

# The object of my aggression: Sexual objectification increases physical aggression toward women

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Objectification involves reducing someone to a sexual object, rather than seeing them as a full person. Despite numerous theoretical claims that people are more aggressive toward the objectified, and empirical evidence that objectification is linked to high willingness to aggress, rape proclivity, and aggressive attitudes, no research has examined a causal link between objectification and physical aggression, particularly in the context of provocation. In two experiments, we examined this predicted link. In Experiment 1, using a 2 (objectification: no/yes) × 2 (provocation: no/yes) factorial between-subjects design, we investigated the effects of objectification, induced via body focus during a face-to-face interaction, and provocation on physical aggression toward a female confederate. Our results revealed a significant main effect of provocation, a marginal main effect of objectification, and a significant interaction between these variables. In the absence of a provocation, focusing on a woman's body increased aggression toward her. Experiment 2 replicated Experiment 1 using a video of a target woman instead of a face-to-face interaction. Again, our results showed a significant two-way interaction between objectification and provocation, wherein objectification increased aggression in the absence of provocation. Overall, this research indicates that objectification can lead to heightened physical aggression toward objectified women.

## KEYWORDS

aggression, aggression toward women, body focus, objectification, physical aggression

## 1 | INTRODUCTION

Sexual objectification is the perception of an individual solely as an object useful for fulfilling sexual desires, rather than as a person in their own right, with moral rights and a complex mind. Philosophers (Kant, 1797/1996; Nussbaum, 1995), feminist writers (Dworkin, 1989; MacKinnon, 1982), and psychologists (Fredrickson & Roberts, 1997; Loughnan & Pacilli, 2014) have suggested that sexual objectification leads to increased aggression toward objectified women. However, to date, this has not been empirically tested, despite clear evidence linking sexual objectification with processes and outcomes (e.g., dehumanization, hostile sexism) that are likely to facilitate aggression (Cikara, Eberhardt, & Fiske, 2011; Heflick & Goldenberg, 2009).

The aggression-facilitating effects of objectification may be especially impactful when the objectifier additionally perceives that they have been provoked by the target. Thus, the purpose of the current study was to examine whether sexual objectification and provocation interact to increase physical aggression toward real-life female targets. In the following sections, we discuss the link between the objectification of women and the negative psychological and behavioral outcomes that would predict that objectification also leads to physical, non-sexual aggression.

Although having sexual desires toward others is commonplace, sexual objectification goes beyond sexual desire, and as far as dehumanization; it leads to viewing another as less than fully human. At an implicit level, sexualized women are viewed as body parts rather

than whole bodies (Bernard, Gervais, Allen, Campomizzi, & Klein, 2012), as interchangeable with other sexualized women (Gervais, Vescio, & Allen, 2012), and are more readily associated with animals (Rudman & Mescher, 2012; Vaes, Paladino, & Puvia, 2011) and objects (Rudman & Mescher, 2012). At an explicit level, sexually objectified women are viewed as lacking human nature (Heflick & Goldenberg, 2009), as cold, incompetent, and immoral (Heflick, Goldenberg, Cooper, & Puvia, 2011), and as possessing relatively impoverished mental lives (Gray, Knobe, Sheskin, Bloom, & Barrett, 2011; Loughnan et al., 2010).

In essence, dehumanization that stems from sexual objectification has a range of detrimental effects on the treatment of others, including increasing and facilitating aggression (cf. Haslam, 2006; Haslam & Loughnan, 2014). Dehumanizing others directly leads to increased levels of aggression (Greitemeyer & McLatchie, 2011). Further, once aggression occurs, people engage in even more self- and other-dehumanizing, suggesting a dehumanization-aggression cycle (cf. Bastian, Jetten, & Radke, 2012). In addition to facilitating personal aggression, the dehumanization of outgroups appears to justify and facilitate intergroup aggression (Bar-Tal, 1989; Castano & Giner-Sorolla, 2006). Given that dehumanization leads to increased aggression at both interpersonal and -group levels, we may expect women who are dehumanized (via objectification) to also be aggressed against.

The existing literature on sexual objectification provides indirect evidence that individuals will aggress against sexually objectified women. People tend to possess hostile beliefs and action tendencies toward objectified women. For men, the tendency to sexually objectify women is linked to hostile sexism, likelihood to sexually harass, rape myth acceptance, and rape proclivity (Cikara et al., 2011; Rudman & Mescher, 2012). Women also tend to hold strongly negative attitudes toward sexually objectified women and see them as less than fully human (Heflick & Goldenberg, 2009; Loughnan et al., 2015; Puvia & Vaes, 2013; Vaes et al., 2011). The impact of objectification extends beyond judgements of humanity and mind to impact perceived moral standing. When an individual is disliked, dehumanized, and deemed unworthy of moral consideration, we feel less concern for them and more comfortable to aggress against them (Haslam, 2006; Waytz, Gray, Epley, & Wegner, 2010). Compared to non-sexually objectified targets, objectified women tend to elicit lower levels of moral concern—people report less concern if they are harmed (Loughnan et al., 2010; Loughnan, Pina, Vasquez, & Puvia, 2013), and are less willing to intervene when other women are victims of partner violence (Pacilli et al., in press). Moreover, recent findings show that among adolescents, sexual objectification of girls is correlated with non-sexual aggression toward them (Vasquez, Osinnowo, Pina, Ball, & Bell, 2017).

