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## Women's Critical Responses to Sexually Explicit Material: The Role of Hyperfemininity and Processing Style

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*Previous research on women's responses to male-targeted sexually explicit material (SEM) suggests that women may be critical toward such content. However, women's critical responses to SEM have not been explained empirically. The present study had two goals: (1) to investigate whether women's critical responses to male-targeted SEM depend on individual differences in gender role orientation (i.e., hyperfemininity) and (2) to explain the effect of hyperfemininity on critical responses to SEM by looking at the way sexual material is processed. In an online experiment among women aged 18 to 30 (N=195), both the type of SEM (a male- versus female-targeted erotic story) and processing style (stimulus- versus response-focused) were manipulated. In addition, participants were divided into three groups based on low, moderate, or high hyperfemininity. When using stimulus-focused processing (i.e., attending to the characters and situational context of the story), women were more critical toward male-targeted SEM (relative to female-targeted material), but only when they had low and moderate degrees of hyperfemininity.*

In recent decades, sexually explicit material (SEM) has increasingly become more easily available in the media. SEM is typically defined as material that is intended to arouse the recipient, including the explicit, unconcealed depiction or description of sexual activities, such as oral sex and anal or vaginal penetration (e.g., Laan, Everaerd, van Bellen, & Hanewald, 1994; Mosher & Maclan, 1994; Peter & Valkenburg, 2009). The increasing availability of SEM has led to a substantial amount of research on how people respond to SEM (for reviews, see Allen et al., 2007; Attwood, 2005; Linz & Malamuth, 1993). While research has often centered on men's reactions to SEM, women's responses to such material have increasingly become the focus of researchers (Allen et al., 2007; Attwood, 2005). Such research has led to several intriguing findings. For example, although women's physical arousal in response to a sexually explicit video fragment does not differ between a male- and female-targeted fragment, women often respond with negative affect and thoughts toward a male-targeted fragment (Laan et al., 1994). Moreover, women report less subjective sexual arousal after watching male-targeted SEM than after watching female-targeted SEM (Glascock, 2005; Mosher & Maclan, 1994). This suggests that even though women

do get aroused physically by SEM, they may show critical responses to SEM, especially when it targets a male audience.

A prominent explanation for women's critical responses to SEM focuses on the specific themes featured in male-targeted SEM, which many women find unappealing (e.g., Laan et al., 1994; Mosher & Maclan, 1994). To date, however, research has paid little empirical attention to the possibility that women may differ in their responses toward male-targeted SEM. This gap is striking because one of the few empirical studies on the issue suggested that responses to SEM are just as likely to differ within sexes as they do between sexes (Mosher & Maclan, 1994). Accordingly, this study found that not all women responded negatively toward SEM. Rather, those women who preferred novelty, drama, and exhibition in sexual situations, and felt that the meaning of sex was to fulfill an archetypal role, responded with similar levels of psychosexual arousal, interest, and joy to pornography as men with the same sexual preferences (Mosher & Maclan, 1994).

Against this backdrop, researchers have increasingly emphasized that personality characteristics and predispositions may influence not only individuals' use of, but also their responses to, pornography in terms of arousal, attitudes, and behavior (e.g., Kingston, Malamuth, Fedoroff, & Marshall, 2009; Malamuth, Addison, & Koss, 2000). In line with these research developments, the first goal of the present study was to investigate which types of women are more inclined to show critical

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responses to SEM than others. Specifically, we studied whether women's individual differences in gender-role orientation affected the degree to which they showed critical responses to male-targeted SEM.

Another shortcoming in research on women's critical responses to SEM is that even if we can identify types of women who criticize SEM on the basis of particular personality characteristics, we do not know precisely why these characteristics impact women's responses toward SEM. Mosher and Maclan (1994) proposed that women's negative responses toward SEM may depend on how women link such material to their beliefs, preferences, and expectations about sexual behavior. However, they did not test this proposition empirically. A proper test of this proposition needs to investigate how sexual material is linked to information about sexual behavior in memory, which in turn requires a close look at the cognitive processing of sexual material. Although researchers have emphasized the importance of information processing in explaining sexual arousal in response to SEM (e.g., Janssen, Carpenter, & Graham, 2003; Janssen, Everaerd, Spiering, & Janssen, 2000; Spiering, Everaerd, & Laan, 2004), to date the processing of SEM has never been related to critical responses to such material. Therefore, the second goal of the present study was to explain the impact of individual differences on critical responses to SEM by manipulating the way in which the sexual material is processed (i.e., stimulus- versus response-focused processing; Dekker, Everaerd, & Verhelst, 1985; Dekker & Everaerd, 1988).

