

## Short Research Note

# The Impact of Advertisements Featuring Ultra-thin or Average-size Models on Women With a History of Eating Disorders

EMMA HALLIWELL,<sup>1\*</sup> HELGA DITTMAR<sup>2</sup> and JESSICA HOWE<sup>2</sup>

<sup>1</sup>Centre for Appearance Research, University of the West of England, Bristol, UK

<sup>2</sup>Department of Psychology, University of Sussex, Brighton, UK

### ABSTRACT

Previous research demonstrates that exposure to ultra-thin media models leads to increased body image concerns amongst women (Groesz, Levine, & Murnen, 2002). There is emerging evidence that attractive, average-size models do not have this negative effect and can be effective in advertising (e.g. Halliwell & Dittmar, 2004). The present study investigates these factors amongst women with a history of eating disorders. Participants either viewed advertisements featuring ultra-thin, average-size or control images. Immediately after exposure, they reported their body-focused anxiety and rated the effectiveness of the advertisements. Whereas exposure to ultra-thin models did not lead to increased body-focused anxiety, exposure to average-size models produced a *relief effect*, whereby women reported *lower* levels of body-focused anxiety. Advertisements featuring ultra-thin and average-size models were equally effective. The results suggest that average-size, attractive models could be used effectively in advertising, which may help to relieve body image concerns amongst these women. Copyright © 2005 John Wiley & Sons, Ltd.

*Key words:* idealised media models; advertising effectiveness; body-related anxiety; eating disorder history

### INTRODUCTION

A growing body of research indicates that exposure to ultra-thin models, ubiquitous in the media and advertising, leads to increased body dissatisfaction amongst a large proportion of women (e.g. Irving, 1990; Grogan, Williams, & Conner, 1996; Heinberg & Thompson, 1995; Posavac, Posavac, & Posavac, 1998; Halliwell & Dittmar, 2004). Although this is not invariably the case (Henderson-King & Henderson-King, 1997; Mills, Polivy, Herman,

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\*Correspondence to: Emma Halliwell, D.Phil, Centre for Appearance Research, School of Psychology, University of the West of England, Frenchay Campus, Coldharbour Lane, Bristol, BS16 1QY, UK.  
E-mail: emma.halliwell@uwe.ac.uk

& Tiggemann, 2002; Myers & Biocca, 1992), a recent meta-analysis assessed the results of 25 experimental presentation of media images studies and reported a significant effect size<sup>1</sup> of  $d = -0.31$  across all studies, demonstrating that young women feel worse after exposure to thin images than other types of images (Groesz, Levine, & Murnen, 2002).

Although, feminist commentators have consistently referred to the extreme thinness as a particularly problematic aspect of idealised representations of female beauty in relation to body dissatisfaction and disordered eating behaviour (e.g. Kilbourne, 1994), very little experimental research has examined this proposition directly. Most studies use non-animate comparison images, and the few that include images of women who are not ultra-thin have confounded manipulations of body size and attractiveness: they compare exposure to ultra-thin, attractive models with exposure to average-size, less attractive models. In some cases this was deliberate, for example Irving (1990) manipulated attractiveness as well as weight, based on attractiveness ratings from a pilot study. Other research simply does not control for attractiveness, so is susceptible to this confound. For example, Posavac et al. (1998) compared viewing fashion models with realistically-sized women 'you might meet in everyday life'. Although they do not report attractiveness ratings, they note that the attractiveness of models is accentuated by artificial means. Therefore, it is likely that the models were perceived as more attractive than the realistically-sized women. Recent research suggests that it is the thinness of the models, rather than their attractiveness, that leads to increased body-image concerns (Dittmar & Howard, 2004; Halliwell & Dittmar, 2004). Controlling for attractiveness, these studies indicate that exposure to size 8 models (US size 2), but not to size 14 models (US size 12–14), leads to increased body-focused anxiety. Moreover, Dittmar and Howard (2004) found that average-size models could actually lead to a *relief effect*, whereby some women reported less body-focused anxiety after exposure to attractive, average-size models than after exposure to no models. Furthermore, this research has also demonstrated that when average-size models and ultra-thin models are equally attractive, they are also perceived equally effective in advertising a product (Dittmar & Howard, 2004; Halliwell & Dittmar, 2004). Typically in consumer research, advertising effectiveness is assessed through ratings of willingness to purchase a product and attitudes toward the product (Kahle & Homer, 1985). Moreover, these measures are strongly related to actual consumer behaviour (Wells, 1997).

