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Objects of Desire: The Role of Sexual Arousal in the Sexual Objectification of Women by Men

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ABSTRACT

The detrimental effects of sexual objectification on women's psychological and physical well-being are well established, yet little is known about the proximal mechanisms that lead men to objectify women. In the present research, we introduced and found support for the *Arousal Hypothesis of Sexual Objectification*, which posits that, beyond dispositional traits (e.g. personality), temporary states of sexual arousal increase the sexual objectification of women. Across four experiments ($N = 675$), we found consistent evidence that heightened sexual arousal increases sexual objectification in men. In Experiment 1, sexually aroused men showed a greater preference for women's sexual physical attributes (e.g. curvy, sexy) over psychological attributes (e.g. empathy, intelligence), as assessed by a novel State Sexual Objectification (SSO) task. Experiment 2 demonstrated that this effect occurred only for sexualized physical attributes rather than physical attributes more generally. Experiments 3 and 4 established convergent validity between the SSO task and trait objectification measures. Critically, Experiment 4 revealed that the effect of sexual arousal on objectification was attenuated by induced empathy, but only when controlling for Dark Triad traits. This more tentative finding indicates that empathy-based interventions could be promising, but their effectiveness may depend on men's underlying dispositional traits. Across all studies, neither personality traits (Dark Triad, Social Dominance Orientation, Sociosexual Orientation) nor relationship status moderated the arousal-objectification link. These findings identify sexual arousal as a robust, state-based contributor to sexual objectification, offering new insights into when and why men objectify women and avenues for context-sensitive interventions.

"Men fantasize about copulating with bodies; women fantasize about making love to people."

Steven Pinker, 2011

Introduction

Sexual objectification refers to the process whereby an individual is reduced to their sexual function, neglecting mental characteristics (Anderson et al., 2018; Civile & Obhi, 2016; Fredrickson & Roberts, 1997; Gervais et al., 2013; Lachowicz-Tabaczek et al., 2021). Sexual objectification occurs among, and toward, both sexes and can be directed toward others, or the self. However, it is mostly women who suffer the negative consequences of sexual objectification in heterosexual contexts, with well-documented effects on psychological and physical well-being (Calogero, 2012; Fredrickson & Roberts, 1997; Moradi & Huang, 2008).[1] For instance, research suggests that objectification can lead to feelings of anger, reduced self-esteem, eating disorders, self-objectification, depression, and diminished rapist blame (Bernard et al., 2015; Peat & Muehlenkamp, 2011; Roosmalen & McDaniel, 1999). Understanding why and when objectification happens is essential for understanding how to reduce its harmful effects.

To date, research has mainly focused on the role of personality (e.g., social dominance) in the sexual objectification of women by men (Bareket & Shnabel, 2020). For instance, recent research revealed that Dark Triad traits are associated with objectification in sexualized contexts (Costello et al., 2020). These dispositional, trait-like factors clearly play an important role in the objectification of women and wider gender-based harm (Malamuth et al., 2021). However, research to date has neglected the role of temporary state-like factors, such as sexual arousal, in the objectification of women (Wisman & Thomas, 2023). Sexual arousal is associated with substantial physiological (e.g., hormonal, parasympathetic activation), cognitive, and behavioral changes (Ariely & Loewenstein, 2006; Bancroft et al., 2003; Wisman & Thomas, 2023), including an increased desire for short-term mating (i.e., brief or casual sexual encounters) which is associated with questionable moral behavior in the pursuit of sex (Ariely & Loewenstein, 2006; Wisman & Thomas, 2023). Nonetheless, there is no research that directly tests if sexual arousal increases objectification of women by men.

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[1]Although women can and do objectify men, the empirical literature is comparatively limited, and the documented consequences for men tend to be less frequent and less severe than those observed among women. Existing work suggests that objectification of men by women often occurs in more circumscribed or appearance-focused contexts, and its psychological impact remains less well-established. For these reasons, the present perspective focused on heterosexual men as agents of objectification, while recognizing that examining parallel processes among women is an important direction for future research.

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Objectification and Dispositional Personality Traits

A large body of research studying problematic sexual behavior focuses on the role of personality. The confluence model of sexual aggression, for example, includes the personality factors of sociosexuality (often branded as "impersonal sex") and psychopathy (a Dark Triad trait), stable attitudes such as hostile masculinity, and contextual factors such as peer pressure. Such models are often highly successful at predicting behavior – a recent test of the four pillars of the confluence model predicted almost 50% of the variance in sexual violence (Malamuth et al., 2021).

Such personality factors prove useful for predicting objectification more specifically. For instance, Lachowicz-Tabaczek et al. (2021) found that narcissistic individuals tend to objectify others because of their tendency to focus on their own needs and ignore the needs of others. Similarly, Costello et al. (2020) further found both narcissism and psychopathy were strongly associated with objectification. The traits of the Dark Triad are predictors of objectification because they share core conceptual features with objectification, such as discounting others' feelings and treating others as a tool for pleasure (Costello et al., 2020).

Those unrestricted in their sociosexuality tend to have a "sex first" perspective on relationships that can manifest itself in objectifying sexual coercion and harassment (e.g., denigrating comments on the body, sending naked pictures; Bendixen & Kennair, 2017). They also show greater willingness to engage in voyeuristic and exhibitionistic acts, particularly under levels of low risk. Such objectifying acts, which involve viewing the breasts or genitals of others, or exposing them to one's own, require disregarding the agency, feelings, and consent of others (Thomas et al., 2021).

A common limitation in research on gender-based harm is that it has largely focused on relatively enduring personality traits as predictors of objectification and related behaviors. In such approaches, harm is explained by stable individual differences (e.g., dominance, callousness) that may translate into action given the right opportunity or disinhibiting context (e.g., peer approval, alcohol). However, this focus on traits overlooks the role of temporary *state-like* shifts in motivation and perception. Even brief exposure to evolutionarily relevant cues can produce short-lived changes in sociosexual orientation and sexual strategy (Thomas & Stewart-Williams, 2018; Wisman & Thomas, 2023). These moment-to-moment shifts can occur "in the heat of the moment" and may meaningfully shape whether and how objectification unfolds. One particularly relevant state is *sexual arousal*, which fluctuates rapidly and has been shown to heighten motivation for short-term mating in men (Wisman & Thomas, 2023). This suggests that sexual arousal may play a direct role in objectification processes.

Objectification in an Evolutionary Context

Sexual arousal might seem irrelevant to advocates of a power-dynamic approach to gender-based violence that sees objectification as a tool to assert dominance over women (Bareket & Shnabel, 2020). According to this perspective, objectification has less to do with sex itself and more to do with ensuring and maintaining power. While some almost certainly use objectification to denigrate others, perspectives that downplay the role of sexual motives in objectification might be missing out on a full understanding of why and when objectification happens.

In contrast to power-based accounts that emphasize dominance, control, and dehumanization as the primary drivers of objectification, an evolutionary perspective highlights how sexual motivation can temporarily direct attention toward physical traits, particularly when individuals are sexually aroused. From this viewpoint, it is plausible that humans evolved to attend to physical aspects of potential mates for two reasons. First, these aspects provide important information to help *evaluate* partners as prospective mates. For instance, an abundant number of studies suggest that men prefer a lower waist-to-hip ratio (WHR), and in turn, lower WHR rates are associated with increased fertility (Singh, 1993). Similarly, around 70% of men's bodily attractiveness is accounted for by their perceived strength, a potential cue for women of a man's formidability, genetic quality, and ability to secure resources (Sell et al., 2017). Second, because sex is often an emotional experience but always a physical one, attending to the body can help *facilitate* the act of sex itself. Thus, ancestors with a tendency to focus on the physical aspects of the opposite sex when aroused would have benefitted from increased reproductive success relative to their peers by choosing more fertile and high-quality mates and orienting themselves toward sex (Confer et al., 2010; Maner et al., 2008). Over time, such tendencies would have become more common, as a central feature of human mating psychology.

If physical traits contain information relevant to mating, then why would we evolve to attend to them preferentially under certain states? One argument is that cognitive resources have limits and trade-offs, and so it is better for such an adaptation to be interactive rather than "always on" (Schmitt & Pilcher, 2004).