If people dislike, dehumanize, and care less about sexually objectified women, they may be more likely to be aggressive toward them. This may be particularly true when objectified individuals provide (or are perceived to provide) provocations, which are a common cause of aggressive behavior (see Anderson & Bushman, 2002; Berkowitz, 1993). More specifically, a provocation induces

negative affect, including anger, which, in turn, induces the motivation to retaliate against the perceived source of the provocation (see Berkowitz, 1989, 1990). Depending on a person's history, as well as the particular situation, the negative affect can lead directly to aggression or violence. Objectification has the potential for moderating the effect of provocation on aggression for a variety of reasons. For instance, as suggested above, it can increase aggression by reducing concern for the objectified, thus, reducing the inhibition to aggress. In addition, objectification may increase a dislike toward the objectified. Disliking a provoking individual tends to increase aggression toward them (Pedersen, Bushman, Vasquez, & Miller, 2008). Hence, objectification may augment retaliation following a provocation by decreasing inhibitory processes and/or facilitating aggressive motivation.

Some modes of objectification of women, particularly those involving highly sexualized media, such as pornography, can also augment aggression via increased arousal and/or the priming of aggressive responding to females. For instance, objectification can increase aggression when the physiological arousal induced by sexually objectifying a person is added or transferred to the experience of anger induced by a subsequent provocation. This process is termed excitation transfer (see Cantor, Zillmann, & Emsiedel, 1978; Zillmann, 1971). Excitation transfer theory proposes that the combining of excitation occurs when the arousal from the first incident (e.g., watching porn) has decreased, but not completely dissipated, and the individual is no longer aware of it. If at that point, a person is provoked, the arousal from the first incident can then be attributed and added to the arousal induced by the provocation, thereby intensifying the experience of anger, which in turn, increases retaliation (Zillmann, 1971).

It is important to note, however, that excitation transfer does not augment aggression through decreased concern for the target or other disinhibiting processes, as objectification is theorized to do. Instead, it should do so by increasing the experience of negative affect and arousal. In addition, the typical study on excitation transfer and aggression that employs erotic stimuli to induce arousal involves targeting aggression toward a person who is not directly associated with the objectifying stimuli. That is, the arousal manipulation that employs objectification (e.g., pornography) does not include the person who subsequently becomes that target of aggression. Our paradigm differs from excitation transfer in the two previous respects; we expected objectification to increase aggression, even in the context of more subtle (i.e., low in arousal) manipulations of this variable, such as merely focusing on the target's body.

Highly sexualized media can also increase aggression when it has aggressive characteristics, such as depicting forceful sex, which can prime an individual for aggressing more intensely if provoked (see Donnerstein & Berkowitz, 1981). In our paradigm, however, we examined the effect of sexual objectification on aggression using a manipulation of objectification that was devoid of aggressive cues. More specifically, we induced objectification by asking participants to focus on a confederate's physical appearance and body. Gazing at women is a key aspect of objectification and can have negative effects on the target. For instance, women who are the target of objectifying

gaze experience lower performance on cognitive task, such as math problems (Gervais, Vescio, & Allen, 2011). Gazing has also been used to induce objectification in previous research (e.g., Heflick & Goldenberg, 2009). Our manipulation allowed us to control for the confounding effects of previously employed stimuli, such as violent pornography, that combine sexual objectification and aggression, thereby examining the purer impact of the former.

In short, objectification has important implications for aggression because an aggressor may experience lower levels of inhibition against aggressing toward an objectified target. The current studies tested the hypothesis that sexual objectification leads to more physical aggression toward women.

## 2 | EXPERIMENT 1

The first experiment examined the interaction between objectification and a provocation on physical aggression. Participants interacted face-to-face with a female confederate. Prior to the interaction, they were instructed either to focus on her physical appearance or her as a person. They subsequently engaged in a bogus task and ostensibly exchanged their responses with the confederate for evaluation. Participants in the provocation condition received fake negative feedback on their performance in the bogus task. Those in the no provocation condition received generally positive feedback. The participants subsequently had the opportunity to engage in physical aggression against the female confederate. It was predicted that participants who focused on the confederate's body would be more aggressive than those who focused on their personality. In addition, it was predicted that provoked participants would be more aggressive than unprovoked participants. Furthermore, it was predicted that body focus and provocation would interact, such that provoked participants who also focused on the confederate's body would be the most aggressive.

### 2.1 | Method

#### 2.1.1 | Participants and design

A total of 80 students from a British University (56 females, 24 males;  $M^{\text{age}} = 19.93$  years,  $SD = 3.81$ ) participated for course credit or payment. They were randomly assigned to one of four conditions in a 2 (body vs. personality focus)  $\times$  2 (provocation vs. no provocation) between-subjects factorial design.

#### 2.1.2 | Procedure and materials

All participants were treated in accordance with APA ethical guidelines, and the experiment received prior approval from the lead author's departmental research ethics committee to ensure it met ethical standards. Informed consent was obtained from all volunteers prior to their participation. Participants arrived at the lab, were seated, and were told they would take part in a study on Extra Sensory

Perception (ESP) and impression formation with another participant (a confederate), who was seated momentarily in another lab with another (bogus) experimenter (see Appendix for the experiment script).

The confederate was brought into the room to be seated in front of the participant to engage in the bogus ESP task with them. They were told the ESP task involved predicting the outcomes in a series of dice rolls with their partner. As part of the cover story relating to impression formation, participants were told they would focus on a specific aspect of the partner. Participants in the body-focus (i.e., objectification) condition were asked to focus on the confederate's physical appearance during the ESP task. In the personality-focus condition, participants were asked to focus on the confederate's personality. This objectification manipulation has successfully been employed in previous research using images rather than people (cf. Heflick & Goldenberg, 2009; Heflick et al., 2011).

Following the bogus ESP task (approximately 5 min), the participant and confederate were separated, and the former was subsequently instructed to take 5 min to write an essay on their attitude toward abortion. They were told this would be evaluated by the other participant. This task served as the context for the provocation manipulation. Provocation was manipulated because most aggressive contexts involve instigation (cf. Anderson & Bushman, 2002). Participants received either a bogus negative (provocation condition) or positive (no-provocation condition) evaluation about the writing task. The bogus negative evaluation included rating of the participants' effort in writing the essay, as well as rating of the validity and quality of the writing. These ratings were 3, 4, and 3, respectively, on a 7-point scale (1 = Not at all, 7 = Very High) and the following comments: "This essay is not very good. Although they have put some effort in, their arguments aren't very relevant. They haven't put much thought into it. There are important points they have missed." The bogus positive evaluation included effort, validity and quality ratings of 6, 6, and 6, respectively, on a 7-point Likert scale (1 = Not at all, 7 = Very High) and the following comments "This essay is good. They appear to have put a lot of thought and effort in and made some really good points. I can't think of any points that they have missed out."

