# When Your Partner is Being Flirted With: The Impact of Unsolicited Attention on Perceived Partner Desirability and Mate Retention Efforts

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Word count: 9,311

September 7, 2023

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*Authors' Note*. We would like to thank Tal Hashahar Vaissman-Keinan, Adva Drucker, Tal Ben-Lulu, Roee Gavish, Amit Rind, Tal Shahaf, Alona Danilof, and Gaby Tibet for their assistance in conducting the research.

This research was supported by the Israel Science Foundation (Grant 1158/22 awarded to Gurit E. Birnbaum), by the Binational Science Foundation (Grant #2016405 awarded to Gurit E. Birnbaum and Harry T. Reis) and by the European Union's Horizon 2020 research and innovation program under grant agreements No. 101017884 - GuestXR project and 951930 Socrates project.

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**Abstract**

When searching for a partner, people often rely on social cues to determine partners' suitability, finding those who attract attention from others particularly appealing. While people continue to evaluate their partners beyond relationship initiation, existing research has predominantly concentrated on the effects of observing others' choices during the stage of partner selection, neglecting to consider whether viewing others' attention towards current partners yields similar effects or instead elicits defensive devaluation. In three experiments, we exposed participants to situations where their partners received unsolicited flirtatious advances, utilizing visualization, virtual reality, and recall techniques. Participants then rated their desire for their partner and mate retention efforts. Results indicated that attention towards partners led to decreased desire for them, subsequently predicting reduced relationship investment. These findings suggest that witnessing current partners receiving attention holds a different meaning than observing potential partners in a similar situation, making salient the risk of losing the partner. (150 words)

*Keywords:* mate choice copying, mate poaching, sexual desire, mate retention, virtual reality

# When Your Partner is Being Flirted With: The Impact of Unsolicited Attention on Perceived Partner Desirability and Mate Retention Efforts

Choosing a suitable partner improves reproductive success and is crucial for personal and interpersonal well-being. However, the process can be time-intensive and fraught with various costs, including the risk of deception (Hill & Buss, 2008; Anderson & Surbey, 2022). Hence, any strategy that provides information about the true value of potential partners, while minimizing effort and cost, is likely to be used during the mate searching process. For this reason, humans and animals alike rely on social cues indicating good partner qualities (e.g., displays of caregiving towards children) while evaluating potential partners (e.g., Gouda-Vossos et al., 2018; Swaddle et al., 2005). One such common strategy is mate choice copying, which involves observing others' mate choices and imitating them (Anderson & Surbey, 2014). Research has demonstrated that when social cues signal that potential partners are desired by others, the perceived attractiveness of these potential partners increases (e.g., Burch et al., 2021; Moran & Wade, 2022).

The evaluation of partners does not end after entering into relationships, as individuals continuously assess the mate value of their partners (Buss et al., 2017; Birnbaum et al., 2021), influenced by their partner's attractiveness to others (Krems et al., 2016). However, while mate choice copying has been extensively studied among individuals seeking a partner (e.g., Gouda-Vossos et al., 2018; Rodehefer et al., 2016), less is known about how witnessing others' attention towards current partners shapes the way these partners are perceived. To be sure, observing a potential partner receiving attention from others holds a different meaning than witnessing one's current partner in a similar situation. Attention directed towards potential partners from others may indicate that they possess qualities that make them desirable as mates, highlighting their

high mate value (Gouda-Vossos et al., 2018), whereas the same attention given to current partners may suggest possible mate poaching attempts and the risk of losing them to someone else (Moran & Wade, 2022). In the present research, we focused on unsolicited attention given to current relationship partners from someone else, examining its effects on partners' perceived desirability and the efforts invested in maintaining the relationship with them.

**Observing Potential and Current Partners Garnering Attention from Others**

Past studies on mate desirability have focused on traits that promote reproductive success through parental investment or "good genes" (e.g., warmth-trustworthiness, attractiveness-vitality; Eastwick & Finkel, 2008; Fletcher et al., 1999), while often overlooking contextual influences. Still, the process of mate selection does not exist in a vacuum. As social beings, people tend to rely on social cues and engage in social learning when evaluating potential partners (Anderson & Surbey, 2020). These cues become particularly important when assessing unobservable traits of potential mates and considering multiple partners. While certain desirable traits, such as physical attractiveness, can be directly observed, desirable but unobservable traits, like responsiveness and trustworthiness, require a considerable investment of time and energy to assess (Little et al., 2008).

In such cases, information about the mate choices of others can facilitate mate evaluations and play a crucial role in influencing mate choice decisions (Anderson & Surbey, 2014; Gouda-Vossos et al., 2018). For example, when one person is seen as romantically involved with another person, it implicitly conveys positive information about his quality to other women, thereby increasing the likelihood of them choosing him as a potential mate (Eva & Wood, 2006). Extensive research has supported this reasoning, showing, for example, that women tend to perceive men as more desirable when they are photographed in the company of

other women, as opposed to being presented alone or with same-sex peers (Hill & Buss, 2008; Rodeheffer et al., 2016). Women also find men more appealing when other women are shown smiling at them (Jones et al., 2007) or when they receive positive impressions from attractive women who have been in a relationship with them (Vakirtzis & Roberts, 2012).

Even though mate choice copying is generally considered more robust among women, as they tend to base their choices of potential mates on less overt characteristics compared to men (e.g., willingness to invest versus youth; Hill & Buss, 2008; Waynforth, 2007), numerous studies have demonstrated that men also rely on social information to select mates. For example, men perceive women who are paired with attractive men as more desirable (e.g., Bowers et al., 2012; Moran & Wade, 2022; Place et al., 2010). Similarly, both genders assess the attractiveness of potential partners based on the attractiveness of the potential partner's former mates, as it indirectly signifies their high mate value. Both men and women react accordingly, gazing longer at potential partners upon being informed that these individuals were in a relationship with an attractive mate (Yorzinski & Platt, 2010). This tendency is particularly evident in the context of long-term mating decisions, which require evaluating less easily observable traits (Little et al., 2008). Real-life observations further support the influence of social cues on men's and women's partner selection, as they both report experiencing an increase in admirers after entering a new romantic relationship and express attraction towards individuals who have recently embarked on a romantic relationship (Burch et al., 2021).

Because mate copying is used for choosing potential partners, it is not surprising that it has been particularly studied during the phase of mate selection (Anderson & Surbey, 2020; Gouda-Vossos et al., 2018). And yet, the impact of others' attention towards partners on the way they are perceived and treated may extend beyond the initial stages of relationship development

(Buss et al., 2017). Research has predominantly viewed this attention as a threat to the current relationship, leading people to be more observant of potential rivals in their mate's vicinity and actively monitor their intentions to prevent any attempts to lure their partners away (e.g., Ein-Dor et al., 2015). When identifying potential mate poaching threats, people often experience jealousy (Arnocky et al., 2020; Buss & Haselton, 2005) and employ various tactics aimed at retaining their partners and deterring suitors (e.g., using emotional manipulation towards their partners while derogating and intimidating rivals; Buss & Shackelford, 1997; Lopes & Shackelford, 2019). These preemptive measures may be taken even if partners do not reciprocate the advances from potential suitors (e.g., Massar & Buunk, 2016), as the mere existence of such advances can trigger doubts in partners about the possibility of a more fulfilling relationship elsewhere. Over time, these doubts can undermine the perceived viability of the existing relationship and erode commitment (Birnbaum, 2022; Black & Reis, 2022; Solomon & Knobloch, 2004).

Although previous studies have attempted to understand how people react to threats posed by alternative partners (e.g., Buss & Shackelford, 1997; Lopes & Shackelford, 2019), their methodological limitations preclude drawing valid conclusions about the influence of attention directed towards partners from others on their perceived desirability. Specifically, past studies have primarily relied on correlational designs and self-reported data (e.g., Goetz et al., 2005; Shackelford et al., 2006), lacking evidence for a clear cause-and-effect relationship. Furthermore, mate retention behaviors may not always accurately reflect genuine perceptions of a partner's desirability. For example, people may point out to their partner the flaws of a competitor while secretly harboring feelings of resentment towards their partner that could diminish their partner's perceived desirability. This discrepancy between expressed behaviors and authentic feelings may

become particularly evident when participants generally report how often they use mate retention tactics in their relationship without referring to a specific incident that threatens the relationship.

