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From Sex Objects to Human Beings: Masking Sexual Body Parts and Humanization as Moderators to Women's Objectification

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Abstract

Recent studies have shown that sexualized female bodies are objectified at a cognitive level. Research using the body-inversion recognition task, a robust indicator of configural (vs. analytic processing) within cognitive psychology, shows that for sexualized female bodies, people recognize upright and inverted bodies similarly rather than recognizing upright bodies better than inverted bodies (i.e., an inversion effect). This finding suggests that sexualized female bodies, like objects, are recognized analytically (rather than configurally). Nonetheless, it remains unclear when and why sexualized female bodies are objectified at a basic cognitive level. Grounded in objectification theory, the present experiments examine moderating factors that may prompt more configural processing (i.e., produce an inversion effect) and less objectification of sexualized female bodies. Replicating previous research, sexualized male bodies elicited more configural processing and less objectification compared to sexualized female bodies. We then examined whether reducing the salience of sexual body parts (Experiments 2a and 2b) and adding humanizing information about the targets (Experiment 3) causes perceivers to recognize female bodies more configurally, reducing the cognitive objectification of women. Implications for sexual objectification theory and research, as well as the role of humanizing often-dehumanized sexy women, are discussed. *Additional online materials for this article are available to PWQ subscribers on PWQ's website at http://pwq.sagepub.com/supplemental.*

Keywords

body image, objectification, social perception, body recognition, cognitive processes

Objectification theory (Fredrickson & Roberts, 1997) argues that women in Western cultures are often sexually objectified in the media and interpersonal interactions as well as reduced to a body, or body parts, available for satisfying the sexual needs and desires of other people (rather than a person with thoughts, feelings, desires, and needs; Bartky, 1990). One manifestation of this narrow focus on women's body parts is that people recognize the bodies of sexualized women (vs. men) in piecemeal, analytic ways at a basic cognitive level (Bernard, Gervais, Allen, Campomizzi, & Klein, 2012; Gervais, Vescio, Maass, Förster, & Suitner, 2012). The aim of the present article is to identify two moderating factors that may counteract the analytic processing and objectification of sexualized female bodies—namely, reducing the salience of sexual body parts and enhancing targets' humanization.

Objectification and Social Perception

Women are frequently sexually objectified in their daily lives (Swim, Hyers, Cohen, & Ferguson, 2001). The objectifying gaze, one manifestation of sexual objectification, occurs when a person's body is visually inspected and reduced to its body parts, leading the objectified target to experience sinful feelings (Chen, Teng, & Zhang, 2013), to perform more poorly on cognitive tasks (Gay & Castano, 2010; Gervais, Vescio, & Allen, 2011), and to narrow their presence during social interactions (Saguy, Quinn, Dovidio, & Pratto, 2010). Moreover, sexual objectification is widespread in the visual media. For instance, content analyses of print advertisements document that women are portrayed as sex objects in approximately half of magazine advertisements (Lindner, 2004;

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Stankiewicz & Roselli, 2008), especially in women's fashion magazines (e.g., *Glamour*) and magazines aimed at men (e.g., *Maxim*; Baker, 2005; Stankiewicz & Roselli, 2008). Given the prevalence of objectifying images in the visual media (Reichert & Carpenter, 2004) as well as the undesirable consequences on women's mental health (Moradi & Huang, 2008) and on men's attitudes and behaviors toward women (Lanis & Covell, 1995; Rudman & Borgida, 1995), this research area has attracted increasing interest.

Note that most of the objectification studies we will review show that the effects of objectification mostly affect perceptions of female targets (for exceptions, see Gray, Knobe, Sheskin, Bloom, & Barrett, 2011; Loughnan et al., 2010). When viewing female sexualized bodies, for example, people evaluate targets as having less intelligence and fewer mental states, such as intentions (Gurung & Chrouser, 2007; Loughnan et al., 2010). These targets are further categorized as objects rather than as agents (Cikara, Eberhardt, & Fiske, 2010), and people are more likely to associate sexually objectified female targets with animal, rather than human, concepts (Vaes, Paladino, & Puvia, 2011). This dehumanized social perception may have detrimental consequences on attitudes and behaviors toward women, including sexual coercion, assault, and violence (Gervais, DiLillo, & McChargue, 2014; Rudman & Mescher, 2012) as well as victim-blaming (Loughnan, Pina, Vasquez, & Puvia, 2013).

In contrast to these studies documenting the dehumanizing effect of objectification, a recent line of research has focused on the cognitive underpinnings of sexual objectification. Consistent with objectification theory, which posits that women's bodies are reduced to their body parts when sexually objectified, a recent study showed that people recognized sexualized female (vs. male) bodies in piecemeal ways at a basic cognitive level (Bernard et al., 2012; Gervais, Vescio, Maass, et al., 2012; Gervais, Bernard, Allen, & Klein, 2013; Heflick & Goldenberg, 2014). In the next section, we further explain differences between analytic (vs. configural) processing and how analytic processing can be conceptualized as a cognitive manifestation of sexual objectification.

Body Recognition and Sexual Objectification

Extensive research from cognitive psychology suggests that when perceivers view female and male bodies, they may rely on one of two types of processing: configural and analytic (Maurer, Le Grand, & Mondloch, 2002). Configural processing is related to a global, holistic perception of bodies. Generally speaking, this refers to a type of recognition that depends on perceiving spatial relations among the parts of a stimulus. Configural processing is involved in person-recognition (e.g., human face and human body-posture recognition). For instance, people can more accurately identify a previously seen part of the face (e.g., a previously seen nose among two noses) when the part is presented in the context of a whole face rather than in isolation (Seitz, 2002; Tanaka & Farah, 1993). Importantly, the same pattern of results emerges for the recognition of body postures (Seitz, 2002; see also Reed, Stone, Bozova, & Tanaka, 2003; Reed, Stone, Grubb, & McGoldrick, 2006). In contrast, analytic processing is related to focusing on the local, piecemeal (rather than global) features of the stimulus. This type of processing does not require appraising spatial relations among the stimulus parts and is typically involved in object recognition (Reed et al., 2006; Seitz, 2002; Tanaka & Farah, 1993). For example, people can identify a previously seen part of an object (e.g., a previously seen door) similarly when the part is presented within a whole object (e.g., a house) or in isolation (e.g., the door only; for reviews, see de Gelder et al., 2010; Maurer et al., 2002; Rossion & Gauthier, 2002).

