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## Sex Sells? The Role of Female Agency in Sexualized Advertisements

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### Abstract

Advertising with sexualized female models is a commonly used technique in the advertisement industry. While “sex sells” is often successful in eliciting positive responses from male consumers, it often elicits negative responses from female consumers. On the one hand, female consumers might perceive sexualization as lacking in value (i.e., as a cheap display of sexuality lacking any kind of commitment). On the other hand, they might perceive sexualization as lacking in agency (i.e., as the model being displayed as an object rather than a subject). In two studies we investigate whether it is the lack of value or the lack of agency in sexualization that leads to more negative evaluations by young female perceivers. We manipulated the slogan in a sexualized advertisement so that it either adds value to sex (but does not add agency to the model) or so that it adds agency to the model (but does not add value to sex). Furthermore, we investigate the role of relatedness between the consumer and model with two advanced methodological approaches manipulating the facial characteristics of the model in the advertisement. In Study 1, we manipulated relatedness via perceived familiarity of the model’s face, whereas in Study 2, we manipulated relatedness via actual similarity between the perceivers’ and the model’s face in the advertisement. Results indicate that the lack of agency rather than the lack of value leads to negative evaluations by female consumers. This effect was pronounced if the advertisement model was relatable to the consumers.

### Keywords

sexualized advertisement, sexual economics theory, sexual empowerment, objectification, face modeling



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Depicting sexy images is a commonly used technique to sell products to potential consumers. A vast majority of these adverts contain images of attractive women in seductive poses (Reichert & Carpenter, 2004). Originally, this technique was used to garner attention from male consumers, who have been shown to develop positive affect (Griffitt & Kaiser, 1978) and attitudes (Latour & Henthorne, 1994; Latour, Pitts, & Snook-Luther, 1990) in response to such ads. Interestingly though, images of women in sexy poses are also often used in products that are meant to appeal to female consumers. In the beauty industry this is especially prevalent (Malkin, Wornian, & Chrisler, 1999; Millard & Grant, 2006). While for male consumers, these kinds of images have traditionally been used to enhance product appeal by positive association (Latour et al., 1990) or by suggesting that using the advertised product would facilitate sexual encounters (Reichert & Lambiase, 2003), female consumers are meant to identify with the depicted model (Malkin et al., 1999; Plous & Neptune, 1997) and to believe that they too might become as sexy by using the advertised product (Reichert & Lambiase, 2003; Tehseem & Kalsoom, 2015).

Although many advertisements depicting seductive and sexy female models are meant to appeal to women, they often achieve the contrary: They are evaluated negatively (Black & Morton, 2017; Dahl, Sengupta, & Vohs, 2009; Wirtz, Sparks, & Zimbres, 2018). This is because the models used in advertisements appear *sexualized* – reduced to sexiness as the primary or perhaps even the only asset. Interestingly, opinions may differ on what assets sexualized women are missing the most: In a more traditional view, these missing assets may be a man’s affection and commitment, whereas in a more progressive view these missing assets may be the woman’s independence and agency. In the former view, the sexualized model may appear as a “cheap” seductress, flaunting her sexuality (Baumeister & Vohs, 2004; Dahl et al., 2009; Vohs, Sengupta, & Dahl, 2014). In the latter view, the sexualized model may appear as a passive object of male desire rather than an independent subject (Gill, 2008). On the one hand, the sense of dependence might be overcome by framing the model’s sexiness as her own free choice, independent of men’s desire, thereby highlighting the agency of the model. On the other hand, however, framing her sexiness as her free choice might be interpreted as a “cheap” display of her sexual appeal without getting anything valuable, such as commitment and security, in exchange for it (Baumeister & Vohs, 2004). The first aim of the current research is to investigate whether female consumers are more concerned with sexualization diminishing the value of sex or denying women agency by varying the degree of agency given to the model and the presence or absence of an exchange value. Because advertising messengers are often meant to induce a sense of shared identity between the model and consumer (Chapple & Cownie, 2017; Djafarova & Rushworth, 2017), the second aim of the current research is to investigate the influence of perceived relatedness to the model, as relatedness facilitates a sense of shared identity (Cwir, Carr, Walton, & Spencer, 2011; Schouten, Janssen, & Verspaget, 2020).

## Sexualization and Lack of Value

Sexual Economics Theory (SET; [Baumeister & Vohs, 2004](#)) offers an explanation for why sexualized female advertisement models may be perceived as “cheap” and the depiction of sex as lacking value. According to SET, sex is a resource that females possess and males want. Sex as a resource is traded in the same way as goods and thus following the rules of supply and demand, with costs and benefits. The potential costs and benefits are arguably not equally distributed between men and women. With regard to cost it can be argued that from the moment of conception, to giving birth and raising a child, female investment far outweighs male investment ([Trivers, 1972](#)). With regard to benefits, it has been shown that interest in sexual intercourse is, on average, greater for males than for females ([Atchison, Fraser, & Lowman, 1998](#); [Baumeister, Catanese, & Vohs, 2001](#); [Cohen & Shotland, 1996](#); [Schmitt & Jonason, 2019](#)). From this follows that females should be interested in keeping the supply short and thus the price high.

By applying the assumptions of SET to the domain of sexualized advertisements it has been argued that it might be the lack of value attached to sex that leads to negative evaluations by women and that the evaluations become more positive when sex is given in exchange for another valuable resource ([Dahl et al., 2009](#); [Vohs et al., 2014](#)). These resources may be material (financial support, expensive gifts) or immaterial (love, affection, commitment) and material resources often act as a proxy for immaterial resources (e.g., an expensive gift being a commitment device, or the size of an engagement ring as a proxy for how much a man loves his fiancée; [Baumeister & Vohs, 2004](#)).

To illustrate, in one study, sexualized ads were either linked to a product (a watch) with a high price tag (i.e., expensive, \$1,250) or with a low price tag (i.e., cheap; \$10; [Vohs et al., 2014](#)). Female participants found the ad distasteful when it was linked to a cheap product and felt more upset and angrier than when the ad was linked to an expensive product. No such effect was observed for men. Another study showed similar effects when a product was presented as a valuable gift within an advertisement depicting sex between a man and a woman. In this case the product can be seen as a commitment by the man to the woman ([Dahl et al., 2009](#)). In conclusion, there is evidence that the omission of a valuable exchange regarding sexualization leads women to react negatively towards sexualized advertisements because the depicted sex is perceived as lacking in value.

## Sexualization and Lack of Agency

As discussed, SET defines sex as a resource that women have and men want to possess. By keeping the “price” for the resource high, women are able to exert a certain power and control over men and to gain the security of being provided for ([Baumeister & Twenge, 2002](#)). However, in light of women becoming more independent and agentic in society, it may no longer be as important to receive resources such as money, gifts,

or commitment in return for sex. Instead women may be more concerned with keeping their position of independent and agentic members of society. Thus, a major concern of sexualized advertisements might be that they often depict women as dependent and as objects that serve to please men. To illustrate, an examination of advertisements within *Vogue*, a women's fashion magazine, from 1955 till 2002, showed that in almost 40 percent of the advertisements women were "depicted as adopting postures that indicate submission to control by others" (Lindner, 2004, p. 416). Furthermore, almost 60 percent of the ads were coded as showing women as objects. Research has shown that objectified women are judged as less intelligent (Archer, Iritani, Kimes, & Barrios, 1983), less competent (Heflick & Goldenberg, 2009) or as less mindful (Loughnan et al., 2010). In other words, by presenting the model as an object in advertisements the model is depicted as dependent and lacking agency.

However, in line with the movement towards more equality and independence for women, Gill (2003) observed that "we are witnessing [...] a shift from sexual objectification to sexual subjectification in constructions of femininity in the media popular culture" (p. 103). In a more recent article, the terms of "sexual agency" and "sexual empowerment" were highlighted to characterize this shift in sexualized advertisements from objectified to subjectified women (Gill, 2008).

This shift from objectification to subjectification in media is assumed to stem from feminist critiques against the objectification of female models (Gill, 2003) and seems to reflect the *Zeitgeist* of women becoming independent – this includes agency in their sexuality. According to this view, being sexy and agentic at the same time can be seen as liberating for women. In conclusion, there is evidence that women react negatively towards sexualized advertisements because the depicted models lack agency.