These findings suggest that the use of average-size models in advertising could help protect some women from developing body dissatisfaction, or at least avoid exacerbating existing body-image concerns. This is of particular concern because longitudinal research indicates that body dissatisfaction predicts eating-disordered symptomatology amongst young women (Killen, Taylor, Hayward et al., 1996; Cattarin & Thompson, 1994; Stice & Agras, 1998). However, little is known about the impact of media images on women who have already experienced an eating disorder. Women with eating disorders report that they are strongly influenced by idealized bodies in the media (Murray, Touyz, & Beumont, 1996). Additionally, Hamilton and Waller (1993) found that women with eating disorders overestimated their body size to a greater extent after they had viewed female models than did non-eating-disordered women. Yet, to our knowledge, there has been no experimental investigation of the impact of media images on attitudinal body image among women with a history of eating disorders. Irving's (1990), now classic, study investigated the association between bulimic symptomatology and the impact of media exposure. However, she

<sup>1</sup>The value of  $d$  reflects the weighted (with respect to sample size), standardized difference between body-satisfaction means after exposure to thin images compared to other images.

found that all women responded in a similar way regardless of their levels of bulimic symptomatology. Women reported lower levels of weight concern after exposure to average- or over-sized models than after exposure to ultra-thin models or no models. Again, this suggests there may be some relief effect associated with viewing larger models, but we cannot be certain because women in the no model condition completed the dependent measures without being exposed to neutral, control images. Thus, it is unclear whether their weight concern represented baseline levels, or was influenced by experiences immediately preceding the study.

The present experimental study examined the impact of exposure to ultra-thin and average-size media models on the body image concerns of women who have a history of eating disorders, and also in relation to advertising effectiveness. To avoid confounding manipulations of model size and model attractiveness, we used the digital procedure outlined by Halliwell and Dittmar (2004) to present the same models at size 8 (US size 2, the average size of models) and size 14 (the average UK dress size, US size 12–14). Computer imaging software is used to stretch the body of an ultra-thin model to a larger size, leaving the face unaltered. Based on previous research on women who do not have a history of eating disorders, it was hypothesized that exposure to ultra-thin models in the media would lead to increased body-focused anxiety. In terms of differences in levels of body-focused anxiety after exposure to average-size models compared to control images, we expected that women would certainly not feel worse after average-size models, and possibly feel better, i.e. show a relief effect. Women without a prior history of eating disorders found advertisements featuring ultra-thin and average-size models equally effective, but it was unclear to us whether this would replicate, because women with experience of eating disorders may be more critical of larger body sizes.

## METHOD

### *Participants*

The final sample consisted of 76 women who currently, or had previously, suffered from an eating disorder. Twenty-five women comprised the control group, 27 the average-size model group and 24 the ultra-thin model group. Their mean age was 32 years ( $SD = 8.17$ ; range = 21–55). One of the women defined her ethnicity as mixed-race, all the other women were Caucasian.

### *Materials*

The two experimental conditions were represented by two adverts, each for perfumes. In order to create the adverts for the ultra-thin condition, Adobe Photoshop was used to impose bottles of perfume and advertising slogans on two images of thin models featured in popular magazines' fashion-spreads. In order to create average-size models, we used the procedure outlined in Halliwell and Dittmar (2004), where the model's body—but not her face—was stretched by 25%, so that it represented an average UK dress size of 14 (Debenhams, 2001). The same perfume bottles and advertising slogans were imposed on these images to create two adverts for the average-size model condition. A pilot study, where young, non-eating-disordered women rated the experimental images in terms of attractiveness and thinness, confirmed that the ultra-thin models were seen as very much thinner than the average-size models ( $Mean_{thin} = 5.3$ ,  $Mean_{average} = 1.9$ ;  $t_9 = -17.49$ ;

$p < 0.001$ ), but there was no difference in perceived attractiveness ( $\text{Mean}_{\text{thin}} = 5.6$ ,  $\text{Mean}_{\text{average}} = 5.1$ ;  $t_9 = 1.94$ ; *ns*). In order to make the tasks consistent for all groups, women in the control condition also viewed two advertisements. However, these did not show images of people and were for non-beauty related products (pocket computers).

### *Measures and Procedure*

This study used a between-subject design, the independent variable was advertisement exposure and there was one dependent variable, body-focused anxiety, assessed post-exposure only. All participants viewed two advertisements but, depending on condition, the advertisements featured thin models, average-size models or no models.