Importantly, the body-inversion paradigm has proven to be a robust indicator of configural versus analytic processing (Reed et al., 2003, 2006; Yin, 1969). An *inversion effect* occurs when recognition performance (e.g., identifying a correct stimulus among two stimuli after having seen one stimulus) is poorer for inverted (upside down) stimuli than upright ones. The premise of this paradigm is that inversion disrupts configural, but not analytic, processing. Inverted objects are recognized as well as upright objects because object recognition requires people to focus on the isolated parts—not on spatial relationships among the parts. In contrast, inverted bodies and faces are recognized less well than upright ones because recognition of human bodies and faces typically requires people to focus not only on the parts but also on the relations among the parts (i.e., configural processing). As a result, we utilized this paradigm in the present set of experiments to examine when sexualized female bodies will be objectified at a cognitive level, that is, when they are literally reduced to their body parts and recognized in analytic, rather than configural, ways.

Integrating cognitive research on analytic and configural processing with the premise offered by objectification theory (Fredrickson & Roberts, 1997) that women are reduced to their sexual body parts when objectified, Bernard et al. (2012) asked men and women to complete the body-inversion paradigm of sexualized male and female bodies. For each trial, a picture of a sexualized male or female body was viewed and then two pictures were presented in a recognition task. One of them was the picture first viewed, and the second was a distractor. During the recognition task, participants viewed pictures in either upright or inverted positions and identified the picture previously viewed. Bernard et al. found an inversion effect (i.e., better recognition for upright than inverted pictures) for male—but not for female—bodies. Their results suggest that analytic processing was triggered when perceiving sexualized female bodies, whereas configural processing was triggered for sexualized male bodies (Bernard et al., 2012; see Kostic, 2013, for a direct replication of Bernard et al.'s findings, as well as Gervais, Vescio, Maass, et al., 2012, for similar findings with a different paradigm). In other words, consistent with the premises of objectification theory, sexualized women were reduced to their

body parts at a basic cognitive level and sexualized men were not.

Despite these intriguing findings, it remains unclear why women were recognized analytically and if there are factors that might moderate this effect. To be clear, analytic processing of women's bodies (i.e., the absence of a body-inversion effect with upright and inverted bodies recognized similarly) is not completely interchangeable with objectification. Indeed, factors such as the plausibility of body positions (Reed et al., 2003) or holistic template information (Reed et al., 2006) have been shown to be important moderators of the inversion effect. Nonetheless, in the context of body recognition, the reduced amplitude or the absence of an inversion effect for sexualized women can be considered as a cognitive manifestation of objectification—that is, what scholars have called "reduction to body parts" (Bartky, 1990; Fredrickson & Roberts, 1997; Langton, 2009).

Our article aims to explore what factors might be involved in the cognitive objectification of sexualized women. Given that perceiving such images is associated with a focus on body parts (Gervais, Vescio, Maass, et al., 2012) and with dehumanized perceptions (Vaes et al., 2011), our article will examine how these two target features contribute to the cognitive objectification of sexualized women in the perceivers' mind.

Focusing on Body Parts. Based on objectification theory (Fredrickson & Roberts, 1997), one explanation for the analytic processing and objectification of sexualized female bodies is closely linked to a focus on women's sexual body parts (see Bartky, 1990; Langton, 2009). In other words, if women's sexual body parts are made less salient, then objectification should be tempered so that sexualized female bodies are perceived more configurally. Although not directly tested in previous research, this hypothesis is consistent with several recent objectification studies. For example, mental state attribution depends on the visibility of women's body parts; fewer mental states were attributed to women when only bodies were shown than when women's bodies and faces or their faces only were shown (Loughnan et al., 2010). Similarly, eye-tracking technology reveals that people dwelled longer and fixated faster on the sexual body parts of women with hourglass-shaped figures (i.e., larger breasts and slimmer waists), particularly when they were focused on appearance (vs. personality; Gervais, Holland, & Dodd, 2013). Further, when analytic processing is interrupted by asking people to broaden their perspective using Navon-like tasks (e.g., seeing big letters [an L] composed of small letters [h's] and being instructed to focus on the big letters), people recognize women's entire bodies better and sexual body parts worse (Gervais, Vescio, Maass, et al., 2012).

If the objectification and analytic processing of sexualized female bodies is driven by a focus on sexual body parts, as we suggest, then interfering with people's capacity to focus on women's sexual body parts (i.e., masking them) should lead people to appraise them more configurally, producing the classic inversion effect. Because sexualized male bodies are perceived configurally and not analytically, body-part salience should not affect the expected inversion effect for male bodies. Additionally, if cognitive objectification and analytic processing of female bodies is driven by a *specific* focus on sexual body parts, masking sexual body parts should lead to configural processing of female bodies (i.e., the classic inversion effect), whereas such an effect should not emerge when masking non-sexual body parts. We examined these possibilities in Experiments 2a and 2b.

Dehumanized Perceptions. Another way to reduce the salience of women's sexual body parts in the minds of perceivers is to contextualize women's appearance around humanizing features that emphasize their internal mental states (e.g., intelligence and friendliness) rather than external physical features. Specifically, we hypothesize that providing information regarding sexualized female targets' warmth and competence—two primary dimensions of human judgment (Fiske, Cuddy, Glick, & Xu, 2002; Harris & Fiske, 2006)—may suppress the analytic processing and the objectification of sexualized female bodies. In other words, providing humanizing information about sexualized women should shift attention from their external physical appearance characteristics (such as sexual body parts) to their internal humanizing characteristics, thus prompting configural processing of women's bodies.

Supporting evidence for our hypothesis comes from an alternative interpretation of the appearance-focus literature within objectification research (Heflick & Goldenberg, 2009; Heflick, Goldenberg, Cooper, & Puvia, 2011). Perceivers may humanize targets by focusing on warmth and competence as another possible way to counteract objectification, given that focusing on a woman's appearance leads to less perceived warmth and competence than focusing on her personhood. In their work, Heflick and Goldenberg (2009) showed that when people were instructed to think about the personhood of a woman, they attributed more competence, human-nature traits (i.e., distinguishing humans from objects: Loughnan & Haslam, 2007), and morality and warmth (Heflick et al., 2011) than when participants were instructed to focus on the woman's physical appearance. Consistent with objectification theory (Fredrickson & Roberts, 1997), personhood-focus (vs. appearance-focus) affected social perception of female, but not male, targets. Moreover, highlighting women's academic or physical competence is likely to decrease perceived objectification and to increase perceived capability (Johnson & Gurung, 2011). Additionally, personhood-focus (vs. appearance-focus) also causes people to dwell longer on faces and less on the sexual body parts of women (Gervais et al., 2013). Finally, although neuroimaging studies showed that targets perceived as lacking both warmth and competence are processed similarly to objects at a neural level (Harris & Fiske, 2006), providing individuating information counteracted the dehumanization of the often-dehumanized social targets such as homeless people

and drug addicts (Harris & Fiske, 2007). We thus suggest that humanization—providing information regarding targets' internal characteristics including their warmth and competence—will draw attention away from women's sexual body parts, which should cause people to process sexualized female bodies more configurally and to objectify them less. Complementing Experiments 2a and 2b, we directly tested this possibility in Experiment 3.

