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Brief research report

Preliminary support for links between media body ideal insecurity and women's shoe and handbag purchases

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ABSTRACT

Two studies examined the relationship between women's insecurity-arousing comparisons with female models and shoe/handbag ownership. Idealized media images appear capable of threatening some women's sense of attractiveness and it may be that as a result, accessorizing becomes particularly appealing because it helps increase physical attractiveness without drawing attention to one's figure, the object of the threatening comparisons. In Study 1 ($N = 922$), a correlational study, the more women reported that they feel insecure when they see attractive female models, the more shoes they tended to own. In Study 2 ($N = 286$), we manipulated whether women saw images of attractive female models or not. The more women exhibited insecurity following exposure to the images of attractive models, the more shoes and handbags they tended to own. In both studies, these effects did not hold for ownership of trousers, an item of clothing that draws attention toward one's body.

Introduction

The female shoe industry is lucrative. In the U.S., 886 million pairs were sold in 2008, compared to 144 million trousers, dresses, skirts, cotton shirts and blouses combined (American Apparel & Footwear Association, 2008). Insecurity-arousing comparisons with idealized media images may be one contributing factor to this industry's success. Appearance comparisons with idealized media standards threaten self-perceived attractiveness and arouse body dissatisfaction (Grabe, Ward, & Hyde, 2008). In this study, we hypothesized that women may purchase shoes, a piece of jewelry, or a handbag—perhaps any accessory that does not draw attention to the central aspects of one's body—in response to threats to perceived attractiveness resulting from comparisons with idealized body media. Clothes that draw attention to one's body can exacerbate felt insecurity (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998), but good-looking accessories may serve as a way to feel attractive without drawing attention to the central aspects of a woman's body that are the frequent focus of media-instigated insecurity.

Our hypothesis is grounded in self-affirmation theory (e.g., Sherman & Cohen, 2006; Steele, 1988). Research shows that there is flexibility in the way people can maintain a favorable self-image when faced with negative self-information. Moreover, when faced with situations that pose a threat to self-image, people tend to affirm characteristics that do not draw attention to the threat (Blanton, Cooper, Skurnik, & Aronson, 1997). Thus, with one's body attractiveness threatened by comparisons with idealized body images, good-looking accessories may serve as an appealing avenue toward restoring an overall feeling of attractiveness.

If correct, then women who feel threatened by media body ideals should own more shoes or accessories (but not clothing, e.g., trousers) than women who feel less threatened by these images. In two studies, we measured how many pairs of shoes and trousers women owned (as well as handbags in Study 2) along with the tendency to feel insecure after exposure to media body ideals. We also examined women's general appearance insecurity. Perhaps purchasing shoes/accessories is not only a compensatory response to a situational threat—media body ideals—but also a response to more general and chronic feelings of unattractiveness. On the other hand, more general feelings of unattractiveness may result in different coping strategies such as affirming in domains other than physical attractiveness (Bergstrom, Neighbors, & Malheim, 2009).

Study 1

Method

Participants. Participants were 922 female undergraduates from the University of Alberta ($M_{age} = 19.21$, $SD_{age} = 2.47$, $M_{BMI} = 22.22$, $SD_{BMI} = 3.91$). Forty percent identified themselves as European-North American, 20% as East-Asian, 18% as European, and 22% as other.

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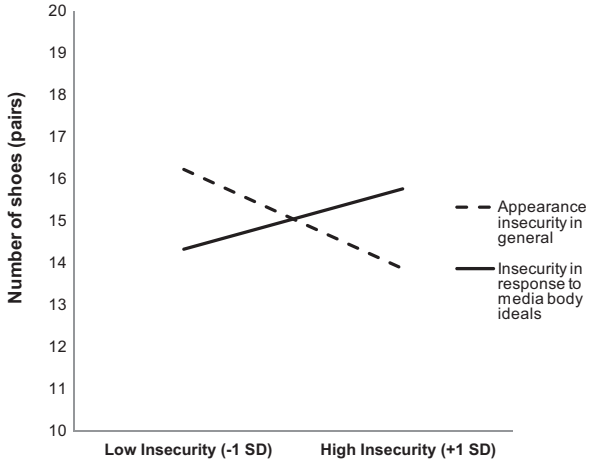


Fig. 1. Study 1: The relationships between two types of insecurity—general appearance insecurity and insecurity in response to media body ideals—and the number of shoes owned by participants.