**The Present Research**

In the present research, we examined how unsolicited attention given to existing-relationship partners by others affected perceptions of partners' sexual desirability and mate retention efforts. In doing so, we acknowledged that receiving such attention can be seen as a sign of desirability during the process of selecting a mate (Gouda-Vossos et al., 2018) but might also pose a potential threat to existing relationships (Birnbaum, 2022; Ein-Dor et al., 2015). Past studies have indeed indicated that when people perceive threats to their relationship, especially those that heighten concerns about rejection or relationship defection, they tend to adopt defensive behaviors prioritizing self-protection over emotional closeness (Cavallo et al., 2010; Murray et al., 2006). These defensive strategies include experiencing reduced desire for the current partner (Birnbaum, Mizrahi et al., 2019), fantasizing about interpersonal distance and hostility themes, and inhibiting attachment-related thoughts (Birnbaum et al., 2012).

Building on these findings, we expected that observing a partner receiving attention from others, even if it is unsolicited, would elicit a defensive distancing response aimed at protecting oneself from the potential threats of losing the partner to others and from investing in a relationship that seems uncertain (Murray et al., 2006). Accordingly, we hypothesized that people would react to such attention by feeling less desire for their partner, showing reduced interest in investing in the relationship, and becoming more interested in thwarting potential rivals. Drawing on prior research showing that lower sexual desire tends to discourage individuals from investing in a less promising relationship (Birnbaum et al., 2021; Birnbaum, Mizrahi et al., 2019), we further hypothesized that the anticipated decrease in desire resulting

from unsolicited attention would help explain the expected decrease in investment in the current relationship.

We conducted three studies to test our hypotheses. In all studies, we used complementary methods to expose romantically involved participants to a situation where their partner either received unsolicited flirtatious advances from someone else or had a neutral interaction with another person. Participants then provided their perceptions of the situation and their partner. In Study 1, we aimed to establish a causal connection between perceiving a partner receiving attention from others and reduced desire for that partner. To achieve this, participants visualized either an unsolicited attention scenario or a neutral one, and subsequently described the first sexual fantasy that came to mind about their current partner. These fantasies were coded for expression of desire for the partner. We chose sexual fantasies as a measure of desire because they might better reflect individuals' innermost feelings and desires than less private expressions (Birnbaum, 2007; Birnbaum et al., 2008).

In Studies 2 and 3, we expanded our investigation to examine not only the effects of unsolicited attention on desire for the partner but also on investment in the relationship and the inclination to deter potential rivals. In Study 2, we employed a more immersive approach than in Study 1 by having participants use a virtual reality device to observe a virtual stranger interacting with their partner. The virtual stranger either displayed interest in their partner or behaved neutrally. In Study 3, which was preregistered[1], we manipulated unsolicited attention more realistically, asking participants to recall a real unsolicited attention event or a neutral one. In both Studies 2 and 3, after either observing the virtual interaction or recalling the real-life event, participants rated their sexual desire for their partner, their interest in investing in the relationship, and their inclination to deter the potential poacher.

## Study 1

Study 1 was designed to establish a causal connection between perceiving a partner receiving attention from someone else and experiencing sexual desire for this partner. Specifically, participants were asked to visualize a situation where, in their presence, someone else either expressed interest in their partner without any reciprocation from their partner or behaved neutrally. Participants were then instructed to describe a sexual fantasy about their partner in an open-ended narrative format. Independent raters coded these fantasies to assess expressions of desire for the partner and the degree to which participants prioritized their partner's pleasure over their own sexual needs. Lower values were considered indicative of defensive distancing and sexual disengagement. We hypothesized that participants in the unsolicited attention condition would express less sexual desire for their partner in their fantasies and prioritize their own sexual needs over their partner's compared to participants in the control condition.

### Method

#### *Participants*

Two hundred and forty-four Israeli participants (126 women, 118 men) volunteered for the study. The sample size was determined via a priori power analysis using the G*Power software package (Faul et al., 2009) to ensure 80% power in detecting an effect size, d, of 0.40 at $p < .05$. We based this hypothesized effect size on findings from past research that examined the effect of being the target of mate poaching on desire for the current partner (Birnbaum, 2022). To account for potential attrition in the second part, which required a detailed written description of fantasies, we recruited more participants than indicated by our a priori power analysis. Potential participants were recruited if they were in a monogamous mixed-sex relationship

lasting at least 4 months. The age of the participants ranged from 20 to 53 years ($M$ = 34.50, $SD$ = 8.37), while the length of their relationships ranged from 7 to 420 months ($M$ = 104.42, $SD$ = 88.38).

***Measures and Procedure***

Individuals interested in participating in a study on interpersonal experiences and perceptions were provided with a link to an online Qualtrics experiment. Upon completion of an online consent form, participants were randomly assigned to one of two conditions. In the unsolicited attention condition, participants were instructed to visualize a scenario where they perceived someone else showing interest in their partner without the partner reciprocating. In the control condition, participants were asked to visualize a scenario where they were enjoying the company of their partner in the presence of another person. Then, participants in both conditions were required to provide a detailed description of the scene, along with the emotions and thoughts it evoked. After describing the scene, participants completed three manipulation check items assessing the extent to which they felt the other person was interested in their partner during the scene they described ("To what extent did you feel the other person was interested in your partner?"; "To what extent did you feel the other person was flirting with your partner?"; "To what extent did you feel the other person was courting your partner?"; $\alpha = 0.93$).

Participants were then introduced with the definition of sexual fantasy (Leitenberg & Henning, 1995), which explained that sexual fantasies encompassed any mentally imagined scenarios that elicited sexual arousal. Following the procedure of Birnbaum (2022), participants were instructed to generate a sexual fantasy involving their current partner and promptly share the initial fantasy that came to mind. While doing so, they were asked to provide a detailed description of the scene as well as the sensations and thoughts experienced by both themselves

and their partner. After describing their fantasy, participants rated three items assessing their desire for their partner (Birnbaum et al., 2016; e.g., "I have felt a great deal of sexual desire for my partner"; $\alpha = 0.88$). Participants rated all items on 5-point scales ranging from 1(*not at all*) to 5 (*very much*). Finally, participants disclosed demographic information, including their age and the duration of their current relationship.

**Coding fantasmatic expressions of desire and partner- (versus self-) focus.** Two psychology students, who were trained and unaware of the hypotheses and experimental conditions, independently coded participants' fantasies. Each rater carefully read the fantasies and evaluated each participant's response on two dimensions, each assessed with a single code: expressions of sexual desire for the current partner and focus on the partner rather than oneself. Expressions of sexual desire for the partner included indications of interest in sexual interactions and descriptions of engaging in sexual activities. This coding scheme has been successfully utilized in previous studies (e.g., Birnbaum et al., 2022; Birnbaum, Zholtack et al., 2019). The dimension of partner focus involved descriptions of prioritizing the partner's pleasure over one's own sexual needs and desires. Ratings were made on 5-point scales ranging from 1 (*not at all*) to 5 (*very much*). Inter-rater reliability was high, with intraclass correlation coefficients (ICCs) of 0.91 for sexual desire and 0.70 for partner focus. To obtain a single rating for each participant, the coders' ratings were averaged.

## Results and Discussion

### *Manipulation Check*

A *t*-test on perceptions of another person's interest in the current partner yielded the expected effect. Participants in the unsolicited attention condition perceived that the other person

expressed greater interest in their partner than did participants in the control condition (see Table 1).

***Main Analyses***

A *t*-test on self-reported sexual desire for the partner yielded the predicted effect. Participants in the unsolicited attention condition reported lower levels of sexual desire for their partner compared to participants in the control condition. T-tests on coded desire for the partner and partner focus in sexual fantasies revealed that participants in the unsolicited attention condition exhibited lower levels of partner focus in their sexual fantasies compared to participants in the control condition. However, no significant differences were found between the experimental conditions in terms of the desire for the partner as expressed in sexual fantasies (see Table 1)[2].

Overall, Study 1's findings confirm our hypotheses concerning the emergence of self-protective behaviors in response to relationship threats. By doing so, Study 1 provides the first evidence of a causal connection between perceiving a partner receiving attention from others and displaying sexual distancing, as evident in all measures, except for the coded sexual desire. These results imply that the meaning of witnessing a partner receiving attention varies depending on the stage of the relationship. In initial encounters, such attention may convey potential partners' high mate value and increase their perceived desirability (Gouda-Vossos et al., 2018). Nevertheless, within ongoing relationships, where individuals are less reliant on others for evaluation of partners, it may be seen as a potential threat to relationship stability (Ein-Dor et al., 2015). This perception can trigger defensive reactions that involve sexual distancing, as individuals attempt to minimize the costs of losing their partners to potential suitors.