### Women's Responses to Sexually Explicit Material

Most mainstream SEM has traditionally been produced by men and is intended for a male audience (Laan et al., 1994; Sun, Bridges, Wosnitzer, Scharrer, & Liberman, 2008; Woodard et al., 2008). Sexual activity in such SEM focuses on genitals and intercourse and pays somewhat more attention to men's desires and gratification than to women's (Gorman, Monk-Turner, & Fish, 2010; McKee, 2005). The narrative line typically moves from minimal reciprocal foreplay to fellatio, often performed with the female in a subordinate posture, to coitus, and frequently ends with the male character ejaculating onto the woman's body or face (Bridges, Wosnitzer, Scharrer, Sun, & Liberman, 2010; Brosius, Weaver, & Staab, 1993; Cowan, Lee, Levy, & Snyder, 1988; Gorman et al., 2010). Several content analyses have suggested that mainstream SEM, at least to some extent, is characterized by male sexual dominance and female sexual subordination (Bridges et al., 2010; Brosius et al., 1993; Cowan & Campbell, 1994; Cowan et al., 1988; Gorman et al., 2010). We call this material *male-targeted SEM* (also called "nonviolent pornography" in earlier research, e.g., Glascock, 2005; Murnen & Stockton, 1997).

However, in the past two decades, increasingly more SEM has been produced that is intended for an audience

interested in material other than mainstream SEM, such as women and heterosexual couples (Mosher & Maclan, 1994; Sun et al., 2008; Woodard et al., 2008). Compared to mainstream SEM, this material focuses less on genitals and intercourse (Laan et al., 1994; Mosher & Maclan, 1994) and instead emphasizes women's sexual responses (Mosher & Maclan, 1994; Scott & Cortez, 2011). In addition, the material typically features prolonged foreplay, the desire and pleasure of all characters involved, and female agency (Laan et al., 1994). This material is, at least to some extent, characterized by gender equality, intimacy, and mutual attraction between characters (Chivers, Seto, Lalumière, Laan, & Grimbos, 2010; Garcia, Brennan, DeCarlo, McGlennon, & Tait, 1984; Laan et al., 1994; Pearson & Pollack, 1997). Because these features are generally considered more appealing to women (Laan et al., 1994; Mosher & Maclan, 1994), we call this material *female-targeted SEM* (also called "erotica" in earlier research, e.g., Glascock, 2005; Murnen & Stockton, 1997).

Research on women's responses to male- and female-targeted SEM has shown that women frequently respond with more dislike, contempt, guilt, shame, and fear toward a male-targeted fragment and with more positive affect toward a female-targeted fragment (Laan et al., 1994; Mosher & Maclan, 1994). Moreover, women's thoughts about a male-targeted erotic film are often negative (e.g., awful, distasteful, obscene), whereas a female-targeted film is typically described positively (e.g., exciting, sensual, beautiful; Laan et al., 1994). Women often hold strong views against male-targeted pornography; for instance, because of the presumed influence on men's attitudes toward women and its contribution to violence against women, or because women criticize how women are depicted in terms of body image and female attractiveness (Attwood, 2005).

Women's critical responses to male-targeted SEM, relative to female-targeted SEM, may thus be explained by the specific themes featured in male-targeted SEM. These themes are often related to gender roles (e.g., female subordination and male sexual dominance; Laan et al., 1994; Mosher & Maclan, 1994). It therefore seems likely that individual differences in critical responses to male-targeted SEM depend on women's gender-role orientation.

### Individual Differences in Gender-Role Orientation: Hyperfemininity

Women's gender-role orientation can be conceptualized by their degree of hyperfemininity. Hyperfemininity is the adherence to stereotypical feminine sexual beliefs (Murnen, 1998) and consists of three interrelated concepts: first, the fundamental importance of having a relationship with a man; second, the use of physical attributes and sexuality to attract men and to maintain

relationships with them; and third, the expectation that men are dominant, and sometimes forceful, initiators of sexual relationships (Murnen & Byrne, 1991).

Hyperfeminine women tend to accept the characteristic themes of male-targeted SEM, such as sexual subordination and objectification of women, more easily than do nonhyperfeminine women. For instance, McKelvie and Gold (1994) found that hyperfeminine women were more likely than other women to justify male sexual coercion when the man was desirable for a relationship and when it occurred in a dating situation. In addition, hyperfeminine women tend to view themselves as sexual objects, rather than as sexual actors, and thus accept sexual subordination and objectification of women (Murnen & Byrne, 1991). Nowatzki and Morry (2009), for example, reported that hyperfeminine women were more likely than nonhyperfeminine women to watch sexually objectifying media and to accept sexualizing behaviors (i.e., taking a strip aerobics class or taking part in a wet T-shirt contest) for both themselves and for other women.

Previous research on hyperfemininity thus suggests that women may differ in their critical responses to male-targeted SEM based on their degree of hyperfemininity. Although this individual difference in women's critical responses to such material seems plausible, a rigorous investigation of how women's degree of hyperfemininity affects these critical responses requires the demonstration that women indeed link the material to their (non)hyperfeminine beliefs. This demonstration, in turn, requires a focus on the way in which women process sexual material.