Measures and procedure. Participants completed online questionnaires for course credit that contained items relevant to our research question. We asked about general appearance insecurity with the question: "In general, how dissatisfied are you with your appearance?" (1 = *not at all dissatisfied*, 10 = *very dissatisfied*; $M = 4.56$, $SD = 2.30$). Next, participants rated two questions that assessed insecure reactions to media body ideals: "Does looking at models in magazines or on TV tend to increase your level of dissatisfaction with your appearance?" and "Does looking at models in magazines or on TV tend to make you feel worse about yourself?" (1 = *not at all*, 10 = *very much*). Because these two questions tap into an insecure self-image and are highly correlated ($r = .86$, $p < .001$), they were averaged to form a composite measure of proneness to reacting with insecurity to media body ideals ($M = 5.30$, $SD = 2.65$). Next, participants reported how many pairs of shoes ($M = 15.96$, $SD = 14.34$) and trousers ($M = 17.59$, $SD = 12.34$) they currently owned, followed by their height and weight, which we used to calculate their Body Mass Index (BMI; kg/m^2). BMI significantly correlated ($p < .05$) with general appearance insecurity ($r = .23$) and media-induced insecurity ($r = .13$), but not with shoes or trousers ($rs = .02$ and $-.01$, respectively).

Results and Discussion

To ascertain the relationship between appearance-related insecurity and how many shoes participants owned, we regressed the number of shoes onto BMI in Step 1 and the two insecurity measures—(a) the composite measure of proneness to responding insecurely to media body ideals and (b) the general appearance insecurity item—in Step 2. In all main analyses we excluded outliers > 3 standardized residuals from the regression line (Newton & Rudestam, 1999). The relationship between insecurity in response to media body ideals and shoe ownership approached significance. Those more prone to experiencing this insecurity owned more shoes than those less prone, $\beta = .07$, $t = 1.91$, $p = .06$. In contrast, those with more general appearance insecurity owned fewer shoes than those with little insecurity, $\beta = -.10$, $t = -2.61$, $p = .01$ (Fig. 1).

The analyses for trousers looked different. Participants prone to media-related insecurity owned fewer trousers than those less prone, $\beta = -.08$, $t = -2.09$, $p = .04$. Proneness to insecurity following exposure to media body ideals appears to increase the likelihood of owning shoes but not clothes in general, such as trousers, which likely draw attention to a person's body and the relevant media body ideal standards. The relationship between general appearance insecurity and trousers was not significant, $p = .38$.

Study 2

In Study 2, we examined our hypothesis further by exposing women to media body ideals and examining their emotional state. Participants were exposed to media images or control images and then completed an appearance satisfaction and implicit self-esteem measure. Though we could have measured these indices of insecurity before the manipulation as well (in order to precisely assess insecurity change), we employed this post-test design to minimize suspicion and demand characteristics. Lastly, in addition to measuring how many shoes and trousers participants owned, we also assessed handbags to explore whether the hypothesized effect occurred with other accessories. We hypothesized that participants who exhibit more insecurity after exposure to media body ideals would own more shoes and handbags than participants less negatively affected by the images. Further, given the inverse correlation between general appearance insecurity and shoes in Study 1, general insecurity after the control images may predict fewer shoes and handbags owned.

Method

Participants. Participants were 286 female students from the University of Canterbury in New Zealand ($M_{age} = 20.94$, $SD_{age} = 4.63$, $M_{BMI} = 23.92$, $SD_{BMI} = 3.92$). Eighty-two percent identified themselves as New Zealand European, 3% as New Zealand Maori and 15% as other.

Measures and procedure. In exchange for a $10 dollar (NZD) voucher or course credit, participants took part in a laboratory study that ostensibly examined how performance was related to personality measures. Participants were instructed to pay close attention to a slideshow of images for a subsequent memory test. Participants were randomly assigned to one of three slideshows: media body ideals, control, or neutral images (see Appendix A). The media slideshow contained five slides of thin female models advertising beauty products and two slides without models. The control slideshow contained the same slides *except* the models were digitally removed. The neutral slideshow contained seven slides of advertisements unrelated to female appearance (e.g., furniture). The slideshow was presented with PowerPoint and automatically changed slides every 20 s. Random assignment occurred in blocks of three so that for every three participants, each condition was represented. Randomization appeared successful: the three conditions did not differ on age or BMI, $ps > .39$. Further, the conditions did not interact with our measure of insecurity (calculated below by averaging appearance satisfaction and implicit self-esteem) to predict age or BMI, $ps > .13$.