Following the provocation manipulation, participants were given the opportunity to retaliate against the confederate. Participants were told that a second experiment was being run by another experimenter to examine the effects of making a decision on cognitive performance. The participant would decide how long the confederate should ostensibly hold her hand in iced water while she engaged in a cognitive task. They were told that due to randomization of conditions they were in a visual condition and would be distracted by photos on a computer screen and their partner was in a tactile condition, and thus, had to hold their hand in the ice cold water. Aggression was measured by asking participants to decide how long the confederate should submerge her hand in ice water (cf. Ballard & Lineberger, 1999; Vasquez, 2009). In order for participants to understand how painful submerging a hand in the water was, they were asked to test the water with their own hand. Participants were told to indicate the length of the distraction in seconds using a 9-point scale that ranged from 1 (0 sec) to 9 (80 sec) by circling their answer on the distraction form. This measure of physical

aggression has been successfully employed in previous research (e.g., Vasquez, 2009; Vasquez, Denson, Pedersen, Stenstrom, & Miller, 2005). Participants were then asked to complete a provocation manipulation check, which contained 25 emotion/feeling words (e.g., angry, happy, irritable, cheerful) that assessed participants' affective reactions to the provocation using a scale that ranged from 1 (not at all) to 7 (extremely). Participants were subsequently debriefed.

### 3 | RESULTS

#### 3.1 | Provocation manipulation checks

A total of seven participants were excluded from the study because they were outliers for the aggression measure (three participants whose aggression scores were more than two standard deviations from the mean), personally knew one of the confederates (two participants), or had participated previously in a similar study and were suspicious (two participants). The degree to which the provocation manipulation was effective in provoking participants was measured via the provocation manipulation check questionnaire. We created a composite of six items that assessed levels of negative affect resulting from the provocation manipulation (i.e., frustrated, angry, offended, annoyed, irritable, and upset). The items in the composite had good reliability (Cronbach's  $\alpha = 0.91$ ). An independent  $t$ -test revealed that participants in the provocation condition experienced higher levels of negative affect ( $M = 2.72$ ,  $SD = 1.14$ ) than participants in no-provocation condition ( $M = 1.23$ ,  $SD = .42$ ),  $t(71) = -7.20$ ,  $P < 0.001$ . This indicates that the provocation manipulation was successful.

#### 3.2 | Aggression

We initially conducted a 2 (objectification, no objectification)  $\times$  2 (provocation, no provocation)  $\times$  2 (male, female participant) between subjects ANOVA. There was no significant three-way interaction,  $F(1, 65) = 0.48$ ,  $P = 0.49$ , partial  $\eta^2 = 0.007$ . There was also no main effect of objectification,  $F(1, 65) = 2.28$ ,  $P = 0.14$ , partial  $\eta^2 = 0.034$ . However, there was a main effect of provocation, whereby provoked participants acted more aggressively than unprovoked participants,  $F(1, 65) = 8.91$ ,  $P = 0.004$ , partial  $\eta^2 = 0.12$ . In addition, there was a significant objectification  $\times$  provocation interaction,  $F(1, 65) = 4.47$ ,  $P = 0.038$ , partial  $\eta^2 = 0.064$ . The means and standard deviations are presented in Table 1.

Given that there were no significant participant gender effects, gender was excluded from subsequent analyses (aggression patterns for males and females were very similar). A 2 (objectification, no objectification)  $\times$  2 (provocation, no provocation) between subjects ANOVA was conducted to test for main effects and a two-way interaction. There was a marginal main effect of objectification, with participants who focused on the confederate's body acting marginally more aggressively than those who did not,  $F(1, 69) = 3.25$ ,  $P = 0.076$ , partial  $\eta^2 = 0.045$ . As expected, there was also a main effect of provocation, whereby provoked participants acted more aggressively than unprovoked participants,  $F(1, 69) = 10.56$ ,  $P = 0.002$ , partial  $\eta^2 = 0.13$ . These effects were qualified by an objectification  $\times$  provo-

**TABLE 1** Aggression levels as a function of objectification and provocation for male and female participants in Experiment 1

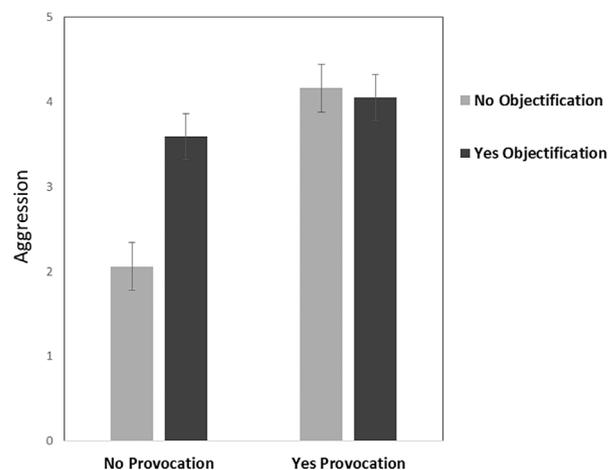
	No provocation			Provocation		
	<i>n</i>	<i>M</i>	( <i>SD</i> )	<i>n</i>	<i>M</i>	( <i>SD</i> )
<b>Males</b>						
No objectification	6	1.83	(1.17)	5	4.40	(2.70)
Objectification	5	3.60	(1.52)	7	3.71	(1.25)
<b>Females</b>						
No objectification	11	2.18	(1.08)	14	4.07	(1.77)
Objectification	12	3.58	(2.02)	13	4.23	(1.83)

cation interaction,  $F(1, 69) = 4.32$ ,  $P = 0.041$ , partial  $\eta^2 = 0.059$ . The pattern of the interaction, however, was different from the predicted one (see Figure 1).