### Explaining Responses to SEM: The Influence of Processing Style

One model that has been used to explain women's responses to male- and female-targeted SEM is the information-processing model of sexual arousal (Janssen et al., 2000). According to this model, a sexual stimulus is given meaning in an initial appraisal stage through encoding and matching of the stimulus in memory. The specific meaning given to a sexual stimulus depends on both a person's history and situational factors (Spiering & Everaerd, 2007) and results in positive or negative emotions. In the subsequent response generation stage, this meaning is integrated with response processes, which may lead to subjective sexual arousal and genital response (Janssen et al., 2000). Processing of nonsexual or emotionally negative meaning at the appraisal stage can lead to negative affect and low levels of subjective sexual arousal (Janssen et al., 2000). Because male-targeted SEM with its typical themes often has a negative meaning for women (e.g., Laan et al., 1994; Mosher & Maclan, 1994; Murnen & Stockton, 1997), women may show negative affect and low levels of subjective arousal in response to such content.

To further explain how sexual stimuli are given (negative) meaning, as well as how women's degree of hyperfemininity may influence this process, we more specifically use a theoretical framework by Dekker and colleagues that explains how sexual stimuli are related to knowledge in memory (Dekker et al., 1985; Dekker & Everaerd, 1988). According to this framework, sexual stimuli activate an associative network of propositions in memory by triggering two types of propositions: stimulus propositions and response propositions. Stimulus propositions include recipients' knowledge of the context in which a sexual response occurs (e.g., whether it occurs in a committed relationship). Response propositions include recipients' knowledge of the physical components of a sexual response (e.g., the experience of sexual arousal; Dekker & Everaerd, 1988).

When an individual attends to aspects of a sexual stimulus that match a proposition in the network, this proposition is activated (Dekker & Everaerd, 1988). This means that when one attends to the type of relationship between the characters in the sexual stimulus, information about types of sexual relationships will be activated in memory (i.e., a stimulus proposition). In contrast, when one attends to the sexual feelings in a sexual stimulus, associations with sexual arousal (i.e., a response proposition) are activated in memory. In the present study, attending to characters and situations in SEM is conceptualized as *stimulus-focused processing*, and attending to sexual responses in SEM is conceptualized as *response-focused processing*. Dekker and colleagues (1985) have shown that response-focused processing (i.e., directing attention toward one's own sexual feelings) results in greater subjective sexual arousal compared to stimulus-focused processing (i.e., focusing on the situation and events described in the story).

The notion that sexual stimuli can be processed in different ways, and that responses to such stimuli depend on whether one's processing is more stimulus or response focused, has also been supported by recent research (for a review see, de Jong, 2009). For instance, engaging in nonsexual and negative thoughts and taking an objective perspective has been shown to inhibit women's genital arousal in response to erotic film segments. In contrast, positive thoughts, fantasy, and a focus on own sexual sensations stimulate women's genital arousal (Beck & Baldwin, 1994). Similarly, women's sexual arousal to an erotic film clip has been found to be related to "imagining themselves as a participant" but not to "watching as an observer" (Janssen et al., 2003). Finally, Brauer, de Jong, Huijding, Laan, and ter Kuile (2009) showed that manipulating women's processing styles influences their responses to SEM: When women were asked to focus on the pain that an actress in an erotic film might experience, they responded with lower genital arousal and greater negative affect than when they were asked to focus on the actress's pleasure.

Previous research has mainly focused on women's processing style when explaining subjective sexual arousal. However, a focus on how sexual stimuli are processed may also explain critical responses to SEM and, more specifically, why hyperfeminine women may be less likely than nonhyperfeminine women to criticize male-targeted SEM. It can be expected that, if critical responses to male-targeted SEM are indeed the result of linking the material of the sexual stimulus to related associations in memory, the differences between hyperfeminine and nonhyperfeminine women should occur only when women engage in stimulus-focused processing. After all, cognitive associations related to sexual objectification of women and male dominance are more likely to be activated when focusing on the context, notably the sexual situation and characters in SEM (i.e., stimulus-focused processing). These cognitive associations are expected to be more negative for nonhyperfeminine women than for hyperfeminine women. Eventually these differences in information processing may lead to differences in critical responses to male-targeted SEM.

### The Present Study

This study was an experimental test of (1) whether critical responses to male-targeted SEM depend on women's hyperfemininity and (2) how the impact of hyperfemininity can be explained from an information-processing perspective. Specifically, we wanted to know whether an effect of hyperfemininity on critical responses to male-targeted SEM can be explained by women's processing of themes that refer to gender-role orientation in SEM (e.g., of sexual inequality and sexual objectification of women). We thus expected that an effect of hyperfemininity on critical responses to SEM would be evident when stimulus-focused processing, as opposed to response-focused processing, was induced, because only stimulus-focused processing style would activate information in memory that refers to gender-role orientation.

To address the goals of our study, it was logically necessary to show first that critical responses to male-targeted SEM occurred. Although not the focus of this study, we therefore hypothesized, in line with previous research on women's responses to male- versus female-targeted sexual material (Laan et al., 1994; Mosher & Maclan, 1994), that women would be more critical of male-targeted SEM compared to female-targeted SEM (hypothesis 1). Centrally, we investigated whether critical responses to male-targeted SEM depended on women's degree of hyperfemininity and whether this effect was the result of linking the sexual material to related associations in memory. We hypothesized that when stimulus-focused processing was induced, as opposed to response-focused processing, women would be more critical of male-targeted SEM (relative to female-targeted sexual material), but only when they had low degrees of hyperfemininity.

