Sex differences in response to imagining a partner's heterosexual or homosexual affair

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A B S T R A C T

Based on sexual strategies theory, we predicted that men would be less likely to continue an imagined long-term relationship following a partner’s heterosexual affair compared to homosexual affair. For women, it was expected that both affair types would result in a low willingness to continue the relationship, but especially so for homosexual affairs. We further predicted that the interaction would remain independent of the following moderator variables: number of affair partners, number of instances of infidelity, and real infidelity experience. Participants (N = 718) were randomly assigned to read one of eight infidelity scenarios and estimate the likelihood that they would continue the relationship. Results confirmed all three predictions. A separate analysis of relationship outcomes following real infidelity experiences provided additional corroboration. These results support the conclusion that threats to paternity and threats of abandonment differentially motivate men and women to terminate relationships in response to a partner’s infidelity.

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1. Introduction

Nearly three decades ago, psychologists applied the principles of natural and sexual selection to explore previously unknown sex differences in the nature of romantic jealousy (Daly, Wilson, & Weghorst, 1982; Symons, 1979). The abundance of research that followed has shown that relative to women, men experience greater distress in response to sexual infidelity and less distress in response to emotional infidelity (e.g., falling in love with another person; Buss, Larsen, Westen, & Semmelroth, 1992; Buunk, Angleitner, Oubaid, & Buss, 1996; Pietrzak, Laird, Stevens, & Thompson, 2002). The main purpose of the present study was to examine whether the imagined behavioral outcomes of a partner’s heterosexual or homosexual affair differ between men and women, in light of the well-documented sex difference in emotional distress.

Sex differences in emotional distress due to partner infidelity can be explained by Trivers’ (1972) parental investment theory. As the result of women’s internal fertilization, the paternity of putative offspring is never guaranteed. In contrast, women are assured of their maternity; however, they face the adaptive problem of possible abandonment once the heavy burden of motherhood commences. To solve their respective adaptive problems, men and women are differentially sensitized to two categories of cues that trigger jealousy. Men experience heightened distress in response to cues of sexual infidelity, which most strongly threatens paternity, whereas women experience heightened distress in response to cues of emotional infidelity, which most strongly signals a loss of commitment and investment (Buss et al., 1992).

Across various methodologies that have been used to study romantic jealousy, the sex-differentiated pattern of men experiencing greater distress, relative to women, in response to sexual infidelity and of women experiencing greater distress, relative to men, in response to emotional infidelity emerges with relative consistency (and a moderate effect size; Harris, 2003). Although the forced-choice methodology, introduced by Buss et al. (1992), predominates the literature (Miller & Maner, 2009; Murphy, Vallacher, Shackelford, Bjorklund, & Yunger, 2006), the same pattern of results has been reflected in continuous scales of affective response (e.g., anger; Becker, Sagarin, Guadagno, Millevoy, & Nicastle, 2004) as well as in physiological measurements (Buss et al., 1992; Pietrzak et al., 2002; c.f. Harris, 2000). Schützwohl has replicated these findings through the use of several novel methodologies that measure reaction time (Schützwohl, 2004, 2005, 2008a), memory recall (Schützwohl & Koch, 2004), and distraction (Schützwohl, 2008b). The convergent evidence provided by these methodologies suggests that sexual and emotional infidelity differentially activate a robust jealousy mechanism in men and women.
Unlike the heterosexual affairs referenced in the methodologies above, homosexual affairs have no direct reproductive consequences. Yet men and women view homosexual behavior differently depending on whether the sexual partners are male or female. Female homosexual behavior is considered to be more erotic than male homosexual behavior (especially for male raters; Nryberg & Alston, 1977; Wiederman & LaMar, 1998) and men are more likely to report that they would have sexual relations with a bisexual woman than women are to report about a bisexual man (Elason, 1997). Due to their relatively lower obligation to invest heavily in offspring, one strategy through which men can increase their reproductive success is to engage in a greater number of short-term heterossexual encounters (Buss & Schmitt, 1993; Symons, 1979). Homosexual behavior in women may signal an opportunity for men to mate with more than one woman simultaneously, satisfying men's greater desire for more partners. In addition to fantasizing about group sex more frequently than women, twice as many men (31%) than women (15%) report that they would have sex with two other people simultaneously (Wilson, 1987), and 97% of men prefer that the two other people be women (Hughes, Harrison, & Gallup, 2004).