Overview and Hypotheses

Experiment 1 aimed to replicate Bernard et al. (2012) so that we expect to find less configural processing and more objectification of sexualized female (vs. male) bodies. We then turned to two target features that may trigger more configural processing and less objectification of sexualized female bodies: focusing on sexual body parts and targets' humanization. We expect that reducing the focus on (i.e., masking) sexual body parts (Experiments 2a and 2b) and providing humanizing information regarding sexualized female targets (Experiment 3) will prompt configural processing and temper the objectification of sexualized female bodies.

Importantly, previous investigations using the body-inversion paradigm have found consistent evidence of configural processing with better recognition performance for upright bodies compared to inverted bodies. In contrast, the same studies found mixed findings regarding reaction times (Reed et al., 2003, 2006; Yovel, Pelc, & Lubetsky, 2010). Consequently, we focused on recognition performance as an indicator of analytic (vs. configural) processing and objectification. However, as a secondary purpose, we also systematically examined reaction times associated with the body-inversion task and investigated whether a speed-accuracy bias (due to target sex and/or induced by our experimental manipulation) occurred.

Experiment 1: Body Inversion

Given that only a handful of studies have shown that sexualized female bodies are recognized analytically, with upright and inverted women recognized equally well by default (i.e., when no target or perceiver factors are introduced; Bernard et al., 2012; Kostic, 2013), Experiment 1 aimed to replicate these findings. Relying on the inversion effect as an indicator of analytic versus configural processing, we expected to replicate the interaction between target gender and upright versus inverted presentation observed in Bernard et al. (2012), with a stronger inversion effect (i.e., worse performance for inverted compared to upright images) for male bodies than for female bodies.

Method

Participants

Twenty-one undergraduate students (10 women) were recruited on a university campus and participated in the experiment in exchange for €5. The sample was mostly Belgian (86%). Previous research shows that the effect size was moderate for a within-subjects design; thus, a sample size of 20 yielded enough power to detect significant effects (Reed et al., 2003, 2006; Yovel et al., 2010).

Consistent with prior research (Reed et al., 2003), we excluded outliers based on overall recognition scores and overall reaction times in each experiment before we conducted any analyses. We relied on a priori absolute deviation around the median (MAD) analysis in order to detect potential outliers instead of observing the "± 3 standard deviations" rule. Indeed, the MAD analysis is the more robust analysis to detect outliers, and this method is not influenced by either sample size or the value of the mean (Leys, Ley, Klein, Bernard, & Licata, 2013). Note that we opted for a very conservative MAD threshold (i.e., $\pm$ 3 *MAD*s). Consequently, one woman was eliminated due to her abnormally low recognition scores (-3 *MAD*s below the median). Thus, the present statistical analyses were conducted based on 20 participants (9 women).

Procedure and Materials

At the beginning of the recognition task, participants read the same instructions as in Bernard et al. (2012):

> We are going to show you a series of female and male bodies' pictures. Next, you will see an image of a person for a brief moment. This person will be either presented in a "normal" position (upright) or in an inverted position (upside down). Then, two images will be presented. One of these images will be the person that you first saw. The other image will be a mirror image of the same person. Then, you will have to indicate which picture you first saw by pressing key "K" (if the correct image is the right one) or "D" (if the correct image is the left one).

Pictures of sexualized male and female bodies were randomly presented in upright and inverted positions using the same procedure as Bernard et al. (2012) but with one exception. In Bernard et al., half the male and female targets (12 male and 12 female bodies) were presented upright and the other half of the stimuli were presented in an inverted position (i.e., 48 trials). In the present work, participants saw all of Bernard et al.'s pictures (see online supplement) in *both* upright and inverted positions (i.e., 96 trials). In this way, any observed differences in recognition performance between upright versus inverted pictures could be solely attributed to inversion per se rather than potential other differences between stimuli in the upright and inverted sets of pictures. Recognition performance (i.e., correctly identified images) and reaction times (in milliseconds) were recorded for each stimulus, leading to aggregated recognition performance scores and reaction times for all four picture categories (upright female bodies, inverted female bodies, upright male bodies, and inverted male bodies). Configural processing occurs when recognition scores are better for upright compared to inverted stimuli (i.e., classic inversion

Table 1. Recognition Performance as a Function of Target Sex and Picture Position in Experiments 1–3.

Stimuli	1 (Upright) *M* (*SE*)	2 (Inverted) *M* (*SE*)
(a) Experiment 1		
Upright (1) vs. inverted male bodies (2)	$.84_a$ (.02)	$.70_b$ (.03)
Upright (1) vs. inverted female bodies (2)	$.89_a$ (.02)	$.83_b$ (.03)
(b) Experiment 2a		
Upright (1) vs. inverted male bodies (2)	$.83_a$ (.03)	$.71_b$ (.03)
Upright (1) vs. inverted female bodies (2)	$.91_a$ (.02)	$.82_b$ (.04)
(c) Experiment 2b		
Upright (1) vs. inverted female bodies (2) with pixelated non-sexual body parts	$.83_a$ (.05)	$.83_a$ (.04)
Upright (1) vs. inverted female bodies (2) with pixelated sexual body parts	$.93_a$ (.01)	$.82_b$ (.03)
(d) Experiment 3		
Upright (1) vs. inverted female bodies (2) in the neutral condition	$.88_a$ (.02)	$.86_a$ (.02)
Upright (1) vs. inverted female bodies (2) in the humanization condition	$.91_a$ (.01)	$.81_b$ (.02)
(e) Experiments 1–3		
Upright (1) vs. inverted female bodies (2) in the objectifying conditions	$.87_a$ (.02)	$.84_a$ (.02)
Upright (1) vs. inverted female bodies (2) in the non-objectifying conditions	$.91_a$ (.00)	$.81_b$ (.02)

Note. *SE* = standard error. The column headings are defined by the parenthetical values in each row of the table. Means with different subscripts across a row are significantly different, $p < .05$.

effect), whereas similar recognition for upright compared to inverted stimuli represents analytic processing and more cognitive objectification.