## Method

### Procedure and Participants

We conducted an online experiment with a 2 (type of erotic story: male- versus female-targeted)  $\times$  2 (Processing: stimulus- versus response-focused) factorial between-subjects design, using the survey software Qualtrics. We opted for an online experiment because of its benefits regarding the internal validity of research on sexuality, for instance by increasing participants' willingness to provide personal information (Mustanski, 2001). A sample of women between the ages of 18 and 30 was recruited from a large and diverse online panel managed by the Dutch market research institute PanelClix. We chose women of this age group because SEM is a prominent aspect of young adulthood culture (Carroll et al., 2008). Also, young women may differ from women of older age groups in their responses to sexual material given that emerging adulthood is a period of exploration in the areas of sexuality and romantic relationships (Arnett, 2006).

The study was approved by the ethical committee of the communication science department of the University of Amsterdam. Before the start of the online experiment, participants were notified that the study would be about sexuality and that it included an explicit description of a sexual situation. Participants were asked to make sure that they would not be disturbed during the experiment. They were assured that their answers would be treated anonymously and used for scientific purposes only and that they could stop their participation at any time. After participants had agreed to participate and had given informed consent (87% of the women that had initially shown interest in participating in the experiment), they were asked about their age, educational level, and ethnicity. Participants were then randomly placed in one of the four experimental conditions.

The manipulation of processing style was based on the study by Dekker and Everaerd (1988). Participants in the stimulus-focused conditions were given the following introduction:

You are going to read a short erotic story. We want to ask you to read this story in a specific way, by following these instructions: The story describes a sexual interaction between a man and a woman. While reading, focus your attention on the description of the characters and the situational context. Try to imagine the situation and the characters in the story.

Participants in the response-focused conditions were given the following introduction to the story:

You are going to read a short erotic story. We want to ask you to read this story in a specific way, by following these instructions: The story describes a sexual interaction between a man and a woman. While reading, focus your attention on the description of the sexual feelings and

experiences. Try to imagine this sexual interaction and the sexual feelings and experiences, and to feel them yourself.

The erotic stories were of equal length (328/330 words), were written in the third person, and both contained an explicit description of a sexual interaction between a heterosexual couple. The two stories were adjusted such that they were as similar as possible and differed only in male and female centeredness based on the criteria suggested by previous research: The female-targeted story focused on the sexual responses of the female character (Mosher & Maclan, 1994; Scott & Cortez, 2011) and had less genital focus and less focus on the intercourse itself (Laan et al., 1994; Mosher & Maclan, 1994). The sexual behavior was female initiated, the sexual partners had equal roles as far as sexual desire and sexual pleasure were concerned, and the main characters were attracted to each other and engaged in prolonged foreplay (Laan et al., 1994).

In the male-targeted story, the woman's body was described in more detail (Dekker & Everaerd, 1989). The sexual activity revolved largely around the man's genitals and explicitly showed that the man was dominant, with little attention for the woman's desires or gratification (Cowan & Dunn, 1994). Reciprocal genital foreplay was minimized, and the story quickly moved to coitus (Brosius et al., 1993). Fellatio was performed with the female in a subordinate posture, and only the male character experienced an orgasm, which involved ejaculation onto the woman's face (Brosius et al., 1993; Cowan et al., 1988). A pretest of the material among a different group of young women ( $N=21$ ) had shown that the female-targeted story was perceived as intended mostly for a female audience ( $M=6.70$ ,  $SD=.82$ ) and the male-targeted story was perceived as intended mostly for a male audience ( $M=1.55$ ,  $SD=.79$ ), on a scale from 1 (*Intended for a male audience*) to 10 (*Intended for a female audience*),  $t(19)=4.53$ ,  $p<.001$ .

After participants had read the story, a thought-listing procedure followed as a measure of critical responses to the erotic story. Then, participants filled out a questionnaire in which hyperfemininity was measured, among several other attitudinal measures unrelated to the research objective of the current study, as well as participants' sexual orientation. The online experiment ended with the opportunity to report any suspicion about the purpose of the experiment. None of the participants guessed the purpose of the study. Because we expected that lesbian women would respond differently to a description of a heterosexual interaction compared to heterosexual or bisexual women, we excluded women who indicated that they were predominantly or entirely attracted to women ( $N=4$ ) from our analyses. This resulted in a sample of 195 women aged 18 to 30 ( $M=22.3$ ,  $SD=3.33$ ). The majority of the sample consisted of higher educated women (17.4% had been

enrolled and 43.1 % was currently enrolled in college or university). In total, 91% were of Dutch ethnicity (i.e., the participant and both her parents were born in The Netherlands).