## When Concerns About the Lack of Value and the Lack of Agency in Sexualization Contradict Each Other

How do the concerns about lack of value and lack of agency relate to one another? On the one hand, it has been shown that women react more positively toward sexualization when sex is depicted as part of an exchange for resources, specifically resources that a man provides for a woman (Dahl et al., 2009; Vohs et al., 2014). On the other hand, women want to be self-determined subjects and in charge of their own lives and not be dependent on a man's resources. Thus, one could argue that there are two sometimes contradictory concerns—the lack of value and lack of agency—that might cause women to react negatively towards sexualized depictions of other women in advertisements. If it is the lack of agency that matters more to women, highlighting the model's agency should result in more favorable responses towards the ad. On the other hand, if it is the lack of value that matters more to women, highlighting the model's agency might actually diminish the perceived value attached to sex as it may be considered less meaningful without the context of male commitment. From this perspective, highlighting

that the model receives something of value in exchange for her sexualization should result in more favorable responses towards the ad even if it makes the model seem less independent (i.e., less agentic).

## Relatedness of Consumers to Advertising Models

It has always been a major concern of the advertising industry to establish a sense of relatedness between the targeted audience and the advertising model (Häfner & Trampe, 2009). Familiarity (Häfner, 2009) and similarity (Häfner, 2004) can establish such a sense of relatedness. If the consumer perceives a sense of relatedness (either via familiarity or similarity), and can therefore identify with the portrayed model, an assimilation process may occur and the message of the advertisement becomes more important to the consumer. In other words, the closer the consumer feels to the model in the advertisement, the more their actions matter for them. To illustrate, Plous and Neptune (1997) examined advertisements that appeared in various fashion magazines from 1985 till 1994 and found that while white female models were used for magazines that were targeted at a white female audience, black female models were used for magazines that were targeted at a black female audience (Plous & Neptune, 1997). Moreover, white female models were presented in a sexualized manner more often when the target audience was white women, whereas black female models were presented in a sexualized manner more often in magazines that were aimed at black women (Plous & Neptune, 1997). The goal of this type of advertisement seems to be to suggest that by consuming the advertised product the female consumer would, to an extent, transform into the sexy, desirable, and idealized woman portrayed by the ad. Through the addition of some sense of relatedness between the model and the consumer, this illusion should be enhanced. However, by the same logic, when the sexualization is perceived as hurtful, due to the perception of the sexualization as either lacking in agency or lacking in exchange value, the relatedness that has been established should lead to an even more hurtful experience. Thus, the assumption might arise that if the model is portrayed in a sexualized manner and she acts in a way that hurts female viewers, it should hurt most when the model can be included in their own self-view.

## Overview of the Current Research

In two studies we aim to disentangle two potential sources of negative evaluations of sexualized advertisement by female perceivers: Perceived lack of value regarding sex in the advertisement and perceived lack of agency of the model in the advertisement. We created an advertising context in which a high amount of agency would imply a reduced value of sex, whereas a low amount of agency would imply an enhanced value of sex. We created two versions of the same advertisement with differing slogans. One implied that the model's sexualization is her own free choice and she does not get something

in return (high agency, low value), whereas the other implied that the purpose of the sexualization is that the model will get an expensive gift from a man in return (low agency, high value).

As a second aim of this paper, we investigate the role of perceived relatedness between the model and female perceivers. In order to manipulate relatedness, we used two different methods that subtly alter the facial characteristics of the model in the advertisement in order to appear more or less related to the perceivers. In Study 1, we manipulated relatedness on the group level by enhancing and reducing perceived familiarity of the model's face using a previously developed familiarity face model. In Study 2, we manipulated relatedness by enhancing and reducing actual similarity between the model and the female perceiver on an individual level by subtly morphing participants' facial characteristics into the model's face in the advertisement.

Two opposing sets of hypotheses are formulated. On the one hand, under the assumption that the lack of value is a bigger concern than the lack of agency, the advertisement offering an exchange value should receive more favorable ratings than the advertisement offering agency. On the other hand, under the assumption that the lack of agency is a bigger concern than the lack of value, the advertisement offering agency should receive more favorable ratings than the advertisement offering an exchange value. Under both assumptions, we hypothesize that the effect should be pronounced if the female consumer can relate to the model in terms of familiarity (Study 1) or similarity (Study 2).

## Study 1

Study 1 tested which concern, the lack of agency or the lack of value, was the stronger concern in driving negative evaluations. To do so, we varied the slogan within a sexualized advertisement, so that it either highlighted the model's agency by stressing that there was no exchange (high agency / low value), or highlighted the exchange value of sex by stressing that the product would be gifted from the man to the woman (low agency / high value). Additionally, we tested whether the difference in evaluation would be more pronounced when the presented model is psychologically related to the participant compared to when she is not. In Study 1 we operationalized relatedness via perceived familiarity of the model's face.

## Method

### Participants and Design

The online-study used a 2 (slogan: high agency / low value vs. low agency / high value) by 2 (relatedness: familiar vs. non-familiar) between-subjects design. An a priori power analysis using G\*Power (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) assuming a small to medium effect size ( $f^2 = .065$ ) for the linear trend<sup>1</sup>

(two-tailed) with a power of .8 and an Alpha-level of .05 resulted in a required sample size of 123 participants. We slightly oversampled in order to reach the required sample size after predefined exclusion criteria (i.e., male participants, outliers regarding their age, and participants who indicated that there was a reason to not use their data). The study was promoted online in different German speaking Facebook groups that are mainly targeted at psychology students. The study description stated that only female participants should take part. In total, 145 participants completed the study. We excluded 8 males from the analyses and 5 participants who indicated that there was a reason not to use their data. Furthermore, because reactions towards advertisements are highly target group specific (e.g., Black, Organ, & Morton, 2010) we ran an outlier analysis on the age of the participants and excluded 4 participants (i.e., more than 3 times of upper quartile; Fields, 2013, p. 135) and 1 participant because she indicated her age as 0. That led to a final sample of 127 female participants with a mean age of 24.03 years ( $SD = 4.12$ ) and a range from 18 to 41 years. Participants had the opportunity to take part in a lottery where we raffled four vouchers worth approximately 20 US Dollars each.

## Materials

We used a real advertisement retrieved from the Internet. The advertisement was pretested in terms of the degree of sexualization in other studies in our lab. We added the slogan in the upper left part and a perfume bottle in the lower left part. The image was black and white. The model in the ad was lying naked on a bed, with some parts of the body covered with a white blanket. The model's line of sight was directed towards the camera.

**High agency / low value vs. low agency / high value slogan** – To highlight either high agency (but low value) or low agency (but high value), respectively, we designed two different slogans – “My present for me” (German version: “Mein Geschenk für mich”) and “His present for me” (German version: “Sein Geschenk für mich”). For ease of readability we refer to the former simply as a “high agency slogan” and to the latter as a “low agency slogan”. By using the pronoun “my” in the high agency slogan we indicated that the model in the advertisement is represented as an agentic subject; she is the acting, self-determinant subject. At the same time the slogan indicates that she has no need for any exchange value; she is buying the product as a present for herself (high agency, low value). In contrast, by using the pronoun “his” in the low agency slogan we indicated that there is an exchange for the sexualization of the female model in the advertisement. She

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1) As we predicted an ordinal interaction, we followed recommendations by Bobko (1986; see also Rosenthal & Rosnow, 1985) and predicted a linear trend with highest and lowest ratings for the advertisements with the familiar manipulated model.

will get a present from a man to represent his commitment to her. At the same time the slogan indicates that she is not acting in an agentic, self-determined way.

**Relatedness** — The perceived relatedness between the observer and the model in the advertisement was operationalized via familiarity of the model's face. We used a successfully validated fully data-driven face modeling approach to extract the facial characteristics that individuals spontaneously associate with familiar faces to systematically manipulate the perceived familiarity of the model (Walker & Vetter, 2016). To build the familiarity face model, ratings about the perceived familiarity of scans of real faces were collected and the dimension with maximum variability in these ratings was extracted. Adding [subtracting] this familiarity face model to a specific face localized in the Basel Face Model (BFM; Paysan, Knothe, Amberg, Romdhani, & Vetter, 2009) results in a version of that face that is perceived as more [less] familiar than the original face (for further information on this technique, see Vetter & Walker, 2011; Walker & Vetter, 2009, 2016). Figure 1 visualizes how the facial characteristics of a face change according to the familiarity face model.