Results

Recognition Performance

Recognition scores were submitted to a 2 (position: upright, inverted) × 2 (target sex: male, female) × 2 (participants' gender: men, women) mixed-model analysis of variance (ANOVA), with participants' gender as the between-subjects factor. Consistent with our hypothesis, the predicted interaction between position and target sex emerged, $F(1, 18) = 7.69, p = .01, \eta_p^2 = .30$, indicating more configural processing and less objectification of sexualized male bodies compared to sexualized female bodies (see Table 1(a)). Simple effect analysis revealed that upright male bodies were recognized better compared to inverted male bodies, $F(1, 18) = 28.79$, $p < .001$, $\eta_p^2 = .62$. Unexpectedly, we found a similar but less acute pattern for sexualized female bodies, with upright female bodies better recognized compared to inverted female bodies, $F(1, 18) = 6.47, p = .02, \eta_p^2 = .27$. The pattern of results was the same when the outlier was included (with a significant interaction between picture position and target sex). Additionally, the mixed-model ANOVA revealed main effects of position, $F(1, 18) = 22.20, p < .001, \eta_p^2 = .55$, and target sex, $F(1, 18) = 23.31$, $p < .001$, $\eta_p^2 = .56$. Participants recognized upright stimuli ($M = .86$, standard error [*SE*] = .02) better than inverted stimuli ($M = .76$, $SE = .03$), and they recognized female targets ($M = .86$, $SE = .02$) better compared to male targets ($M = .77$, $SE = .03$). The other effects (including those involving participants' gender and its interactions with the other factors) did not approach statistical significance (all ps > .22).

Reaction Time

Reaction times were submitted to a 2 (position: upright, inverted) × 2 (target sex: male, female) × 2 (participants' gender: men, women) mixed-model ANOVA, with participants' gender as the between-subjects factor. We found a main effect of position, $F(1, 18) = 8.77$, $p < .01$, $\eta_p^2 = .33$, with longer reaction times for inverted ($M = 1577$, $SE = 104$) than for upright ($M = 1402$, $SE = 79$) stimuli. The other effects (including those involving participants' gender and its interactions with the other factors) did not reach statistical significance (all ps > .17). Moreover, neither upright female (vs. upright male) bodies nor inverted female (vs. inverted male) bodies elicited longer reaction times (all ps > .31), which is inconsistent with a speed-accuracy bias that would be specific to inverted female bodies.

Discussion

We found that a stronger inversion effect emerged for male body recognition than for female body recognition. This effect did not vary by participants' gender. Consistent with predictions, this pattern suggests less configural processing and more objectification of sexualized female bodies compared to sexualized male bodies. Although the difference between upright and inverted female bodies was statistically smaller compared to the one observed for male bodies, the inversion effect for sexualized female bodies was nonetheless

significant. This finding indicates that people relied less on configural processing when recognizing sexualized female (vs. male) targets rather than on pure analytic processing. Departing from Bernard et al. (2012), this finding also suggests that sexualized women sometimes may be seen less *as persons* compared to men rather than *as objects* per se. As in Bernard, Gervais, Allen, and Klein (2013), we did not identify a speed-accuracy bias that would be specific to inverted female bodies. In sum, we provided a conceptual replication of Bernard et al. (2012) and found the expected interaction between target sex and upright (vs. inverted) position, with a larger inversion effect for male bodies than for female bodies that suggests more cognitive objectification of sexualized female bodies compared to sexualized male bodies.

Experiment 2a: Focusing on Body Parts

As we have suggested, a plausible explanation for the reduced "human-like" configural recognition of sexualized female bodies resides in the possibility that people focus more on women's sexual body parts than men's sexual body parts. This difference would undermine the configural processing that is necessary for the inversion effect to occur. Experiment 2a directly examined this possibility by investigating whether masking women's sexual body parts by pixelating them would increase configural processing, thus reducing objectification of women's bodies. If this is the case, only a main effect of upright versus inverted picture position should emerge, showing no differences for sexualized female and male bodies.

Method

Participants

Nineteen undergraduate students (10 women) were recruited on a university campus and participated in the experiment in exchange for €5. The sample was mostly Belgian (95%). One man was removed from the final sample due to abnormally poor recognition scores (−3 *MADs* below the median). Thus, the statistical analyses were conducted based on 18 participants (10 women).

Procedure and Materials

The procedure and materials were exactly the same as in Experiment 1, except that sexual body parts (i.e., the chest and the groin) were masked through "pixelation" (see online supplement). Pixelation is a technique that is used in the media to avoid the visibility of sexual content, reducing the explicit visual stimuli (such as nude sexual body parts) without dismembering the person. We pixelated chests and hips/groins because they are secondary sex characteristics crucial for recognizing people based on their biological sex (Johnson, Lurye, & Tassinary, 2010; Johnson & Tassinary, 2005) and attention paid to those body parts has been considered an indicator of self-objectification (Noll & Fredrickson, 1998) and other-objectification (Gervais, Vescio, Maass, et al., 2012; Gervais et al., 2013).

Results

Recognition Performance

Recognition scores were submitted to a 2 (position: upright, inverted) × 2 (target sex: male, female) × 2 (participants' gender: men, women) mixed-model ANOVA, with participants' gender as the between-subjects factor. In support of our prediction, only a main effect of upright versus inverted position emerged, $F(1, 16) = 10.42$, $p = .005$, $\eta_p^2 = .39$. Upright targets ($M = .87$, $SE = .02$) were recognized better than inverted ones ($M = .76$, $SE = .03$), and the interaction between target sex and position was not significant, $F(1, 16) = .35$, $p = .56$, $\eta_p^2 = .02$ (see Table 1(b)). In contrast to Experiment 1's findings, pixelating sexual body parts led to sexualized female bodies being recognized more configurally and similarly to sexualized male bodies. The pattern of results was the same when the outlier was included, with a main effect of picture position and no interaction between picture position and target sex.

The mixed-model ANOVA also revealed a main effect of target sex, $F(1, 16) = 22.56$, $p < .001$, $\eta_p^2 = .59$, with better recognition for sexualized female bodies ($M = .86$, $SE = .02$) than for male ones ($M = .77$, $SE = .02$). Finally, the other effects and interactions were not significant (all ps > .34).

Reaction Time

We performed a 2 (position: upright, inverted) × 2 (target sex: male, female) × 2 (participants' gender: men, women) mixed-model ANOVA, with participants' gender as the between-subjects factor. The effects of picture position, $F(1, 16) = 2.55$, $p = .13$, $\eta_p^2 = .14$, participants' gender, $F(1, 16) = 3.90$, $p = .07$, $\eta_p^2 = .20$, target gender, $F(1, 16) = 3.36$, $p = .09$, $\eta_p^2 = .17$, and all interactions (all ps > .12) did not reach statistical significance. Furthermore, neither upright female (vs. upright male) bodies, $t(17) = -1.70$, $p = .11$, nor inverted female (vs. inverted male) bodies, $t(17) = -1.19$, $p = .25$, elicited longer reaction times, which is inconsistent with a speed-accuracy bias that would be specific to inverted female bodies.