The present findings add to existing studies showing that situations posing a threat to the relationship, such as a partner's misbehavior or the possibility of separation, prompt individuals to prioritize self-protection over relationship maintenance to safeguard their self-esteem in the face of uncertain future (e.g., Birnbaum et al., 2018; Birnbaum et al., 2012; Murray et al., 2006). This is because the mere presence of such advances can lead partners to question the potential for a more satisfying relationship elsewhere (Birnbaum, 2022). These findings, however, should be interpreted cautiously. One limitation is that participants were required to describe a sexual fantasy specifically involving their partner, raising concerns about whether differences in coded desire for the partner could have emerged if participants had the freedom to express their fantasies without constraints. For example, participants in the unsolicited attention condition might have been less inclined to fantasize about their partner to begin with compared to those in the control condition.

Another limitation is that hypothetical and real-time interactions may not always yield identical interpersonal evaluations (e.g., Park et al., 2015), suggesting that the responses elicited in the present experimental setting may not fully reflect how individuals would react in similar real-life situations. Finally, even though all participants in the same experimental condition received identical visualization instructions, we had no control over the specific scenarios they described. As a result, the variability in the scenarios could have influenced the results of Study 1. Study 2 addressed these limitations.

## Study 2

In Study 2, we aimed to replicate the findings from Study 1 while incorporating a more immersive manipulation of unsolicited attention to the partner, with the goal of improving experimental control and participant engagement. We also wanted to explore whether the

defensive response to potential partner poaching would extend to mate retention efforts. Finally, we sought to investigate whether the observed reduced sexual desire resulting from perceiving a partner receiving attention from others could, in turn, predict reduced investment in the current relationship. For these purposes, participants were immersed in a virtual environment where they could observe a virtual stranger of the same gender as themselves either showing interest in their partner or behaving neutrally. After leaving the virtual environment, participants reported their sexual desire for their partner and their interest in engaging in relationship-promoting behaviors as well as derogation of competitors and threatening them. We predicted that observing the partners receiving attention from others without showing reciprocal interest would decrease the desire to have sex with them and to invest in the relationship while increasing interest in threatening rivals. We also predicted that the expected reduction in desire would mediate the effect of unsolicited attention on reduced interest in investing in the relationship.

## Method

### *Participants*

One hundred and thirty-two Israeli undergraduate students (66 women, 66 men) participated in the study for course credit. Following Fritz and MacKinnon's (2007) suggestion, sample size was determined via a priori power analysis using PowMedR in R (Kenny, 2013) to provide over 80% power to detect a medium sized effect (.30 in a correlation metric) for both paths a and b in a mediation analysis. Potential participants were recruited if they were in a monogamous mixed-sex relationship of at least 4 months duration. Participants ranged from 20 to 42 years of age ($M$ = 24.84, $SD$ = 3.08). Relationship length ranged from 4 to 192 months ($M$ = 31.17, $SD$ = 30.44).

### *Measures and Procedure*

Individuals interested in participating in a study of virtual and real interactions attended a 30-minute laboratory session individually. Prior to each session, participants had been asked to submit a facial photo of their partner, which was later used for creating an avatar that was embedded in a virtual reality setting simulating a visit to a bar. Participants were randomly assigned to one of two conditions. In the unsolicited attention condition, participants observed a virtual stranger of the same gender as themselves who showed interest in their partner. In the control condition, participants observed a virtual bartender of the same gender as themselves who behaved neutrally while interacting with their partner. Upon arrival at the laboratory, a research assistant greeted the participants and guided them to complete an online consent form. Once the form was completed, the research assistant informed the participants that they would be using a virtual reality device (a head-mounted display) to observe their partner during a visit to a bar. To help participants identify their partner's avatar within the virtual reality environment, the research assistant instructed them to locate their partner's avatar on a computer screen.

Participants were then seated in a designated chair. The research assistant placed the virtual reality device on each participant's head and asked them to first scan the bar environment in search of their partner. Once participants confirmed that they had successfully identified their partner's avatar, the research assistant instructed them to simply watch the interaction between their partner and the other person (the bartender or a stranger). The virtual simulation began, presenting each participant with a scenario based on their assigned condition. Following the procedure of prior research (Birnbaum et al., 2023; Chen et al., 2019), the virtual environment accurately replicated a lively bar setting. It featured a bartender, an array of other virtual individuals, soft background music, and the sounds of people engaged in conversations, contributing to the overall immersive effect. In the unsolicited attention condition, one of the

virtual individuals initiated a conversation with the participant's partner, whereas in the control condition, it was the bartender who interacted with the participant's partner.

As in previous studies (Birnbaum et al., 2023), the manipulation of the bartender's/stranger's interest in the participant's partner was operationalized across three modalities: (a) the semantic content of the conversation. We pre-recorded a fixed script for each condition that was either flirtatious (e.g., "I expect compensation and an apology in the form of a fancy dinner.") or not (e.g., "Would you like to see the menu for now?"; see Appendix A); (b) eye contact: In the unsolicited attention condition, the stranger repeatedly made eye contact with the partner during the conversation, whereas in the control condition, the bartender's gaze shifted to different areas in the bar; and (c) nonverbal gestures: In the unsolicited attention condition, the stranger occasionally displayed gestures commonly associated with flirtatious behavior, such as leaning forward towards the partner (e.g., Birnbaum et al., 2016; Birnbaum et al., 2020; Moore, 2010). In the control condition, the bartender refrained from displaying such proximity-seeking gestures.

These gestures were consistent across sessions and had been pilot tested to ensure their experimental realism. The pre-recorded scripts of the partner's reactions for each condition were designed to be courteous but did not convey any sexual or romantic interest in the bartender or the stranger. For example, in response to the stranger's flirtatious remark, "By the way, you look really familiar; I'm pretty sure we know each other," the partner replied with "I don't think so."

After exiting the virtual environment, participants were instructed to complete the three manipulation check items, as described in Study 1 ($\alpha = 0.96$). Additionally, participants were required to respond to three items that assessed social presence, which gauged the extent to which participants felt their responses during the virtual interaction were realistic (Pan et al.,

2012; e.g., “To what extent did your emotional response to the virtual interaction resemble your emotional response to a similar interaction in the real world?”; $\alpha = 0.51$). Participants were then asked to rate their sexual desire for their partner, using the same measure employed in Study 1 ($\alpha = 0.87$) and to complete three items assessing their interest in engaging in relationship maintenance efforts, adapted from Birnbaum et al. (2021). The items were as follows: “To what extent would you be interested in complimenting your partner on their appearance?”; “To what extent would you be interested in buying your partner a gift?”; and “To what extent would you be interested in taking on in taking on a chore for your partner, despite knowing that it is burdensome for both of you?” ($\alpha = 0.64$).

Participants also completed two items adapted from Buss et al. (2008) to gauge their interest in employing mate retention tactics. These items specifically addressed derogation of competitors and intrasexual threats, and were as follows: “To what extent would you be interested in staring coldly at the person who expressed interest in your partner?” and “To what extent would you be interested in telling your partner negative things about the other person?” ($r = .74$, $p < .01$). Ratings for all items were recorded on 5-point scales, ranging from 1 (*not at all*) to 5 (*very much*). Finally, participants provided demographic information (e.g., age and the duration of their current relationship).

## Results and Discussion

### *Manipulation Check*

A *t*-test on perceptions of another person’s interest in the current partner yielded the expected effect. Participants in the unsolicited attention condition perceived that the other person expressed greater interest in their partner than did participants in the control condition. Unexpectedly, a t-test on social presence yielded a significant effect. Participants in the

unsolicited attention condition felt that their responses during the virtual interaction were less realistic compared to participants in the control condition (see Table 2).

***Main Analyses***

A *t*-test on self-reported sexual desire for the partner yielded the predicted effect. Participants in the unsolicited attention condition reported lower levels of sexual desire for their partner compared to participants in the control condition. T-tests on relationship investment and derogation of competitors and threatening them revealed that participants in the unsolicited attention condition expressed a greater desire to derogate their competitors and engage in threatening behavior towards them in comparison to participants in the control condition. However, no significant differences were observed between the experimental conditions in terms of the desire to invest in the current relationship (see Table 2).