Participants were recruited through the Eating Disorders Association in the UK. Questionnaire packs were sent to 150 women randomly selected from a list of women who had self-identified that they 'had an eating disorder' or 'were recovering from an eating disorder' and had indicated that they would be happy to participate in research. The pack included a letter inviting women to participate in a study investigating advertising effectiveness, a questionnaire, a stamped addressed envelope to return the questionnaire and another envelope containing the debrief. Women were asked not to open the second envelope until after they had completed the questionnaire. Each questionnaire included two advertisements, and 50 women each received advertisements featuring ultra-thin models, average-size models and control-images. The response rate was 51%, spread equally across the three exposure conditions.

After seeing each advertisement, advertising effectiveness was assessed by two ratings, favourable/unfavourable and positive/negative, of attitudes towards the advertisement and the same two ratings of attitudes towards the brand. The Cronbach's alpha for the scale was 0.76, indicating good internal reliability. In order to strengthen the cover story, participants then reported which advert they preferred and gave open-ended responses explaining their preference.

The questionnaire then asked for 'more information about the sort of person you are', where respondent rated how nervous or tense they felt at the moment about a wide variety of different aspects, such as their finances or personal qualities. Embedded among these fillers were weight-related body-site items of the Physical Appearance State and Trait Anxiety Scale—State version (Reed, Thompson, Brannick, & Sacco, 1991), such as 'my waist' or 'my hips', which offers an ideal assessment of the immediate effects of media images on body-focused anxiety related to weight and size. The Cronbach's alpha for the scale was 0.80. In addition to demographics, the final section asked—as a naivety check—what women thought the study was assessing specifically, and a few respondents were excluded because they guessed the focus on body-image. Our need to conceal the true purpose of the study was also one of the reasons why we chose not to ask women for their weight (which can be used, together with height, to calculate Body Mass Index). Additionally, we felt that this would have been a particularly sensitive issue for this group of women.

## **RESULTS**

There was no difference in the age of women assigned to each condition,  $F(1, 62) = 1.71$ , *ns*. Age was not correlated to advertising effectiveness,  $r(65) = -0.13$ , *ns*. However, age

Table 1. Mean scores for body-focused anxiety in each condition

Condition	Body-focused anxiety		N
	<i>M</i>	<i>SD</i>	
No model control	3.82	1.16	25
Ultra-thin model	3.75	1.32	24
Average-size model	3.05	1.20	27

was significantly correlated to body-focused anxiety,  $r(65) = -0.23$ ,  $p < 0.01$ , so was controlled in subsequent analysis involving body-focused anxiety.

### *Body-focused anxiety*

Body-focused anxiety scores were analysed by a one-way ANCOVA, controlling for age, where the exposure condition factor was partitioned a priori in order to test our hypotheses directly: the first comparison contrasted the effect of viewing ultra-thin models with the other two conditions, whereas the second comparison contrasted the effects of viewing average-size models with the no models baseline. Table 1 shows the mean levels of body-focused anxiety reported by women in each condition. Contrary to our hypothesis, women did not report more anxiety after being exposed to ultra-thin models than other images,  $F(1, 61) = 0.56$ , *ns*, partial  $\eta^2 = 0.01$ . However, findings for the second comparison showed that participants who had viewed average-sized models reported significantly lower levels of body-focused anxiety than participants who had viewed no models,  $F(1, 61) = 4.70$ ,  $p < 0.05$ , partial  $\eta^2 = 0.07$ .

### *Advertising effectiveness*

A further aim of this study was to compare the effectiveness of ultra-thin and average-size models in advertising. Advertisements were shown in the control condition, but these adverts were qualitatively different from those in the experimental conditions and were only included to make the task length equivalent. Thus, women's perception of advertising effectiveness was compared between the two experimental conditions. There was no significant difference in the perceived advertising effectiveness, regardless of whether the advertisements displayed ultra-thin or average size models ( $\text{Mean}_{\text{thin}} = 3.20$ ,  $\text{Mean}_{\text{average}} = 2.86$ ;  $t_{49} = 1.70$ ; *ns*).

## DISCUSSION

Contrary to expectations, women's levels of body-focused anxiety were not higher after viewing ultra-thin models compared to other media images. The main finding of interest was that body-focused anxiety was significantly lower after viewing average-size models than after no models. This suggests that exposure to average-sized models leads to a *relief effect*, compared levels of body-focused anxiety after exposure to non-appearance related stimuli.