Discussion

Consistent with predictions, when sexual body parts were not salient (i.e., masked), only a main effect of upright versus inverted position emerged; the interaction between position and target sex was not significant. Contrary to Experiment 1's findings, this pattern suggests that sexualized female bodies were recognized more configurally and similarly to sexualized male bodies when sexual body parts were less salient

due to masking. As in Experiment 1 and Bernard et al. (2013), we did not identify a speed-accuracy bias that would be specific to inverted female bodies.

In line with recent findings suggesting that people focus their attention on female, but not male, body parts when recognizing bodies (Gervais, Vescio, Maass, et al., 2012), especially exaggerated sexual body parts (Gervais, Vescio, Maass, et al., 2012; Gervais et al., 2013; see also Gervais, Vescio, & Allen, 2012), our data suggest that making female sexual body parts less salient to perceivers activates more configural processing and less objectification of sexualized female bodies. However, it remains unclear whether this process is specific to sexual body parts, which were masked in Experiment 2a, or whether this effect would emerge if non-sexual body parts were masked, suggesting a more general mechanism. We examined this possibility in Experiment 2b.

Experiment 2b: More on Body Parts

Experiment 2a's results suggest that the salience of sexualized body parts is a key target feature driving the objectification of sexualized female bodies. In addition, although the effect was driven by our experimental manipulation, it remains unclear whether objectification manifested as the analytic recognition of sexualized female bodies is specifically due to a focus on sexual body parts or to a focus on body parts more generally. Study 2b was designed to examine these different possibilities. In this study, participants were asked to complete a female body-recognition task, viewing either sexualized female bodies whose sexual body parts (i.e., breast and hips/groins) or non-sexual body parts (i.e., arms) were pixelated. Extending Experiment 2a, we predicted that pixelating sexual body parts would make these features less salient, producing an inversion effect (i.e., upright women recognized better than inverted women) that indicates more configural processing and less objectification of sexualized female bodies. However, we did not expect an inversion effect when non-sexual body parts were pixelated, suggesting more analytic processing and more objectification when sexual body parts remained salient.

Method

Participants

Thirty-five undergraduate students (23 women) were recruited on a university campus and participated in the experiment in exchange for €5. The sample was mostly Belgian (71%). Three participants were eliminated. One woman was removed from the final sample due to abnormally poor recognition scores (−3 *MADs* below the median). Another woman was eliminated due to her abnormally long reactions times (+3.5 *MADs* above the median), and a man was excluded because he participated (and was thus extensively debriefed) in a similar experiment. Thus, the statistical analyses were conducted based on 32 participants (21 women).

Procedure and Materials

The method was exactly the same as Experiment 2a but with two exceptions. First, participants saw only female bodies. Second, we included a pixelation condition as a between-subjects variable. In the sexual body parts condition (n = 17), breasts and hips/groins were pixelated as in Experiment 2a. In the non-sexual body parts condition (n = 15), participants saw the same images of female bodies, except that non-sexual body parts (i.e., arms) were pixelated instead of breasts and hips/groins.

Results

Recognition Performance

Recognition scores were submitted to a 2 (position: upright, inverted) × 2 (masking condition: sexual body parts, non-sexual body parts) × 2 (participants' gender: men, women) mixed-model ANOVA, with masking condition and participants' gender as between-subjects factors. The hypothesized interaction between masking condition and upright versus inverted position was marginally significant, $F(1, 28) = 4.11$, $p = .052$, $\eta_p^2 = .13$ (see Table 1(c)). The interaction did not reach conventional levels of significance. However, because the interaction was hypothesized a priori (Cohen, 1994; Cumming, 2014; Kline, 2004; Rosnow & Rosenthal, 1989) and conventional levels of significance tend to be underpowered to detect interactions (Cohen, 1988), we deconstructed it. We return to the issue of marginal significance in null hypothesis testing in the integration of Studies 1–3 and discussion sections.

Consistent with hypotheses, simple effect analyses revealed that when sexual body parts were pixelated, upright female bodies were recognized better than their inverted counterparts, $F(1, 15) = 13.48$, $p = .002$, $\eta_p^2 = .47$, indicating more configural processing and less objectification of sexualized female bodies (see Table 1(c)). In contrast, upright sexualized female bodies were recognized similarly to inverted sexualized female targets when non-sexual body parts were pixelated, $F(1, 13) = .01$, $p = .92$, $\eta_p^2 < .01$, indicating more analytic processing and more objectification of sexualized female bodies when sexual body parts remained salient. The pattern of results was the same when the outliers were included. However, the interaction between picture position and masking condition was not significant ($p = .17$).

Additionally, there was a main effect of picture position, $F(1, 28) = 4.80$, $p = .04$, $\eta_p^2 = .15$, with upright female bodies recognized better ($M = .88$, $SE = .03$) than inverted female bodies ($M = .82$, $SE = .02$). Finally, the other effects and interactions did not reach statistical significance (all ps > .068).

Reaction Time

We conducted a 2 (position: upright, inverted) × 2 (masking condition: sexual body parts, non-sexual body parts) × 2

(participants' gender: men, women) mixed-model ANOVA on reaction times, with masking condition and participants' gender as between-subjects factors. The main effect of position did not reach statistical significance, $F(1, 28) = 2.79$, $p = .11$, $\eta_p^2 = .09$, and the other effects and interaction were not significant (all ps > .19). Importantly, masking condition was not associated with increased reaction times for either upright or inverted female bodies (all ps > .41), which is inconsistent with a speed-accuracy bias that would be induced by our experimental manipulation.

Discussion

In sum, consistent with our predictions, we found that only masking female sexual body parts produced an inversion effect, with upright women recognized better than inverted women when sexual body parts were pixelated—a pattern indicating more configural processing and less objectification of sexualized female bodies. In addition, we found that inverted and upright sexualized women were recognized similarly when non-sexual body parts were pixelated. These results show that sexualized women are less objectified at a cognitive level when their sexual body parts are pixelated and that they are more objectified when sexual body parts remain visible (i.e., when non-sexual body parts are masked). Additionally, as in the other experiments, reaction times were inconsistent with a speed-accuracy bias. Consistent with Experiment 2a, Experiment 2b's findings align with the notion that analytic processing of sexualized female bodies and objectification is driven by a focus on sexual body parts (Bartky, 1990; Gervais, Vescio, Maass, et al., 2012; Langton, 2009).

Experiment 3: Humanization

Complementing Experiments 2a and 2b, Experiment 3 examined humanization as a second target feature that interferes with the salience of sexual body parts, causing less objectification and more configural processing of sexualized female bodies. Specifically, we aimed to examine whether providing humanizing information about a female targets' internal attributes of warmth and competence would reduce perceivers' ability to objectify women (Heflick & Goldenberg, 2009; Heflick et al., 2011). If this is the case, then people will rely on more configural processing and will objectify sexualized women less when humanizing information about targets is provided.