The fitness costs of a partner's heterosexual or homosexual affair are more similar for women than for men as both types of affairs signal an impending loss of commitment and investment, but males face an additional cost of paternity uncertainty for heterosexual affairs. Consistent with men and women's differential sensitivity to cues of cuckoldry and abandonment, men report greater distress in response to an imagined partner's heterosexual affair than homosexual affair (Hughes et al., 2004; Sagarin, Becker, Guadagno, Nicastle, & Millevi, 2003), whereas women report equal levels of distress in response to both types of affairs (Hughes et al., 2004). Others have argued that despite the possibility unique to heterosexual affairs of a woman's partner conceiving a child with an interloper, homosexual affairs are more reflective of ensuing abandonment as they evince a more complete absence of emotional intimacy and satisfaction with one's partner (Wiederman & LaMar, 1998). In support, both Wiederman and LaMar (1998) and Sagarin et al. (2003) found that women report greater distress in response to a partner's imagined homosexual than heterosexual affair. In the current study, it was predicted that women would express a low willingness to continue a relationship following both types of affairs, but especially so following a homosexual affair.

Our primary goal was to extend the external validity of the predictions concerning the overall effect of real infidelity experience; however, because these experiences should affect men and women similarly, we expected any effects of this variable to be independent of a participant sex by infidelity-type interaction.

Collecting self-report data on participants' real infidelity experience also allowed us to assess the actual outcomes of a partner's infidelity. As heterosexual infidelity presents the adaptive problem of paternity uncertainty unilaterally to men, male victims of sexual infidelity were predicted to have discontinued their actual relationships more frequently than female victims of sexual infidelity in response to their partner's affair.

2. Method

2.1. Participants

The sample consisted of 718 undergraduate students (324 male, 394 female), collected from two small public universities in Pennsylvania, who agreed to participate in exchange for course credit.

2.2. Materials and procedure

Prior to experimentation, participants were notified that they would be requested to imagine themselves in a romantic heterosexual relationship and that those who had difficulty doing so could refuse to participate without penalty. Participants subsequently completed a questionnaire that began with one of eight infidelity scenarios, each tailored to the sex of the participant, in which (1) the infidelity-type (heterosexual or homosexual), (2) the number of affair partners (one or two), and (3) the number of instances of infidelity (one or two) were manipulated. The following example illustrates the heterosexual infidelity-type condition intended for a female participant, in which there were two affair partners and two instances of infidelity (see Appendix for additional example scenarios):

Please imagine you have been dating a man for about three months with whom you are romantically and sexually committed. Perhaps it would be helpful to think of a romantic relationship that you have had in the past, that you currently have, or that you would like to have.

Imagine that the partner you have been dating breaks the news that he recently had sexual relations with two other women, and he is now asking for your forgiveness. Your partner admits that it happened twice, each time with a different woman, but also claims that it was a mistake. He wants to continue the relationship with you and promises to be faithful in the future [italics added to highlight experimental manipulation].

The participant was then asked to estimate the percent likelihood that he or she would continue the relationship with the partner given the partner's sexual infidelity on an 11-point Likert scale with anchors that ranged from 0% (definitely end the relationship) to 100% (definitely continue the relationship).

The reverse side of the questionnaire consisted of two questions related to participants' actual infidelity experience. Each question was asked twice, once about a partner's infidelity and once about the participant's own infidelity: (1) Have you ever been in a
committed, romantic relationship in which your partner was unfaithful (or discovered that you were unfaithful) by having sexual relations with another person; and (2) Did you continue this relationship after you found out about your partner's infidelity (or you were unfaithful). After completion, participants were verbally debriefed as to the purpose of the study.