**Figure 1**

*Visualization of the Familiarity Face Model in a Face From the Basel Face Database (BFD; Walker, Schönborn, Greifeneder, & Vetter, 2018).*



**Attitude towards the ad** — To assess the overall attitude towards the advertisement we took two items commonly used in sexualized advertisement research (e.g., Dahl et al., 2009; Sengupta & Dahl, 2008; Vohs et al., 2014), namely *bad* vs. *good* and *like* vs. *dislike* (on a 7-point Likert scale,  $r = .85$ ).

**Purchase intention** — We measured purchase intention with the single item “*regardless of the price, could you imagine buying the advertised product?*” on a 7-point Likert scale (1 = *very unlikely*, 7 = *very likely*).



**Manipulation check** — To test the two different versions of the slogan, five agency related items were used (*assertive, determined, independent, self-confident, strong-willed*; 1 = *not at all*, 7 = *very much*; Cronbach's  $\alpha = .94$ ). To test for the perceived relatedness towards the model in the advertisement, three different items were used (1 = *unfamiliar/dissimilar/distant*; 7 = *familiar/similar/near*; Cronbach's  $\alpha = .79$ ).

**Exploratory measures** — The German version (Krohne, Egloff, Kohlmann, & Tausch, 1996) of the Positive And Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) was used in order to examine the influence of participants' mood. Furthermore, the twelve most discriminative items of the German version (Eckes & Six-Materna, 1999) of the Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996) were used to investigate the role of participants' sexism when confronted with sexualized advertisements (1 = *I agree not at all*; 6 = *I totally agree*; Cronbach's  $\alpha_{\text{Hostile}} = .82$ , Cronbach's  $\alpha_{\text{Benevolent}} = .85$ ). Additionally, we assessed the affective response towards the ad with four items (e.g., 1 = *appropriate*; 7 = *inappropriate*; Cronbach's  $\alpha = .78$ ) and the cognitive response with four items (e.g., 1 = *not informative at all*; 7 = *informative*; Cronbach's  $\alpha = .81$ ) translated to German from the *overall attitude toward the ad scale* (Mitchell & Olson, 1981) to see whether primarily cognitive or affective ratings would be affected by the type of the advertisement.

## Procedure

After giving their informed consent, participants filled out the PANAS. Then participants were told that they would evaluate an advertisement, which would be shown for ten seconds. They were either presented with the familiar model and the high agency slogan, the familiar model and the low agency slogan, the non-familiar model and the high agency slogan, or the non-familiar model and the low agency slogan. Subsequently, they completed the overall attitude towards the ad scale, followed by the cognitive and affective attitude towards the ad scales. Then, they answered the purchase intention question. Next, they answered the two manipulation check items (i.e., relatedness and slogan). Afterwards, participants indicated whether they recognized the portrayed model and filled out the PANAS for the second time. Next, participants answered the twelve items from the ASI. Finally, participants answered some demographic questions (i.e., age, gender, and education), indicated how carefully they had read the instructions and received the opportunity to add comments. They were thanked and directed to the lottery.

## Results

### Preliminary Analyses

**Manipulations check slogan** — An analysis of variance for independent samples shows the expected effect for the manipulation of the slogan on the agency scale. The high

agency slogan “My present for me” was rated as more agentic ( $M = 5.51$ ,  $SD = 0.85$ ) than the low agency slogan “His present for me” ( $M = 3.32$ ,  $SD = 1.57$ ),  $F(1, 123) = 89.31$ ,  $p < .001$ ,  $\eta^2 = .417$ . This indicates that the manipulation was successful. No other effect was significant,  $F_{\max} = 1.44$ ,  $p_{\min} = .233$ .

**Manipulations check relatedness** — As intended, the model in the advertisement was perceived as more related to the participant when she was manipulated to look familiar ( $M = 3.52$ ,  $SD = 1.23$ ) than when she was manipulated to look non-familiar ( $M = 2.96$ ,  $SD = 1.46$ ),  $F(1, 123) = 5.56$ ,  $p = .020$ ,  $\eta^2 = .042$ . This indicates that the manipulation was successful. No other effect was significant,  $F_{\max} = 3.11$ ,  $p_{\min} = .080$ .

## Main Analyses

To determine whether the lack of value or the lack of agency led to a worse evaluation of the ad, we submitted the overall attitude towards the ad scale (*good/bad*, *like/dislike*) and the purchase intention to two separate 2 (slogan: empowerment vs. exchange) by 2 (relatedness: familiar vs. non-familiar) ANOVAs. Supporting the hypothesis that a lack of agency leads to worse evaluations than a lack of value, the high agency slogan received higher ratings on the attitude towards the ad scale ( $M = 4.23$ ,  $SD = 1.52$ ) than the low agency slogan ( $M = 3.66$ ,  $SD = 1.47$ ),  $F(1, 123) = 4.63$ ,  $p = .033$ ,  $\eta^2 = .036$ .<sup>2</sup> Neither the main effect for relatedness,  $F(1, 123) = 0.01$ ,  $p = .937$ ,  $\eta^2 < .001$ , nor the interaction between slogan and relatedness,  $F(1, 123) = 1.39$ ,  $p = .241$ ,  $\eta^2 = .011$ , reached statistical significance. The high agency slogan also led to a higher purchase intention ( $M = 3.36$ ,  $SD = 1.76$ ) than the low agency slogan ( $M = 2.74$ ,  $SD = 1.66$ ),  $F(1, 123) = 4.14$ ,  $p = .044$ ,  $\eta^2 = .032$ . Neither the main effect for relatedness,  $F(1, 123) = 0.12$ ,  $p = .728$ ,  $\eta^2 = .001$ , nor the interaction between slogan and relatedness,  $F(1, 123) = 0.70$ ,  $p = .403$ ,  $\eta^2 = .006$ , reached statistical significance. The means and standard deviations for both dependent variables can be seen in Table 1.

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2) An additional mediation model shows that there is a significant condition effect from the slogan on the attitude towards the ad,  $b = 0.57$ ,  $t(125) = 2.16$ ,  $p = .033$ , as well as a significant effect of perceived agency on the attitude towards the ad,  $b = 0.34$ ,  $t(125) = 4.59$ ,  $p < .001$ , which fully mediates the effect of the condition when controlling for the perceived agency,  $b_{\text{Perceived agency}} = 0.40$ ,  $t(124) = 4.08$ ,  $p < .001$ , vs.  $b_{\text{Slogan}} = -0.29$ ,  $t(124) = -0.89$ ,  $p = .373$ .

**Table 1**

*Means and Standard Deviations of the Overall Attitude Towards the Ad and Purchase Intention Ratings for the Different Conditions*

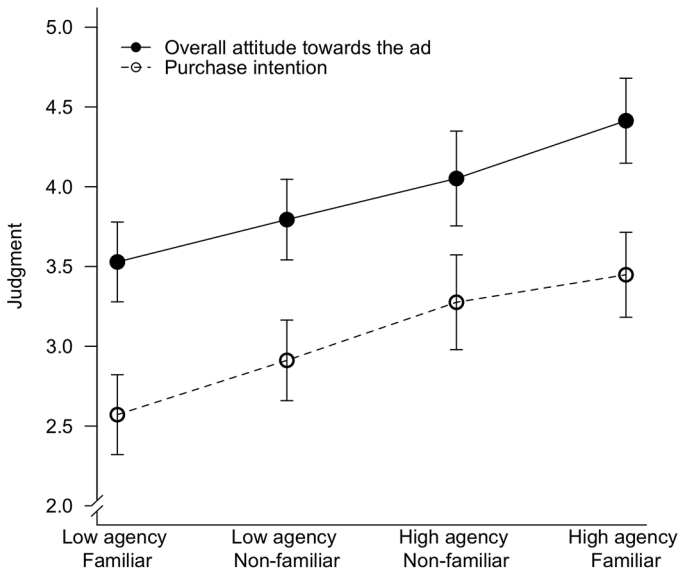
Dependent variable	Relatedness	
	Non-familiar <i>M</i> ( <i>SD</i> )	Familiar <i>M</i> ( <i>SD</i> )
<b>Overall attitude towards the ad</b>		
High agency slogan	4.05 (1.60)	4.41 (1.43)
Low agency slogan	3.79 (1.47)	3.53 (1.48)
<b>Purchase intention</b>		
High agency slogan	3.28 (1.79)	3.45 (1.76)
Low agency slogan	2.91 (1.78)	2.57 (1.54)