Method

Participants

Fifty undergraduate students (27 women) were recruited on a university campus and participated in the experiment in exchange for €5. The sample was mostly Belgian (72%). Relying on a MAD analysis on overall reaction times and recognition scores, six participants were eliminated: three participants (2 men) due to abnormally poor recognition scores (−3 *MADs* below the median) and three participants (2 men) due to abnormally long reaction times (+3.5 *MADs* above the median). Thus, the statistical analyses were conducted based on 44 participants (25 women).

Procedure and Materials

The method was the same as Experiment 1, with two exceptions. First, only female bodies were shown to the participants. Second, we included humanization as a between-subjects variable. Humanization was manipulated by providing information that highlighted targets' warmth and competence, which are dimensions related to personhood from previous research (Gray, Gray, & Wegner, 2007; Harris & Fiske, 2006; Haslam, 2006; Heflick et al., 2011). In the neutral condition ($n = 21$), participants read the same instructions as in all of the previous experiments. In contrast, participants in the humanization condition ($n = 23$) received the same instructions with additional information about the targets' internal warmth and competence:

> The pictures you will see are those of women who recently got their medical degree with honors. Deeply concerned by the cancer issue, they decided to create a sexy calendar in order to raise funds destined to an association whose purpose is to finance caring for cancer patients. The money raised by this calendar is directly paid to this association. Pictures you will see stem from this calendar.

Results

Recognition Performance

Recognition scores were submitted to a 2 (position: upright, inverted) × 2 (humanization: humanization, neutral) × 2 (participants' gender: men, women) mixed-model ANOVA with humanization and participants' gender as between-subjects factors. In support of our hypothesis, a significant interaction between humanization and upright versus inverted position emerged, $F(1, 40) = 5.79$, $p = .02$, $\eta_p^2 = .13$ (see Table 1(d)). Simple effects analyses revealed that in the humanization condition, upright sexualized female bodies were recognized better than their inverted counterparts, $F(1, 21) = 20.78$, $p < .001$, $\eta_p^2 = .50$, indicating more configural processing and less objectification. However, in the neutral condition, upright female bodies were recognized similarly to inverted female bodies, $F(1, 19) = .73$, $p = .40$, $\eta_p^2 = .04$, indicating more analytic processing and more objectification. When the outliers were included, the interaction between picture position and humanization condition became not significant ($p = .42$).

Additionally, a main effect of upright versus inverted position emerged, $F(1, 40) = 13.57$, $p = .001$, $\eta_p^2 = .25$, with upright female bodies ($M = .89$, $SE = .01$) recognized better than inverted female bodies ($M = .84$, $SE = .02$). No main effects of participants' gender, $F(1, 40) = 1.10$, $p = .30$, or humanization, $F(1, 40) = .35$, $p = .56$, on recognition

emerged. Moreover, all other interactions were not significant (all $ps > .10$).

Reaction Time

Reaction times were submitted to a 2 (position: upright, inverted) × 2 (humanization: humanization, neutral) × 2 (participants' gender: men, women) mixed-model ANOVA, with humanization and participants' gender as between-subjects factors. A main effect of picture position was revealed, $F(1, 40) = 6.87$, $p = .01$, $\eta_p^2 = .15$, with longer reaction times for inverted ($M = 1418$, $SE = 58$) than upright ($M = 1332$, $SE = 52$) bodies. The other effects (including participants' gender and its interactions with the other factors) did not reach statistical significance (all $ps > .09$). In addition, the humanization condition was not associated with longer reaction times for either upright or inverted female bodies (all $ps > .41$), which is inconsistent with a speed-accuracy bias that would be induced by the humanization condition.

Discussion

As predicted, providing information about internal human characteristics shifted recognition processes mobilized by perceivers for women's bodies. When sexualized female targets were humanized, people relied on configural processing instead of analytic processing, indicating less objectification of sexualized female bodies at a basic cognitive level. This is consistent with our interpretation of the appearance-focus literature (Heflick & Goldenberg, 2009; Heflick et al., 2011), suggesting that focusing on women as human beings with internal characteristics such as competence and warmth rather than as objects with only physical appearance attributes counteracts the salience of women's sexual body parts, reducing objectification. In addition to masking the sexual body parts of women in Experiments 2a and 2b, Experiment 3 identified a complementary moderator (i.e., humanization) capable of producing the inversion effect for sexualized women that indicates more configural processing and less objectification. Again, the pattern of results reported is inconsistent with a speed-accuracy bias that would be induced by our experimental manipulations. Collectively, this set of experiments delineates two complementary moderators—masking and humanization—that reduce the sexual salience of sexualized women in the minds of perceivers. These target features point to factors aimed at reducing the analytic processing of sexualized female bodies. Our findings also are suggestive of the sociocognitive underpinnings of the sexual objectification of women.

An Integration of Experiments 1–3

Across four experiments, we identified complementary target features that temper analytic processing and objectification of sexualized female bodies. Because we conducted several replications, we turn in this final section to a broader question of whether objectifying conditions moderate the analytical processing of sexualized female bodies. This approach is in line with recent calls in psychological science to examine the reliability and robustness of findings through meta-analysis (across and within papers; Cumming, 2008; Giner-Sorolla, 2012). This was of particular concern in the current article, due to marginal nature ($p = .052$) of the hypothesized interaction in Experiment 2b. Thus, in this section, we integrate the experiments, comparing whether analytic processing of female bodies is moderated by the objectifying conditions (i.e., female bodies revealing sexual body parts in Experiment 1 and 2a, female bodies with pixelated non-sexual body parts in Experiment 2b because sexual body parts were still visible, and the neutral condition in Experiment 3 not emphasizing humanization) compared to non-objectifying conditions (i.e., female bodies with pixelated sexual body parts in Experiment 2a and the humanization condition in Experiment 3). This mirrors the meta-analytic approach that contains direct and conceptual replications and allows researchers to determine the robustness of an effect across investigations, despite differences in manipulations or participants that emerge between studies (Cumming, 2008; Giner-Sorolla, 2012). Overall, we expect objectifying conditions to cause more analytic processing of female bodies compared to non-objectifying conditions.