Deconstruction of the interaction revealed that, contrary to expectations, aggression levels under provocation did not differ between the no objectification ( $M = 4.16$ ,  $SD = 1.98$ ) and objectification conditions ( $M = 4.05$ ,  $SD = 1.64$ ),  $t(37) = -0.186$ ,  $P > 0.85$ ,  $d = 0.06$ . In the absence of a provocation, however, aggression levels were higher in the objectification ( $M = 3.59$ ,  $SD = 1.84$ ) than the no-objectification condition ( $M = 2.06$ ,  $SD = 1.09$ ),  $t(32) = -2.95$ ,  $P = 0.006$ ,  $d = 1.01$ . Thus, objectification increased aggressive behavior toward the female confederate only when she did not provoke the participant.

### 4 | DISCUSSION

As predicted, provoked participants were more aggressive than those who were not provoked. Our prediction of a main effect of objectification was not supported. More importantly, however, the main effect of provocation was qualified by a significant objectification  $\times$  provocation interaction. The pattern of the interaction, however, was different from what was predicted. More specifically,



**FIGURE 1** Aggression levels as a function of objectification and provocation

contrary to our expectations, focusing on the confederate's body had no effect on aggression levels in provoked participants. Interestingly, objectification increased aggression significantly when participants were not provoked. This suggests that for provoked participants, the provocation was the more salient and/or motivating factor in retaliating. In the absence of an instigation, however, body focus alone motivated participants to be more aggressive. Thus, our hypothesis that objectification would increase aggression was supported, but not in the context of a provocation.

## 5 | EXPERIMENT 2

In Experiment 2, we attempted to replicate our findings using different procedures. It is possible that focusing on the confederate's body during a face-to-face interaction was an uncomfortable task for many participants. Thus, the confederate (and target of objectification) was presented in a video in Experiment 2. In addition, in Experiment 1, the instructions to participants to focus on the confederate's personality in the no-objectification condition may have lowered aggression relative to the objectification condition. In other words, the difference in aggression levels between the body focus and personality focus condition in the absence of a provocation may have been due a personalization effect in the latter. This is unlikely, given that aggression levels in the no-provocation/no-objectification condition are lower than those in the provocation conditions and seems to have performed as one would expect a proper control condition. Nevertheless, Experiment 2 employed a different control condition in the objectification manipulation to increase our confidence that differences in aggression between the objectification and no-objectification conditions are caused by body focus.

### 5.1 | Method

#### 5.1.1 | Participants and design

A total of 128 students from a British university (80 females, 48 males;  $M^{\text{age}} = 21.38$  years,  $SD = 6.13$ ) participated in Study 2 for course credit or payment. The participants were randomly assigned to a condition in a 2 (no objectification vs. objectification)  $\times$  2 (no provocation vs. provocation) between-subjects factorial design.

All participants were treated in accordance with APA ethical guidelines, and the experiment received prior approval from the departmental ethics committee to ensure it met ethical standards. Informed consent was obtained from all volunteers prior to their participation. Participants were greeted by the experimenter and seated in a private room in front of a computer screen. They were told that the purpose of the study was to examine persuasive argument skills and decision-making, and that the study involved another participant who was placed in another room (see the Appendix for the experiment script). After participants gave their informed consent to participate, they were told that they and the other (bogus) participant would be asked to give persuasive arguments for why a more

expensive cleaning product should be purchased rather than its cheaper competitors. They were also told that the experimenters wanted to examine whether arguments made in a manner where the person could be seen and heard were more persuasive than those made in written form. Thus, all participants were told they would be given 5 min to write their arguments. Ostensibly, the other participant would also take 5 min to compose the arguments, then make them verbally to the participant via a Skype link. This information created the context and justification for the objectification manipulation. After the allotted 5 min has ended the experimenter returned to the room and set up the Skype link to the other participant. In reality, the Skype link was bogus, and the confederate's argument was a pre-recorded video.

Participants in the no objectification condition were asked to focus on how well the confederate delivered their argument and to what extent the confederate's argument made sense. In addition, the confederate in the video wore black long-sleeve sweater that made it difficult to see details of her body. Those in the objectification condition were asked to focus on the appearance, the look and the body of the confederate. The confederate in the video wore a light-colored sleeveless blouse that showed her arms and the area just below the neck. This addition to our objectification manipulation was designed to facilitate focusing on the confederate's body. After the watching the video, all participants completed an evaluation of the confederate's arguments. The feedback was provided using a form consisting of a section for comment and ratings of creativity, persuasiveness, and clarity, using scales that ranged from 1 ("not very much") to 7 ("very much").

Participants were led to believe that the confederate would also evaluate the participants' written arguments and provide feedback. This feedback was the context of the provocation manipulation. Participants in the provocation condition were given bogus negative feedback about their arguments, while those in the no provocation condition were provided with the positive feedback.

The aggression measure was the same as in Study 1. Participants were asked to indicate how long the confederate should hold their hand in ice-cold water, using a scale that ranged from 1(0 sec) to 9 (80 sec). Participants were asked to place their hand inside for a couple of seconds so that they could gauge the temperature. Finally, all the participants were asked to complete the provocation manipulation checks. We conducted a funnel debriefing to assess levels of suspicion about the nature of the experiment. A funnel debriefing involves a series of increasingly detailed questions about the experiment, with the aim of assessing the degree to which participants believed they were deceived or found the procedures problematic in some way. The participants were subsequently fully debriefed.