## Measures

*Hyperfemininity.* Six items were taken from the Hyperfemininity Scale (Murnen, 1998), a reliable and validated scale that measures the personality dimension of hyperfemininity. The original scale consists of 26 forced-choice items, such as "I sometimes promise to have sex with a man to make sure he stays interested in me" versus "I usually state my sexual intentions honestly and openly"; and "I feel anger when men whistle at me" versus "I feel a little flattered when men whistle at me." For each pair of items, participants had to choose the one that characterized them the most. The items of the Hyperfemininity Scale belong to three categories: (1) the importance of relationships with men, (2) the use of sex to gain or maintain a romantic relationship, and (3) the preference for traditional male behavior in partners (Murnen & Byrne, 1991). The scale was shortened by using two items of each category to make the measure less time-consuming and dominant in the questionnaire. Moreover, shorter scales are more suitable for online research (Stanton, Sinar, Balzer, & Smith, 2002) and reduce the likelihood of participant fatigue, response sets, and nonresponse. Because psychometric properties of the scale, such as factor loadings and item-total correlations, were not available in the literature, selection of items based on these scale properties was not possible. For each of the three categories, we therefore selected items that we considered to have high face validity.

Each hyperfeminine choice was coded as 1 and each nonhyperfeminine choice was coded as 0. The sum of the hyperfeminine choices indicated a respondent's level of hyperfemininity. The two items measuring the importance of relationships with men were removed because of low factor loadings in an exploratory factor analysis ( $<.40$ ). The hyperfeminine choices of the remaining four items of our scale were "I sometimes act sexy to get my way with men"; "I have agreed to have sex with a man to make sure he stays interested in me"; "I expect a man to pay for me on a date"; and "I feel flattered when men whistle at me." The items loaded on one factor, with factor loadings ranging from .48 to .68 and an explained variance of 36%. Cronbach's alpha was .39. However, it has been well documented in the literature that Cronbach's alpha is often heavily underestimated when dichotomous items are used (Sijtsma, 2009; Sun et al., 2007). Accordingly, previous studies have also reported low alphas for this scale (Kreiger & Dumka, 2006; Nowatzki & Morry, 2009). As a remedy to this problem, statisticians have recommended calculating the upper bound estimate of Cronbach's alpha (Sun et al., 2007). For our scale, this

recalculation elicited an acceptable upper-bound estimate of .81.

To analyze the effect of hyperfemininity in a three-way interaction with the factors type of story and processing style, we divided the sample into groups, which is the standard procedure in current research on hyperfemininity (Field, Kolbert, Crothers, Kanyongo, & Albright, 2011; Maybach & Gold, 1994; McKelvie & Gold, 1994; Schoeneberger, Logan, & Leukefeld, 1999). Dividing the sample into low and high hyperfemininity by a median split resulted in a high-hyperfemininity group in which the majority was just as likely to give hyperfeminine as nonhyperfeminine answers. To obtain a more uniform high-hyperfemininity group, we divided the sample into three groups, based on the amount of hyperfeminine answers. In all, 95 participants were classified as low hyperfeminine (i.e., 0–1 hyperfeminine answers), 62 participants were classified as moderate hyperfeminine (i.e., equal number of hyperfeminine and nonhyperfeminine answers), and 38 were classified as highly hyperfeminine (i.e., 3–4 hyperfeminine answers). Dividing women in three groups based on their degree of hyperfemininity has successfully been done in previous research (e.g., Field et al., 2011). The difference in hyperfemininity between the three groups was significant,  $F(2, 192) = 675.13$ ,  $p < .001$ . The low-hyperfeminine group ( $M = .63$ ,  $SD = .48$ ) was significantly less hyperfeminine compared to the moderate-hyperfeminine group ( $M = 2.00$ ,  $SD = .00$ ,  $p < .001$ ); and the moderate-hyperfeminine group was significantly less hyperfeminine compared to the high-hyperfeminine group ( $M = 3.16$ ,  $SD = .37$ ,  $p < .001$ ).

*Critical responses to SEM.* Critical responses to SEM were measured using a thought-listing procedure, which has often been used as a measure of counterarguing toward persuasive messages (Tormala, Briñol, & Petty, 2006). Participants were asked to recall five thoughts they had had about the erotic story while reading it and type out each thought on a separate screen. We opted for the obliged listing of five thoughts because we wanted each participant to provide a sufficient number of thoughts to be analyzed. Once the listing was completed, the five thoughts successively reappeared on the screen. Participants were asked to indicate for each thought whether the thought was positive, negative, or neutral by pressing the key that belonged to each of these options. This self-report measure of thought valence increased the validity of the measure. Typical positive responses that participants wrote down were “arousing,” “sensual,” and “sexy.” Typical negative responses were “dirty,” “cheap,” and “rude.” We composed a score for women’s critical responses to SEM by subtracting the positive thoughts from the negative thoughts, and dividing this number by 5 (see Tormala et al., 2006).