In order to test whether the attitudinal difference is more pronounced when the presented model is psychologically related to the participant (i.e., looks familiar) compared to when she is not (i.e., looks non-familiar), we followed the recommendations by Bobko (1986; see also Rosenthal & Rosnow, 1985), that is, we ran planned contrast comparisons in order to detect ordinal interactions, and ran a linear trend analysis with the attitude towards the ad as our dependent variable (i.e., lowest ratings for low agency familiar, followed by low agency non-familiar, high agency non-familiar, and high agency familiar). As shown in Figure 2, the familiar model with the low agency slogan led to the most negative ratings, followed by the non-familiar model with the low agency slogan, the non-familiar model with the high agency slogan and most positive ratings for the familiar model with the high agency slogan,  $t(123) = 2.45$ ,  $p = .016$ ,  $r_{\text{Contrast}} = .22$ . Thus, the results are in line with the assumption that a lack of agency is perceived more negatively than a lack of value, especially if the model in the sexualized advertisement is perceived as related to oneself.

Running the same linear trend analysis with purchase intention as a dependent variable also resulted in a significant linear trend. The familiar model with the low agency slogan led to the lowest purchase intention, followed by the non-familiar model with the low agency slogan, the non-familiar model with the high agency slogan and highest purchase intention for the familiar model with the high agency slogan,  $t(123) = 2.20$ ,  $p = .030$ ,  $r_{\text{Contrast}} = .19$ . Again, the results are in line with the assumption that the devaluation of a sexualized advertisement will be pronounced when the model in the advertisement is perceived as related to oneself.

**Figure 2**

Mean Ratings on the Overall Attitude Towards the Ad and Purchase Intention for Each Condition



Note. Error bars indicate standard errors.

### Exploratory Analyses

In order to investigate the role of participants' sexism, in a first step we calculated a mean benevolent (Cronbach's  $\alpha = .85$ ) and a mean hostile (Cronbach's  $\alpha = .82$ ) score for each participant. The two scales moderately correlate with each other ( $r = .50$ ). In a second step, we conducted two linear regression analyses with the attitude towards the ad as the dependent variables and the participant's benevolent and hostile sexism as a predictor. Both benevolent and hostile sexism significantly predict the overall attitude towards the ad,  $b_{\text{benevolent}} = 0.65$ ,  $t(125) = 5.80$ ,  $p < .001$ ,  $R^2_{\text{adjusted}} = .21$ ,  $b_{\text{hostile}} = 0.58$ ,  $t(125) = 4.10$ ,  $p < .001$ ,  $R^2_{\text{adjusted}} = .12$ . Running the same analyses with purchase intention as the dependent variable reveals that hostile and benevolent sexism also significantly predicts purchase intention,  $b_{\text{benevolent}} = 0.65$ ,  $t(125) = 4.89$ ,  $p < .001$ ,  $R^2_{\text{adjusted}} = .16$ ,  $b_{\text{hostile}} = 0.46$ ,  $t(125) = 2.74$ ,  $p = .007$ ,  $R^2_{\text{adjusted}} = .06$ . The higher the self-reported sexism, the higher the ratings on the overall attitude towards the ad scale as well as the reported purchase intention.

Both the affective and the cognitive rating scale as well as participants' mood were not affected by the different conditions (see Supplemental Materials).

## Discussion

Participants' overall ratings towards the ad as well as their purchase intention were higher when the slogan was "My present for me" compared to when the slogan was "His present for me". The former slogan implicates that the model is an agentic, self-determinant subject. It seems to be more important that the model in the sexualized advertisement is acting in a self-determinant, independent way, rather than getting something in return for sex. Thus, participants acted more in line with predictions derived from the empowerment literature than with predictions derived from SET. This was especially pronounced when the model was manipulated to look familiar.

An open question remains as to whether it was high agency (but low value) that led to more favorable ratings or whether it was low agency (but high value) that led to less favorable ratings. This question will be addressed in Study 2. Moreover, as can be seen in the supplemental material, the manipulation of familiarity also led to perceived differences in the ascribed dominance of the model (i.e., more perceived familiarity was associated with lower perceived dominance; see supplemental material). The personality trait dominance can be seen as a part of agency (Abele & Wojciszke, 2007). We try to circumvent this confound with an alternative manipulation of relatedness in the second study.

## Study 2

In Study 2 we aimed to replicate the findings of Study 1 but also included a baseline condition, in order to understand what drives the effect. Moreover, we aimed to use another technique to establish relatedness between the model and participant, namely by enhancing actual similarity between the model in the advertisement and the female participants. Thus, in Study 2, we morphed a specific amount of participants' facial characteristics into the model's face. Morphing might be a more direct way of bringing the model closer to the self by literally infusing the self into the model. Thus, individual-level differences of participants' own faces are taken into account. Moreover, relatedness and dominance are deconfounded. To the best of our knowledge, this technique has not yet been used in the domain of sexualized advertisements and might therefore lead to interesting insights. Since this technique was used for the first time in this context, we also asked participants to rate the similarity, familiarity and closeness between the model and themselves to have a second measure of (perceived) relatedness.

## Method

### Participants and Design

The study used a 3 (slogan: high agency vs. low agency vs. none) by 2 (relatedness: self-morph vs. other-morph) within-subjects design. The study was assessed as a computer

study in the laboratory. An apriori power analysis using G\*Power (Faul et al., 2009, 2007) assuming a similar effect size as in Study 1 with a power of .8 and an Alpha-level of .05 resulted in a desired sample size of 33 participants. As this study was part of a bigger study package, we recruited more participants to reach the intended sample sizes of the other studies as well. In total, 82 undergraduate students participated in exchange for partial course credit or a financial equivalent. We excluded all male participants (i.e., 10) and, as in Study 1, we performed an outlier analysis to reach a more homogeneous sample (Black, Organ, & Morton, 2010), which led to the exclusion of three participants. The final sample consisted of 69 undergraduate female students ( $M = 20.59$ ,  $SD = 1.99$ ) with an age range of 18 to 28 years.

## Materials

**High agency / low value vs. low agency / high value slogan** – The slogans were identical to those used in Study 1: “My present for me” (high agency) and “His present for me” (low agency). Furthermore, we added a baseline condition where no slogan was presented (no slogan).

**Relatedness** – The level of relatedness was manipulated by varying actual facial similarity between the model and participant. To enhance objective similarity between the model and participant, we separately morphed each participant’s face by 35% into the model’s face (i.e., self-morphs). For the dissimilar version we morphed another participant’s face by 35% into the model in the advertisement (i.e., other-morphs). The reason for morphing another person to create the dissimilar version (and not use the non-morphed model) is to deconfound the degree of image manipulation and similarity. Two example images created with this technique are shown in Figure 3.

**Attitude towards the ad** – The same two items as in Study 1 were used to assess the overall attitude towards the advertisement (e.g., Dahl et al., 2009; Sengupta & Dahl, 2008; Vohs et al., 2014), namely *bad* vs. *good* and *like* vs. *dislike* (on a 7-point Likert scale,  $r_{\text{range}} = .77 - .90$ ).