## 6 | RESULTS

One participant was an outlier and was excluded from the analyses. In addition, due to experimenter error, the provocation manipulation forms for 49 participants (38% of the sample) were not administered. Thus, we report the manipulation check result for the 78 participants

(61% of the sample) who were collected. We created a composite of six items that assessed levels of negative affect resulting from the provocation manipulation (frustrated, angry, offended, annoyed, irritable, and upset). The items in the composite had good reliability (Cronbach's  $\alpha = 0.913$ ). An independent samples *t*-test revealed that participants in the provocation condition experienced higher levels of negative affect ( $M = 2.36$ ,  $SD = 1.278$ ) than participants in no-provocation condition ( $M = 1.21$ ,  $SD = 0.43$ ),  $t(75) = 5.31$ ,  $P < 0.001$ .

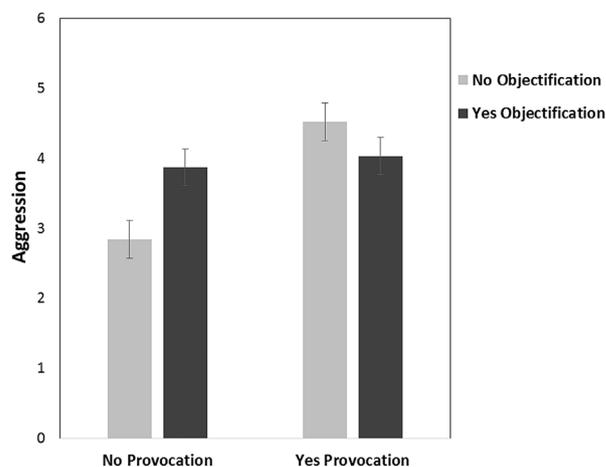
As in Experiment 1, we initially conducted a 2 (objectification, no objectification)  $\times$  2 (provocation, no provocation)  $\times$  2 (male, female participant) between subjects ANOVA. Once again, we found no significant three-way interaction,  $F(1, 119) = 0.65$ ,  $P = 0.42$ , partial  $\eta^2 = 0.005$ . There also was no main effect of objectification,  $F(1, 119) = .44$ ,  $p = 0.51$ , partial  $\eta^2 = .004$ . There was a main effect of provocation,  $F(1, 119) = 7.22$ ,  $P = 0.008$ , partial  $\eta^2 = 0.057$ . Once again, there was a significant objectification  $\times$  provocation interaction,  $F(1, 119) = 4.63$ ,  $P = 0.033$ , partial  $\eta^2 = 0.037$ . The means and standard deviations for males and females are presented in Table 2.

Because there were no gender effects on aggression, this factor was excluded from subsequent analyses. Thus, we conducted a 2 (objectification, no objectification)  $\times$  2 (provocation, no provocation) between subjects ANOVA to test for main effects and the interaction. There was no main effect of objectification,  $F(1, 123) = 0.52$ ,  $P = 0.47$ , partial  $\eta^2 = 0.004$ . However, there was a main effect of provocation, which showed that provoked participants acted more aggressively than unprovoked participants,  $F(1, 123) = 5.57$ ,  $P = 0.016$ , partial  $\eta^2 = 0.046$ . These effects were qualified by the expected objectification  $\times$  provocation interaction,  $F(1, 123) = 4.07$ ,  $P = 0.046$ , partial  $\eta^2 = 0.032$ , which generally replicated the aggression results from Experiment 1 (see Figure 2).

Deconstruction of the interaction revealed that, when participants were provoked, there was no difference in aggression between the no objectification ( $M = 4.52$ ,  $SD = 2.06$ ) and objectification conditions ( $M = 4.03$ ,  $SD = 2.33$ ),  $t(63) = -0.81$ ,  $P = 0.42$ ,  $d = 0.22$ . In the absence of a provocation, however, aggression levels were higher in the objectification ( $M = 3.87$ ,  $SD = 2.28$ ) than the no-objectification condition ( $M = 2.84$ ,  $SD = 1.73$ ),  $t(60) = 2.05$ ,  $P = 0.045$ ,  $d = 0.51$ . Thus, replicating Study 1, focusing on the body of a woman seen in

**TABLE 2** Aggression levels as a function of objectification and provocation for male and female participants in Experiment 2

	No provocation			Provocation		
	<i>n</i>	<i>M</i>	( <i>SD</i> )	<i>n</i>	<i>M</i>	( <i>SD</i> )
<b>Males</b>						
No objectification	10	2.50	(1.27)	11	5.36	(2.25)
Objectification	18	3.78	(2.34)	8	4.25	(1.83)
<b>Females</b>						
No objectification	22	3.00	(1.90)	20	4.05	(1.85)
Objectification	13	4.00	(2.27)	25	3.96	(2.49)



**FIGURE 2** Aggression levels as a function of objectification and provocation

a video presentation increased aggressive behavior toward her only when she did not provoke the participant.

## 7 | GENERAL DISCUSSION

In two experiments, our findings showed that objectification of a woman increased aggression toward her in the absence of a provocation. This effect was independent of participant age, and the pattern of results were very similar across participant gender. Importantly, and in contrast to all previous research (Bernard et al., 2012; Gervais et al., 2012; Loughnan et al., 2010), this effect was observed using a real female target (v. an image of a woman) that participants directly objectified, and using a physical measure of aggression where participants believed that they were inflicting real (v. hypothetical) pain on that woman.

The current studies provide experimental evidence for a long-suspected (Dworkin, 1989; Kant, 1797/1996; MacKinnon, 1987) but previously unsupported link between objectification and aggression. It is well established that men who tend to objectify women are more likely to possess a suite of aggressive attitudes and beliefs, including increased likelihood to sexually harass and increased rape proclivity (Rudman & Mescher, 2012). Further, women tend to possess very negative views of objectified women (Vaes et al., 2011). Moreover, as previously stated, correlational research has linked objectification of girls to non-sexual aggression toward them in youth (Vasquez et al., 2017). The current study extends those findings and suggests that sexual objectification has a direct impact on aggression, triggering aggressive behavior in the absence of a provocation.