Positive values indicated a greater proportion of negative relative to positive thoughts, thus a higher level of

critical responses to SEM. Negative values indicated a greater proportion of positive relative to negative thoughts, thus a lower level of critical responses to SEM. The scores ranged from  $-1$  (i.e., no negative thoughts occurred) to  $1$  (i.e., only negative thoughts occurred), with a mean of  $-.16$  ( $SD = .65$ ). Shapiro-Wilk’s test showed that the measure was not normally distributed,  $p < .001$ . However, on inspection of the normality plot, this lack of normality was due to increased scores at both ends of the distribution. The distribution was thus not skewed (skewness was  $.16$ ; kurtosis was  $-1.15$ ). Because the scale was based on a relative score, rather than the sum or mean of items, it was difficult to calculate reliability and factor loadings for this scale. However, we did run a factor analyses with varimax rotation on the positive and negative thought scores, which indicated that positive and negative thoughts loaded on two different factors (explained variance: 48.76%). Reliability was good for “negative thoughts” ( $\alpha = .80$ ) as well as for “positive thoughts” ( $\alpha = .87$ ). The validity of the measure was indicated by its negative relationship with other measures in the questionnaire, such as subjective sexual arousal ( $r = -.59$ ,  $p < .001$ ) and involvement in the story ( $r = -.63$ ,  $p < .001$ ).

## Results

### Randomization Check

Participants in the four conditions did not differ in age (all  $ps > .82$ ), Dutch ethnicity (all  $ps > .14$ ), educational level (all  $ps > .54$ ), or on the moderator variable, hyperfemininity ( $p > .35$ ).

### Manipulation Check

As a manipulation check of male versus female centeredness of the sexual material, we asked participants to indicate for what type of audience the erotic story was written, on a scale from  $-10$  (*Mostly for men*) to  $10$  (*Mostly for women*). A one-way ANOVA showed that the participants thought that the female-targeted story was intended for a female audience ( $M = 2.09$ ,  $SD = 4.06$ ) and that the male-targeted story was intended for a male audience ( $M = -3.41$ ,  $SD = 3.78$ ),  $F(1, 197) = 97.47$ ,  $p < .001$ .

To see whether stimulus-focused processing was successfully manipulated, we asked participants to indicate to what extent their attention was focused on the situation and characters in the story, on a scale from  $1$  (*Not at all*) to  $5$  (*A lot*). We expected that participants in the stimulus-focused condition would report more attention toward the situation and characters in the story compared to participants in the response-focused condition. A one-way ANOVA, controlling for type of story, showed that participants in the stimulus-focused condition were

focused more on the situation and characters in the story ( $M=3.09$ ,  $SD=.97$ ) compared to participants in the response-focused condition ( $M=2.88$ ,  $SD=.95$ ),  $F(1, 192)=2.88$ ,  $p<.05$  (one-tailed).

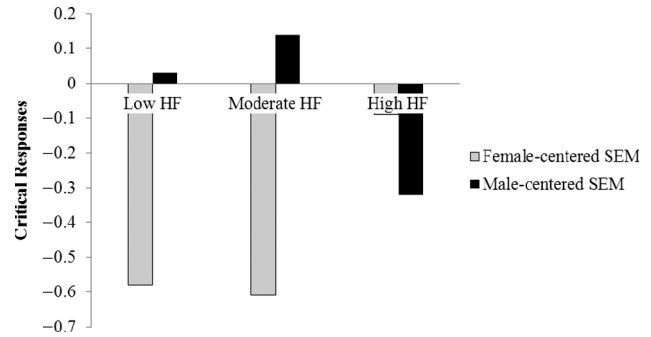
**Effects on Critical Responses to SEM**

Hypothesis 1 predicted that women would be more critical of male-targeted SEM than of female-targeted SEM. Hypothesis 2 predicted that when stimulus-focused processing was induced, women would be more critical of male-targeted SEM (relative to female-targeted sexual material), but only when they had low degrees of hyperfemininity. To test the hypotheses, we ran a three-way ANOVA with type of erotic story (male versus female targeted), processing style (stimulus versus response focused), and hyperfemininity (low, moderate, and high) as the between-subjects factors, and critical responses to the story as the dependent variable. We controlled for age, as this variable may influence critical responses to SEM. We first analyzed the design with the main effects only, which resulted in a main effect for type of story,  $F(1, 189)=30.24$ ,  $p<.001$ . In line with hypothesis 1, the male-targeted story elicited more critical responses ( $M=.06$ ,  $SD=.64$ ) compared to the female-targeted story ( $M=-.39$ ,  $SD=.59$ ).

To test hypothesis 2, we subsequently added the three-way interaction between type of erotic story (male versus female targeted), processing style (stimulus versus response focused), and hyperfemininity (low, moderate, and high) to the design. Means and standard deviations of the three-way interaction between processing style, type of story, and hyperfemininity on criticism can be found in Table 1. The three-way interaction was significant,  $F(2, 182)=4.47$ ,  $p=.01$ , indicating that, depending on the type of processing style, women’s degree of hyperfemininity influenced the effect of type of erotic story on critical responses to SEM.