Thus, we might expect focused attention toward physical traits (and the inferences that follow from such attention) to increase particularly when sexual motivation is heightened, as this is when such information is most functionally relevant (Confer et al., 2010). In this view, sexual arousal instigates a state-oriented "mating mindset" where sexual opportunities are prioritized.

Overview and Hypotheses

The current research addresses for the first time whether sexual arousal can enhance the objectification of women by men. This is important because previous research has focused mainly on trait (e.g., personality, attitudes) and situational (e.g., peer influence, social context) factors to explain objectification. While such research has made important contributions to explaining between-person variance, it largely overlooks within-person sources of variation, namely short-term "state" changes in mating psychology which may exhibit universality due to their adaptive function.

In light of the current theorizing, we propose the *Arousal Hypothesis of Sexual Objectification*, which suggests that because focusing on evolutionarily relevant physical traits has historically provided an adaptive advantage in mating contexts, humans are prone to sexual objectification when sexually aroused, regardless of their trait-like tendencies. Given the foundational role of sexual arousal in mating strategies, its inclusion is essential in any framework aiming to explain the full complexity of human sexual cognition and behavior. Note that for the current purpose, we focused solely on men, as sexual objectification is more commonly observed in male perceivers and is reliably triggered by visual cues linked to reproductive value, particularly under sexual arousal (e.g., Gervais et al., 2013; Wisman & Thomas, 2023)

Two predictions can be derived from the *Arousal Hypothesis*:

Prediction 1: Sexually aroused men (as opposed to men who are not sexually aroused) will show greater interest in the physical and sexual attributes of women than in their psychological characteristics.

Prediction 2: The effect of sexual arousal will persist when controlling for personality traits (e.g., sociosexuality, Dark Triad, social dominance orientation).

We tested these predictions across four experiments. Experiments 1 and 2 used two different state-based measures of objectification to test whether sexually aroused men show more interest in women's physical over mental attributes. Experiment 3 included both state and trait measures of objectification and controlled for individual differences in sociosexuality, Dark Triad traits, and social dominance orientation to test whether arousal effects persist when controlling for dispositional risk factors.

In Experiment 4, on an exploratory basis, we examined whether the sexual objectification effect could be attenuated by empathy, a trait known to reduce dehumanization and promote perspective-taking (Cogoni et al., 2018). This allowed us to test whether higher empathic concern buffers against the objectifying effects of sexual arousal.

Prediction 3: The relationship between sexual arousal and sexual objectification will be attenuated among men who are sensitive to empathetic concerns in the induced empathy condition.

Experiment 1

Method

Participants

Participants were 154 heterosexual men recruited via MTurk (M_{age} = 34.81, SD = 9.05) who received $2.00 for participating in a short study ostensibly concerned with attraction and personality. In all 4 experiments, eligibility for participation required identifying as heterosexual. Sexual orientation was pre-screened by the recruitment platform and confirmed again at study entry via a self-report item ("Please indicate your sexual orientation"), with only those selecting heterosexual permitted to proceed.

Procedure and Materials

The experiment was programmed in Qualtrics. After participants filled out a consent form that gauged if they were male, over the age of 18, and aware of the potential sexual content, we measured (using a 9-point Likert format, where 1 = *not at all* and 9 = *very much*), participants' base rate level of state sexual arousal (M = 3.31, SD = 2.47), how positive they felt (M = 6.23, SD = 2.04), and how negative they felt (M = 3.18, SD = 2.33). Furthermore, participants were asked to estimate how many times per week they watched pornography on a six-point scale: 0 (7.1%), 1–2 (31.2%), 3–4 (24.7%), 5–6 (21.4%), 7–8 (8.4%), and 9+ (7.1%).

Next, participants completed the revised Socio-sexual Orientation Inventory (SOI-R; Penke & Asendorpf, 2008), a 9-item questionnaire that measures willingness to have sex in the absence of commitment. The SOI-R has three components (behavior, attitudes, and desire). Each item is measured on a 1 to 9 scale, though the scale labels differ by component. Example items include: "How many partners have you had sex with on only one occasion?" (behavior; M = 3.87, SD = 2.02, α = .81); "Sex without love is OK" (attitude; M = 5.59, SD = 1.04, α = .70); and "How often do you have fantasies about having sex with someone you are not in a committed romantic relationship with?" (desire; M = 4.94, SD = 2.10, α = .59). We computed the standard SOI-R total composite as the mean of all nine items (M = 4.75, SD = 1.16).

This was followed by the Dark Triad (SD3; Jones & Paulhus, 2014), a 27-item questionnaire that measures Machiavellianism, narcissism, and psychopathy. All items of the SD3 were answered using the scale from 1 - *Disagree strongly* to 5 - *Agree strongly*. Example subscale items include "Avoid direct conflict with others because they may be useful in the future" (Machiavellianism; M = 3.17, SD = 0.83, α = .82), "I have been compared to famous people" (narcissism; M = 2.89, SD = .71, α = .80), and "Payback needs to be quick and nasty" (psychopathy; M = 2.55, SD = .88, α = .79). We computed the SD3 composite as the mean of all 27 items (M = 2.87, SD = .67, α = .89). Full supplementary analyses involving SOI-R and SD3 subscales are reported in the online Supplementary Materials.

After this, participants were randomly assigned to a sexual arousal condition or a non-sexual arousal control condition. In the sexual arousal condition, participants were shown 15 erotic images and 15 erotic GIFs (NAPS-ERO; Wierzba et al., 2015; Wisman & Thomas, 2023). In the control condition, participants watched 15 images and 15 GIFs of people engaging in non-sexual but arousing activities such as bungee jumping and cliff diving (Galentino et al., 2017; Lang et al., 2011; Wisman & Thomas, 2023).

The erotic stimuli consisted of both solo female images and heterosexual couples. The neutral-arousal stimuli likewise depicted human figures but engaged in non-sexual activities.

Thus, both conditions included images of people; the key difference was the presence versus absence of sexual content.

The randomly presented visual stimuli in both conditions were displayed for a minimum of three seconds to ensure sufficient processing, and a maximum of ten seconds to limit prolonged viewing and potential habituation (Janssen et al., 2000; Prause et al., 2015). After viewing the stimuli, participants completed a short set of manipulation-check items assessing how sexually aroused, interested, bored, positive, and negative they felt during and after watching the images/GIFs. All items were scored on a scale from 1 (Not at all) to 7 (Very much).

Hereafter, participants were presented with the State Sexual Objectification (SSO) task inspired by the well-established self-objectification scale of Noll and Fredrickson (1998). The SSO was developed to measure participants' "state" levels of objectification in an unobtrusive, subtle manner to avoid response bias. Specifically, the SSO measures the relative importance that participants give to ten sexual attributes (e.g., curvy, sexy; $M = 6.05$, $SD = 2.29$, $\alpha = 0.94$) of women relative to ten mental attributes (e.g., intelligent, humorous; $M = 7.14$, $SD = 1.84$, $\alpha = 0.93$) in that moment in time. Each "attribute" word was preceded by the question, "How desirable do you find the following attribute in a woman at this moment in time?" (on a Likert scale from 1 - *Not at all* to 10 - *Very much*), followed by one of the randomly presented attributes.

At the end of the study, participants filled out a standard demographic form asking about their nationality, country of origin, age, sexual orientation, and relationship status. Furthermore, they completed several experimental checks, including about what they believed the purpose of the study to be (open-ended question); their level of concentration during the study ("My level of concentration during the study was; 1 = Good, 2 = Okay, and 3 = Not Good"); where they did the study ("I did the study: 1 = at home; 2 = at College/University; 3 = Internet Café; 4 = At work; 5 = Other"); and how long they took to complete it (I did the test in: 1 = One go, 2 = In the course of an hour, 3 = Spread over a few days"). Finally, participants were debriefed and thanked for their participation.

Results and Discussion

Self-Report Valence

First, we tested if the manipulation affected participants' self-reported positive affect, negative affect, sexual arousal, and interest in the stimuli. We found that participants typically showed more interest in the stimuli in the sexual arousal condition ($M = 5.45$, $SD = 1.56$) than in the neutral arousal condition ($M = 4.47$, $SD = 1.94$), $F(1, 152) = 11.88$, $p < .001$, $\eta_p^2 = .07$. They also indicated that they felt that the sexual visual stimuli were less boring (Sexual: $M = 3.83$, $SD = 2.13$ vs Neutral: $M = 3.03$, $SD = 2.20$), $F(1, 152) = 5.30$, $p = .023$,$\eta_p^2 = .03$. Furthermore, participants in the sexual condition felt more positive when observing their stimuli (Sexual: $M = 5.21$, $SD = 1.75$ vs Neutral $M = 4.59$, $SD = 1.91$), $F(1, 152) = 4.32$, $p = .039$, $\eta_p^2 = .28$. However, they experienced similar amounts of negative feelings ($p > .27$).