Our research expands the list of detrimental effects of sexual objectification for females. Focusing on a woman's body has important intra-personal consequences for that woman. For instance, anticipating a sexualized gaze triggers increased body anxiety and body shame (Calogero, 2004), recalling it leads women to feel less human (Loughnan et al., in press), and directly experiencing that gaze leads to impaired cognitive performance (Gay & Castano, 2010) and diminished social

presence (Saguy, Quinn, Dovidio, & Pratto, 2010). The current findings add an important interpersonal dimension to the act of objectifying others by gazing at them, namely, increased aggression.

It is worth noting that our findings demonstrate that minimal conditions for objectification were enough to elicit heightened aggression. Participants were simply instructed to focus on the woman's physical appearance; the woman wore no provocative clothing that would attract undue attention to her body without prompt. In real world situations in which objectification may be more strongly induced—even encouraged—aggression levels are likely to be more intense and have more serious implications. For instance, situations involving prostitution or sexual exploitation are likely to induce more extreme levels of aggression and violence, including torture and homicide.

Regarding the lack of effect under provocation, it is important to note that the manipulations of objectification, which primarily used body focus, were likely to be subtle. As a result, when combined with a provocation, the latter factor was more salient, and thus, became the source of motivation to aggress. It may be that more impactful or extreme inductions of objectification, which can induce more powerful dehumanization effects, do interact with provocations to further augment aggression. For instance, the more intense objectification of sex workers may lead to higher levels of aggression and violence toward them, and this may be particularly true if they are perceived to provoke an aggressor.

In addition, it may be that objectification can interact with ambiguous provocations to augment aggression. More specifically, the aggressive priming induced by moderate levels of objectification seem to have little impact on aggression in the context of a clear or salient provocation. When a provocation is ambiguous and provoked individuals are normally willing to give the benefit of the doubt and inhibit aggressive responding, however, objectification may be more likely to induce hostile attributions and perceptions that can interact with the instigation and affect aggression. This is because the accessibility of aggression-related cognitions in memory induced by aggressive priming (in this case, objectification) is more likely to affect the interpretation of ambiguous rather than clear or obvious social events (see Todorov & Bargh, 2002). As a result, individuals may be less willing to inhibit aggression. This is analogous to findings by Pedersen, Vasquez, Bartholow, Grosvenor, and Truong (2014), which showed that alcohol priming increased aggression following a provocation only when the provocation was ambiguous. Future research should examine these possible interactions between different types of provocation and the strength or intensity of objectification.

With regards to the potential link or overlap between our research and previous research examining the effect of erotic stimuli on aggression (e.g., excitation transfer), it is important to point out that ours differs on some important dimensions. First, our research examined the effect of objectifying a person who subsequently becomes the target of aggression from the objectifier. In the case of excitation transfer, the objectified individual (s) is not targeted for aggression. Indeed, in order to induce the misattribution of arousal, the initial induction of arousal is unrelated to the provocation induction in that paradigm (see Zillmann, 1971). Second, although looking at a

woman's body can be arousing, our manipulations were unlikely to be highly arousing. Some research suggests that for provoked individuals, mildly erotic stimuli (less arousing) can reduce aggression (see Baron, 1974b). Third, incidental arousal increases aggression primarily when an individual has been provoked. In our experiments, objectification did not increase in aggression in the provocation condition. Thus, it is unlikely that excitation transfer explains our findings, though there is some overlap between that paradigm and ours.

As previously discussed, erotic stimuli that contains aggressive cues (e.g., depictions of forceful sex) increases aggression toward a target not involved in the stimuli (Donnerstein & Berkowitz, 1981). Such objectification inductions impact aggressive behavior via aggressive priming and/or the transfer of incidental arousal to the experience of anger. Our research paradigm, however, controlled for aggressive cues and aggressive priming, thereby showing that the inclusion of aggressive cues in the induction of objectification is not necessary to augment aggression.

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**How to cite this article:** Vasquez EA, Ball L, Loughnan S, Pina A. The object of my aggression: Sexual objectification increases physical aggression toward women. *Aggressive Behavior*. 2018;44:5–17. <https://doi.org/10.1002/ab.21719>

## APPENDIX

### Experiment 1 Script

#### Extra Sensory Perception, Impression Formation and Decision Making Protocol

While experimenter waits for participant to arrive they should check what condition the participant will be in and prepare the appropriate manipulations/materials. Date and time should be recorded on the subject log. When the participant arrives the experimenter should ensure they are in the correct location and that they are the person who has booked that specified time slot. Participant should be seated and told that one more participant is due to arrive. The confederate, upon receiving a pre-arranged signal, such as the lab door being closed, knocks on the lab door as though they are a genuine participant arriving for a study.

*Hi which study are you looking for? Ok, you're in the right place, please go to room. . . where another experimenter will be waiting for you, do you know where that is? Ok, thanks*

The confederate leaves. Provide the participant with two consent forms and ask them to complete and sign them.

When the participant has done this, introduce them to the study:

*Welcome to our study "Extra Sensory Perception, Impression Formation and Decision Making". This study aims to investigate participant's level of Extra Sensory Perception (ESP) and the impression that two people can form of each other after engaging in a task together. Additionally you both will be asked to complete an essay detailing your opinion on a controversial topic. When this is completed you will be asked to evaluate each other's work. Lastly we will be investigating the effect of decision making and distraction on both participants performance in a cognitive task.*

*The duration of the study will be around 50 minutes; you will receive 4 credits or £5 for your participation. I need to remind you that your participation in this research is completely voluntary and that at any time during the study you can withdraw and still receive your credits without any questions asked. Do you have any questions at this point?*

*One factor that will be used in the analysis of the effects of your interaction is both participant's demographics, e.g., gender, age, ethnicity etc. Therefore before we begin I will just ask you to complete this demographics questionnaire.*

Provide participant with demographics questionnaire and leave the room for 1 or 2 min to allow for them to complete this and to inform the confederate that soon they will be required to interact with the participant. Re-enter the room and take the completed demographics questionnaire from the participant.