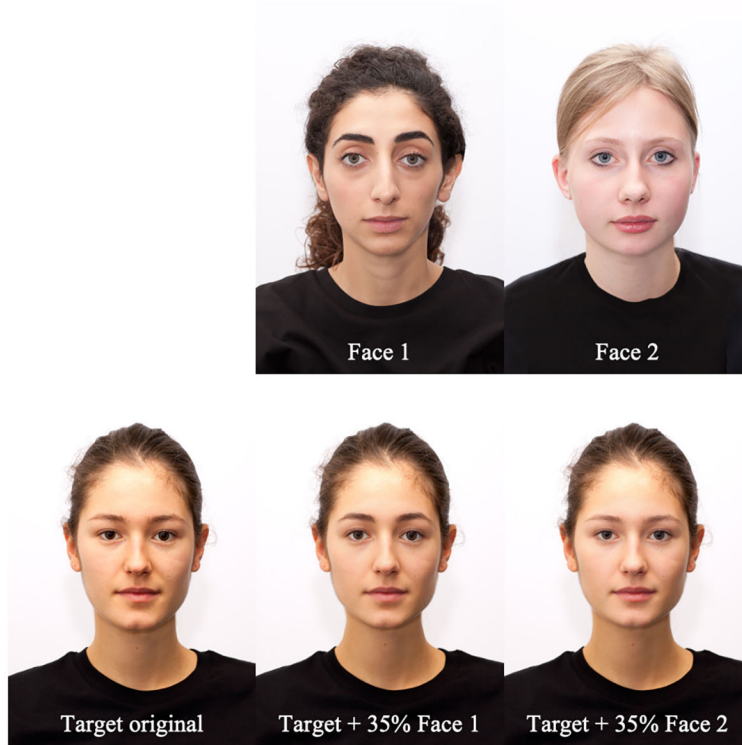
**Purchase intention** – Purchase intention was measured with the single item “*regardless of the price, could you imagine buying the advertised product?*” on a 7-point Likert scale.

**Manipulation check** – To test the two different versions of the slogan, the same five agency related items were used as in Study 1 (Cronbach’s  $\alpha = .93$ ). Perceived relatedness towards the model in the advertisement was assessed on the same items as in Study 1 (Cronbach’s  $\alpha = .77$ ).

**Exploratory measures** – The same twelve items of the German version (Eckes & Six-Materna, 1999) of the Ambivalent Sexism Inventory (ASI; Glick & Fiske, 1996) were

**Figure 3**

*Visualization of the Morphing Technique to Manipulate Familiarity via Actual Similarity in a Face From the Basel Face Database (Walker et al., 2018).*



*Note.* The facial characteristics of the faces in the upper row were morphed by an amount of .35 into the left face in the lower row.

used to investigate the role of participants' sexism when confronted with sexualized advertisements.

### **Procedure**

The study was held in three different sessions. In the first session participants' photographs were taken. The second session consisted of the main task and in the third session participants' demographics and manipulation checks regarding the face manipulation were collected.

**Session 1** — We took portrait photos of participants bearing a neutral expression and looking straight at the camera (Canon EOS 70D). Participants were instructed to put on a black T-shirt and to tie their hair back.

**Session 2** — The second session was scheduled approximately two weeks after the first session in our lab. Within those two weeks the stimulus material for the second session was prepared.

Participants were asked to imagine helping an advertising company to evaluate a new advertising campaign. For that reason, they would have to evaluate six different versions of the same advertisement. They were told that there would be some variations of the slogan and the visual appearance of the ad. After reading this instruction they were presented with the six different versions of the advertisement (i.e., high agency self-morph, high agency other-morph, low agency self-morph, low agency other-morph, no slogan self-morph, no slogan other-morph; the order was rotated between participants). They had to indicate their overall attitude towards all six versions of the ad and their purchase intention.

Next, participants rated the attractiveness of the self-morph and the other-morph, answered the same manipulation check for the slogan as in Study 1, and filled out the ambivalent sexism inventory. Finally, participants answered a demographic questionnaire (i.e., age, gender, and education), indicated how carefully they had read the instructions and received the opportunity to add comments. They were thanked and the appointment for the final session was scheduled.

**Session 3** — After approximately one week, participants returned to our lab to complete the third, and thus final, session of the whole study package. At the end of this session, which consisted of three independent studies, participants answered a closing questionnaire. Again, we showed participants the advertisement with the similar (i.e., self-morph) and the dissimilar (i.e., other-morph) version of the model. Participants had to indicate to what degree they felt related towards these two versions of the model on the same relatedness scale as had been used in Study 1. At the end of this session participants were thanked again for their participation and were compensated.

## Results

### Preliminary Analyses

**Manipulation check slogan** — To check whether the manipulation of the slogan resulted in the assumed effect, we ran a *t*-test for dependent samples (i.e., high agency slogan vs. low agency slogan) with the mean of the agency scale as the dependent variable. As intended, the high agency slogan “My present for me” was rated as more agentic ( $M = 5.76$ ,  $SD = 0.87$ ) than the low agency slogan “His present for me” ( $M = 3.43$ ,  $SD = 1.43$ ),  $t(68) = 11.52$ ,  $p < .001$ ,  $d = 1.39$ .



**Manipulation check relatedness** — Relatedness ratings from the third session (i.e., *unfamiliar/dissimilar/distant* vs. *familiar/similar/near*) between the two versions of the model (i.e., self-morphs and other-morphs) and themselves were used to test whether the manipulation of relatedness had the assumed effect. We therefore ran a paired-sample *t*-test with perceived relatedness as the dependent variable comparing ratings for the self-morphs with ratings of the other-morphs. The difference between self-morphs ( $M = 2.71$ ,  $SD = 1.13$ ) and other-morphs ( $M = 2.47$ ,  $SD = 1.16$ ) did not reach statistical significance,  $t(68) = 1.65$ ,  $p = .104$ ,  $d = 0.20$ . The pattern of the effects, however, points in the intended direction (i.e., perceiving more relatedness towards self-morphs than towards other-morphs).

### Main Analysis

To test whether it is the high agency / low value slogan that leads to a more positive attitude towards the ad and higher purchase intention or the low agency / high value slogan that leads to a more negative attitude towards the ad and lower purchase intention, we ran two separate 3 (slogan: high agency vs. low agency vs. no slogan) by 2 (relatedness: self-morph vs. other-morph) repeated measure ANOVAs with attitude towards the ad and purchase intention as the dependent variables.

Advertisements with the high agency slogan received more favorable ratings ( $M = 4.38$ ,  $SD = 1.51$ ) than the advertisement with no slogan ( $M = 3.74$ ,  $SD = 1.56$ ) followed by the advertisement with the low agency slogan ( $M = 3.55$ ,  $SD = 1.59$ ),  $F(2, 136) = 13.37$ ,  $p < .001$ ,  $\eta^2 = .050$ . There was no main effect for relatedness,  $F(1, 68) = 0.43$ ,  $p = .513$ ,  $\eta^2 < .001$ . Also the interaction slogan by relatedness did not reach significance,  $F(2, 136) = 0.46$ ,  $p = .634$ ,  $\eta^2 < .001$ .

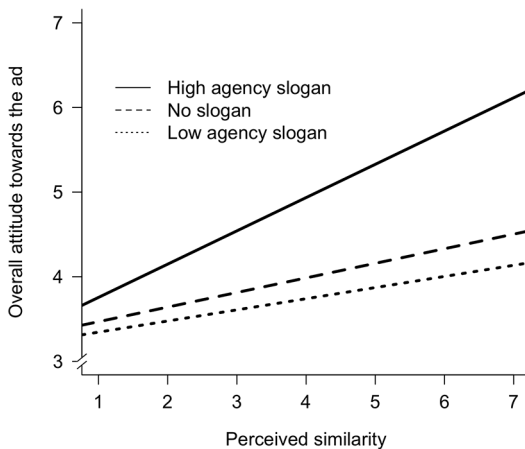
Moreover, advertisements with the high agency slogan led to higher purchase intentions ( $M = 4.83$ ,  $SD = 1.51$ ) than the advertisement with no slogan ( $M = 4.04$ ,  $SD = 1.61$ ) followed by the advertisement with the low agency slogan ( $M = 3.78$ ,  $SD = 1.61$ ),  $F(2, 136) = 18.91$ ,  $p < .001$ ,  $\eta^2 = .076$ . There was also a main effect for relatedness, albeit with a small effect size,  $F(1, 68) = 4.10$ ,  $p = .047$ ,  $\eta^2 = .004$ . The indicated purchase intention was lower for the advertisements with the self-morphs ( $M = 4.12$ ,  $SD = 1.62$ ) than for the other-morphs ( $M = 4.31$ ,  $SD = 1.66$ ). The hypothesized interaction between slogan and relatedness was not statistically significant,  $F(2, 136) = 1.50$ ,  $p = .227$ ,  $\eta^2 = .002$ .