As predicted, participants in the sexual arousal condition reported more sexual arousal whilst watching the GIFs and pictures ($M = 5.12$, $SD = 1.91$) as compared to the neutral condition ($M = 2.64$, $SD = 1.91$), $F(1, 152) = 64.54$, $p < .001$, $\eta_p^2 = .29$. They also reported being more "sexually aroused right now" (state sexual arousal) (Sexual: $M = 5.04$, $SD = 1.92$ vs Neutral $M = 2.92$, $SD = 2.06$), $F(1, 152) = 43.40$, $p < .001$, $\eta_p^2 = .22$. Controlling for interest in the stimuli and positive/negative affect did not qualitatively change the effect of condition on state sexual arousal.

For clarity and consistency, the primary analyses are reported without including baseline mood, baseline arousal, or pornography consumption as covariates, as these variables reflect general individual differences rather than effects of the manipulation and are not central to the theoretical model. These baseline variables were examined exploratorily and are reported in the Supplementary Materials; their inclusion did not change the direction or significance of the primary effects, so we present the unadjusted models in the main text. Manipulation checks are retained in the main analyses, as they confirm the effectiveness of the experimental manipulation. All analyses are reported without participant exclusion. Theoretical individual-difference variables (e.g., relationship status, sociosexuality, Dark Triad) were examined in separate follow-up analyses as specified below.

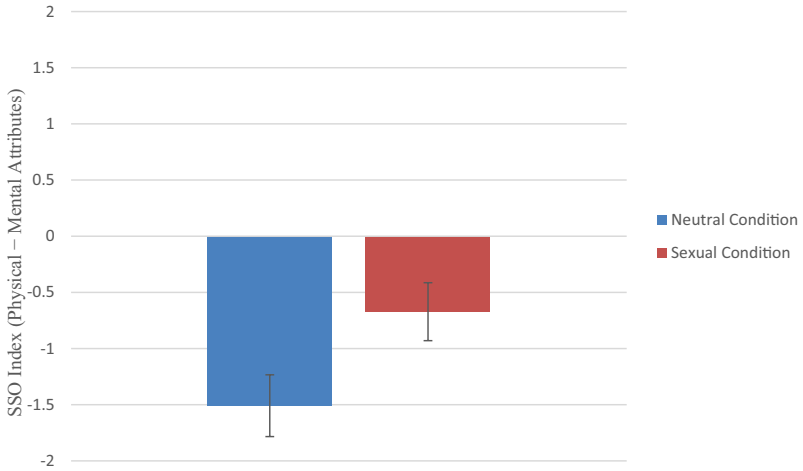
State Sexual Objectification

With a one-way ANOVA, we tested our main hypothesis that the sexual (vs neutral) condition would increase participants' objectification as measured with the SSO (State Sexual Objectification). Note that higher (less negative) SSO scores reflect greater emphasis on physical attributes. As predicted, men in the sexual condition showed a higher relative preference for the physical attributes ($M = -0.69$, $SD = 2.258$) as compared to the neutral condition ($M = -1.51$, $SD = 2.34$), $F(1, 154) = 5.14$, $p = .025$, $\eta_p^2 = .033$ (see Figure 1).[2]

Adding the effect of participants' relationship status as a covariate did not alter the significance of this effect of condition on objectification ($p = .025$). Thus, the effects of sexual arousal on men's increased levels of objectification were independent of their current relationship status. Moreover, we added the total scores of the SD3 as a covariate to the one-way ANOVA and found that the main effect of condition on the SSO remained significant ($p = .003$). Furthermore, we added the total SOI-R score as a covariate into the one-way ANOVA, and again we found that the main effect of sexual arousal on the SSO remained significant ($p = .008$). Thus, these analyses indicate that individual difference traits account for additional variance but do not change the interpretation of the primary effect of heightened sexual arousal on sexual objectification.

Finally, we proceeded by investigating the effect of state sexual arousal on state sexual objectification. Specifically, we conducted a regression analysis with the main effects for condition (dummy coded; −1 = Neutral Arousal, 1 = Sexual arousal) and state sexual arousal at step 1, and the interaction term entered at step 2 (Aiken et al., 1991). Unless otherwise

[2]Levene's tests indicated heterogeneity of variance for the difference-score DV, which is expected when comparing two correlated components. Importantly, the pattern of significance was identical when using Welch's ANOVA, so we report the standard ANOVA results for ease of interpretation.



State Sexual Objectification Index (SSO; physical sexual attributes minus mental attributes) as a function of condition (sexual vs. neutral). Higher scores indicate greater sexual objectification (Experiment 1). Error bars represent ±1 SE.

specified, all continuous predictors were means-centered. While no main effect for condition emerged ($p > .9$), state sexual arousal positively predicted state sexual objectification, $B = .39$, $SE = .09$, $t = 4.49$, $p < .001$. This effect was qualified by a significant interaction, $B = -.18$, $SE = .09$, $t = 2.09$, $p = .038$.

Sociosexual Orientation and Objectification

We proceeded by further investigating the potential relationship between sexual arousal and sociosexual orientation using the same regression analysis but with condition exchanged for SOI-R. There was no main effect of SOI-R ($p = .07$), but the main effect of sexual arousal remained, $B = .399$, $SE = .08$, $t = 5.18$, $p < .001$. The interaction was not significant, ($p > .3$).

Objectification and the Dark Triad (SD3)

We repeated the analysis using the total SD3 score to examine the influence of Dark Triad. Here, there was a main effect of SD3, $B = 1.350$, $SE = .26$, $t = 5.15$, $p < .001$. The main effect of state sexual arousal remained, $B = .237$, $SE = .08$, $t = 3.03$, $p = .003$. These main effects were qualified with an interaction at the second step, $B = -.231$, $SE = .11$, $t = -2.15$, $p = .033$.[3]

Experiment 1 found support for Predictions 1 and 2 derived from the Arousal Hypothesis. Men were more inclined toward objectification when sexually aroused and this effect remained when controlling for relationship status, Sociosexual orientation, and the Dark Triad.

Although the original SSO focused primarily on sexualized physical attributes, this aligns with our hypothesis that men are especially drawn to traits that function as evolutionarily relevant cues to reproductive value and sexual access. However, a limitation of the original SSO is that it does not allow us to determine whether this attention is specific to *sexualised* traits or reflects a broader bias toward any physical traits. To address this, in Experiment 2, we introduced an extended version of the State Sexual Objectification task (SSO-X), which included both sexualized attributes and ten additional "neutral" physical attributes (e.g., calf, back). This addition allowed for a more rigorous test of Predictions 1 and 2 by clarifying whether objectifying attention is selectively directed toward features relevant to reproduction.

[3]Analyses of the SD3 subcomponents (Machiavellianism, Narcissism, Psychopathy) are reported in the Supplementary Materials and yield similar conclusions.

Experiment 2

Method

Participants

Participants were 160 male heterosexual users of MTurk ($M_{age} = 30.72$, $SD = 5.73$) who received $3.00 for participating in a short study ostensibly concerned with attraction and personality.

Procedure and Materials

Unless otherwise specified, Experiment 2 followed the same procedure and used the same materials as Experiment 1. After providing consent, participants reported their baseline state sexual arousal ($M = 1.76$, $SD = 0.97$), as well as their positive feelings ($M = 3.44$, $SD = 1.04$) and negative feelings ($M = 1.86$, $SD = 0.95$). Participants again indicated how many times per week they watched pornography on a six-point scale: 0 (10%), 1–2 (26.9%), 3–4 (31.9%), 5–6 (10%), 7–8 (8.1%), and 9+ (13.1%). Scores on the behavior ($M = 2.24$, $SD = 1.03$, $\alpha = .82$), attitude, ($M = 3.39$, $SD = 1.04$, $\alpha = .77$), and desire ($M = 2.71$, $SD = 1.00$, $\alpha = .86$) subscales of the SOI-R were similar to Experiment 1, as were the Machiavellianism ($M = 3.26$, $SD = 0.88$), narcissism ($M = 2.78$, $SD = .82$), and psychopathy ($M = 2.23$, $SD = .77$) scores from the SD3.