**Table 1.** Means and Standard Deviations of the Three-Way Interaction Between Processing Style, Type of Story, and Hyperfemininity on Critical Responses to Sexually Explicit Material

Material	Stimulus-Focused Processing			Response-Focused Processing		
	M	SD	n	M	SD	n
Low hyperfemininity						
Female-targeted story	-.58	.52	24	-.19	.67	28
Male-targeted story	.03	.66	22	.33	.60	21
Moderate hyperfemininity						
Female-targeted story	-.61	.51	15	-.36	.48	14
Male-targeted story	.14	.72	17	-.11	.56	16
High hyperfemininity						
Female-targeted story	-.09	.76	7	-.44	.41	10
Male-targeted story	-.32	.54	13	.30	.52	8



**Figure 1.** Mean level of critical responses to sexually explicit material (SEM) by hyperfemininity (HF) and type of SEM (female versus male centered) when stimulus-focused processing is induced.

To test the specific prediction made in hypothesis 2, we looked at the influence of hyperfemininity on the effect of type of erotic story on critical responses to SEM for the stimulus-focused processing condition only. We ran an ANOVA with the interaction between hyperfemininity and type of erotic story, controlling for age, which was significant,  $F(2, 91)=4.16$ ,  $p=.02$  (see Figure 1). Pairwise comparisons showed that low-hyperfeminine women were more critical toward the male-targeted story ( $M=.03$ ,  $SD=.66$ ) than the female-targeted story ( $M=-.58$ ,  $SD=.52$ ),  $F(1, 91)=11.68$ ,  $p=.001$ . Women with moderate degrees of hyperfemininity also were more critical toward the male-targeted story ( $M=.14$ ,  $SD=.72$ ) than the female-targeted story ( $M=-.61$ ,  $SD=.51$ ),  $F(1, 91)=11.86$ ,  $p=.001$ . Women high in hyperfemininity, however, were less critical toward the male-targeted story ( $M=-.32$ ,  $SD=.54$ ) than the female-targeted story ( $M=-.09$ ,  $SD=.76$ ), but this difference was not significant,  $F(1, 91)=.66$ ,  $p=.42$ . Our results thus supported hypothesis 2, which stated that when a stimulus-focused processing style is induced, women would be more critical of male-targeted SEM (relative to female-targeted sexual material), but only when they had low degrees of hyperfemininity.

To make sure that the influence of hyperfemininity depended on stimulus-focused processing, we also analyzed the interaction effect of type of story and hyperfemininity in the response-focused condition. This interaction was not significant,  $F(2, 90)=1.14$ ,  $p=.32$ .

**Discussion**

The present study investigated whether individual differences in women’s gender-role orientation (i.e., hyperfemininity) affect their critical responses to male-targeted SEM. Further, we tried to demonstrate that the impact of hyperfemininity on critical responses to SEM can be explained by women’s processing of the themes in SEM that refer to gender-role orientation (e.g., of sexual inequality and subordination of women). We found that women with low or moderate degrees of hyperfemininity



who engaged in stimulus-focused processing (i.e., attending to the characters and situations in SEM) were more critical of male-targeted sexual material, compared to female-targeted sexual material. In contrast, women with high levels of hyperfemininity who engaged in stimulus-focused processing did not differ in their critical responses to male-targeted SEM and female-targeted SEM. The results also showed that critical responses to male-targeted SEM did not depend on women's degree of hyperfemininity when response-focused processing was induced.

Our results support the idea that the influence of hyperfemininity on critical responses to SEM is explained by stimulus-focused processing: When engaging in stimulus-focused processing, particular associations with the material of male-targeted SEM (e.g., sexual objectification of women, male dominance) are activated in women's memory. The activation of these particular associations results in more critical thoughts about the material when this association is negative, as is the case for women with low or moderate degrees of hyperfemininity, but not for women high in hyperfemininity.

### Implications for Research on SEM

There is a growing awareness that individual differences need to be taken into account as moderators of the influence of SEM in order to understand better which people are susceptible to the influence of such material and, equally important, which people are not (Kingston et al., 2009; Malamuth et al., 2000; Valkenburg & Peter, 2013). To date, such notions have predominantly been implemented in research on the effects of SEM on men, particularly with regard to sexual aggression (Malamuth et al., 2000; Malamuth, Hald, & Koss, 2012). The present study showed that individual differences should also be taken into account when studying women's responses to SEM, and especially when studying critical responses to such material.

Given the parallels between the beliefs endorsed by hyperfeminine women and the gender roles portrayed in (male-targeted) SEM, hyperfemininity seems to be an important individual characteristic to be taken into account when investigating the effects of SEM on women. In research on the impact of SEM on men, men's adherence to sexual beliefs related to hostile masculinity and impersonal sex has consistently been shown to moderate the effects of such material (Kingston et al., 2009; Malamuth et al., 2000; Malamuth et al., 2012). In the same way in which such research has helped us achieve a more nuanced understanding of the effects of violent SEM on men, our study may be a first step toward a better grasp of women's responses to SEM.

At least in more popular accounts of the issue (e.g., Paul, 2005), women are often depicted as generally critical of male-targeted SEM. Our study shows that this is true for women with low and moderate degrees of

hyperfemininity but does not hold for hyperfeminine women. In fact, hyperfeminine women were generally uncritical toward male-targeted SEM. In this context, it seems paramount to study whether hyperfeminine women may possibly be influenced more strongly by male-targeted SEM than is commonly assumed. If, for example, it can be demonstrated that male-targeted SEM reinforces hyperfeminine women's sexual beliefs (e.g., of male dominance and female objectification), we have evidence that we may have overlooked a particular group of individuals affected by such material.