Planned contrast analyses revealed that the advertisements with the high agency slogan received better ratings and higher purchase intentions than the advertisements with no slogan,  $t_{\text{attitude towards the ad}}(136) = 5.05$ ,  $p < .001$ ,  $r_{\text{Contrast}} = .40$ ;  $t_{\text{purchase intention}}(136) = 5.96$ ,  $p < .001$ ,  $r_{\text{Contrast}} = .46$ , whereas the advertisements with no slogan received more favorable ratings and higher purchase intention than the advertisements with the low agency slogan,  $t_{\text{attitude towards the ad}}(136) = 3.50$ ,  $p < .001$ ,  $r_{\text{Contrast}} = .29$ ;  $t_{\text{purchase intention}}(136) = 4.28$ ,  $p < .001$ ,  $r_{\text{Contrast}} = .34$ .

Since the manipulation of similarity had been too weak, we used the ratings of the perceived relatedness scale between the model and participant (i.e., *unfamiliar/dissimilar/distant* vs. *familiar/similar/near*, collected in Session 3) as relatedness in the following analysis. A mixed linear regression model was performed with overall attitude towards the ad as the dependent variable and the slogan and perceived relatedness as predictors. There was no longer a significant effect for slogan,  $F(2, 340.41) = 0.11, p = .900$ . Perceived similarity had a significant effect on the attitude towards the ad,  $F(1, 382.53) = 7.72, p = .006$ . The higher the perceived similarity, the higher the ratings on the overall attitude towards the ad scale. The interaction between slogan and perceived similarity narrowly missed conventional levels of significance,  $F(2, 340.41) = 3.00, p = .051$ . As can be seen in Figure 4, especially when the model was perceived to be similar to oneself, the high agency slogan received more favorable ratings of the advertisement, compared to the other two conditions (i.e., low agency slogan and no slogan).

**Figure 4**

*Relationship Between Perceived Similarity to the Presented Model and the Overall Attitude Towards the Advertisement for the Different Conditions*



### Exploratory Analyses

To investigate the relationship between participants' self-reported sexism and their overall ratings towards the ad, we first calculated a mean score for the benevolent (Cronbach's  $\alpha = .75$ ) and the hostile (Cronbach's  $\alpha = .84$ ) sexism subscales. The two subscales correlated weakly with each other ( $r = .36$ ). Next, we performed linear regression models with the benevolent and hostile sexism scores as a predictor and the mean attitude towards the ad and purchase intention of all six advertisements as the dependent variables. These models were not significant,  $b_{\max} = 0.24, t_{\max}(67) = 1.45, p_{\min} = .150$ ,

$R^2_{\text{adjusted max}} = .016$ . To test whether the sexism scores predict the attitude towards the ad for the different versions of the advertisement we ran separate regression analyses for the different advertisements (i.e., high agency slogan, low agency slogan and no slogan). Beta weights and  $t$ -values from the individual regression analysis are presented in Table 2.

**Table 2**

*Beta Weights and  $t$ -Values (Degrees of Freedom = 67) From the Regression Analyses With Benevolent and Hostile Sexism as Predictor for the Attitude Towards the Ad and Purchase Intention in Study 2*

Dependent variable	High agency slogan	Low agency slogan	No slogan
<b>Attitude towards the ad</b>			
Benevolent sexism	$b = 0.13, t = 0.71$	$b = 0.49, t = 2.45^*$	$b = 0.08, t = 0.41$
Hostile sexism	$b = 0.12, t = 0.70$	$b = 0.21, t = 1.06$	$b = -0.17, t = -0.87$
<b>Purchase intention</b>			
Benevolent sexism	$b = -0.03, t = -0.14$	$b = 0.08, t = 0.38$	$b = -0.08, t = -0.39$
Hostile sexism	$b = 0.23, t = 1.31$	$b = 0.43, t = 2.16^*$	$b = -0.01, t = -0.07$

Note. Significant  $t$ -values are marked with an asterisk.

Self-reported sexism was associated with attitude towards the ad and with purchase intention only if the ads contained the low agency slogan “His present for me”. The higher the benevolent sexism scores, the better the ratings of the sexualized advertisement and the higher the hostile sexism scores, the higher the purchase intention. For the sexualized advertisements with no slogan and the slogan with high agency, sexism did not predict the overall attitude towards the advertisements.

## Discussion

The first aim of Study 2 was to replicate the effect of the slogan observed in Study 1. In line with Study 1, results indicate that presenting a high agency (but low value) slogan in sexualized advertisements leads to more favorable ratings than presenting a low agency (but high value) slogan. The second aim was to establish whether this effect is driven by more positive ratings for the advertisement with a high agency slogan or by more negative ratings for the advertisement with a low agency slogan. Through the addition of the baseline condition where no slogan was present we were able to establish that the effect was driven both by a more favorable evaluation of the advertisement when a high agency slogan was used compared to no slogan, as well as a less favorable evaluation of the advertisement when a low agency slogan was used compared to no slogan.

Our third aim was to test the role of relatedness between the model and consumer by objectively moving the image of the model in the advertisement closer to the self. Morphing the face of the participant into the face of the advertising model allowed us

to prevent confounds with other constructs like dominance. However, morphing images of the participants' faces into the model's face did not significantly affect the perceived relatedness to the model, rendering it an unsuitable measure. One reason as to why the manipulation check indicated no effect might be the amount of facial information (i.e., 35%) that we morphed into the model's face in the advertisement. We aimed to create a sense of relatedness without the participants actively recognizing themselves in the model. Hence it might be that the manipulation was too subtle and we therefore could not find a significant effect. A further explanation for why this relatedness manipulation might show no effect on the manipulation check is that being exposed to a sexualized model that shares facial characteristics with oneself might elicit negative reactions and the need to distance oneself from the image, at least in some participants.

Because we had no experience with how participants would react towards sexualized advertisements with models who objectively resembled them, we collected an additional measure of perceived relatedness at the end of the study. When taking the perceived relatedness into account, effects are in line with the findings from Study 1. The more related to themselves participants perceived the model to be, the more consequential the message of the slogan was. Being presented with a high agency slogan led to the most positive ratings towards the ad when the model was perceived to be related to themselves. The preference for the ad with a high agency slogan compared to a low agency slogan is enhanced for ads with similar-looking models.

## General Discussion

Advertisements with sexualized female models face at least two potential sources for negative evaluations by women. The advertisement might be considered as "cheap" (because sex has little value) or as "objectifying" (because the model has little agency), both of which might be reasons to evaluate the advertisement negatively. In two studies we found consistent evidence for the assumption that the former matters more than the latter. The sexualized ad received more favorable ratings when a high agency (but low value) slogan was present compared to when a low agency (but high value) slogan was present. Again, consistent across the two studies, perceived relatedness enhanced this effect: From all advertisements the version in which high agency (but low value) was highlighted received the least negative evaluations, whereas the version in which low agency (but high value) was highlighted when the model seemed relatable.

## The Role of Empowerment and Exchange

Our results, especially the results of Study 2, are seemingly at odds with previous research on SET (Baumeister & Vohs, 2004), suggesting that including an exchange value for sexualization improves evaluations of advertisements depicting sexualized women

(Dahl et al., 2009; Vohs et al., 2014). However, it should be noted that previous studies were concerned with the explicit depiction of sexual encounters (i.e., rather graphic depictions of sex between a man and a woman) and reactions to these under constraint resources (e.g., cognitive load). We were interested in the reactions of female consumers to the ubiquitous sexualization of women in advertisements and our stimulus material only depicted women without a male counterpart. We also did not focus on constraint resources. Hence, our aim was not a close replication of previous studies. Still, from these differences, valuable insights might be gained.

An interesting question arising from this difference in findings is the role of social norms. By addressing sexually explicit advertisements as unethical and manipulative, both male and female consumers typically report rather negative attitudes towards these type of advertisements (Mittal & Lassar, 2000). This might especially be the case because it infringes social norms of how models should be depicted in advertisements. Specifically, female consumers might reject the idea of women being presented as “the price” for a gift from a male. But by constraining individuals’ cognitive resources, as has been done in research combining SET with sexualized advertisements (Dahl et al., 2009; Vohs et al., 2014), this line of thinking may be interrupted and more implicit reactions towards the ad, which are not necessarily in line with social norms, could be measured. Hence, females’ more positive reactions towards sexualization in ads when an exchange value is present might reflect learnt positive reactions towards men providing resources to women. Interestingly, this is the more traditional perspective, in which women are seen as needing men to provide for them (Glick & Fiske, 1996). Exploratory analyses support this notion by showing that females with higher scores of ambivalent sexism – hence women with more stringent views of women either being good and pure and in need of male resources or evil and always out to harm men – reacted more positively towards the advertisements in which there was an exchange value for sexualization. Hence, this allows the intriguing conclusion that women with more traditional stereotypes of other women might actually react more positively towards sexualized depictions of other women – especially when these depictions come with an exchange value.