For this experiment, we switched the SSO for an extended version (SSO-X) that measured the importance that participants give to "non-sexual" physical attributes (e.g., knee, elbow; $M = 2.90$; $SD = 1.19$; $\alpha = .90$), "sexual" physical attributes (e.g., boobs, sexy; $M = 4.56$; $SD = 1.22$;

α = .89), and "mental" attributes (e.g., intelligent, humorous; $M = 5.31$; $SD = 1.11$; α = .91). Like the SSO, a state sexual objectification measurement is created from the SSO-X by subtracting the averaged sexual attributes from the averaged mental attributes. Recall that higher (less negative) scores indicate relatively more state sexual objectification. However, unlike the SSO, a second dependent variable is created by subtracting the average score of the "neutral" physical attributes from the average score of mental attributes.

Results and Discussion

Self-Report Valence

First, we tested if the manipulation (sexual vs control stimuli) affected participants' self-reported positive affect, negative affect, sexual arousal, and interest in the stimuli. We found that participants in the sexual condition felt relatively more positive ($M = 4.96$, $SD = 1.91$) as compared to the neutral condition ($M = 3.71$, $SD = 1.58$), $F(1, 158) = 20.35$, $p < .001$, $\eta_p^2 = .11$. Furthermore, participants reported feeling more interested ($M = 5.09$, $SD = 1.86$) in viewing the sexual stimuli as compared to the neutral stimuli ($M = 4.19$, $SD = 1.84$), $F(1, 158) = 10.49$, $p = .001$, $\eta_p^2 = .062$. Like Experiment 1, participants did not report feeling more negative in the sexual versus the neutral condition ($p > .1$). In addition, unlike Experiment 1 participants did not evaluate the neutral stimuli as relatively more boring ($p > .3$).

Again, it was found that participants in the sexual arousal condition reported greater sexual arousal whilst watching the GIFs and pictures ($M = 5.09$, $SD = 1.91$) as compared to the visual neutral condition ($M = 1.66$, $SD = 1.31$), $F(1, 158) = 174.74$, $p < .001$, $\eta_p^2 = .53$. In addition, participants reported higher levels of state sexual arousal in the sexual visual stimuli condition ($M = 4.71$, $SD = 1.87$) as compared to the neutral condition ($M = 1.66$, $SD = 1.27$), $F(1, 158) = 144.47$, $p < .001$, $\eta_p^2 = .48$; note that the latter effect was not altered by entering positive affect and "interest" as covariates.

Sexual Arousal and State Sexual Objectification

As predicted, similar to Experiment 1, men in the sexual arousal condition showed relatively higher preference for the sexual attributes ($M = -0.53$, $SD = 1.51$) as compared to the control condition ($M = -0.99$, $SD = 1.17$), $F(1, 158) = 4.57$, $p = .031$, $\eta_p^2 = .029$ (see Figure 2). Moreover, we found that the main effect of condition remained significant after entering participants' relationship status ($p = .031$), SD3 ($p = .028$), or SOI-R ($p = .047$) as covariates iteratively. Thus, similar to Experiment 1, relationship status, the Dark Triad and sociosexual orientation did not alter the causal relationship between heightened sexual arousal and state sexual objectification.

We proceeded by testing if sexual arousal would also increase a relative preference for neutral physical attributes (e.g., as compared to mental attributes). As predicted, heightened sexual (vs neutral) arousal did not increase participants' relatively higher preference for the non-sexual physical attributes as compared to the mental ones ($p > .2$).

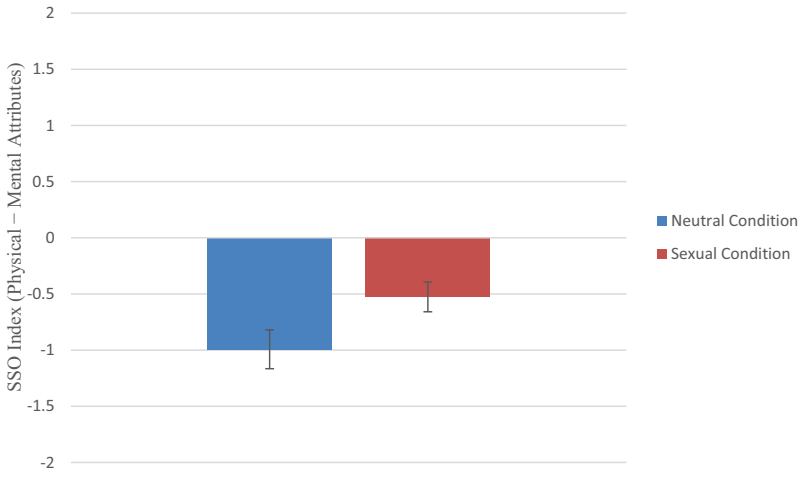
Sociosexual Orientation and State Sexual Objectification

Following the same analytical procedure as Experiment 1, we found SOI-R (Centered) was a positive predictor of sexual objectification, $B = .129$, $SE = .04$, $t = 2.99$, $p = .003$. However, the main effect of state sexual arousal on sexual objectification remained significant, $B = .150$, $SE = .05$, $t = 3.18$, $p = .002$. The interaction between effects was not ($p > .3$).

Objectification and the Dark Triad

Higher SD3 scores were associated with more state sexual objectification, $B = .489$, $SE = .17$, $t = 2.83$, $p = .005$. However, the main effect of state sexual arousal continued to be significant, $B = .141$, $SE = .05$, $t = 2.95$, $p = .004$. There was no interaction between the two effects ($p > .8$).

Using a refined measure, Experiment 2 demonstrated that heightened sexual arousal did not increase the relative preference of non-sexual physical attributes compared to the mental attributes. When creating a sexual objectification score that compared sexual physical attributes to mental attributes, we replicated the finding that men's level of state sexual arousal was positively associated with higher levels of state sexual



SSO as a function of condition (sexual vs. neutral). Higher scores indicate greater sexual objectification (Experiment 2). Error bars represent ±1 SE.

objectification. Experiment 2 also revealed in separate regression analyses that both sociosexual orientation and Dark Triad traits (combined and individually) predicted enhanced state sexual objectification, independently from our manipulation and "state sexual arousal," further supporting Predictions 1 and 2.

Experiment 3 was set up to explore a different personality trait that has been associated with sexual objectification. Specifically, we investigate the moderating role of social dominance orientation (SDO), high levels of which are associated with the objectification of women (Pratto et al., 1994; Sidanius & Pratto, 1999). In addition, we also added a trait measurement of objectification alongside the SSO. The Sexual Reductionism Scale (SRS; Valkenburg & Peter, 2007) measures sexual objectification level with items like "There is nothing wrong with men being primarily interested in a woman's body." In view of the trait type of nature of the SRS, we predicted that personality traits like SDO and DT predict higher scores on the SRS. More importantly for the current work, we anticipated that induced states of sexual arousal will not change trait-level sexual objectification, highlighting the importance of state-like measurements, such as the SSO, when examining the influence of sexual arousal.

Experiment 3

Method

Participants

Participants were 160 male heterosexual users of MTurk (M_{age} = 30.78, SD = 5.88) who received $2.50 for participating in a short study ostensibly concerned with attraction and personality.

Procedure and Materials

Unless otherwise specified, Experiment 3 followed the same procedure as Experiments 1 and 2. Participants showed comparable levels of base rate state sexual arousal (M = 1.64, SD = .98), positive feelings (M = 3.38, SD = .95), negative feelings (M = 1.83, SD = .93) and weekly pornography use (0 (8.1%), 1–2 (30.6%), 3–4 (32.5%), 5–6 (15.6%), 7–8 (5.6%), and 9+ (7.5%)).

In addition to completing the SD3 (M = 2.65, SD = .61, α = .88), participants completed the 16-item SDO scale (M = 2.77, SD = 1.21, α = .92) on a 7-point Likert scale (1= *strongly disagree* to 7 = strongly agree). An example item read, "It's probably a good thing that certain groups are at the top and other groups are at the bottom."