The present findings also add to our knowledge about how the processing of SEM affects responses to this material. Previous research has mainly focused on explaining responses such as subjective sexual arousal by response-focused processing (Dekker et al., 1985; Dekker & Everaerd, 1988, 1989). The present study showed that type of processing can also explain other responses, in this case critical responses to sexual material. Interestingly, our findings also suggest that critical responses to male-targeted SEM are not primarily based on the sexual responses and feelings depicted in this material. Two implications are noteworthy. First, the finding that the effects on critical responses to SEM occurred only in the stimulus-focused processing condition points to the possibility that nonhyperfeminine women may accept the fact that sex is portrayed in male-targeted SEM but not *how* it is depicted, in terms of the relations between the characters and the particular situation (e.g., scenery and plot). This discrepancy deserves attention in the discussion of one of the most intriguing findings in research on women's responses to male-targeted SEM—namely, that women do get aroused physically by such material but that their subjective sexual arousal and pleasure are low (Allen et al., 2007; Laan et al., 1994). Second, the role of stimulus-focused processing is relevant to future research on responses to sexual material, especially with regard to media literacy interventions. For instance, when teaching (hyperfeminine) girls and women skills to become more critical of stereotypical and misogynic types of SEM, it may be necessary to also induce a stimulus-focused processing style for the intervention to be effective.

Furthermore, while previous research has shown that women respond negatively toward sexually explicit film fragments (e.g., Laan et al., 1994; Mosher & Maclan, 1994), the current study shows that critical responses also occur for sexually explicit stories. This finding may be particularly relevant because erotic narratives are a common medium of SEM for women (Malamuth, 1996). Because the stereotypical themes that elicit critical responses for nonhyperfeminine women occur in both sexually explicit films and stories, the type and direction of our effects are unlikely to differ between these types of media. We cannot preclude, however, that the size of effects may vary between sexually explicit films and stories. We therefore recommend future researchers to systematically test differences between films and stories

when investigating women's critical responses to SEM. Moreover, the stimuli we used were rather short. Future research should investigate whether the effects also hold for longer stories.

### Limitations

Several limitations should be considered when interpreting our findings. First, the level of critical responses to SEM was rather low in our study. Although low and moderately hyperfeminine women showed more negative than positive thoughts toward the male-targeted story, the effect seemed to have been mostly due to the high degree of positive thoughts relative to negative thoughts about the female-targeted story. Thus, critical responses to SEM in this case means that women were not positive, rather than really negative, about the male-targeted story.

A second limitation concerns the well-known problem of demand characteristics in experimental research. Compared with real-life situations, women may be more inclined to criticize SEM just because they know that they are participating in an experiment and may think that they are expected to be critical of such material. The experimental setting was necessary to be able to draw causal inferences about the effect of different types of SEM and to manipulate the processing styles. However, replication of our findings in more naturalistic settings with more externally valid methods seems necessary before we can generalize our findings.

A final shortcoming in our study relates to our hyperfemininity measure. Three aspects need attention. First, the reliability of our hyperfemininity scale was low due to the dichotomous items used. In line with recent statistical approaches to the issue (Sun et al., 2007), we tried to alleviate this problem by calculating the upper-bound alpha, which eventually indicated a good reliability of our scale. In addition, our use of a reduced number of items from the Hyperfemininity Scale may have compromised the validity of the measurement of hyperfemininity. However, as Maybach and Gold (1994) have argued, differential effects for the three hyperfemininity groups that are in line with the predictions can be seen as a way of demonstrating the construct validity of hyperfemininity.

Second, the distribution of hyperfemininity in our sample was skewed, which resulted in unequal sizes of the low, moderate, and high hyperfemininity groups. We could have attained equal groups if we had preselected women on the basis of their hyperfemininity score, which would have probably led to stronger effects of hyperfemininity. However, we chose to measure hyperfemininity, instead of using a preselection, to reduce priming effects of such a hyperfemininity screening. Moreover, from a statistical perspective our skewed distribution may have led to an underestimation of the effects found.

Third, our final hyperfemininity scale consisted of four items that measured only the "use of physical attributes and sexuality to attract men" and the "male

dominance" aspects, while the "importance of having a relationship with a man" aspect was not captured. As a result, some caution is warranted in comparing our results with other studies on hyperfemininity (e.g., McKelvie & Gold, 1994; Murnen & Byrne, 1991; Nowatzki & Morry, 2009).

### Conclusion

Women's critical responses to SEM have previously been explained by the specific type of material (male versus female targeted) and the linking of such material to preexisting beliefs (Laan et al., 1994; Mosher & Maclan, 1994). The present study expanded on this research by showing that critical responses to SEM depend on women's degree of hyperfemininity and are based on stimulus-focused processing of SEM. Our findings show that it is important to take into account both individual differences and specific processing of SEM to achieve a more thorough understanding of women's responses to such material.

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