To examine our hypothesis about mediation, we used PROCESS (Hayes, 2013, model 4). In this model, the manipulation of unsolicited attention was the predictor (the unsolicited attention condition was coded as -1 and the control condition was coded as 1), relationship investment was the outcome measure, and sexual desire for the partner was the mediator. Figure 1 shows the final model. This analysis revealed a significant effect of manipulated unsolicited attention on desire for the partner ($b$ = .25, $SE$ = .10, $t$ = 2.53, $p$ = .013, $\beta$ = .22, 95% CI [.04, .40]), and a significant effect of sexual desire on relationship investment ($b$ = .66, $SE$ = .09, $t$ = 7.52, $p$ < .001, $\beta$ = .55, 95% CI [.41, .69]). Also, desire for the partner was uniquely associated relationship investment after controlling for manipulated unsolicited attention ($b$ = .68, $SE$ = .09, $t$ = 7.63, $p$ < .001, $\beta$ = .57, 95% CI [.43, .71]).

More importantly, results indicated that the 95% CI of the indirect effect for manipulated unsolicited attention as a predictor of relationship investment through desire for the partner did

not include zero and thus is considered significant ($b$ = .17, $SE$ = .06, $\beta$ = .12, 95% CI [.03, .21], 5,000 bootstrapped samples). Furthermore, an alternative model, which posits that the association between manipulated unsolicited attention and desire for the partner is mediated by relationship investment, did not yield a significant indirect effect ($b$ = .02, $SE$ = .05, $\beta$ = .02, 95% CI [-.08, .11], 5,000 bootstrapped samples). These analyses supported our hypothesized mediation model, such that the manipulation of unsolicited attention was associated with decreased levels of sexual desire for the partner. This reduced sexual desire, in turn, predicted a lower desire to invest in the relationship with this partner.

In Study 2, we replicated the results from Study 1 and expanded upon them. We found that when individuals perceive their partner receiving attention from others, it triggers a heightened inclination to belittle and threaten potential rivals. Simultaneously, it decreases the desire for the current partner, which, in turn, predicts a reduced interest in investing in the relationship. Through these findings, we gained a more comprehensive understanding of the defensive reaction that unsolicited attention generates. This reaction involves both distancing oneself from a partner who might cause hurt while simultaneously attempting to minimize the threat of alternative partners by devaluing their attractiveness and attacking them. These conclusions should be approached with caution, however, as participants in the unsolicited attention condition reported that their responses during the virtual interaction felt less realistic compared to participants in the control condition. This could be because observing an avatar of one's partner being flirted with is less immersive than experiencing a similar situation in real life. On the other hand, observing a neutral interaction, which is less emotionally charged, may trigger similar reactions in both the virtual and real world. Study 3 addressed this limitation.

## Study 3

In Study 3, our objective was to replicate the effects observed in Study 2 while employing a more ecologically valid approach. To achieve this, we implemented a realistic manipulation by asking participants to recall a real incident that either involved unsolicited attention directed at their partner without any reciprocation or a neutral interaction. This approach aimed to ensure that participants' responses to unsolicited attention were based on their real-life experiences rather than mere imagination or virtual simulations, which could potentially diminish their level of involvement. After describing the incident, participants reported their sexual desire for their partner and their interest in engaging in relationship-promoting behaviors as well as derogation of competitors and threatening them. The hypotheses we tested in Study 3 were identical to Study 2.

## Method

### *Participants*

One hundred and ninety Israeli participants (101 women, 89 men) volunteered for the study. Following Fritz and MacKinnon's (2007) suggestion, sample size was determined via a priori power analysis using PowMedR in R (Kenny, 2013) to provide over 80% power to detect a medium sized effect (.30 in a correlation metric) for both paths a and b in a mediation analysis. To preemptively mitigate potential attrition or non-compliance issues common in online experiments, we recruited a larger number of participants than indicated by our a priori power analysis. Potential participants were recruited if they were in a monogamous mixed-sex relationship of at least 4 months duration. Participants ranged from 18 to 52 years of age ($M$ = 28.01, $SD$ = 6.73). Relationship length ranged from 4 to 288 months ($M$ = 53.52, $SD$ = 57.19).

### *Measures and Procedure*

Individuals interested in participating in a study on interpersonal experiences and perceptions followed a procedure similar to that of Study 1. However, instead of visualizing scenarios, participants were requested to recall a specific incident from their current relationship, in which they either perceived someone else displaying interest in their partner or enjoyed the company of their partner in the presence of another individual. After providing a detailed description of this episode, participants were instructed to reflect on their immediate feelings and then complete the three manipulation check items described in Study 1 ($\alpha = 0.94$). Subsequently, participants responded to the same measure of sexual desire used in Study 1 ($\alpha = 0.90$) and completed measures assessing their interest in engaging in relationship maintenance efforts ($\alpha = 0.77$) and mate retention tactics ($r = 0.87$, $p < .001$), which were described in Study 2. Ratings for all items were recorded on 5-point scales, ranging from 1 (*not at all*) to 5 (*very much*). Finally, participants provided demographic information (e.g., age and the duration of their current relationship).

## Results and Discussion

### *Manipulation Check*

A *t*-test on perceptions of another person's interest in the current partner yielded the expected effect. Participants in the unsolicited attention condition perceived that the other person expressed greater interest in their partner than did participants in the control condition (see Table 3).

### *Main Analyses*

A *t*-test on self-reported sexual desire for the partner yielded the predicted effect. Participants in the unsolicited attention condition reported lower levels of sexual desire for their partner compared to participants in the control condition. T-tests on relationship investment and

derogation of competitors and threatening them revealed that participants in the unsolicited attention condition expressed a greater desire to derogate their competitors and engage in threatening behavior towards them in comparison to participants in the control condition. However, no significant differences were observed between the experimental conditions in terms of the desire to invest in the current relationship (see Table 3).

To examine our hypothesis about mediation, we used PROCESS (Hayes, 2013, model 4). In this model, the manipulation of unsolicited attention was the predictor (the unsolicited attention condition was coded as -1 and the control condition was coded as 1), relationship investment was the outcome measure, and sexual desire for the partner was the mediator. Figure 2 shows the final model. This analysis revealed a significant effect of manipulated unsolicited attention on desire for the partner ($b$ = .25, $SE$ = .11, $t$ = 2.27, $p$ = .025, $\beta$ = .16, 95% CI [.02, .30]), and a significant effect of sexual desire on relationship investment ($b$ = .76, $SE$ = .06, $t$ = 12.01, $p$ < .001, $\beta$ = .66, 95% CI [.55, .77]). Also, desire for the partner was uniquely associated relationship investment after controlling for manipulated unsolicited attention ($b$ = .76, $SE$ = .06, $t$ = 11.83, $p$ < .001, $\beta$ = .66, 95% CI [.54, .77]).

More importantly, results indicated that the 95% CI of the indirect effect for manipulated unsolicited attention as a predictor of relationship investment through desire for the partner did not include zero and thus is considered significant ($b$ = .19, $SE$ = .08, $\beta$ = .10, 95% CI [.02, .21], 5,000 bootstrapped samples). Furthermore, an alternative model, which posits that the association between manipulated unsolicited attention and desire for the partner is mediated by relationship investment, did not yield a significant indirect effect ($b$ = .10, $SE$ = .09, $\beta$ = .07, 95% CI [-.02, .17], 5,000 bootstrapped samples). These analyses supported our hypothesized mediation model, such that the manipulation of unsolicited attention was associated with

decreased levels of sexual desire for the partner. This reduced sexual desire, in turn, predicted a lower desire to invest in the relationship with this partner.

Study 3 successfully replicated the results obtained in Studies 1 and 2, employing a different methodology. This replication serves to further reinforce the conclusion that when individuals perceive their partners receiving unsolicited attention from someone else, they push away both their partners and their suiters. This defensive response pattern persisted even when participants recounted real-life events, bolstering our confidence in the robustness of the observed effects of unsolicited attention, both in terms of diminished sexual desire and a more general detachment from the relationship. Together, these findings underscore that such instances of unsolicited attention trigger a self-protective mechanism aimed at preempting the implications of potential rejection and curbing emotional investment in a partnership where the partner might be tempted to explore an alternative relationship. This process unfolds as partners continue to seek ways to minimize the external threat posed by potential alternative partners.