Directly following the slideshow, participants completed a brief memory test about the images (e.g., assessing colors of certain items). Next, participants began a questionnaire for a larger study that included two measures assessing insecurity. First, participants rated their appearance satisfaction explicitly (1 = *not at all satisfied*, 10 = *very satisfied*). Second, because research on media body ideals is vulnerable to demand characteristics (Mills, Polivy, Herman, & Tiggemann, 2002) we attempted to covertly measure insecurity by utilizing a validated implicit self-esteem measure. Participants indicated how much they liked their first, last, and entire names (1 = *not at all*, 9 = *very much*; Gebauer, Riketta, Broemer, & Maio, 2008). Presumably, the more people like their names, the more they like themselves. This measure appears unaffected by impression management and positively relates to explicitly measured self-esteem (Gebauer et al., 2008). For each participant, we averaged these three ratings ($\alpha = .76$) to form a composite implicit self-esteem score. Because in Study 1 higher scores indicated insecurity, we reverse coded both the satisfaction and self-esteem

scores. These two scores were correlated ($r = .29$, $p < .001$) and for simplicity we created a composite insecurity score by calculating their mean ($M = 3.89$, $SD = 1.33$). Next, participants reported how many shoes ($M = 13.20$, $SD = 7.05$), handbags ($M = 4.26$, $SD = 3.85$), and trousers ($M = 7.93$, $SD = 4.79$) they owned. Neither trousers, shoes, nor handbags differed by experimental condition ($ps > .20$). Lastly, the experimenter measured participants' weight and height. BMI significantly correlated with insecurity ($r = .20$) and trousers ($r = -.21$), but not with shoes or handbags (both $rs = -.04$).

Subsequent to this study, we collected supplementary data to assess whether, after being presented with media body ideals, our measure of insecurity correlated with the media-instigated insecurity variable in Study 1. To do this, we recruited 77 female university students for an online study ostensibly about consumer evaluation. We presented participants with either media body ideal or control images (that did not involve media body ideals) and then assessed insecurity as we have in Study 2. We then asked participants directly how insecure they feel after viewing this media using the two questions from Study 1. Bolstering confidence in the validity of the measure of insecurity used in Study 2, after the presentation of media body ideals, this measure of insecurity correlated with the direct assessment of media-instigated insecurity that we used in Study 1, $r = .41$, $p = .02$. In addition, as expected, after the control presentation, the two measures of insecurity did not significantly correlate ($r = .16$, $p = .32$).

Results and Discussion

To examine our main hypothesis, the number of shoes was regressed onto BMI in Step 1, the experimental conditions (dummy 1: control vs. media body ideals; dummy 2: neutral vs. media body ideals) and the centered composite measure of insecurity in Step 2, and the interactions between the conditions and insecurity in Step 3. We had adequate power for this analysis—obtaining a medium interaction effect with alpha set at .05 necessitated at least 107 participants (Faul, Erdfelder, Buchner, & Lang, 2009). The dummy 1 by insecurity interaction reached significance, $\beta = -.23$, $t = -2.22$, $p = .03$, and the dummy 2 by insecurity interaction was marginally significant, $\beta = -.18$, $t = -1.92$, $p = .06$.

These interactions (Fig. 2) were examined one standard deviation above and below the measure of insecurity (Aiken & West, 1991). Participants who were exposed to media images and then reported higher insecurity owned more shoes than those who reported lower insecurity, $\beta = .24$, $t = 1.86$, $p = .06$. This relationship was absent in the control condition, $\beta = -.11$, $t = -1.19$, $p = .24$ and in the neutral condition, $\beta = -.08$, $t = -0.74$, $p = .46$.

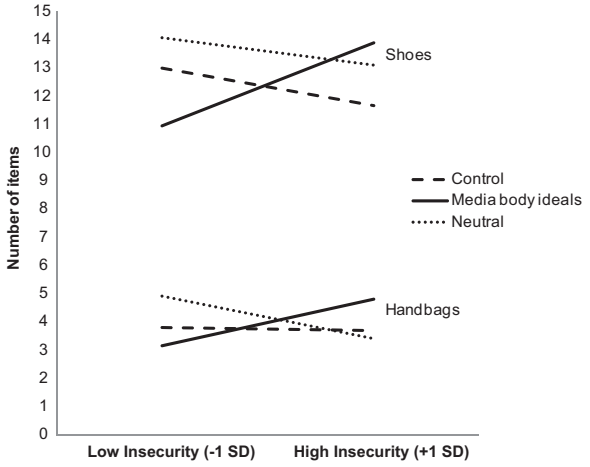


Fig. 2. Study 2: Interactive effect of the experimental conditions and participants' subsequent insecurity on the number of accessories that they own.