Because ambivalent sexism is more pronounced in cultures with less gender equality, an interesting idea for future research might be to investigate the question of how differing degrees of gender equality in differing societies might affect the reaction to sexualization in advertisements that stress women’s agency vs. the exchange value of sexualization. One might argue that in societies where gender equality is lower, advertisements stressing exchange value would be rated more positively than advertisements stressing empowerment.

## The Role of Relatedness

Both studies highlighted the importance of relatedness between the model in the advertisement and the perceiver. The low agency slogan led to worse ratings of the

advertisement when the model was manipulated to be familiar in Study 1. In Study 2, however, higher perceived relatedness resulted in better evaluations of the sexualized advertisement in all conditions, but this was most pronounced when the slogan focused on agency. That the low agency (but high value) slogan did not result in more negative evaluations needs to be taken with caution due to the study's design. Participants were asked to indicate their evaluations for all six different versions of the advertisement and thus made comparisons between the different advertisements.

This effect of relatedness in particular seems to be crucial when dealing with famous models in the advertisement industry. As Häfner (2009) showed, being faced with well-known celebrities leads to an assimilation effect and the model (and thus also her actions) will be enclosed in one's own self-view. The objectification (low agency) of a familiar model may therefore be especially hurtful for female perceivers. Popular models or celebrities might enhance or diminish the appeal of sexualized ads depending on how agentic the model is depicted to be.

In our studies, we manipulated relatedness in two specific ways. In Study 1, we altered the familiarity of the model in the advertisement by applying a previously developed familiarity face model. In Study 2, we altered the similarity between the model and the perceiver by morphing the facial characteristics of the perceiver by a certain degree into the model depicted in the sexualized advertisement. Thus, in both studies, we operationalized relatedness solely through the use of facial characteristics. It would further be interesting to use other possibilities to create a certain degree of relatedness between the perceiver and the model by, for example, manipulating the body shape of the model to be more or less similar either to the female form on an average level or by manipulating it to be more or less similar to each individual perceiver.

## Conclusion

In two studies we found converging evidence that female consumers evaluate ads with sexualized female models especially negatively if the model is perceived as lacking agency. This effect was enhanced when the model in the advertisement was either manipulated (Study 1) or perceived to be more relatable to the participant (Study 2). When providing a high agency slogan these negative evaluations were alleviated, especially when the model in the advertisement was perceived to be related to the self.

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**Data Availability:** For this study, two datasets are freely available (see the [Supplementary Materials](#) section).

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## Supplementary Materials

The following Supplementary Materials are available (for access see [Index of Supplementary Materials](#) below):

### Datasets

- **Raw data of Study 1:** Raw data of Study 1 as it was retrieved after data collection from Unipark
- **Raw data of Study 2:** Raw data of Study 2 as it was retrieved after data collection from Unipark

### Codebooks

- **Codebook for the raw data from Study 1:** The codebook for Study 1 in which all the variables are listed that are in the rawdata of Study 1. The codebook contains three columns. The first column indicates the name of the variables as they are in the rawdata. The second column indicates the meaning of the variables in English and the third column indicates the labels of the variables in English.
- **Codebook for the raw data from Study 2:** The codebook for Study 2 in which all the variables are listed that are in the rawdata of Study 2. The codebook contains three columns. The first column indicates the name of the variables as they are in the rawdata. The second column indicates the meaning of the variables in English and the third column indicates the labels of the variables in English.

### Additional Information

- **Additional information on cognitive and affective ratings, mood, and dominance:** In this document we provide the results of further analysis we conducted on the variables cognitive and affective ratings, mood, and dominance. We referenced within the main text on these additional analyses.

### Index of Supplementary Materials

Keller, M., Walker, M., & Reutner, L. (2020). *Supplementary materials to "Sex sells? The role of female agency in sexualized advertisements"* [Research data, codebook, code, and further analyses]. PsychOpen. <https://doi.org/10.23668/psycharchives.2896>

## References

- Abele, A. E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology, 93*(5), 751-763.  
<https://doi.org/10.1037/0022-3514.93.5.751>
- Archer, D., Iritani, B., Kimes, D. D., & Barrios, M. (1983). Face-ism: Five studies of sex differences in facial prominence. *Journal of Personality and Social Psychology, 45*, 725-735.  
<https://doi.org/10.1037/0022-3514.45.4.725>
- Atchison, C., Fraser, L., & Lowman, J. (1998). Men who buy sex: Preliminary findings of an exploratory study. In J. Elias, V. Bullough, V. Elias, & G. Brewer (Eds.), *Prostitution* (pp. 172-203). Amherst, NY, USA: Prometheus.
- Baumeister, R. F., Catanese, K. R., & Vohs, K. D. (2001). Is there a gender difference in strength of sex drive? Theoretical views, conceptual distinctions, and a review of relevant evidence. *Personality and Social Psychology Review, 5*(3), 242-273.  
[https://doi.org/10.1207/S15327957PSPR0503\\_5](https://doi.org/10.1207/S15327957PSPR0503_5)
- Baumeister, R. F., & Twenge, J. M. (2002). Cultural suppression of female sexuality. *Review of General Psychology, 6*(2), 166-203. <https://doi.org/10.1037/1089-2680.6.2.166>
- Baumeister, R. F., & Vohs, K. D. (2004). Sexual economics: Sex as female resource for social exchange in heterosexual interactions. *Personality and Social Psychology Review, 8*(4), 339-363.  
[https://doi.org/10.1207/s15327957pspr0804\\_2](https://doi.org/10.1207/s15327957pspr0804_2)
- Black, I. R., & Morton, P. (2017). Appealing to men and women using sexual appeals in advertising: In the battle of the sexes, is a truce possible? *Journal of Marketing Communications, 23*(4), 331-350. <https://doi.org/10.1080/13527266.2015.1015108>
- Black, I. R., Organ, G. C., & Morton, P. (2010). The effect of personality on response to sexual appeals. *European Journal of Marketing, 44*(9-10), 1453-1477.  
<https://doi.org/10.1108/03090561011062925>
- Bobko, P. (1986). A solution to some dilemmas when testing hypotheses about ordinal interactions. *The Journal of Applied Psychology, 71*(2), 323-326. <https://doi.org/10.1037/0021-9010.71.2.323>
- Chapple, C., & Cownie, F. (2017). An investigation into viewers' trust in and response towards disclosed paid-for-endorsements by YouTube lifestyle vloggers. *Journal of Promotional Communications, 5*(2), 110-136.
- Cohen, L. L., & Shotland, R. L. (1996). Timing of first sexual intercourse in a relationship: Expectations, experiences, and perceptions of others. *Journal of Sex Research, 33*(4), 291-299.  
<https://doi.org/10.1080/00224499609551846>
- Cwir, D., Carr, P. B., Walton, G. M., & Spencer, S. J. (2011). Your heart makes my heart move: Cues of social connectedness cause shared emotions and physiological states among strangers. *Journal of Experimental Social Psychology, 47*(3), 661-664.  
<https://doi.org/10.1016/j.jesp.2011.01.009>
- Dahl, D. W., Sengupta, J., & Vohs, K. D. (2009). Sex in advertising: Gender differences and the role of relationship commitment. *The Journal of Consumer Research, 36*(2), 215-231.  
<https://doi.org/10.1086/597158>



- Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior*, 68, 1-7. <https://doi.org/10.1016/j.chb.2016.11.009>
- Eckes, T., & Six-Materna, I. (1999). Hostilität und Benevolenz: Eine Skala zur Erfassung des ambivalenten Sexismus. *Zeitschrift für Sozialpsychologie*, 30(4), 211-228. <https://doi.org/10.1024//0044-3514.30.4.211>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G\*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191. <https://doi.org/10.3758/BF03193146>
- Fields, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). Newbury Park, CA, USA: SAGE.
- Gill, R. (2003). From sexual objectification to sexual subjectification: The resexualisation of women's bodies in the media. *Feminist Media Studies*, 3(1), 100-106.
- Gill, R. (2008). Empowerment/sexism: Figuring female sexual agency in contemporary advertising. *Feminism & Psychology*, 18(1), 35-60. <https://doi.org/10.1177/0959353507084950>
- Glick, P., & Fiske, S. T. (1996). The ambivalent sexism inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology*, 70(3), 491-512. <https://doi.org/10.1037/0022-3514.70.3.491>
- Griffitt, W., & Kaiser, D. L. (1978). Affect, sex guilt, gender, and the rewarding-punishing effects of erotic stimuli. *Journal of Personality and Social Psychology*, 36(8), 850-858. <https://doi.org/10.1037/0022-3514.36.8.850>
- Häfner, M. (2004). How dissimilar others may still resemble the self: Assimilation and contrast after social comparison. *Journal of Consumer Psychology*, 14, 187-196. [https://doi.org/10.1207/s15327663jcp1401&2\\_21](https://doi.org/10.1207/s15327663jcp1401&2_21)
- Häfner, M. (2009). Knowing you, knowing me: Familiarity moderates comparison outcomes to idealized media images. *Social Cognition*, 27(4), 496-508. <https://doi.org/10.1521/soco.2009.27.4.496>
- Häfner, M., & Trampe, D. (2009). When thinking is beneficial and when it is not: The effects of thin and round advertising models. *Journal of Consumer Psychology*, 19(4), 619-628. <https://doi.org/10.1016/j.jcps.2009.06.004>
- Heflick, N. A., & Goldenberg, J. L. (2009). Objectifying Sarah Palin: Evidence that objectification causes women to be perceived as less competent and less fully human. *Journal of Experimental Social Psychology*, 45, 598-601. <https://doi.org/10.1016/j.jesp.2009.02.008>
- Krohne, H. W., Egloff, B., Kohlmann, C., & Tausch, A. (1996). Untersuchungen mit einer deutschen Version der "Positive and Negative Affect Schedule" (PANAS). *Diagnostica*, 42(2), 139-156.
- Latour, M. S., & Henthorne, T. L. (1994). Ethical judgments of sexual appeals in print advertising. *Journal of Advertising*, 23(3), 81-90. <https://doi.org/10.1080/00913367.1994.10673453>

- Latour, M. S., Pitts, R. E., & Snook-Luther, D. C. (1990). Female nudity, arousal, and ad response: An experimental investigation. *Journal of Advertising*, *19*(4), 51-62.  
<https://doi.org/10.1080/00913367.1990.10673200>
- Lindner, K. (2004). Images of women in general interest and fashion magazine advertisements from 1955 to 2002. *Sex Roles*, *51*(7-8), 409-421. <https://doi.org/10.1023/B:SEERS.0000049230.86869.4d>
- Loughnan, S., Haslam, N., Murnane, T., Vaes, J., Reynolds, C., & Suitner, C. (2010). Objectification leads to depersonalization: The denial of mind and moral concern to objectified others. *European Journal of Social Psychology*, *40*(5), 709-717. <https://doi.org/10.1002/ejsp.755>
- Malkin, A. R., Wornian, K., & Chrisler, J. C. (1999). Women and weight: Gendered messages on magazine covers. *Sex Roles*, *40*(7-8), 647-655. <https://doi.org/10.1023/A:1018848332464>
- Millard, J. E., & Grant, P. R. (2006). The stereotypes of black and white women in fashion magazine photographs: The pose of the model and the impression she creates. *Sex Roles*, *54*, 659-673.  
<https://doi.org/10.1007/s11199-006-9032-0>
- Mitchell, A. A., & Olson, J. C. (1981). Are product attribute beliefs the only mediator of advertising effects on brand attitude? *Journal of Marketing Research*, *18*(3), 318-332.  
<https://doi.org/10.1177/002224378101800306>
- Mittal, B., & Lassar, W. M. (2000). Sexual liberalism as a determinant of consumer response to sex in advertising. *Journal of Business and Psychology*, *15*(1), 111-127.  
<https://doi.org/10.1023/A:1007723003376>
- Paysan, P., Knothe, R., Amberg, B., Romdhani, S., & Vetter, T. (2009). A 3D face model for pose and illumination invariant face recognition. In *6th IEEE International conference on advanced video and signal based surveillance* (pp. 296-301). Genoa, Italy: IEEE Computer Society.  
<https://doi.org/10.1109/AVSS.2009.58>
- Plous, S., & Neptune, D. (1997). Racial and gender biases in magazine advertising. *Psychology of Women Quarterly*, *21*, 627-644. <https://doi.org/10.1111/j.1471-6402.1997.tb00135.x>
- Reichert, T., & Carpenter, C. (2004). An update on sex in magazine advertising: 1983 to 2003. *Journalism & Mass Communication Quarterly*, *81*(4), 823-837.  
<https://doi.org/10.1177/107769900408100407>
- Reichert, T., & Lambiase, J. (2003). How to get “kissably close”: Examining how advertisers appeal to consumers’ sexual needs and desires. *Sexuality & Culture*, *7*(3), 120-136.  
<https://doi.org/10.1007/s12119-003-1006-6>
- Rosenthal, R., & Rosnow, R. L. (1985). *Contrast analysis: Focused comparisons in the analysis of variance*. New York, NY, USA: Cambridge University Press.
- Schmitt, D. P., & Jonason, P. K. (2019). Self-esteem as an adaptive sociometer of mating success: Evaluating evidence of sex-specific psychological design across 10 world regions. *Personality and Individual Differences*, *143*, 13-20. <https://doi.org/10.1016/j.paid.2019.02.011>
- Schouten, A. P., Janssen, L., & Verspaget, M. (2020). Celebrity vs. influencer endorsements in advertising: The role of identification, credibility, and product-endorser fit. *International Journal of Advertising*, *39*(2), 258-281. <https://doi.org/10.1080/02650487.2019.1634898>

- Sengupta, J., & Dahl, D. W. (2008). Gender-related reactions to gratuitous sex appeals in advertising. *Journal of Consumer Psychology, 18*(1), 62-78. <https://doi.org/10.1016/j.jcps.2007.10.010>
- Tehseem, T., & Kalsoom, U. (2015). Exploring the veiled ideology in cosmetics adverts: A feminist perspective. *European Journal of Research in Social Sciences, 3*(2), 81-98.
- Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man* (pp. 136–179). Chicago, IL, USA: Aldine.
- Vetter, T., & Walker, M. (2011). Computer-generated images in face perception. In A. J. Calder, G. Rhodes, M. H. Johnston, & J. V. Haxby (Eds.), *The Oxford handbook of face perception* (pp. 388–399). New York, NY, USA: Oxford University Press.
- Vohs, K. D., Sengupta, J., & Dahl, D. W. (2014). The price had better be right: Women's reactions to sexual stimuli vary with market factors. *Psychological Science, 25*(1), 278-283. <https://doi.org/10.1177/0956797613502732>
- Walker, M., Schönborn, S., Greifeneder, R., & Vetter, T. (2018). The basel face database: A validated set of photographs reflecting systematic differences in big two and big five personality dimensions. *PLOS ONE, 13*(3), Article e0193190. <https://doi.org/10.1371/journal.pone.0193190>
- Walker, M., & Vetter, T. (2009). Portraits made to measure: Manipulating social judgments about individuals with a statistical face model. *Journal of Vision, 9*(11), Article 12. <https://doi.org/10.1167/9.11.12>
- Walker, M., & Vetter, T. (2016). Changing the personality of a face: Perceived Big Two and Big Five personality factors modeled in real photographs. *Journal of Personality and Social Psychology, 110*(4), 609-624. <https://doi.org/10.1037/pspp0000064>
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070. <https://doi.org/10.1037/0022-3514.54.6.1063>
- Wirtz, J. G., Sparks, J. V., & Zimbres, T. M. (2018). The effect of exposure to sexual appeals in advertisements on memory, attitude, and purchase intention: A meta-analytic review. *International Journal of Advertising, 37*(2), 168-198. <https://doi.org/10.1080/02650487.2017.1334996>



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