## General Discussion

The intensity of sexual desire for a partner fluctuates over time, going through periods of both highs and lows (Acevedo & Aron, 2009; Birnbaum, 2018). These fluctuations in sexual desire are closely intertwined with the dynamics within the relationship, which ultimately influence its quality and stability. Key factors such as the extent of mutual dependence between partners, the depth of their commitment, and the level of trust they share collectively contribute to these shifts (Birnbaum, 2018; Mark & Lasslo, 2018). It is not surprising, for example, that desire tends to increase when a partner is responsive to one's emotional needs and makes one feel valued (Birnbaum, 2023; Birnbaum et al., 2016), and tends to wane when a partner's behavior is hurtful (Birnbaum et al., 2018; Birnbaum, Mizrahi et al. 2019). It might be less

intuitive, however, to realize that external factors beyond partners' control can also impact how desirable they are perceived to be, as demonstrated in the present research.

Across three experiments, we showed that individuals perceived their partners as less sexually desirable when their partners received unsolicited attention from someone else. We further found that this decreased desire led to a corresponding adjustment in mate retention efforts, as evidenced by a reported decrease in the willingness to invest in the relationship. In Study 1, we revealed that unsolicited attention given to partners led participants to sexually distance themselves from their partners by experiencing lower sexual desire for them and prioritizing their own sexual needs over those of their partners. In Study 2, we replicated and extended these findings. Specifically, we discovered that unsolicited attention given to partners not only diminished their desirability but also heightened the desire to deter potential rival suitors. The decline in desire for the partner subsequently resulted in a decreased willingness to invest in the relationship. In Study 3, we demonstrated that the effects observed using visualization and virtual reality in Studies 1 and 2 generalized to real-world instances of unsolicited attention.

Previous research on mate poaching has revealed that when people become the target of such advances, their motivation to maintain the existing relationship weakens, leading them to perceive their current partners as less appealing and alternatives as more enticing (Birnbaum, 2022; Lemay & Wolf, 2016). Nevertheless, to the best of our knowledge, no research has explored how the desirability of current partners is affected when they themselves become the target of potential poaching. Past studies have noted that people strive to retain their partner using a mix of cost-inflicting and benefit-provisioning tactics towards their partners (e.g., monopolizing mates' time and frequent sex or gift-giving, respectively; Buss et al., 2008; Lopes

& Shackelford, 2019). Our research indicates that when faced with an imminent poaching threat, individuals tend to drop benefit-provisioning tactics, leaning instead towards defensive actions. Such shift may aim to avoid the potential blow to self-esteem from rejection, rather than risk further attachment to a partner whose commitment could be compromised by rival suitors. These findings resonate with earlier studies, which suggest that when rejection concerns become salient, self-protection is often prioritized over relationship enhancement (Birnbaum et al., 2012; Cavallo et al., 2010; Murray et al., 2006).

Our findings suggest that one way this self-protective response manifests is through distancing behavior, wherein individuals experience reduced desire for their partners. This pattern aligns with observations from previous studies, which focused on other relationship threats (e.g., uncertainties about partners' affection; Birnbaum et al., 2018; Birnbaum, Mizrahi et al., 2019). Notably, this outcome diverges from the dynamics seen in the early stages of relationships, where increased attention given to potential partners by others typically heightens their perceived desirability (Burch et al., 2021; Gouda-Vossos et al., 2018).

Our research underscores how this same attention can result in decreased, rather than increased, desire for a partner, implying that the determining factor in how unsolicited attention impacts a partner's desirability is not merely the attention itself, but the meaning it carries. This meaning may be contingent on the relationship stage and the level of familiarity between the partners. In the initial stages, when individuals often rely on others' impressions to gauge a partner's suitability, such attention may indicate high mate value, rendering the partner more attractive (Gouda-Vossos et al., 2018). In contrast, in later stages when individuals have a clear understanding of their partner's value and no longer need external validation, such attention is likely to be perceived as a threat to lure their partner away (Moran & Wade, 2022).

Consequently, this attention triggers a defensive reaction aimed at minimizing potential damages caused by the threat of alternative suitors.

Overall, our findings highlight the circumstances under which external attention directed towards partners can erode relationship well-being instead of fostering relationship promotion. The enactment or inhibition of specific mate retention tactics, as our findings suggest, is largely determined by the perceived sustainability of the relationship. When partners' likelihood of being attracted to someone else is perceived to be high, such as when they receive attention from others, people may emotionally detach from their partner and consequently reduce their relationship investment. Even though the desire to deter potential rivals may still exist, it may be more rooted in retaliation than in genuine efforts to maintain the relationship. Alternatively, the anger triggered by others' displays of interest may be simultaneously directed towards both partners and potential rivals, albeit in different ways—resulting in emotional disengagement from partners and confrontational responses towards rivals.

These conclusions, however, should be approached with careful consideration due to several limitations. Firstly, we did not directly observe participants' actual behaviors in interactions with their partners or potential rivals. Therefore, it is uncertain whether their professed intentions to engage in sexual activities and mate retention behaviors reflect their actual behaviors in real life. Additionally, we did not investigate the motivations behind participants' decisions to enact or not enact specific mate retention tactics. This leaves an opportunity for further research to explore whether these decisions are motivated by fear of rejection or other defensive strategies. Lastly, while our research provides valuable insights into how individuals handle external attention within traditional monogamous relationships, future

studies should examine how these dynamics apply to non-monogamous relationship structures where such attention might be perceived as less threatening.

Despite its limitations, our study highlights the contextual nature of sexual desire and the fragility inherent in couple relationships. We illustrate how external threats, even when not directly linked to a partner's actions, can still disrupt the harmony within a relationship. This disruption often impacts the most vulnerable aspect of the relationship—the desire shared between partners (Birnbaum, 2018). As indicated by preceding research, sexual desire is responsive to changes in the relational atmosphere and expressions of partners' regard, serving as gauge of partners' suitability (Birnbaum et al., 2021; Birnbaum et al., 2019). As such, sexual desire for a current partner can mirror disruptions triggered by the partner's misdeeds, potentially prompting withdrawal from less valued partners (Birnbaum et al., 2021; Birnbaum & Reis, 2019). Our findings hint that sexual desire may, in certain instances, exhibit excessive sensitivity, declining regardless of a partner's fault. Whether the initial sexual distancing witnessed in our research persists over time or whether the passage of time and relational processes can alleviate this decline remains an area to explore in forthcoming studies.

## References

Acevedo, B. P., & Aron, A. (2009). Does a long-term relationship kill romantic love? *Review of General Psychology, 13,* 59–65.

Anderson, R. C., & Surbey, M. K. (2014). I want what she's having: Evidence of human mate copying. *Human Nature, 25,* 342–358.

Anderson, R. C., & Surbey, M. K. (2022). Call me daddy: How long-term desirability is influenced by intention for fatherhood. *Evolutionary Psychological Science, 8,* 343–350.

Arnocky, S., & Locke, A. (2020). Jealousy mediates the link between women's upward physical appearance comparison and mate retention behavior. *Evolutionary Psychology, 18,* 147470492097399.

Birnbaum, G. E. (2007). Beyond the borders of reality: Attachment orientations and sexual fantasies. *Personal Relationships, 14,* 321-342.

Birnbaum, G. E. (2018). The fragile spell of desire: A functional perspective on changes in sexual desire across relationship development. *Personality and Social Psychology Review, 22,* 101–127.

Birnbaum, G. E. (2022). Temptation at your door: Receiving mate poaching attempts and perceived partners' desirability. *Personal Relationships, 29,* 566-580.

Birnbaum, G. E. (2023). The enticement of feeling understood, validated, and cared for: How does perceiving a partner as responsive affect the sexual arena? *Current Opinion in Psychology, 52,*101594.

Birnbaum, G. E., Chen, Y. R., Zholtack, K., Giron, J., & Friedman, D. (2023). Biting the forbidden fruit: The effect of flirting with a virtual agent on attraction to real alternative and existing partners. *Current Research in Ecological and Social Psychology, 4,*100084.