Next, the number of handbags was regressed on to the same variables. Both interactions (Fig. 2) were significant: dummy 1 by insecurity, $\beta = -.20$, $t = -1.99$, $p = .05$ and dummy 2 by insecurity, $\beta = -.30$, $t = -3.29$, $p = .001$. Like shoes, participants who reported more insecurity after exposure to media body ideals owned more handbags than participants who reported less insecurity, $\beta = .28$, $t = 2.26$, $p = .03$. This effect was absent in the control condition, $\beta = -.02$, $t = -0.24$, $p = .81$, and similar to Study 1, the opposite effect emerged in the neutral condition—participants who reported higher insecurity owned fewer handbags than those who reported less insecurity, $\beta = -.25$, $t = -2.39$, $p = .02$.

Importantly, neither interaction significantly predicted the number of trousers owned, $ps > .20$. Thus, Study 2 replicated most of the patterns observed in Study 1 and extended the findings to handbags. Insecure feelings after exposure to media body ideals positively predicted shoe and handbag ownership, though general insecurity about appearance predicted less handbag ownership.

General Discussion

Two studies supported the hypothesis that women who feel more insecure after exposure to media body ideals own more attractiveness-conferring accessories (but not trousers), though some results were marginally significant. In contrast, measures of general appearance insecurity either did not predict, or related inversely to accessory ownership. However, these preliminary results should be interpreted cautiously.

First, the causal influence of media-instigated insecurity on accessory ownership cannot be definitively ascertained from our correlational data. It does, however, seem commonsensical and theoretically plausible, while the reverse causal explanation—that accessory ownership triggered media-instigated insecurity—is not. Alternatively, it is possible that a third variable can account for the relationship between media-induced insecurity and shoe purchases. Future research should manipulate media exposure and examine actual purchases or purchasing intentions.

Second, existing constructs may help understand media-instigated insecurity, and consequently they may help understand our findings. For example, thin-ideal internalization (Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005) and self-evaluative body image investment (Ip & Jarry, 2008) both predict media body ideal insecurity. Future research should examine these constructs in conjunction with accessory ownership.

Third, it is possible that the effects observed only emerge for certain types of accessories. For example, theoretically, our effects should emerge particularly for shoes that can affirm one's sense of attractiveness, either because they are particularly attractive themselves or perhaps because, as with high-heeled shoes, they increase height and apparent slenderness (whereas we would not expect gardening shoes to help restore a sense of feminine attractiveness). Examining different categories of shoes and accessories seems a key next step.

Fourth, a number of variables could have influenced the accuracy of our dependent measures. It is conceivable that participants did not accurately recall the number of items owned, or that hoarded items may have inflated the number of items reported. Further, socio-economic status should affect the number of accessories people purchase, independent of insecurity levels. Future research would surely benefit by assessing these variables alongside those variables contained in this study.

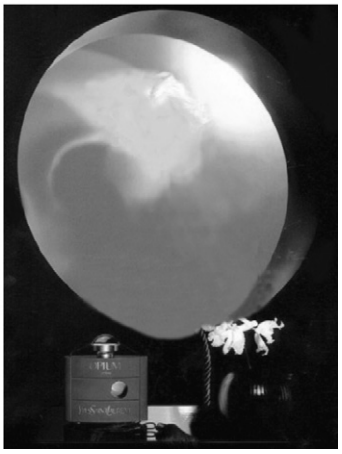
Conclusion

Our results suggest that when media body ideals threaten self-image, women may attempt to self-affirm via accessorizing body parts not directly connected to their core body image. If this is

correct, then the popularity of the shoe and handbag industries may partly be an indicator of women's body image struggles. Further, it could be that advertising campaigns unknowingly or knowingly capitalize on this struggle. Some women may see shoe advertisements in stores, negatively compare themselves to the models and consequently purchase a pair of shoes. Given the increasing size of the average woman (Flegal, 2005) and the decreasing size of models, threats to appearance are likely becoming more frequent.

Appendix A. Example of Experimental Stimuli

From left to right: A neutral slide (top), a media body ideal slide (bottom left), and a control slide (bottom right). (The images were presented to participants in color.)



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