., Giesler, R. B., & Morris, K. A. (1995). When comparisons arise. *Journal of Personality and Social Psychology*, *69*, 227-236. doi:10.1037/0022-3514.69.2.227

Grabe, S., Ward, L. M., & Hyde, J. S. (2008). The role of the media in body image concerns among women: A meta-analysis of experimental and correlational studies. *Psychological Bulletin*, *134*, 460-476. doi:10.1037/0033-2909.134.3.460

Groesz, L. M., Levine, M. P., & Murnen, S. K. (2002). The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *International Journal of Eating Disorders*, *31*, 1-16. doi:10.1002/eat.10005

Harmon, J., & Rudd, N. A. (2016). Breaking the illusion: The effects of adding warning labels identifying digital enhancement on fashion magazine advertisements. *Fashion, Style & Popular Culture, 3*, 357-374. doi: 10.1386/fspc.3.3.357_1

Harper, B., & Tiggemann, M. (2008). The effect of thin ideal media images on women's self-objectification, mood, and body image. *Sex Roles*, *58*, 649-657. doi: 10.1007/s11199-007-9379-x

Heinberg, L. J., & Thompson, J. K. (1995). Body image and televised images of thinness and attractiveness: A controlled laboratory investigation. *Journal of Social and Clinical Psychology*, *14*, 325-338. doi:10.1521/jcsp.1995.14.4.325

John, K. K. (2009). *Adolescent interest in alcohol responsibility messages: The message matters*. Unpublished thesis. Brigham Young University, Utah. Retrieved from http://contentdm.lib.byu.edu/ETD/image/etd3204.pdf

Krawitz, M. (2014). Beauty is only photoshop deep: Legislating models' BMIs and photoshopping images. *Journal of Law and Medicine, 21,* 859-874.

Kroger, J., Martinussen, M., & Marcia, J. E. (2010). Identity status change during adolescence and young adulthood: A meta-analysis. *Journal of Adolescence, 33*, 683-698. doi: 10.1016/j.adolescence.2009.11.002

Levine, M. P., & Murnen, S. K. (2009). "Everybody know that mass media are/are not (pick one) a cause of eating disorders": A critical review of evidence for a causal link between media, negative body image, and disordered eating in females. *Journal of Social and Clinical Psychology*, *28*, 9-42. doi:10.1521/jscp.2009.28.1.9

MacKinnon, D. P., & Lapin, A. (1998). Effects of alcohol warnings and advertisements: A test of the boomerang hypothesis. *Psychology and Marketing*, *15*, 707-726. doi: 10.1002/(SICI)1520-6793(199810)15:7<707::AID-MAR6>3.0.CO;2-J

Myers, T. A., & Crowther, J. H. (2009). Social comparison as a predictor of body dissatisfaction: A meta-analytic review. *Journal of Abnormal Psychology, 118*, 683-698. doi: 10.1037/a0016763

Paraskeva, N., Lewis-Smith, H., & Diedrichs, P. C. (2017). Consumer opinion on social policy approaches to promoting positive body image: Airbrushed media images and disclaimer labels. *Journal of Health Psychology, 22*, 164-175. doi: 10.1177/1359105315597052

Schaefer, L. M., & Thompson, J. K. (2014). The development and validation of the Physical Appearance Comparison Scale-Revised (PACS-R). *Eating Behaviors, 15,* 209-217. doi: 10.1016/j.eatbeh.2014.01.001

Slater, A., Tiggemann, M., Firth, B., & Hawkins, K. (2012). Reality check: An experimental investigation of the addition of warning labels to fashion magazine images on women's mood and body dissatisfaction. *Journal of Social and Clinical Psychology, 31,* 105-122. doi: 10.1521/jscp.2012.31.2.105

Smith, S. J. (1990). The impact of product usage warnings in alcoholic beverage advertising. *Journal of Public Policy & Marketing*, *9*, 16-29.