Results

Recognition Performance

Recognition scores were submitted to a 2 (position: upright, inverted) × 2 (objectification: objectifying conditions, non-objectifying conditions) × 2 (participants' gender: men, women) mixed-model ANOVA, with objectifying conditions and participants' gender as between-subjects factors. As expected, a significant interaction between picture position and objectification emerged, with more analytic processing of female bodies in the objectifying compared to the non-objectifying conditions, $F(1, 110) = 8.21$, $p = .005$, $\eta_p^2 = .07$ (see Table 1(e)). Consistently, simple effects analyses revealed that upright bodies were recognized better than inverted bodies in the non-objectifying conditions, $F(1, 56) = 37.42$, $p < .001$, $\eta_p^2 = .40$, suggesting more configural processing and less objectification of women's bodies. In contrast, analytic processing and more objectification of women's bodies emerged in the objectifying conditions, with upright bodies recognized similarly to inverted bodies, $F(1, 54) = 3.01$, $p = .09$, $\eta_p^2 = .05$. Finally, we found a main effect of upright versus inverted position, with upright bodies ($M = .89$, $SE = .01$) recognized better than inverted bodies ($M = .83$, $SE = .01$), $F(1, 110) = 29.36$, $p < .001$, $\eta_p^2 = .21$. The other main effects and interactions were not significant ($ps > .13$).

Reaction Time

Reaction times were submitted to a 2 (position: upright, inverted) × 2 (objectification: objectifying conditions, non-

objectifying conditions) × 2 (participants' gender: men, women) mixed-model ANOVA, with objectification and participants' gender as between-subjects factors. We found a main effect of position, $F(1, 110) = 18.53$, $p < .001$, $\eta_p^2 = .14$, with longer reaction times for inverted ($M = 1497$, $SE = 44$) than for upright stimuli ($M = 1382$, $SE = 40$). We also found a main effect of participants' gender, $F(1, 110) = 5.58$, $p = .02$, $\eta_p^2 = .05$, with longer reaction times among women ($M = 1535$, $SE = 53$) than men ($M = 1345$, $SE = 61$). The other main effects and interactions were not significant (ps > .16). In addition, the objectifying conditions were not associated with longer reaction times for either upright or inverted female bodies (all ps > .18), which is inconsistent with a speed-accuracy bias that would be induced by the objectifying conditions.

Discussion

In sum, across four experiments, we found that analytic processing emerged in the objectifying conditions when women's sexual body parts were salient. However, when participants were less able to focus on women's sexual body parts—either because these features were masked or because humanizing information was provided—configural processing of women's bodies emerged indicating that these factors temper the cognitive objectification of women's bodies. In the general discussion, we will turn to the theoretical and practical implications of these findings as well as the limitations and future directions of this work.

General Discussion

The purpose of the present work was to identify two target features that may temper the cognitive objectification of sexualized female bodies. For this purpose, we utilized the body inversion effect as an indicator of configural (vs. analytic) processing (Maurer et al., 2002). Consistent with both theory (Bartky, 1990; Fredrickson & Roberts, 1997) and research (Bernard et al., 2012), we found that sexualized female bodies were objectified more and recognized less configurally compared to sexualized male targets (Experiment 1). We thus examined two complementary moderating target features—masking sexual body parts (Experiments 2a and 2b) and humanization (Experiment 3)—that were predicted to lead to less cognitive objectification and more configural recognition of sexualized female bodies.

Consistent with our rationale that people process sexualized female bodies analytically because they are focused on sexual body parts (Gervais, Vescio, Maass, et al., 2012; Gervais et al., 2013), we found that the salience of sexual body parts was a crucial determinant influencing the analytic processing of sexualized female bodies. People relied on configural processing and did not objectify sexualized male bodies whether their sexual body parts were salient or not. In contrast, the salience of sexual body parts shifted female body recognition from analytic processing to configural processing (Experiment 2a), and this shift appeared to be due to the salience of sexual body parts rather than *any* general body parts (Experiment 2b). These results are consistent with the notion that diminishing the salience of women's sexual body parts tempers their objectification at a basic cognitive level.

Likewise, Experiment 3 showed that introducing humanizing information about the target was also associated with less objectification and more configural processing of sexualized women. We reasoned that introducing humanizing information should cause configural processing of female bodies in line with research suggesting that humanization counteracts the negative impact of objectification on social perception (Heflick & Goldenberg, 2009; Heflick et al., 2011; see also Harris & Fiske, 2007). By drawing attention away from sexy women's external-appearance attributes to their internal-humanizing attributes, people relied more on configural processing and less on analytic processing. In addition, the presence of an inversion effect when women are described as warm and competent undermines the perceptual account of the sexualized body-inversion hypothesis (Tarr, 2013) as well as bolsters the construct validity of sexualized body-inversion as an indicator of sexual objectification that can be combatted through sociocultural factors.

Finally, we integrated these experiments in a final section, comparing whether analytic processing of female bodies is moderated by the objectifying conditions (i.e., female bodies revealing sexual body parts in Experiments 1 and 2a, female bodies with pixelated non-sexual body parts in Experiment 2b because sexual body parts were still visible, and the neutral condition in Experiment 3 not emphasizing humanization) compared to non-objectifying conditions (i.e., female bodies with pixelated sexual body parts in Experiment 2a and the humanization condition in Experiment 3). This integration is in line with recent recommendations for assessing the reliability and robustness of a given finding across studies (Cumming, 2008), particularly in situations with marginal effects (Giner-Sorolla, 2012). Consistent with the notion that target features modulating the salience of sexual body parts may reduce the cognitive objectification of sexualized females, we found that when sexual body parts salience was reduced—by pixelating sexual body parts or introducing humanizing information—an inversion effect emerged for sexualized women, indicating that these features reduced the cognitive objectification of female bodies.

In addition, consistent with the notion that recognition scores, but not reaction times, are the most reliable indicators of analytic versus configural processing (Maurer et al., 2002), we found that all our experimental manipulations systematically affected recognition performance as predicted. In contrast, exploratory analyses on reaction times revealed that body-inversion affected reaction times so that inverted bodies elicited slower reaction times than upright bodies, regardless of moderating factors such as experimental manipulations or target sex. This is consistent with past research, which found

that variations in recognition performance do not necessarily co-vary with reaction times (Bernard et al., 2012, 2013; Yovel et al., 2010). Importantly, all reaction time data are inconsistent with a speed-accuracy trade-off (see Tarr, 2013) that would be specific to inverted female versus male bodies (Experiments 1 and 2a) or induced by experimental manipulations (Experiments 2b and 3). As in Bernard et al. (2013), this pattern speaks against the hypothesis that observed variations in female body-inversion effects are driven by modulated attentional allocation in absolute or spatial terms. It instead supports an account of our findings in terms of objectification theory.