3. Results

3.1. Imagined behavioral outcomes of a partner’s heterosexual or homosexual affair

To evaluate whether infidelity-type, number of affair partners, number of instances of infidelity, or previous infidelity experience elicited different patterns of responses across men and women in their likelihood of continuing a relationship, a 2 (participant sex: male, female) × 2 (infidelity-type: heterosexual, homosexual) × 2 (number of affair partners: one, two) × 2 (number of instances of infidelity: one, two) × 4 (infidelity experience: none, partner unfaithful, participant unfaithful, both partner and participant unfaithful) Analysis of Variance was conducted with all variables as between-subject factors. Figure 1 illustrates the experimental condition means and standard errors for percentage likelihood of continuing a long-term relationship after imagining a partner’s infidelity for both men and women.

Significant main effects were revealed for all five factors and are summarized in Table 1. For participant sex and infidelity-type, women were less likely than men to continue the relationship after a partner’s infidelity, and participants were less likely to continue the relationship after a partner’s heterosexual than homosexual affair. The participant sex and infidelity-type main effects were qualified by a sex by infidelity-type crossover interaction, F(1, 655) = 46.23, p < .001, η² = .07, in which men (M = 21.77%; SD = 23.39%) indicated a lower willingness than women (M = 27.50%; SD = 25.20%) to continue the relationship following a partner’s heterosexual affair, F(352) = 2.20, p = .03; whereas women (M = 21.26%; SD = 21.56%) indicated a lower willingness than men (M = 49.82%; SD = 32.18%) to continue the relationship following a partner’s homosexual affair, t(362) = 10.08, p < .001. Within sex comparisons also yielded significant effects. Men indicated a lower willingness to continue the relationship following a partner’s heterosexual affair than homosexual affair, t(322) = 8.94, p < .001, whereas women indicated the opposite, t(392) = 2.64, p < .01 (see Fig. 2).

Main effects for the remaining three factors indicated that participants were less likely to continue the relationship if their partner’s infidelity involved two affair partners as compared to only one affair partner; if their partner was unfaithful twice as compared to only once; and if they had never committed infidelity in their actual relationships as compared to those who had (see Table 1). These main effects were not qualified by any significant two-way or higher-order interactions.

3.2. Actual behavioral outcomes of real infidelity

In order to determine the behavioral outcomes of participants’ real infidelity experiences, we conducted χ² cross-tabulation analyses comparing the frequency with which men and women have experienced actual infidelity and the frequency with which men and women continued a relationship after an affair was exposed. Although we did not explicitly ask, we assume these real infidelity experiences were predominantly with an opposite-sex affair partner.

Men and women did not differ in the frequency of infidelity committed by a romantic partner, χ²(1, N = 717) = .08, p = .77; however, in line with our prediction, of participants whose partners had been unfaithful, men discontinued the relationship with greater frequency than expected (observed: 77; expected: 64.3) while women discontinued the relationship with lower frequency than expected (observed: 63; expected: 75.7), χ²(1, N = 246) = 10.75, p = .001. With regard to infidelity committed by participants themselves, men and women did not differ in the frequency that they had been unfaithful, χ²(1, N = 717) = .65, p = .42. Further, of those who had been unfaithful, men and women reported similar...
frequencies of discontinuing the relationship, $\chi^2(1, N = 122) = .44$, $p = .51$. Table 2 summarizes the frequencies of relationship outcomes subsequent to participants’ own and their partners’ infidelities.

### 4. Discussion

Results from the present study confirmed the prediction that relative to women, men would be less willing to continue a relationship following a partner’s heterosexual affair and more willing to continue a relationship following a partner’s homosexual affair. Neither number of affair partners, number of instances of infidelity, nor previous infidelity experience moderated this interaction revealing the robust pattern of this effect.

Men demonstrated the greatest tolerance for the type of affair that can best be said to offer additional mating opportunities and the greatest objection to the type of affair that most strongly threatens paternity. These findings are even more remarkable given that homosexuality attitude surveys show males to have more negative attitudes towards homosexuality (Larsen, Reed, & Hoffman, 1980) and to be less supportive of civil rights for same-sex couples (Herek, 2002) than females. However, this general trend of men showing lower tolerance towards homosexuality