Strahan, E. J., White, K., Fong, G. T., Fabrigar, L. R., Zanna, M. P., & Cameron, R. (2002). Enhancing the effectiveness of tobacco package warning labels: A social psychological perspective. *Tobacco Control*, *11*, 183-190. doi:10.1136/tc.11.3.183

Swami, V., Frederick, D. A., Aavik, T., Alcalay, L., Allik, J., Anderson, D., … & Zivci-Becirevic, I. (2010). The attractive female body weight and female body dissatisfaction in 26 countries across 10 world regions: Results of the international body project I. *Personality and Social Psychology Bulletin, 36,* 309-325. doi: 10.1177/0146167209359702

Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington, DC: American Psychological Association.

Tiggemann, M. (2011). Sociocultural perspectives on human appearance and body image. In T. F. Cash, & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (pp. 12-19). New York: Guilford.

Tiggemann, M., Brown, Z., Zaccardo, M., & Thomas, N. (2017). "Warning: This image has been digitally altered": The effect of disclaimer labels added to fashion magazine shoots on women's body dissatisfaction. *Body Image*, 21, 107–113. doi:10.1016/j.bodyim.2017.04.001

Tiggemann, M., & McGill, B. (2004). The role of social comparison in the effect of magazine advertisements on women's mood and body dissatisfaction. *Journal of Social and Clinical Psychology*, *23*, 23-44. doi:10.1521/jscp.23.1.23.26991

Tiggemann, M., & Polivy, J. (2010). Upwards and downwards: Social comparison processing of thin idealized media images. *Psychology of Women Quarterly*, *34*, 356-364. doi:10.1111/j.1471-6402.2010.01581.x

Tiggemann, M., Polivy, J., & Hargreaves, D. (2009). The processing of thin ideals in fashion magazines: A source of social comparison or fantasy? *Journal of Social and Clinical Psychology*, *28*, 73-93. doi:10.1521/jscp.2009.28.1.73

Tiggemann, M., Slater, A., Bury, B., Hawkins, K., & Firth, B. (2013). Disclaimer labels on fashion magazine advertisements: Effects on social comparison and body dissatisfaction. *Body Image*, *10*, 45-53. doi: 10.1016/j.bodyim.2012.08.001

Topping, A. (2010). Fashion industry faces airbrushing clampdown. *The Guardian*. Retrieved from https://www.theguardian.com/lifeandstyle/2010/jul/25/fashion-industry-airbrushing-clampdown.

Veldhuis, J., Konijn, E. A., & Seidell, J. C. (2012). Weight information labels on media models reduce body dissatisfaction in adolescent girls. *Journal of Adolescent Health*, *50*, 600-606. doi:10.1016/j.jadohealth.2011.10.249

Want, S. C. (2009). Meta-analytic moderators of experimental exposure to media portrayals of women on female appearance satisfaction: Social comparisons as automatic processes. *Body Image*, *6*, 257-269. doi:10.1016/j.bodyim.2009.07.008

Table 1

Means (SD) for Body Dissatisfaction, Perceived Realism, and State Appearance Comparison by Experimental Condition

	No Label	Generic	Consequence	Informational	Graphic
Body Dissatisfaction [a]	48.95 (1.48)	50.89 (1.48)	49.94 (1.48)	51.74 (1.48)	50.30 (1.48)
Perceived Realism	2.23 (0.92)	2.39 (0.94)	2.58[b] (1.08)	2.67[b] (1.22)	2.36 (1.05)
State Appearance Comparison	3.34 (1.77)	3.85 (1.58)	4.03[b] (1.53)	4.31[b] (1.67)	3.56 (1.62)

[a] *Note*. Adjusted means (*SE*).

[b] Significant difference ($p < .05$) from No Label condition

Table 2

Regression Coefficients (β) for Prediction of State Appearance Comparison by Perceived Realism, Labels, and Trait Appearance Comparison

	β	*p*
Perceived Realism	.10	.03
Generic Label	.07	.17
Consequence Label	.08	.13
Informational Label	.14	<.01
Graphic Label	.03	.62
Trait Appearance Comparison	.58	<.001
Multiple *R*	.63	<.001