Birnbaum, G. E., Iluz, M., Plotkin, E., Tibi, L., Hematian, R., Mizrahi, M., & Reis, H. T. (2020). Seeing what you want to see: Sexual activation makes potential partners seem more appealing and romantically interested. *Journal of Social and Personal Relationships, 37*, 3051–3069.

Birnbaum, G. E., Kanat-Maymon, Y., Mizrahi, M., Barniv, A., Shir, N., Govinden, J., & Reis, H. T. (2018). Are you into me? Uncertainty and sexual desire in online encounters and established relationships. *Computers in Human Behavior, 85*, 372-384.

Birnbaum, G. E., Kanat-Maymon, Y., Slotter, E. B., & Luchies, L. B. (2021). Sexual desire mediates the relationship-promoting effects of perceived partner mate value. *Archives of Sexual Behavior, 50*, 3733–3755.

Birnbaum, G. E., Mizrahi, M., Kovler, L., Shutzman, B., Aloni-Soroker, A., & Reis, H. T. (2019). Our fragile relationships: Relationship threat and its effect on the allure of alternative mates. *Archives of Sexual Behavior, 48*, 703–713.

Birnbaum, G. E., & Reis, H. T. (2019). Evolved to be connected: The dynamics of attachment and sex over the course of romantic relationships. *Current Opinion in Psychology, 25*, 11-15.

Birnbaum, G. E., Reis, H. T., Mizrahi, M., Kanat-Maymon, Y., Sass, O., & Granovski-Milner, C. (2016). Intimately connected: The importance of partner responsiveness for experiencing sexual desire. *Journal of Personality and Social Psychology, 111*, 530-546.

Birnbaum, G. E., Simpson, J. A., Weisberg, Y. J., Barnea, E., & Assulin-Simhon, Z. (2012). Is it my overactive imagination?: The effects of contextually activated attachment insecurity on sexual fantasies. *Journal of Social and Personal Relationships, 29*, 1131–1152.

Birnbaum, G. E., Svitelman, N., Bar-Shalom, A., & Porat, O. (2008). The thin line between reality and imagination: Attachment orientations and the effects of relationship threats on sexual fantasies. *Personality and Social Psychology Bulletin, 34,* 1185-1199.

Birnbaum, G. E., Zholtack, K., & Ayal, S. (2022). Is infidelity contagious? Online exposure to norms of adultery and its effect on expressions of desire for current and alternative partners. *Archives of Sexual Behavior, 51,* 3919-3930.

Birnbaum, G. E., Zholtack, K., Mizrahi, M., & Ein-Dor, T. (2019). The bitter pill: Cessation of oral contraceptives enhances the appeal of alternative mates. *Evolutionary Psychological Science*, *5*, 276–285.

Black, A. E., & Reis, H. T. (2022). Is my partner committed to me or tempted by others?: Perceptions of the partner's devaluation of alternatives. *Current Research in Ecological and Social Psychology*, *3*, 100042.

Bowers, R. I., Place, S. S., Todd, P. M., Penke, L., & Asendorpf, J. B. (2012). Generalization in mate-choice copying in humans. *Behavioral Ecology, 23*, 112–124.

Burch, R. L., Moran, J. B., & Wade, T. J. (2021). The reproductive priming effect revisited: Mate poaching, mate copying, or both? *Evolutionary Behavioral Sciences, 15,* 251–264.

Buss, D. M., Goetz, C., Duntley, J. D., Asao, K., & Conroy-Beam, D. (2017). The mate switching hypothesis. *Personality and Individual Differences, 104*, 143–149.

Buss D. M., Haselton M. G. (2005). The evolution of jealousy. *Trends in Cognitive Sciences, 9,* 506–507.

Buss D. M., Shackelford T. K. (1997). From vigilance to violence: Mate retention tactics in married couples. *Journal of Personality and Social Psychology,* 72, 346–361.

Buss, D. M., Shackelford, T. K., & McKibbin, W. F. (2008). The mate retention inventory-short form (MRI-SF). *Personality and Individual Differences, 44,* 322-334.

Cavallo, J. V., Fitzsimons, G. M., & Holmes, J. G. (2010). When self-protection overreaches: Relationship-specific threat activates domain-general avoidance motivation. *Journal of Experimental Social Psychology, 46,* 1–8.

Chen, Y. R., Birnbaum, G. E., Giron, J., & Friedman, D. (2019). Individuals in a romantic relationship express guilt and devaluate attractive alternatives after flirting with a virtual bartender. Proceedings of the 19th ACM International Conference on Intelligent Virtual Agents (IVA, 2019).

Eastwick, P. W., & Finkel, E. J. (2008). Sex differences in mate preferences revisited: Do people know what they initially desire in a romantic partner? *Journal of Personality and Social Psychology, 94,* 245–264.

Ein-Dor, T., Perry, A., Hirschberger, G., Birnbaum, G. E., & Deutsch, D. (2015). Coping with mate poaching: Gender differences in detection of infidelity-related threats. *Evolution and Human Behavior, 36,* 17-24.

Eva, K. W., & Wood, T. J. (2006). Holiday review. Are all the taken men good? An indirect examination of mate-choice copying in humans. *Canadian Medical Association Journal, 175*, 1573–1574.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.

Fletcher, G. J. O., Simpson, J. A., Thomas, G., & Giles, L. (1999). Ideals in intimate relationships. *Journal of Personality and Social Psychology, 76,* 72-89.

Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science, 18,* 233–239.

Goetz, A. T., Shackelford, T. K., Weekes-Shackelford, V. A., Euler, H. A., Hoier, S., Schmitt, D. P., & LaMunyon, C. W. (2005). Mate retention, semen dis-placement, and human sperm competition: A preliminary investigation of tactics to prevent and correct female infidelity. *Personality and Individual Differences, 38,* 749–763.

Gouda-Vossos, A., Nakagawa, S., Dixson, B. J., & Brooks, R. C. (2018). Mate choice copying in humans: A systematic review and meta-analysis. *Adaptive Human Behavior and Physiology, 4,* 364–386.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis*. Guilford Press.

Hill, S. E., & Buss, D. M. (2008). The mere presence of opposite-sex others on judgments of sexual and romantic desirability: Opposite effects for men and women. *Personality and Social Psychology Bulletin, 34,* 635– 647.

Jones, B. C., DeBruine, L. M., Little, A. C., Burriss, R. P., & Feinberg, D. R. (2007). Social transmission of face preferences among humans. *Proceedings Biological Sciences, 274,* 899–903.

Kenny, D. (2013). *PowMedR. R program to compute power of joint test for continuous exposure, mediator, and outcome.* Available at http://davidakenny.net/progs/PowMedR.txt.

Krems, J. A., Neel, R., Neuberg, S. L., Puts, D. A., & Kenrick, D. T. (2016). Women selectively guard their (desirable) mates from ovulating women. *Journal of Personality and Social Psychology, 110,* 551-573.

Leitenberg, H., & Henning, K. (1995). Sexual fantasy. *Psychological Bulletin, 117,* 469-496.

Lemay, E. P., & Wolf, N. R. (2016). Human mate poaching tactics are effective: Evidence from a dyadic prospective study on opposite-sex "friendships." *Social Psychological & Personality Science, 7,* 374-380.

Little, A. C., Burriss, R. P., Jones, B. C., DeBruine, L. M., & Caldwell, C. A. (2008). Social influence in human face preference: Men and women are influenced more for long-term than short-term attractiveness decisions. *Evolution and Human Behavior, 29,* 140–146.

Lopes, G. S., & Shackelford, T. K. (2019). Disengaged, exhaustive, benevolent: Three distinct strategies of mate retention. *Journal of Social and Personal Relationships, 36,* 2677–2692.

Mark, K. P., & Lasslo, J. P. (2018). Maintaining sexual desire in long-term relationships: A systematic review and conceptual model. *Journal of Sex Research, 55,* 563–581.

Massar, K., & Buunk, A. (2016). Individual differences in preventive jealousy determine men's jealousy after subliminal exposure to rivals wearing high or low-status clothes. *Psychological Reports, 118,* 219-235.

Moore, M. M. (2010). Human nonverbal courtship behavior—a brief historical review. *Journal of Sex Research, 47,* 171-180.

Moran, J. B., & Wade, T. J. (2022). Perceptions of a mismatched couple: The role of attractiveness on mate poaching and copying. *Evolutionary Behavioral Sciences, 16,* 94–99.