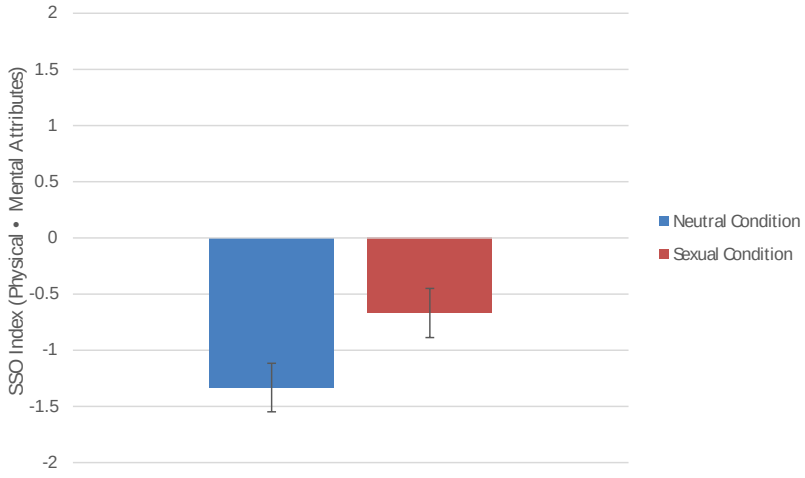
As with previous experiments, manipulation checks were used which captured participant's interest, boredom, positive and negative affect, and sexual arousal whilst watching the visual sexual stimuli, followed by the SSO (see Experiment 1 for a detailed description). Following this, participants answered the SRS (M = 3.66, SD = 1.17, α = .86). The SRS includes 10 items including "An attractive women should expect sexual advances and should learn how to handle them." Participants respond using a 7-point scale (1 = *Strongly disagree*, 7 = *Strongly agree*). In this experiment, participants did not complete the SOI-R.

Results and Discussion

Manipulation Check

Similar to Experiment 1–2, participants who viewed the sexual stimuli felt relatively less negative (M = 2.10; SD = 1.55) as compared to the neutral condition (M = 2.65; SD = 1.60), F(1, 158) = 4.96, p = .027, η_p^2 = .030. They also felt more positive (M = 5.34, SD = 1.61) compared to the control group (M = 3.80; SD = 1.87), F(1, 158) = 31.15, p < .001, η_p^2 = .16. In addition, participants evaluated the visual sexual stimuli as more interesting (M = 5.15; SD = 1.85) as compared to the control group, (M = 4.21; SD = 1.99), F(1, 158) = 9.58, p = .002, η_p^2 = .057. However, participants did not differ in how bored they felt during the stimuli (p > .5).

Replicating previous findings, participants in the sexual condition were more sexually aroused (M = 4.96, SD = 1.82) as compared to those in the neutral condition (M = 1.37, SD = .96), F(1, 158) = 245.69, p < .001, η_p^2 = .61. In addition, they reported higher levels of state sexual arousal (M = 4.67, SD = 1.77 vs M = 1.47, SD = 1.00; F(1, 158) = 200.17, p < .001, η_p^2 = .56).



SSO as a function of condition (sexual vs. neutral). Higher scores indicate greater sexual objectification (Experiment 3). Error bars represent ±1 SE.

Sexual Arousal and State Sexual Objectification

Replicating previous findings, men in the sexual arousal condition showed increased sexual objectification ($M = -0.67$, $SD = 1.95$) as compared to the neutral condition ($M = -0.133$, SD = 1.94), $F(1, 158) = 4.66$, $p = .032$, $\eta_p^2 = .029$ (see Figure 3) using the SSO. Moreover, again we found that entering participants' relationship status ($p = .034$) and SD3 ($p = .029$) as covariates did not alter the significance of our main effect of condition on objectification. This was also true of SDO ($p = .030$). Thus, as with Experiments 1–2, including a wide range of covariates did not alter the main finding that heightened sexual arousal predicted state sexual objectification as measured with the SSO.

Trait Sexual Objectification

In contrast to our state measure, we found that heightened sexual arousal (vs. neutral) did not increase participants' trait level of sexual objectification as measured by the SRS ($p > .67$). This suggests that trait sexual objectification reflects a relatively stable disposition, unaffected by transient sexual arousal. Nonetheless, trait sexual objectification was moderately correlated with state sexual objectification ($r = .38$, $p < .001$), indicating that those who tend to objectify others more also do so more in the moment. However, it is important to note that this overlap was only partial. Indeed, trait scores accounted for approximately 14% of the variance in state sexual objectification, highlighting the importance of situational factors such as sexual arousal in driving state sexual objectification.

Sexual Objectification, and Dark Triad Traits

To explore the potential relationship between the SD3, and heightened sexual arousal, on state sexual objectification, we conducted a regression analysis following the same analytical methods as Experiments 1 and 2. SD3 was a positive predictor of state sexual objectification, $B = .933$, $SE = 2.47$, $t = 3.77$, $p < .001$ as was heightened sexual arousal, $B = .230$, $SE = .07$, $t = 3.34$, $p < .001$. No interaction was found ($p > .8$).

When we conducted the same analysis using the SRS as a dependent variable instead of the SSO, we found that the SD3 remained a predictor of sexual objectification, $B = .807$, $SE = .144$, $t = 5.61$, $p < .001$, but that the main effect of heightened sexual arousal and the interaction term were not significant (p's > .3).

Sexual Objectification and Social Dominance Orientation

When we considered SDO, we found that higher scores were not associated with higher state sexual objectification ($p > .08$), but the main effect of arousal persisted, $B = 2.77$, $SE = .07$, $t = -4.01$, $p < .001$. The interaction was not significant, ($p > .8$).

In contrast, when using the SRS as a dependent variable, we found the opposite main effect profile. SDO was a positive predictor of trait objectification, $B = .46$, $SE = .07$, $t = -6.85$, $p < .001$, but arousal ($p > .09$) and the interaction were not (p's > .9).

Similar to Experiments 1–2, Experiment 3 revealed that heightened sexual arousal enhanced state sexual objectification and that this effect persisted when controlling for a range of personality traits, adding further confirmation of Predictions 1 and 2. Moreover, we found that the measure of objectification matters. Heightened sexual arousal increased state sexual objectification (as measured with the SSO), but did not predict trait-like objectification tendencies (SDR). Although the two measures were moderately correlated ($r = .38$), a substantial proportion of variance in state sexual objectification was not explained by the trait measure. This suggests that sexual objectification is not solely a stable disposition, but also a dynamic, situationally responsive state that fluctuates with momentary motivational contexts (e.g., sexual arousal).

Experiment 4 was designed to test Prediction 3. If the *Arousal Hypothesis of Sexual Objectification* is correct, then we might expect interventions which encourage participants to focus on the mental attributes of women, such as their thoughts and feelings, to mitigate the link between sexual arousal and objectification. Previous research has demonstrated that sexual objectification is associated with dehumanization and diminished empathic responses. For instance, fMRI studies have shown that observers exhibit reduced activation in brain regions associated with empathy, such as the anterior insula and cingulate cortex, when viewing sexually objectified women compared to non-objectified counterparts (Cogoni et al., 2018). This suggests that sexual objectification may impair the observer's capacity to share and understand the emotions of the objectified individual.

Given this, it is plausible that enhancing empathic concern could buffer against the dehumanizing effects of sexual arousal. At the same time, there might be individual differences in the effectiveness of such interventions. For example, individuals high in Dark Triad traits are characterized by manipulativeness, callousness, and a lack of empathy. Research indicates that these traits are strongly associated with increased tendencies toward sexual objectification and reduced empathic concern (Bernard et al., 2020), a finding we have also replicated here. Therefore, we hypothesized that an empathy manipulation would mitigate the role of sexual arousal, but that the effectiveness of this will be reduced among men with higher levels of Dark Triad traits.

Experiment 4

Method

Participants

Participants were 201 male heterosexual users of MTurk ($M_{age} = 31.01$, $SD = 5.68$) who received $4.00 for participating in a short study, again allegedly concerned with attraction and personality.