Limitations and Future Directions

Although the present research extends our understanding of objectification in important ways, it has some limitations. In Experiments 2a and 2b, we examined whether salience of sexual body parts affected body recognition. Taken together, our findings suggest that analytic, objectifying recognition of sexualized female bodies is caused by a *specific* focus on sexual body parts, not by a focus on non-sexualized body parts. Our interpretation of Experiments 2a and 2b was that reducing the salience of sexual body parts leads to less focus on them, causing more configural processing. Given that attention is a limited resource (Cowan, 2005; Miller, 1956), if attention is not going to sexual body parts when body parts are masked, then perceivers have more time to focus on the spatial information about the parts as well as the faces. Consistently, Loughnan et al. (2010) showed higher mental state attribution (e.g., emotions, intentions) when pictures of women's faces (vs. their body or body-only) were evaluated. In a similar vein, personhood-focus (vs. appearance-focus) leads to more focus on women's faces and less on their bodies (Gervais et al., 2013). Moreover, recent research has shown that the body-inversion effect was not found for headless bodies (Minnebusch, Suchan, & Daum, 2009) and that head position is crucial for a body-inversion effect to emerge (Yovel et al., 2010). Relying on eye-tracking devices may be a fruitful approach to further delineate the specific attentional mechanisms that are shifted when the salience of sexual body parts is tempered.

Future research may examine the role of emotional states (activated by descriptions provided prior to the recognition task) that may be informative because positive emotions can lead to configural, rather than analytic, processing (Johnson & Fredrickson, 2005). Indeed, we provided information with a positive valence for the humanization manipulation in Experiment 3. Future research should investigate whether presenting neutral (Harris & Fiske, 2007) or negative humanizing information may also shift body recognition. Future work may also manipulate the type of information provided prior to the recognition task (warmth, competence, or a combination of the two), which would extend the current work by disentangling the effect of warmth (vs. competence). For example, is it possible that increasing warmth attributions without concomitant competence attributions would cause benevolent sexism or patronization of women, leading to more objectification, despite the presence of more humanizing information (Calogero & Jost, 2011). Activating such communal norms may prompt stereotypes that "women should be nurtured and protected" and contribute to women's subjugation (Mahalik et al., 2005). However, it is also possible that negatively valenced information about warmth or competence, such as information that women are cold or incompetent, would increase objectification through a dehumanization mechanism (Heflick & Goldenberg, 2009). Such designs would extend the literature by further disentangling the effects of individuation, valence, and dehumanization.

Finally, in the current research, we did not measure the extent to which people perceived sexualized women as warmer and more competent in the humanization (vs. neutral) condition, although future research would benefit from including such manipulation checks. However, our set of studies offers a first step in this direction by showing that providing some individuating information about women's internal competence and warmth states (which are fundamental to human perception; Fiske et al., 2002) tempers analytic processing of their bodies.

It is plausible that cognitive objectification may also predict mind perception and attitudes toward specific targets. Future research may examine the links between body-recognition and other outcomes of objectification such as dehumanization (Haslam, 2006) and instrumentality (Gruenfeld, Inesi, Magee, & Galinsky, 2008). This intriguing possibility requires further consideration, given that person perception takes place prior to person categorization and impression formation (Quadflieg & Macrae, 2011). It is possible that people who rely on analytic processing when perceiving a person would categorize the person as object-like. In turn, this categorization may activate attitudes consistent with such categorization (e.g., men who categorized women as animals endorsed more negative attitudes toward women such as rape proclivity; Rudman & Mescher, 2012). An alternative possibility is that social categorization processes impact person recognition (Hugenberg & Corneille, 2009).

Consistent with previous research (Bernard et al., 2012; Gervais, Vescio, Maass, et al., 2012), participants' gender did not moderate recognition performance observed in the present experiments, thereby suggesting that these findings do not reflect in-group bias. Applied to the recognition of female bodies, there is another plausible explanation consistent with objectification theory. Fredrickson and Roberts (1997) posit that people internalize women's appearance as a primary basis for self-worth. Consequently, it is plausible that women are categorized differently than men such that women tend to be evaluated primarily based on their appearance (including by women themselves) and men are evaluated based on their personality and competence (Fredrickson & Roberts, 1997). This difference in terms of social categorization may modify

recognition processes, mobilizing analytic processing instead of configural processing. However, examining connections between processing and other steps of social perception is a new and interesting perspective that may be informative for sexual objectification research and, more generally, for research on both dehumanization and discrimination.

Practice Implications

At a practical level, findings of Experiment 2a and 2b are consistent with the notion that pictures highlighting female sexual body parts or depicting them as sexualized bodies are the most dehumanizing ones (Loughnan et al., 2010). To be clear, the sole responsibility of objectification lies in perceivers who perpetuate objectification and the sociocultural context that encourages it. Yet, our results suggest that contextual factors aimed to diminish the salience of women's sexual body parts may inform interventions to reduce objectification. In the media, film, television, and advertisements, pixelation may constitute an unusual technique and may be perceived as distracting. However, other techniques aimed at reducing the salience of sexual body parts, such as framing techniques that place a greater emphasis on non-sexual body parts of women, may prove efficient to counteract objectification (cf. Archer, Iritani, Kimes, & Barrios, 1983; Matthews, 2007). Likewise, our data suggest that eliminating the use of sexualized images of women and promoting the use of individuating and humanizing information about women in media depictions would reduce the analytic processing of women's bodies.

Moreover, Experiment 3's results suggest that sexy women are not doomed to be perceived as objects. Interventions that train perceivers not to focus on women's body parts but rather to actively seek individuating and humanizing information about their internal states (e.g., their thoughts, feelings, goals, and desires) could serve to counteract the cognitive objectification of women. For example, perspective-taking manipulations derived from research on intergroup relations (Batson & Ahmad, 2009) may be one avenue to encourage perceivers to seek out individuating information.

Conclusion

Our article corroborates the idea that analytic processing of women's bodies is one indicator of sexual objectification at a basic cognitive level. Sexual objectification can be considered an analytic appraisal isolating body parts relevant to a perceiver's goals, which in turn lead the perceiver to fail to consider the target configurally. This is also true for other forms of objectification that have been identified (Gervais, Bernard et al., 2013). Instrumentality, for example, isolates the function from the person (Gruenfeld et al., 2008; Kant, 1797), appearance-focus isolates superficial aspects of the person from personality (Heflick & Goldenberg, 2009; Langton, 2009), and sexual objectification isolates sexual body parts from the entire body (Bartky, 1990; Gervais, Vescio, Maass, et al., 2012; Langton, 2009). By demonstrating how contextual factors related to objectification temper analytic processing of sexualized female bodies, we simultaneously highlighted the construct validity of the body-inversion effect and analytic processing as useful indicators of objectification at a basic cognitive level. Our research also provides the foundations for potential interventions to reduce the object-like recognition of sexualized female bodies.

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