#### Objectification Manipulation

Objectification Condition:

*Ok the next part of the experiment involves an interaction between you and the other participant. You will be required, after your interaction with the participant, to complete a questionnaire regarding your impression of them. During your interaction please focus on the participant's physical appearance. We're going to bring the other participant in here because this room is bigger. If you wait just one moment I will fetch them.*

Non-Objectification Condition:

*Ok the next part of the experiment involves an interaction between you and the other participant, you will be required, after your interaction with the participant, to complete a questionnaire regarding your impression of them, during your interaction please focus on the participant as a person. We're going to bring the other participant in here because this room is bigger. If you wait just one moment I will fetch them.*

All Conditions:

Leave the room and fetch the confederate for the next task. Re-enter the room followed by the confederate.

*(To Confederate) Please come in and take a seat, this is (participant's name) and this is (confederate's name). Ok so the task that I'm going to ask you two to complete is a task investigating your levels of Extra Sensory Perception, this is explained on the task sheet. Do you have any questions at this point? Ok I'll go next door and give you two 5 minutes to complete the task. If you finish the task before I return, please sit quietly, so as not to produce any cognitive distractions.*

Leave the room for approximately 5 min, checking back occasionally in case the confederate and participant have finished the task, to ensure they are not left alone and off task for a large amount of time.

After 5 min, go back into the lab:

*Ok if you two have finished the task I'm going to separate you up again for the next task, (To Confederate) if you'd like to go back to the room you were in, do you remember where it is? Ok good the same experimenter will be waiting for you.*

Confederate Leaves.

#### Provocation Manipulation

*Do you have any questions about the task you just completed? Ok good. For this next task I'm going to ask*

you to complete a short essay task. I will hand you the paper with the question on it and there is some space for you to write your answer. You should aim to fill all of the lines, but take no longer than 5 minutes to complete the whole task. The essay question will require you to write your views and reasons for holding these views, on a randomly selected controversial topic. Do you have any questions? Ok, here is the essay paper, I'll be back in about five minutes.

Hand the participant the essay task sheet. Leave the room. Ensure that the correct evaluation (according to which provocation condition the participant is in) has been written by the confederate, ready for the next part of the study.

After 5 min re-enter the lab with the confederate's essay, if they are not finished inform them that they can have 1 more minute, but because of time pressures that's all the extra time they can have.

*Have you finished? Ok brilliant, now that you and the other participant have both completed the essays I'm going to ask you to evaluate each other's work. Here is the other participant's essay and an evaluation task sheet. There are instructions on the sheet detailing how to mark the other participant's essay. Do you have any questions? Ok I'm going to give you five minutes from now to complete your evaluation, whilst I run next door and deliver your essay to the other participant to evaluate.*

Leave room hastily.

After 5 min, re-enter the lab, if the participant has not finished inform them that they can have 1 more minute, but because of time pressures that's all the extra time they can have.

*Have you finished? Ok good, now that you have both finished evaluating each other's work, we will swap the evaluations over so that you can read what your partner has written. Here is your partner's evaluation of your work, if I could have your evaluation I will take it next door for your partner to read.*

Take the evaluation sheet to the other lab. Leave the participant for a minute, enough time for them to read the evaluation once and twice and ruminate over what is written. Re-enter the lab, with paper towels, and a bucket of ice cold water:

### Aggression Measure

*Ok so the essay part of the study is over, do you have any questions so far? Ok now we move onto to the distraction task. It has been found in previous research that if a person makes a decision before engaging in a cognitive task, it enhances their performance on that task compared to performance after not having made a decision beforehand.*

*We want to see if this is still true when a person is distracted whilst carrying out the task. Additionally, we want to see how effective the distraction is depending on what sense modality is being distracted, e.g., vision, touch, hearing etc. In this task you will both engage in a cognitive task whilst being distracted, the decision you will both make before the task, is how long your partner will be distracted for. (From memory) It was randomly determined that you will receive a visual distraction, so you will see some scenic views during your task. It was also randomly determined that your partner will receive a touch distraction, so they will hold their hand in ice cold water whilst doing the task. So, your partner will decide how long you will view the scenic views for during your task, and you will decide how long your partner will hold their hand in ice cold water for during their cognitive task. You will both make this decision at the same time, and so your decision will not affect theirs and vice versa. Do you have any questions so far?*

*Ok so that you can have knowledge of just how cold the water is, I'm going to ask you to hold your hand in this water for a couple of seconds.*

Make sure the participant holds their hand in the water for about 2 sec. Hand them plenty of paper towels so that they can dry their hands thoroughly.

*Ok so now I'm going to hand you a sheet for you to indicate how long you would like the other participant to be distracted by holding their hand in this ice cold water for. You should indicate your desired number of seconds by circling the relevant number. When you have indicated how many seconds, please place the sheet into this brown envelope and slide it under this door (point to the lab door). Your decision is confidential, I will not see this piece of paper, the other experimenter, whom you have not and will not meet, will collect the envelope when you have slid it under the door and run the distraction. Additionally I'm going to give you a questionnaire, please fill this out once you have slid the envelope under the door, whilst you wait for me to set up your distraction and cognitive task. Do you have any questions? Ok I will give you a few minutes to complete everything.*

Leave the room with the ice bucket and paper towels. Once the participant has slid the envelope underneath the door, collect it and take it to the other lab. Give the participant 2 more minutes to complete the questionnaire with the manipulation checks. Re-enter the lab and collect the questionnaire from the participant.