Procedure and Materials

Unless otherwise specified, Experiment 4 followed the same procedure as Experiments 1–3. Participants showed a similar base level of state sexual arousal ($M = 1.75$, $SD = .98$), positive feelings ($M = 3.47$, $SD = .90$), negative feelings ($M = 1.84$, $SD = .88$), and weekly pornography use (0 (9.5%), 1–2 (37.8%), 3–4 (17.4%), 5–6 (18.4%), 7–8 (9.5%), and 9+ (7.5%) as in the previous experiments.

In this experiment, participants completed the SD3 ($M = 2.77$, $SD = .59$, $\alpha = .88$) and SOI-R ($M = 4.18$, $SD = 1.55$, α

= .83) but not the SDO. The SSO was again employed as the dependent variable (on a Likert scale from 0 - *Not at all* to 10 - *Very much*). We also used the Interpersonal Sexual Objectification Scale, the so called Perpetration Version (ISOS-P; Gervais et al., 2018 as an alternative trait dependent variable to further confirm the sensitivity of the SSO. The ISOS-P is a 15-item questionnaire that looks specifically at to what extent participants would engage in objectifying behavior (body gazes, body comments, and unwanted explicit sexual advances). Questions were answered on a scale of 1 (*Never*) to 5 (*Regularly*) and included items such as "Whistled at someone while she/he was walking down the street?" and "Touched or fondled someone against his/her will?" The results were summed up and averaged ($M = 1.87$, $SD = .60$, $\alpha = .86$).

In addition to being assigned to a random sexual vs neutral stimuli condition, participants were also randomly assigned to either an empathy manipulation (see Batson et al., 1997) or control condition in this experiment. In the empathy manipulation condition, participants were asked "Describe a recent situation where a woman or girl experienced a challenge or difficulty. Briefly explain what happened, how she might have felt, and how you understood her experience. Please take your time to reflect on the experience." Those in the neutral condition were asked "Describe the room you are currently sitting in. Briefly explain its layout, furniture, and any notable objects around you. Please take your time to reflect on the experience." As a manipulation check, after both empathy conditions (neutral versus high) participants were asked to rate "How did the situation you just described make you feel? (1 = *very negative* to 7 = *very positive*). And "To what extent did you feel empathy?" using a 5-point Likert scale (1 = *not at all*, 5 = *a great deal*).

Results and Discussion

Manipulation Checks

Like Experiments 1–3, participants viewed the sexual stimuli more positively ($M = 4.67$; $SD = 1.88$) as compared to the neutral condition ($M = 3.79$; $SD = 1.82$), $F(1, 198) = 3.89$, $p < .050$, $\eta_p^2 = .02$. However, participants did not differ in how interested, bored and negative they felt during the stimuli ($p > .2$).

Replicating previous findings, participants in the sexual condition reported to be more sexually aroused ($M = 4.81$, $SD = 2.01$) whilst watching the visual stimuli as compared to those in the neutral condition ($M = 1.56$, $SD = 1.18$), $F(1, 198) = 231.83$, $p < .001$, $\eta_p^2 = .54$. In addition, they reported higher levels of state sexual arousal ($M = 4.56$, $SD = 1.84$ vs $M = 1.65$, $SD = 1.31$; $F(1, 199) = 167.23$, $p < .001$, $\eta_p^2 = .46$). Again, the causal relationship between visual sexual stimuli and state sexual arousal was not altered by entering "interest," "bored," positive and negative affect as covariates ($p < .001$).

Furthermore, participants in the high empathy condition were more positive ($M = 4.60$, $SD = 1.62$) as compared to the neutral empathy condition ($M = 3.11$, $SD = 1.17$), $F(1, 199) = 56.52$, $p < .001$, $\eta_p^2 = .22$. Importantly, participants in the high empathy condition experienced higher levels of empathy ($M = 3.89$, $SD = 1.15$) as compared to the neutral empathy condition ($M = 2.50$, $SD = 1.19$), $F(1, 199) = 69.88$, $p < .001$, $\eta_p^2 = .26$; note that controlling for participants' positive and negative feelings did not alter this effect ($p < . .001$)

Sexual Arousal and State Sexual Objectification

Departing from the results of Experiments 1–3, participants in the sexual arousal condition did not report significantly greater sexual objectification than those in the neutral condition ($p = .6$). However, when using participants' self-reported state sexual arousal rather than experimental condition, higher levels of arousal significantly predicted increased sexual objectification, $B = .225$, $SE = .08$, $t = 2.92$, $p = .004$.[4] This suggests that the manipulation did not uniformly elevate arousal levels for all participants, and that state sexual arousal, rather than assigned condition, is the more sensitive and proximal predictor of objectifying responses (see General Discussion). Consistent with a state-based account, the effect appears to depend on the degree of experienced sexual arousal, with condition exerting influence only insofar as it alters that state. Accordingly, we used state sexual arousal as a continuous predictor in the remainder of the analyses, as it provided a more precise test of our theoretical model.

Impact of Induced Empathy and Sexual Arousal on State Sexual Objectification

To examine the combined effects of state sexual arousal and induced empathy on sexual objectification, a hierarchical regression analysis was conducted. In Step 1, state sexual arousal and the main effect of the empathy condition (dummy coded: 1 = high empathy, 0 = neutral) were entered. This model significantly predicted sexual objectification scores, $F(2, 198) = 7.92$, $p < .001$, R^2 change = .074. Higher state sexual arousal was associated with greater sexual objectification, $B = .211$, $SE = .08$, $t = 2.76$, $p = .006$. Moreover, the high empathy condition was associated with less sexual objectification, $B = -.874$, $SE = .33$, $t = -2.66$, $p = .008$

In Step 2, the interaction term was added to the model. This led to a marginal increase in explained variance, R^2 change = .011, with no effect of the interaction term, $p = .12$. Thus, the interaction did not reach significance, indicating that the effect of state sexual arousal on objectification was not reliably moderated by the empathy manipulation.

Impact of Induced Empathy and Sexual Arousal on State Sexual Objectification Controlling for SOI-R

We conducted the analysis again, but with SOI-R included in Step 1. Here, the combined effects of empathy condition, state sexual arousal, and SOI-R produced a significant model, $F(3, 197) = 8.25$, $p < .001$, with R^2 change = .11. State sexual arousal significantly predicted higher sexual objectification, $B = .157$, $SE = .07$, $t = 2.03$,

[4] Although the manipulation did not significantly affect objectification in Study 4, measured state sexual arousal did. This pattern held across all four studies when arousal was modeled continuously rather than categorically (Study 1: r = .39, p < .001; Study 2: r = .27, p < .001; Study 3: r = .31, p < .001; Study 4: r ≈ .20, p = .004; neutral-empathy r = .30, p = .002), suggesting that state sexual arousal was the proximal mechanism, with condition exerting influence to the extent that it alters arousal.

$p < .043$. SOI-R was also a significant predictor, with more unrestricted sociosexuality associated with greater objectification, $B = .309$, $SE = .07$, $t = -2.88$, $p = .004$. Higher empathy was also associated with lower sexual objectification, $B = -.76$, $SE = .32$, $t = -2.72$, $p = .007$. In Step 2, the interaction term between empathy and arousal was added. The overall model remained significant, $F(4, 196) = 6.72$, $p < .001$, with $R^2 = .01$. However, the interaction term was not significant, $B = -.215$, $SE = .15$, $t = -1.42$, $p = .16$, and explained only a small and nonsignificant increase in variance, $R^2 = .01$. The effects of both state sexual arousal ($p = .014$), SOI-R ($p = .006$), and the empathy condition ($p = .007$) remained significant

Overall, these findings suggest that higher state sexual arousal and a more unrestricted sociosexual orientation are associated with increased sexual objectification, whereas empathy is associated with reduced objectification. However, there was no evidence that induced empathy moderated the effect of sexual arousal in this model.

Impact of Induced Empathy and Sexual Arousal on State Sexual Objectification Controlling for Dark Triad

We then ran the same regression model using SD3 (centered) rather than the SOI-R. In Step 1, the model was significant, $F(3, 197) = 13.18$, $p < .001$, $R^2 = .167$. As expected, higher Dark Triad traits predicted greater sexual objectification ($B = 1.298$, $SE = .277$, $t = 4.69$, $p < .001$), and empathy reduced objectification ($B = -.694$, SE = .315, $t = -2.21$, $p = .029$). Sexual arousal showed a positive but nonsignificant association ($B = .114$, $SE = .075$, $t = 1.51$, $p = .132$), an attenuation consistent with the presence of a moderator.