The results suggest that exposure to ultra-thin images may not increase body-focused anxiety amongst women with an eating disorder history. Therefore, this study fails to replicate findings of research with women who do not have an eating disorder history,

showing detrimental effects of viewing ultra-thin models (Groesz et al., 2002). However, this may be due to a 'ceiling effect'. The different findings may be a consequence of existing levels of body-image concerns, as women with eating disorders generally experience greater concern than women who do not have an eating disorder history (Cash & Deagle, 1997). In the present study, body-focused anxiety amongst women who had not been exposed to appearance-related stimuli was 3.82 on a 5-point scale, whereas amongst women of similar ages without an eating disorder history body-focused anxiety after viewing a control image was 2.67 on the same scale (Dittmar & Howard, 2004). As levels of body-focused anxiety after viewing control images is so high for these women, exposure to ultra-thin models may do little to inflate this anxiety further, yet exposure to average-size, attractive models may reduce it.

In line with research among women without a history of eating disorders, the size of the model used in advertising did not have a significant impact on the advertisement's perceived effectiveness. The images used in this study were very comparable to those that appear in magazines, and the dimensions of advertising effectiveness examined are well established and validated, even if they do not measure actual sales (Wells, 1997).

To our knowledge, this study reports the first investigation of the impact of ultra-thin and average-size media models on attitudinal body-image concerns amongst women with eating disorders. The participants were self-identified as having an eating disorder or recovering from an eating disorder. Unfortunately, we do not have further details about the nature of their eating disorders or their progress through recovery. It seems reasonable to assume that women who volunteer for, and participate, in this sort of research will be at least in the early stages of recovery. However, in future research, it would be fruitful to differentiate further between women with different types of eating disorders and between women in different stages of recovery. For example, whilst body dissatisfaction is considered to be a core symptom of bulimia, its association with anorexia is less clear (Treasure, 2002), and women with different disorders may respond differently to media images. Furthermore, it is possible that therapy experiences of women relatively further through recovery will have decreased their vulnerability to media effects.

There were good reasons for not obtaining Body Mass Index (BMI) data in this study, but this may be desirable in future research, given that women with a history of eating disorders will have experienced dramatic changes in their body size. However, Halliwell and Dittmar (2004) failed to find a systematic impact of BMI on women's reactions to different models. Furthermore, given that objective measures of weight, like BMI, do not always correlate well with subjective measures (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), women's perception and evaluation of their weight may be a particularly fruitful, additional variable to examine.

A huge amount of work discusses cultural ideals of femininity and beauty. It is clearly established that eating disorders and body dissatisfaction are culturally and historically specific, to the extent that they are far more prevalent in cultures and sub-cultures that endorse the 'thin-ideal' (e.g. Garner & Garfinkel, 1980; Miller & Pumariega, 2001). The current study focuses on thinness, only one dimension of 'beauty'. However, it is clearly over-simplistic to suggest that glamorising thinness alone can account for this imbalance in prevalence, or to isolate thinness as the sole target for interventions. It is argued that eating disorders reflect a multiplicity of socio-cultural concerns including concerns about 'femininity and feminism, about the body, about individual control and consumption within consumer society' (Malson, 1998, p. 6). Similarly, the current preoccupation with thinness is understood as a reflection of political, economic and religious

pressures (e.g. Chernin, 1981; Faludi, 1991; Seid, 1994; Stern, 1997; Wolf, 1991). As a consequence, differentiating 'disordered' eating from 'non-clinical' preoccupations with food, dieting and the body is seen by many as an arbitrary, rather than a qualitative distinction (e.g. Butler, 1988). Certainly, advertising plays a particularly potent role in influencing cultural standards of attractiveness and depicting women's actual bodies as deviant from the acceptable on numerous dimensions (Kilbourne, 1994). Indeed, it follows that successful prevention programmes must challenge many fundamental underlying cultural values (Steiner-Adair, 1994). Considering this, it may seem inadequate to suggest that policy changes within the advertising industry could be beneficial to women (such as using models with average body sizes). Although focusing on the body size of media models cannot fully engage with these broader debates or offer comprehensive prevention, we propose that research in this area can suggest a relatively immediate and straightforward intervention strategy that could be of some benefit. The results presented here are helpful in this respect.

Although this is the first study in this area, the results suggest that average-size, attractive models may be effectively used to advertise products to women with a history of eating disorders. Furthermore, the results suggest that the use of average-size models will not increase, and could possibly decrease, body-focused anxiety amongst these women.

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