Murray, S. L., Holmes, J. G., & Collins, N. L. (2006). Optimizing assurance: The risk regulation system in relationships. *Psychological Bulletin, 132,* 641–666.

Pan, X., Gillies, M., Barker, C., Clark, D. M., & Slater, M. (2012). Socially anxious and confident men interact with a forward virtual woman: An experimental study. *PloS one, 7,* e32931.

Park, L. E., Young, A. F., & Eastwick, P. W. (2015). (Psychological) distance makes the heart grow fonder: Effects of psychological distance and relative intelligence on men's attraction to women. *Personality and Social Psychology Bulletin, 41,* 1459–1473.

Place, S. S., Todd, P. M., Penke, L., & Asendorpf, J. B. (2010). Humans show mate copying after observing real mate choices. *Evolution and Human Behavior, 31,* 320–325.

Rodehefer, C. D., Proftt-Leyva, R. P., & Hill, S. E. (2016). Attractive female romantic partners provide a proxy for unobservable male qualities: The when and why behind human female mate choice copying. *Evolutionary Psychology, 14,* 1–8.

Shackelford, T. K., Goetz, A. T., Guta, F. E., & Schmitt, D. P. (2006). Mate guarding and frequent in-pair copulation in humans. *Human Nature, 17,* 239–252.

Solomon, D. H., & Knobloch, L. K. (2004). A model of relational turbulence: The role of intimacy, relational uncertainty, and interference from partners in appraisals of irritations. *Journal of Social and Personal Relationships, 21,* 795–816.

Swaddle, J. P., Cathey, M. G., Correll, M., & Hodkinson, B. P. (2005). Socially transmitted mate preferences in a monogamous bird: A non-genetic mechanism of sexual selection. *Proceedings Biological Sciences, 272,* 1053–1058.

Vakirtzis, A., & Roberts, S. C. (2012). Human nonindependent mate choice: Is model female attractiveness everything? *Evolutionary Psychology, 10,* 225– 237.

Waynforth, D. (2007). Mate choice copying in humans. *Human Nature, 18,* 264–271.

Yorzinski, J. L., & Platt, M. L. (2010). Same-sex gaze attraction influences mate-choice copying in humans. *PLoS One, 5*, e9115

## Notes

1. The preregistration of Study 3 is available at the Open Science Framework: https://osf.io/ty3hk/?view_only=37014346cb2044a1ac06dd2dfe8fdcf4
2. In all studies, we explored whether the effect of mate copying on sexual desire for the current partner was moderated by gender. We did not find a significant interactive effect between these variables in any of our analyses. It is worth noting that our studies were not specifically designed to detect gender moderation, and as a result, may have lacked the necessary statistical power to do so. Future research should examine the possibility of such effects.

**Table 1**

*Means, Standard Deviations, Statistics, and Effect Sizes of Participants' Self-Reported and Coded Desire for their Partner and Partner Focus in Sexual Fantasies in the Experimental Conditions (Study 1)*

| | Unsolicited Attention | Control | *t*(242) | *Cohen's d* | 95% CI for Cohen's d |
|---|---|---|---|---|---|
| Perception of another person's interest in one's partner | 3.70 (1.01) | 1.76 (0.96) | 15.27*** | 1.96 | [1.65, 2.26] |
| Self-reported desire for the partner | 3.61 (1.01) | 3.90 (0.98) | -2.24* | -0.29 | [-.54, -.03] |
| Coded partner (vs. self) focus in fantasies | 1.86 (0.91) | 2.29 (1.02) | -3.44*** | -0.45 | [-.71, -.19] |
| Coded desire for the partner in fantasies | 2.20 (1.35) | 2.18 (1.30) | 0.96 | 0.12 | [-.24, .27] |

*Note*. $N = 244$. * $p < .05$, *** $p < .001$. All items were rated on 5-point Likert scales. Standard deviations are presented in parentheses.

**Table 2**

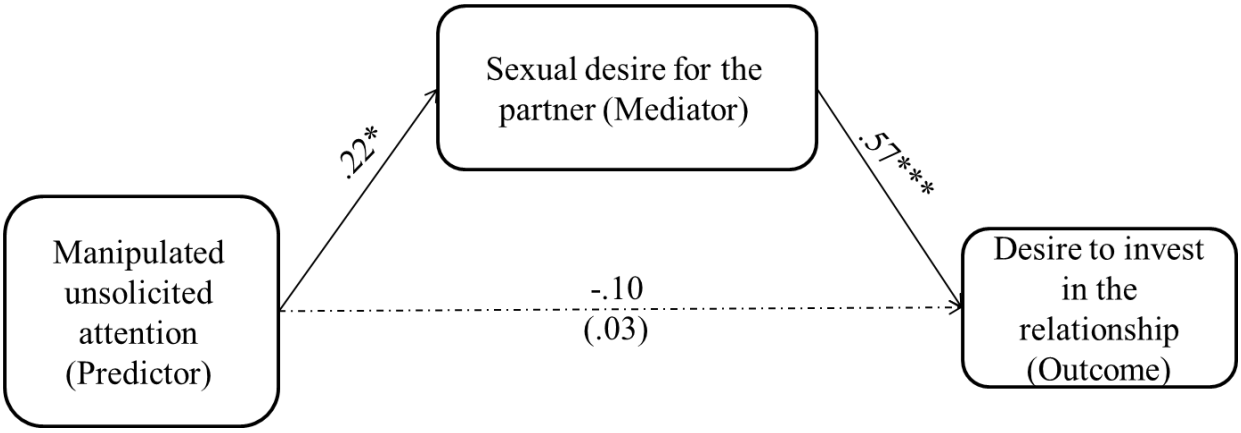
*Means, Standard Deviations, Statistics, and Effect Sizes of Participants' Desire for their Partner and Mate Retention Efforts in the Experimental Conditions (Study 2)*

| | Unsolicited Attention | Control | *t*(130) | *Cohen's d* | 95% CI for Cohen's d |
|---|---|---|---|---|---|
| Perception of another person's interest in one's partner | 4.71 (0.42) | 2.35 (1.05) | 16.90*** | 2.94 | [2.44, 3.43] |
| Social presence | 2.71 (0.78) | 3.07 (0.80) | -2.61* | -0.45 | [-.80, -.11] |
| Self-reported desire for the partner | 4.41 (0.62) | 4.66 (0.49) | -2.53* | -0.44 | [-.79, -.09] |
| Relationship investment | 4.08 (0.64) | 4.13 (0.71) | -0.34 | -0.06 | [-.40, .28] |
| Derogation of competitors and threatening them | 3.06 (1.32) | 2.50 (1.33) | 2.43* | 0.42 | [.08, .77] |

*Note*. $N = 132$. * $p < .05$, *** $p < .001$. All items were rated on 5-point Likert scales. Standard deviations are presented in parentheses.

**Figure 1**

*Mediation model showing that sexual desire for the partner mediated the association between the manipulation of unsolicited attention and the desire to invest in the relationship with this partner in Study 2.*




*Note*. Path coefficients are standardized. The value in parentheses is from the analysis of the effect without sexual desire in the equation. The unsolicited attention condition was coded as -1 and the control condition was coded as 1. * $p < .05$, *** $p < .001$.