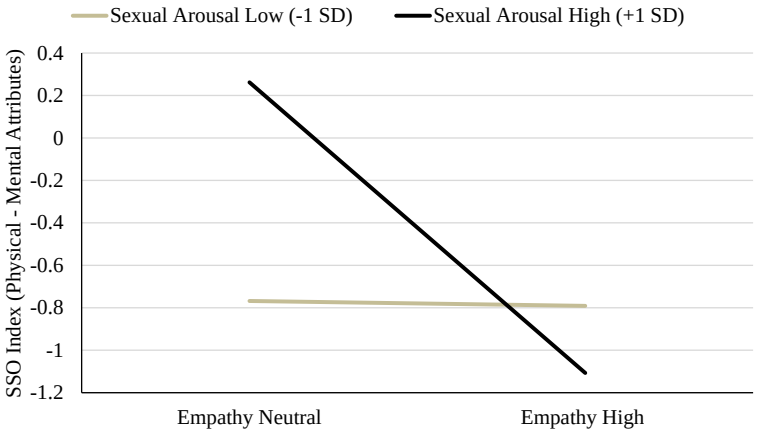
In Step 2, we added the sexual arousal × empathy interaction. The model remained significant, and the interaction term was a reliable predictor ($B = -.312$, $SE = .147$, $t = -2.13$, $p = .035$). Importantly, once the interaction was included, the simple effect of sexual arousal became significant ($B = .239$, SE = .095, $t = 2.52$, $p = .013$), indicating that the nonsignificant effect in Step 1 reflected the averaging of two different slopes across empathy conditions. Simple slopes analysis indicated that sexual arousal significantly predicted objectification in the neutral-empathy condition ($B = 0.27$, $SE = 0.10$, $p = .005$), whereas this association was eliminated under empathy activation ($B = -0.03$, $SE = 0.14$, $p = .83$). Thus, empathy appeared to buffer the impact of sexual arousal on objectification, but only when controlling for individual differences in Dark Triad traits (see Figure 4).

As a robustness check, we re-estimated the model using PROCESS Model 3 (Hayes, 2022), entering empathy and Dark Triad traits as simultaneous moderators. Replicating the hierarchical regression, the arousal × empathy interaction was statistically significant, $B = -.30$, $SE = .15$, $t(193) = -1.98$, $p = .049$, whereas the three-way interaction was not, $B = .25$, $SE = .23$, $t(193) = 1.09$, $p = .28$. An arousal × SD3 interaction was also observed, $B = -.37$, $SE = .14$, $t(193) = -2.64$, $p = .009$. The arousal × empathy interaction was statistically detectable only when Dark Triad traits were included in the model, reflecting a suppressor effect. PROCESS confirmed that this moderation did not vary across levels of Dark Triad traits, as the three-way interaction was not significant. Overall, these analyses confirm that empathy buffers the effect of sexual arousal on objectification, with Dark Triad traits functioning primarily as a suppressor rather than a moderator.

Impact of Induced Empathy and Sexual Arousal on Trait Sexual Objectification Controlling for Dark Triad

We first examined the relationship between the SSO and the ISOS-P. The correlation was modest ($r = .28$, $p < .001$), indicating that higher levels of state sexual objectification were associated with higher ISOS-P scores, but that the large majority of variance (92%) remained unshared. This pattern mirrors the effect observed in Experiment 3 and further supports the SSO as a state-sensitive measure that captures momentary fluctuations in objectification rather than stable trait levels.

Substituting the SSO with the ISOS-P in the Dark Triad model yielded a different pattern from the state-sensitive SSO analyses. In Step 1, both state sexual arousal, $B = .070$, $SE = .017$, $t = 3.996$, $p < .001$, and Dark Triad traits, $B = .406$, $SE = .064$, $t = 6.36$, $p < .001$, independently predicted higher ISOS-P scores, whereas empathy showed no effect, $p = .963$. In Step



Simple slopes of state sexual arousal predicting SSO as a function of empathy condition (neutral vs. empathy). SD3 (centered) was included as a covariate in the regression model.

2, adding the sexual arousal × empathy interaction did not significantly improve model fit, $B = -0.026$, $SE = 0.034$, $t = -0.75$, $p = .453$, and all main effects remained unchanged.

Although the ISOS-P was modestly responsive to momentary fluctuations in sexual arousal, it did not exhibit the empathy-based moderation observed for the SSO. This divergence aligns with the conceptual distinction between the two indices: the SSO is designed to capture rapid, situational shifts in objectification, whereas the ISOS-P reflects a more stable, trait-linked tendency toward objectifying perceptions. Consequently, small state-driven effects may emerge on the ISOS-P, but the measure remains comparatively insensitive to transient manipulations such as induced empathy, consistent with its dispositional character.

Experiment 4 replicated previous findings showing that state sexual arousal predicted greater sexual objectification. This moderation became statistically detectable only when controlling for Dark Triad traits, reflecting a suppressor pattern rather than moderation by Dark Triad. Although a separate arousal × Dark Triad interaction was observed, the absence of a significant three-way interaction indicates that Dark Triad traits do not alter the buffering role of empathy. Instead, they appear to operate primarily as a suppressor variable rather than a substantive moderator. These findings clarify the joint contributions of situational factors (arousal, empathy induction) and dispositional tendencies (Dark Triad traits) to sexual objectification.

General Discussion

Across four experiments, we found consistent evidence that heightened sexual arousal increases the prioritization of women's sexualized physical attributes over their psychological characteristics. These findings support the Arousal Hypothesis of Sexual Objectification, which proposes that sexual arousal triggers an adaptive attentional shift toward evolutionarily relevant fertility and mating cues. As such, men become more likely to objectify women when sexually aroused, even after accounting for dispositional tendencies to objectify. Although personality traits linked to gender-based objectification and sexual harm (e.g., the Dark Triad; Costello et al., 2020; Lachowicz-Tabaczek et al., 2021) correlated with state sexual objectification, they did not moderate the effect of sexual arousal. Likewise, relationship status did not moderate the effect of sexual arousal on sexual objectification. Taken together, these findings indicate that sexual arousal contributes uniquely to state sexual objectification, above and beyond individual differences. Indeed, even trait measures of the tendency to sexually objectify failed to account for more than 80% of the variation in state sexual objectification.

Although Dark Triad traits predicted higher overall levels of state sexual objectification, these traits did not moderate the effect of sexual arousal. Rather, their influence appears largely additive: individuals high in Dark Triad traits exhibited elevated objectification regardless of arousal, reflecting a more chronic, trait-like readiness to construe others in instrumental terms. By contrast, among individuals lower in Dark Triad traits, objectification appeared more state-dependent and increased more reliably under heightened arousal. This pattern suggests that arousal-driven objectification operates as a general, state-sensitive mechanism that becomes most visible among men without strong antisocial tendencies, whereas those high in Dark Triad traits objectify at consistently elevated levels, leaving little room for further arousal-based increases.

Interestingly, while Experiment 4 showed that the arousal induction increased state sexual objectification and also produced a modest shift on a typically trait-like objectification measure (ISOS-P) when assessed immediately post-manipulation, this pattern did not replicate in Experiment 3. This inconsistency suggests that although trait-linked measures may exhibit occasional state-related fluctuation, they are far less sensitive to transient arousal than the SSO, which is specifically designed to capture momentary objectification. More broadly, this indicates that sexual arousal does not reliably influence the expression of more stable, consciously held sexist attitudes toward women; its effects are therefore best detected through state-sensitive indices (Thomas & Stewart-Williams, 2018). Across studies, our newly developed State Sexual Objectification (SSO; see Supplementary Material) index correlated meaningfully with existing trait measures (Experiments 2–4), supporting its validity as a tool for capturing momentary, context-dependent expressions of objectification. This research is among the first to systematically demonstrate that sexual arousal itself, independent of personality, plays a key role in the objectification of women. While dispositional predictors of objectification, such as Dark Triad traits or hostile sexism, are often emphasized in the literature (e.g., Malamuth et al., 2021), these traits fail to capture within-person variability driven by situational states such as arousal. Our findings show that an elevated level of arousal alone can increase objectification by shifting attention toward sexualized physical traits. This suggests that sexual objectification is not limited to those high in antisocial traits, but may reflect a broader, more widespread phenomenon among men in mating-relevant states.