*Ok the study is over. You will not be engaging in a cognitive task, it will become clear why very soon.*

Before participants get the debriefing information, state and ask the participant the following questions in order to assess levels of suspicion and comprehension:

*The experiment is now over. Before I tell you more about it, please, tell me what you thought of the study. Was there anything that seemed strange or unusual?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*Was there something that didn't make sense in the experiment?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*What did you think about the other participant?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*What did you think of the evaluation you got from the other participant?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*Did you think the other participant was really there?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*Can you tell me what you think the study was about?*

After they answer, write down their suspicion levels about the study, their idea of the purpose of the study, and whether they thought there was really another participant. Then give them the debriefing form and read what it says.

### Experiment 2 Script

Before the study begins, make sure all the materials are ready. Upon arrival, put each participant in a room by himself/herself. Make sure they are in the correct study and in the correct condition. Introduce yourself and read the following introduction (do not read too fast, make sure subject is paying attention and maintain some eye contact):

To participants:

*Thank you for participating in our study "Emotional Intelligence, cognitive abilities and mental performance". We are interested in studying how sensory distraction and*

*your understanding of emotions might impact performance in cognitive tasks and in decision-making. In addition, we want to study how cognitive abilities might impact appraisal and impression formation between two people when there is no direct or face-to-face interaction. This is similar to people interacting over the internet. Millions of people engage in this act, but there is very little research on its effects. So, I need to let you know that this study partly involves another person who signed up under a different study number and name. You will have a distant interaction with the other participant later on, but you won't actually face each other. I just needed to explain this to you before we continue. Any questions? At this point, I need to remind you that your participation in psychological research is completely voluntary, and you can end your participation at any time and still receive credit. Do you have any questions about that? Please, just fill the forms in front of you, and I'll return in a few minutes.*

Give the participant initial info sheet and consent form and go back to the room about 3 min later.

### Part 1: Impression Formation Task

Collect the consent forms, and give the participant their copy. Read the following:

*Ok, thank you for volunteering in our study. We can get started. As previously stated, this study examines how the effects of people's understanding of emotions, mental skills, and distraction can affect performance in mental tasks and the impression that people form of others when they interact at a distance. You and the other participant will interact to some degree during the experiment.*

*Now we are going to assess the impression that you and the other person form of each other over different mediums. This is where you and your partner will interact, but it will be a distant interaction. In this task you will be given five minutes to write a persuasive argument as to why more expensive cleaning products should be purchased instead of its cheaper alternatives. So, your arguments will be in written form. Meanwhile your partner will communicate their arguments verbally to an audience, which is you. We will film them and you will watch the video after. You will evaluate each other's essay. I'll now give you five minutes to complete your essay.*

Give the participants the task sheet for the essay, and 5 min to complete the essay.

### Part 2: Objectification and Provocation Manipulations

Collect the essay from the participant. State to participants:

*Thank you. I will take your essay to the other participant, and they will evaluate it. We have access to the video now so you will now watch the video of your partner.*

Start the video.

**Objectification condition:** *"I'd like you to focus on the appearance, looks and body of your partner. Please let me know once you have finished watching the video."*

**No Objectification condition:** *"I'd like you to focus on how well the arguments are delivered, how much sense the arguments make and the personality of your partner. Please let me know once you have finished watching the video."*

Show Video relevant to condition and leave the room.

When the participant is finished watching the video, state:

*Now would you please rate the quality of the argument of your partner using this form. I will bring the evaluation the other participant gave your essay in a few minutes.*

Give participant evaluation sheet and a couple of minutes to complete it.

### Provocation Manipulation

Bring either a provocation or a non-provocation evaluation for the participant to read. State to participants:

*Here is your partner's evaluation of your essay. Please take a couple of minutes to look at it and I'll return to continue the study.*

### Part 3: Aggression Measure

Prepare the bucket and get a paper towel for the participant. Get the forms you will need ready (number to memorise, aggression measure, etc.). Return to the room, collect the forms from the participant. Next, state the following:

*The next task will examine sensory distraction effects on cognitive abilities. We want to know how distractions during a mental task can affect performance in people. You and the other participant will individually perform a cognitive task while being distracted. For the decision-making part of this last task you and the other participant will decide how long the other person is distracted. So, you get to say how long your partner will be distracted and vice versa. You and the other participant will make this decision at the same time, so how long you decide your partner should be distracted will not affect their decision about how long you should be distracted.*

*We need you to see how distracting placing a hand in the water will be for the other person. So, I'm going to ask you to place your hand in this bucket for just a couple of seconds.*

Let participant put their hand in the water. If they do not want to, explain it is important for them to know how distracting the water is and politely ask them to do it again. Then, given them the paper towel to dry their hands with. Then continue:

*You will indicate how long your partner will hold her hand in the water by filling this form (give the participant the form). When you are done, just put it in this envelope and slide under the door. The experimenter in charge of the distraction will pick it up and deal with it. Your information is very important and therefore, it is confidential. Go ahead and start after I leave the room.*

Check to see if participant has completed the aggression form. If after a couple of minutes they have not done it, enter the room and ask them if they completed the measure.

Once the form as been completed, state:

*Thank you, please fill out this questionnaire on how what you thought of the evaluation you got from the other participant.*

Give the questionnaire to the participant and allow about 3 min to complete.

Collect the packet and state: *Finally, could you answer these last few questions*

### Debriefing:

During the start of the debriefing, before participants get the debriefing information, state and ask the participant the following in order to assess levels of suspicion:

*The experiment is now over. Before I tell you more about it, please, tell me what you thought of the study. Did anything seem strange or unusual?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*Did anything seem inconsistent? Was there something that didn't make sense in the experiment?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*What did you think of the evaluation you got from the other participant?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*What did you think about the other participant?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*Did you think the other participant was really there?*

Give the participant a chance to comment, and make note what they say, then ask the following:

*Can you tell me what you think the study was about?*

After they answer, write down their suspicion levels about the study, their idea of the purpose of the study, and whether they thought there was really another participant. Then give them the debriefing form and read what it says.