**Table 3**

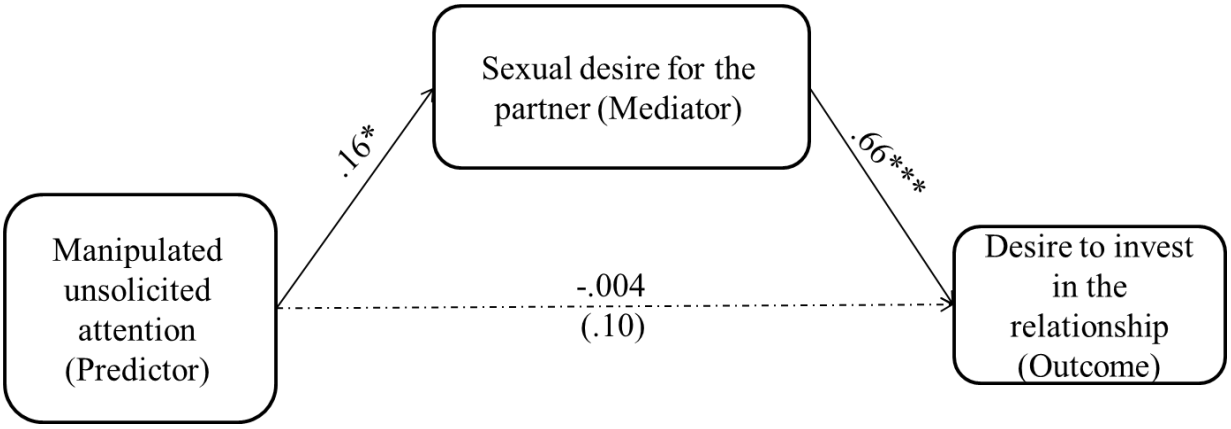
*Means, Standard Deviations, Statistics, and Effect Sizes of Participants' Desire for their Partner and Mate Retention Efforts in the Experimental Conditions (Study 3)*

| | Unsolicited Attention | Control | *t*(188) | *Cohen's d* | 95% CI for Cohen's d |
|---|---|---|---|---|---|
| Perception of another person's interest in one's partner | 3.81 (0.98) | 1.34 (0.70) | 20.42*** | 2.91 | [2.50, 3.32] |
| Self-reported desire for the partner | 4.28 (0.86) | 4.53 (0.66) | -2.27* | -0.33 | [-.62, -.04] |
| Relationship investment | 3.86 (0.88) | 4.05 (0.87) | -1.42 | -0.21 | [-.43, .07] |
| Derogation of competitors and threatening them | 3.08 (1.43) | 1.55 (1.10) | 8.25*** | 1.20 | [.89, 1.51] |

*Note*. $N = 190$. * $p < .05$, *** $p < .001$. All items were rated on 5-point Likert scales. Standard deviations are presented in parentheses.

**Figure 2**

*Mediation model showing that sexual desire for the partner mediated the association between the manipulation of unsolicited attention and the desire to invest in the relationship with this partner in Study 3.*




*Note*. Path coefficients are standardized. The value in parentheses is from the analysis of the effect without sexual desire in the equation. The unsolicited attention condition was coded as -1 and the control condition was coded as 1. * $p < .05$, *** $p < .001$.

## Appendix A

### The Scenario of the Unsolicited Attention Condition (Study 2)

The partner sits at the bar while the bartender serves other customers. The partner takes out their phone and starts using it, appearing focused. She/he has a drink on the bar. Suddenly, a stranger approaches her/him, holding a glass in his/her hand.

The stranger: “Hey, do you have a lighter by any chance?”

The partner: “Actually, no.”

The stranger: “Bummer! By the way, you look really familiar; I’m pretty sure we know each other.”

The partner: “I don’t think so.”

The stranger: “Alright, I tried. Looks really interesting what you have in that glass. What are you drinking?”

The partner: “It's the house special.”

The stranger: “Cool! I think I’ll order one too. Besides, it seems like you could use some company; you seem pretty lonely.”

The partner: “Actually, I’m waiting for a friend; we’re celebrating his/her birthday. She/He just texted me that she/he is on her/his way.”

The stranger: “How does she/he manage to keep you waiting like that?”

The partner: “Are you trying to provoke a conflict between us?”

The stranger: “Heaven forbids! Why would I want to provoke a conflict between good friends? So, how old…?”

The partner: “Me or the birthday kid?”

The stranger: “I was referring to your friend, but now I’m curious about how old you are. I’m ready to bet I know how old you are.”

The partner: “How old do you think I am?”

The stranger: “If I’m right, shall we raise a toast?”

The partner: laughs

The stranger: “Never mind, let’s focus on more interesting things than age. Maybe something personal? If you were the birthday kid, what would you want as a gift?”

The partner: “Seriously, you’ve caught me off guard! That’s a tough question. What would you want?”

The stranger: “Honestly, right now, finding an apartment in Tel Aviv is at the top of my wish list... preferably with a roommate.”

The partner: Laughs

The stranger: “I love this bar! One of the owners is a really good friend of mine. I think they’re doing quite well; it’s always crowded here, and there are some great people, right?”

The partner: “Actually, it’s my first time here. What do you recommend ordering?”

The stranger: “The mojito here is excellent, and so are the nachos.”

The partner: “Boring!”

The stranger: “No one has ever called me that before.”

The partner: chuckles, “I guess I offended you.”

The stranger: “I expect compensation and an apology in the form of a fancy dinner.” chuckles “You know, sometimes it’s good to be boring.”

The partner: “There’s something to it!”

The stranger: “I’m still convinced that we’ve met before. It’s driving me crazy!”

The partner: “Maybe we have mutual friends.”

The stranger: “No, I don’t think so.”

The partner: “Well, listen, it’s a small world.”

The stranger: “Yes, a small world! Maybe it’s thanks to that I was lucky enough to meet you on your first visit here when your friend deserted you (laughing).”

The partner: (Laughing) “You won’t let that go, huh?”

The stranger: “Maybe it’s destiny. Do you believe in that nonsense?”

The partner: Laughing awkwardly

The stranger: “Many of my friends on Tinder and various dating apps have completely lost hope with old-fashioned romance. But I always believed that I would meet my soulmate by chance and in reality... maybe at a bar?” (Laughing) “So, what do you say, shall we raise a toast to our love lives?”

The partner: “Um... okay.”

The stranger to the bartender: “Can you pour us a toast, please?”

Bartender pours the drinks.

The stranger hands a napkin with her/his phone number to the partner.

**The Scenario of the Control Condition**

The partner sits on a chair at a bar while the bartender serves other customers and looks at the smartphone.

Bartender: “Have you been waiting long?”

The partner: “Hey, it’s okay, I just sat down.”

Bartender: “Are you waiting for someone else?”

The partner: “Yes, for a friend.”

Bartender: “Great, my name is Danielle, and I’ll be your bartender tonight. Would you like to see the menu for now?”

The partner: “Sure”

Bartender: “Here you go.”

The partner: “Thank you” A few seconds pass as the partner looks at the menu. The bartender serves other customers and then returns to the partner.

Bartender: “So, have you made a decision?”

The partner: “Um, I’m not sure... Could you recommend something?”

Bartender: “Of course, we have a variety of new cocktails, and there's our house cocktail, which is highly recommended and special. Would you like to try it?”

The partner: “I’m not really in the mood for a cocktail.”

Bartender: “I’ll bring you a sample. It's something special that we only make here, and everyone loves it. I think it’ll suit you too.”

The partner: “Okay”

Bartender pours the cocktail into a tasting glass. “So, what do you think?”

The partner: “Wow, it’s really excellent! I think I’ll have one.”

Bartender: “Alright, I’ll make one for you. Would you like something to nibble on as well??

The partner: “Um, I’m not sure... Where are the appetizers on the menu?”

Bartender: “Here they are. Shall I tell you about the specials?”

The partner: “Yes, why not?”

Bartender: “In addition to the regular menu, today we have a four-cheese pizza, fish and chips, and quinoa salad.”

The partner: “My friend is on gluten-free diet, so I think he/she will be disappointed.”

Bartender: “What about nachos? They come with an excellent salsa sauce that we make in-house.”

The partner: “Um, I don’t think we’re in the mood for nachos. You know what? I’ll wait for my friend, and we’ll decide together.” Pause - The bartender turns around and fetches the cocktail from the bar to serve the partner.

Bartender: “No problem, if you need anything, I’m here to help. Enjoy!" Goes to assist other customers.

The partner: “Thank you!” The partner moves the menu, and the glass spills on her/his pants.

The partner: “Sorry, can I have some napkins, please?”

Bartender: “Sure, of course. Shall I bring you a new one?”

The bartender brings napkins to the partner.

The partner: “It’s okay, no need, thank you. I’ll just wait for my friend, and we’ll order together.” The partner’s phone rings.

The partner answers the phone call: “Hey, what’s up?” (Pause) “Um, I think there’s parking on the parallel street. (Pause) Do you want me to ask where there’s nearby parking?” (Pause)

The partner turns to the bartender: “Excuse me, do you know if there are any parking lots around here?”

Bartender: “Actually, I’m not sure. I always come here by foot or bike, but there might be something further down this street. I recommend checking.”

The partner returns to the phone conversation: “Hey, listen, maybe try further down the street (pause). Alright, then, bye.”

Bartender: “I understand it might take him/her more time. Are you sure you don’t want a fresh drink? I can make one for you in a second. You hardly had any of the previous one.”

The partner: “No, really, there’s no need. Thank you.”