This has important implications for dominant theories of objectification and sexual harassment that emphasize power and control (e.g., Bareket & Shnabel, 2020; Vaes et al., 2011). While these perspectives remain valid, they may underappreciate the role of sexual motivation. The present findings suggest that a state-level, arousal-driven process can produce sexual objectification independent of power motives, revealing a distinct psychological pathway through which objectification can occur. As such, current power-based models may need to be expanded to incorporate sexual motivation and state sexual arousal as proximal drivers of objectification.

Empathy-Based Interventions Derived from an Evolutionary Hypothesis

One of the benefits of adopting an evolutionary perspective on objectification is that it provides a unique perspective on routes to mitigation. Specifically, the *Arousal Hypothesis of Sexual Objectification* postulates that attention is drawn

away from mental attributes and toward sexual physical attributes under conditions of arousal to facilitate mate assessment and orientation toward sex. If correct, then interventions that shift attention back toward the mental attributes of women (e.g., imagining their thoughts and feelings) may counteract this effect by restoring mentalizing and reengaging the perception of women as intentional agents rather than as sexual objects.

Empathy attenuated the effect of arousal on objectification, and although this was clearer when controlling for Dark Triad traits, PROCESS showed that the moderation did not vary by Dark Triad level. This pattern tentatively suggests that empathy-based interventions may be more effective for men with adequate empathic capacity, though this interpretation should be treated with caution (Paulhus & Williams, 2002). More broadly, while empathy-based interventions may hold promise, their effectiveness could vary depending on individuals' general capacity for empathic engagement. This raises the possibility that men higher in Dark Triad traits, who characteristically exhibit reduced empathy, may benefit from alternative or complementary approaches. Consistent with this, recent work on men in the involuntary celibate (incel) community indicates elevated (though typically non-clinical) levels of Dark Triad traits alongside highly sexist views and objectification of women. There appear to be two pathways to incel-related harm: one characterized by social exclusion and poor social skills, and another by elevated Dark Triad traits and extreme right-wing views (Costello et al., 2025). These pathways likely require targeted, rather than one-size-fits-all, approaches. For example, an empathy-building intervention could be helpful for the former pathway but ineffective or even potentially counterproductive for the latter.

Ramifications and Implications

These findings have meaningful implications for research and intervention more broadly. While personality-based predictors of objectification have received considerable attention, efforts to change such traits, particularly those linked to sexual aggression and harassment, have proven difficult and are often met with resistance or unintended consequences (Bondestam & Lundqvist, 2020. Many prevention programs rooted in attitudinal change (e.g., cognitive-behavioral interventions) show limited efficacy or even produce "boomerang effects" when perceived as accusatory or ideological (Crooks et al., 2007; Ede et al., 2023).

Our findings suggest that sexual objectification may be more effectively addressed by targeting states rather than traits. Arousal is transient, yet potent. It is arguably more amenable to momentary regulation. Men are regularly socialized to manage sexual arousal in everyday life, and there is evidence that learning to identify, monitor, and down-regulate arousal is a tractable goal. Moreover, our findings that empathy can attenuate the effect of sexual arousal on objectification suggest a promising direction for intervention. Programs that cultivate empathy, teach emotion regulation, and raise awareness about how arousal influences perception may be more effective, and more acceptable, than those that attempt to directly challenge deep-seated beliefs.

In short, addressing the situational activation of objectification may enable more practical and less defensive intervention strategies, particularly given that sexual objectification and related forms of sexual trespassing are widespread and commonly experienced

Limitations and Future Directions

Despite the strength and consistency of our findings, several limitations warrant consideration. First, our manipulation of sexual arousal relied on visual sexual stimuli (GIFs and images), a widely used method in the literature (e.g., Katz et al., 2023; Wisman & Thomas, 2023). However, prior work has demonstrated that multimodal stimuli produce stronger sexual responses in men (Janssen & Everaerd, 1993). For example, sexual vocalizations paired with visual stimuli elicit greater arousal than visual stimuli alone (Gaither & Plaud, 1997). Future studies may therefore benefit from employing more immersive, multimodal arousal inductions to maximize ecological and physiological validity.

Second, sexual arousal in our studies was assessed using self-report scales. While subjective ratings are common and offer practical benefits, they may be prone to self-presentation biases or individual differences in interoceptive awareness (Nobre et al., 2004). Some individuals exhibit strong correspondence between subjective and physiological arousal, while others do not (Hall et al., 1985). Future work could benefit from including physiological measures (e.g., genital response, heart rate, pupil dilation) alongside self-report to better capture the full spectrum of sexual arousal (Ciardha et al., 2018).

Third, in a similar vein, the use of a general arousal (sports) control condition was intentional, as it allowed the effects of sexual arousal to be distinguished from the effects of heightened arousal more broadly. Nevertheless, future research could also incorporate a low-arousal neutral control condition (e.g., nature stimuli) to further distinguish sexual arousal from both general arousal and baseline affective states.

Fourth, our focus on heterosexual men reflects both theoretical and empirical considerations: men are disproportionately the agents of interpersonal sexual objectification in everyday heterosexual contexts, and men's sexual responses are particularly strongly activated by visual erotic cues, making them the most appropriate group in which to test the arousal-based mechanism proposed here. Nevertheless, women can both objectify others and be targets of objectification, particularly in competitive or appearance-focused environments (e.g., Bareket & Shnabel, 2020; Loughnan et al., 2015). Moreover, women's experiences of being objectified carry well-documented emotional and psychological consequences (Fredrickson & Roberts, 1997; Noll & Fredrickson, 1998), though some women also experience sexual arousal from being desired in consensual romantic or erotic contexts (Bogaert et al., 2015; McCall & Meston, 2006). This highlights that objectification is not uniformly experienced as harmful. Importantly, future research should examine whether situational sexual arousal produces similar shifts in attentional focus among heterosexual women, or whether the mechanism observed here reflects a process more specific to men's mating motivations.

Finally, the State Sexual Objectification (SSO) index introduced in this research represents a novel contribution to the measurement of objectification. Inspired by the self-objectification approach of Noll and Fredrickson (1998), the SSO captures the degree to which participants prioritize women's physical and sexualized attributes vs. psychological attributes. Across studies, the SSO demonstrated strong internal reliability and meaningful correlations with trait sexual objectification measures, including the Sexual Reductionism Scale (Peter & Valkenburg, 2007) and the ISOS-P (Gervais et al., 2018). Moreover, the SSO was sensitive to experimental manipulations and situational states, suggesting that it may be especially well-suited to capturing momentary fluctuations in objectification. Future research might explore the psychometric profile of the SSO across cultural contexts and compare its sensitivity to explicit, cognitive, and implicit objectification measures.

Conclusions

There is more than meets the eye considering sexual objectification. Sexual objectification is often viewed through the lens of power and personality. However, the present research demonstrates that temporary states, particularly sexual arousal, can independently increase the objectification of women, even among men low in anti-social traits (e.g., Dark Triad traits) or high in empathy. This finding suggests that objectification is not merely the domain of a pathological few, but a broader tendency that emerges in response to mating-relevant cues.

By highlighting the role of arousal in momentary objectification, the *Arousal Hypothesis of Sexual Objectification* offers a novel, evolutionarily grounded framework for understanding when and why men objectify women. Rather than supplanting power-based or trait-based models, this perspective complements them by emphasizing the dynamic and context-sensitive nature of objectification.

These insights carry both theoretical and practical value: they invite a reconsideration of dominant models and point toward more targeted, state-sensitive interventions. Ultimately, addressing objectification requires understanding not only who is prone to objectify, but when, why, and under what circumstances objectification is likely to occur.

Author Contributions

Dr Arnaud Wisman contributed to the study conception and design. Material preparation, data collection and analysis were performed by Dr Arnaud Wisman. The first draft of the manuscript was written by Dr Arnaud Wisman and Dr Andrew G. Thomas. Both authors read and approved the final manuscript

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Consent to Participate

Written informed consent was obtained from all individual participants included in all four experiments.

Ethics Approval

All four experiments adhered to the Declaration of Helsinki guidelines and gained the prior approval by the University Research Ethics Committee.

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