### Table 1

<table>
<thead>
<tr>
<th>Source of variance level</th>
<th>N</th>
<th>M (%)</th>
<th>SD (%)</th>
<th>df</th>
<th>F</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>394</td>
<td>24.27</td>
<td>23.62</td>
<td>1</td>
<td>14.63**</td>
<td>.02</td>
</tr>
<tr>
<td>Men</td>
<td>324</td>
<td>36.14</td>
<td>31.50</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infidelity-type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>354</td>
<td>24.94</td>
<td>24.54</td>
<td>1</td>
<td>14.88***</td>
<td>.02</td>
</tr>
<tr>
<td>Homosexual</td>
<td>364</td>
<td>34.29</td>
<td>30.43</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>One</td>
<td>362</td>
<td>33.76</td>
<td>29.32</td>
<td>1</td>
<td>5.74*</td>
<td>.01</td>
</tr>
<tr>
<td>Two</td>
<td>356</td>
<td>25.53</td>
<td>26.11</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of instances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once</td>
<td>364</td>
<td>31.54</td>
<td>29.29</td>
<td>1</td>
<td>4.17*</td>
<td>.01</td>
</tr>
<tr>
<td>Twice</td>
<td>354</td>
<td>27.77</td>
<td>26.64</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real infidelity experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>409</td>
<td>26.55</td>
<td>26.11</td>
<td>3</td>
<td>4.61**</td>
<td>.02</td>
</tr>
<tr>
<td>Only partner</td>
<td>187</td>
<td>30.21</td>
<td>27.86</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only participant</td>
<td>63</td>
<td>38.10</td>
<td>33.15</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>59</td>
<td>40.66</td>
<td>31.62</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Means and standard deviations reflect percentage likelihood of continuing a long-term relationship after imagining a partner’s infidelity. Means with differing subscripts are significantly different at the $p < .05$ level based on Fisher’s LSD post hoc comparisons.

- $p < .05$.
- $p < .01$.
- $p < .001$.

**Fig. 2.** Mean percentage likelihood of participants continuing a long-term relationship after imagining a partner’s infidelity, revealing a participant sex by infidelity-type crossover interaction. Error bars represent standard errors.
than women is reversed in the one fitness-enhancing situation (i.e., female homosexuality), as predicted by sexual strategies theory (Buss & Schmitt, 1993).

The outcomes of male participants’ real infidelity experiences mirrored the results pertaining to imagined heterosexual affairs. Men were significantly more likely than women to have ended their actual relationships following a partner’s affair. These findings fit well with previous research suggesting that men experience the emotion of anger more frequently than women in response to a partner’s sexual infidelity (Becker et al., 2004; Pietrzak et al., 2002; Sabini & Green, 2004), and that the experience of anger precipitates relationship termination (Geary et al., 1995; Shackelford, Buss, & Bennett, 2002).

As predicted, women’s willingness to continue a relationship following a partner’s imagined heterosexual affair was significantly greater than when following a partner’s imagined homosexual affair. Consistent with sexual strategies theory (Buss & Schmitt, 1993), the absolute difference between groups was small (6.24 percentage points) as women expressed a low probability of continuing a relationship following both types of affairs. In addition to matters of sexual satisfaction, heightened awareness of sexually transmitted diseases in the modern environment may account for this difference as homosexuality is stigmatized with the transmission of AIDS (Herek, 1991) and women are especially disease avoidant (Fessler, Pillsworth, & Flamson, 2004). Future research is needed to better understand the origin of this difference in women.

For men and women alike, an increase in the number of affair partners and an increase in the number of instances of infidelity produced a lower willingness to continue a long-term relationship. These findings can be interpreted as stronger signals of abandonment for both sexes; however, the finding that real infidelity experience only affected willingness to continue an imagined relationship when the individual was the perpetrator of the infidelity is less clear. Our interpretation that perpetrators of previous infidelity may be more tolerant of their partners’ infidelities because of their desire to excuse their own disloyalty or their ability to empathize with feelings of lust for another invites further exploration.

Several limitations qualify our findings but provide useful directions for future research. One limitation concerns the validity of responses to the imagined infidelity scenarios, given that this methodology does not directly measure participants’ actual behavior (Harris, 2003). Although the data based on the imagined heterosexual infidelity scenarios coincides with our data regarding participants’ real infidelity experiences, we have no real-life data to verify our results from the imagined homosexual infidelity scenarios. Other limitations concern the specificity of the dependent measures associated with participants’ actual infidelity experience and the imagined infidelity scenarios. With respect to the dissolution of actual relationships, it is unclear whether participants were reporting only instances of relationship termination that they initiated or any relationship termination that occurred subsequent to their own or their partners’ infidelities. In regard to the imagined infidelity scenarios, it would have been informative to assess the factors that potentially influence participants’ decision to continue a relationship, such as implications about partner commitment and a more direct measurement of jealousy. Finally, a profitable avenue of future research could explore the myriad of context-dependent variables, unaccounted for in the present study, that affect thresholds of romantic jealousy in men and women. Lower mate-value individuals, for example, should be especially sensitive to cues of partner infidelity as their mates are more likely to be dissatisfied with the current relationship (Shackelford & Buss, 1997).

A robust jealousy mechanism is activated in men and women by different types of cues, those that threaten paternity and those that threaten abandonment, respectively. Many moderating variables have failed to alter the resulting interaction, such as delusional jealousy diagnoses (Easton, Schipper, & Shackelford, 2007), religiosity and gender roles (Wiederman & LaMar, 1998), and short-term versus long-term mating contexts (Cloud, Hallock, & Seavey, 2003). As predicted by sexual strategies theory (Buss & Schmitt, 1993), results from the present study identified sex differences in willingness to continue a relationship as a function of infidelity-type, and neither number of affair partners, number of instances of infidelity, nor real infidelity experience moderated the interaction. These findings, in conjunction with outcomes of participants’ actual infidelity experiences, support the conclusion that men and women are differentially motivated by threats to paternity and threats of abandonment to terminate relationships in response to a partner’s infidelity.

Acknowledgments

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Appendix A. Infidelity scenarios

Each of the following infidelity scenarios was tailored to the sex of the participant. The examples provided below were designed for male participants in the heterosexual infidelity-type condition. Italics were not originally present, but were added to highlight areas of experimental manipulation.

**One partner, one instance:** Imagine that the partner you have been dating breaks the news that she recently had sexual relations with another man and she is now asking for your forgiveness. Your partner claims that it was a mistake and a one time event. She wants to continue the relationship with you and promises to be faithful in the future.

**Two partners, one instance:** Imagine that the partner you have been dating breaks the news that she recently had sexual relations with two other men at the same time and she is now asking for your forgiveness. Your partner claims that it was a mistake and a one time event. She wants to continue the relationship with you and promises to be faithful in the future.

**One partner, two instances:** Imagine that the partner you have been dating breaks the news that she recently had sexual relations...
with another man and she is now asking for your forgiveness. You partner admits that it happened twice with the same man, but also claims that it was a mistake. She wants to continue the relationship with you and promises to be faithful in the future.

Two partners, two instances: Imagine that the partner you have been dating breaks the news that she recently had sexual relations with two other men, and she is now asking for your forgiveness. Your partner admits that it happened twice, each time with a different man, but also claims that it was a mistake. She wants to continue the relationship with you and promises to be faithful in the future.

References


Erratum to “Sex differences in response to imagining a partner’s heterosexual or homosexual affair” [Personality and Individual Differences 50 (2011) 129–134]

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In Table 2, two sets of numbers were transposed at some stage in the proofing process (the male values are in error). The last line of Table 2 reading, “If yes, did you continue this relationship?” should have the following corresponding numbers:

Male participants Yes: 47 (79.7%); No: 12 (20.3%);
Female participants Yes: 47 (74.6%); No: 16 (25.4%).

Table 2
Survey responses about real infidelity experiences.

<table>
<thead>
<tr>
<th>Have you ever been in a relationship in which...</th>
<th>Male participants</th>
<th>Female participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Your partner was unfaithful?</td>
<td>113 (34.9%)</td>
<td>211 (65.1%)</td>
</tr>
<tr>
<td>If yes, did you continue this relationship?</td>
<td>36 (31.9%)</td>
<td>77 (68.1%)</td>
</tr>
<tr>
<td>You were unfaithful?</td>
<td>59 (18.2%)</td>
<td>264 (81.8%)</td>
</tr>
<tr>
<td>If yes, did you continue this relationship?</td>
<td>47 (79.7%)</td>
<td>12 (20.3%)</td>
</tr>
</tbody>
</table>

⇑ Survey question are abbreviated from originals.