

Original Article

Which Infidelity Type Makes You More Jealous? Decision Strategies in a Forced-choice Between Sexual and Emotional Infidelity

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Abstract: This study tested the prediction derived from the evolutionary psychological analysis of jealousy that men and women selecting the adaptively primary infidelity type (i.e., female sexual and male emotional infidelity, respectively) in a forced-choice response format need to engage in less elaborate decision strategies than men and women selecting the adaptively secondary infidelity type (i.e., male sexual and female emotional infidelity, respectively). Unknown to the participants, decision times were registered as an index of the elaborateness of their decision strategies. The results clearly support the prediction. Implications and limitations of the present findings are discussed.

Keywords: jealousy, sexual infidelity, emotional infidelity, sex-specific differences, decision strategies, forced-choice response format

1. Introduction

Recent research on jealousy has been predominantly inspired by an evolutionary psychological analysis of sex-specific differences in the responses to a mate's sexual and emotional infidelity (Buss, Larsen, Westen, & Semmelroth, 1992; Daly, Wilson, & Weghorst, 1982; Symons, 1979). According to this analysis, a woman's sexual infidelity could reduce a man's reproductive success because of the ensuing risk of inadvertently losing an opportunity to reproduce and of investing limited paternal resources for the benefit of genetically unrelated offspring. A woman's reproductive success, in contrast, is endangered if she loses a male's resources and assistance in raising her offspring. A man's mere sexual infidelity does not necessarily imply the risk of losing his paternal investment. Rather, this resource threat arises if he develops a deep emotional attachment to another mate. As a consequence of these sex-specific reproductive threats, the male jealousy mechanism (JM) is hypothesized to be

particularly concerned with a mate's sexual infidelity, whereas the female JM is hypothesized to be particularly concerned with a mate's emotional infidelity.

The assumption of a sex-specific JM inspired an impressive body of research that has been primarily devoted to testing the hypothesis that the female JM responds with stronger negative emotions to a mate's emotional infidelity whereas the male JM generates stronger negative emotions in response to a mate's sexual infidelity (Harris, 2003). This hypothesis received considerable empirical support especially from self-report measures of emotional distress using a forced-choice response format (e.g., Buss et al., 1992; Buss et al., 1999; Buunk, Angleitner, Oubaid & Buss, 1996; DeSteno & Salovey, 1996; DeSteno, Bartlett, Salovey & Braverman, 2002; Geary, Rumsey, Bow-Thomas & Hoard, 1995; Harris & Christenfeld, 1996; Pietrzak, Laird, Stevens & Thompson, 2002; Sagarin, Becker, Guadagno, Nicastle & Millevoi, 2003; Wiederman & Allgeier, 1993; Wiederman & Kendall, 1999). In each of these studies, the participants had to indicate which form of a mate's hypothetical infidelity would arouse more intense negative emotional reactions. Across different cultures, a clear majority of women consistently chose emotional infidelity as more distressing or upsetting. In addition, men more often than women chose sexual infidelity as that type of a mate's infidelity that would distress or upset them more. However, unlike women's preference, the men's preference for the predicted infidelity event was (a) mostly less pronounced and less consistent (cf. Harris, 2003), (b) varied between cultures (e.g., Buunk et al., 1996; Geary et al., 1995), and (c) increased with the experience of a committed sexual relationship (Buss et al., 1992, Study 3).

The purpose of the present study is to deepen our understanding of the decision strategies underlying men's and women's choices for one of the two response alternatives. Based on the evolutionary view of the JM as a content- and sex-specific information processing device (Schützwohl, 2004; Schützwohl & Koch, 2004), the prediction was tested that both men and women choosing the adaptively primary infidelity type (female sexual and male emotional infidelity, respectively) can rely on their initial spontaneous response tendency rapidly activated by their sex-specific JM. In contrast, men selecting emotional infidelity and women selecting sexual infidelity as more distressing need to engage in additional effortful and rational considerations of the possible trade-offs of the two presented options (DeSteno et al., 2002) the output of which might subsequently be used to override their initial response tendencies in a final decision. Thus, the main prediction is that regardless of sex, the decision processes resulting in the selection of the adaptively secondary infidelity type (i.e., female emotional and male sexual infidelity) are more elaborate than those underlying the selection of the adaptively primary infidelity type. These differences in the elaborateness of the decision processes should be reflected in longer decision times for the adaptively secondary infidelity type.

To test this prediction, the present study replicates and extends a scenario used by Buss et al. (1999, Study 2). In this scenario, the participants were asked to imagine that their partner both formed an emotional attachment to another person and had sexual intercourse with that other person. Subsequently, they had to indicate which

aspect of the partner's involvement would upset them more. The present procedure differs from the Buss et al. (1999) study in one important aspect inasmuch as the scenario was not presented as a paper-and-pencil questionnaire; instead, all information was presented by means of a computer display. The use of the computer permitted a recording of the time the participants needed to reach a decision as an indicator of the elaborateness of the decision processes. As a further change, the participants were explicitly asked which aspect of their partner's involvement would make them more jealous instead of the commonly used words upset or distress. One reason for explicitly asking for jealousy was that upset and distress might connote two different emotions (e.g., anger and sadness, respectively). Thus, it cannot be excluded that men and women do not refer to the same emotion when choosing between the two infidelity types (e.g., men might refer to anger whereas women might refer to sadness). Another reason was that distress and upset might not appropriately capture the complexity of the phenomenological experience of jealousy which could undermine the construct validity of this measure (DeSteno et al., 2002).

2. Method

2.1. Participants

The participants were 100 female and 100 male students of various disciplines at the University of Bielefeld, Germany. They were recruited in the University hall by the female experimenter. Their mean age was 25.2 years ($SD = 3.8$). They were not paid for their voluntary participation.

2.2 Apparatus

The experiment was controlled by an IBM compatible microcomputer equipped with an Intel 80486/100 MHz CPU. Instructions, scenarios and response alternatives were presented on a 15" computer monitor. ERTS (BeriSoft Corporation) was used for event scheduling and response measurement.

2.3 Material

All instructions were presented on the computer screen and guided the participants throughout the experiment. The participants were informed that a series of scenarios describing various social situations would be presented on the screen and that each scenario would be followed by a forced-choice between two response alternatives A and B. More precisely, each scenario briefly described a social situation that was followed by a question asking for feelings, attitudes or action tendencies that might occur in the respective situations. The participants were instructed to vividly imagine the situation and to subsequently press the spacebar in order to view the two pertinent response alternatives. The participants indicated their decision by pressing one of two

labeled response keys. Before the presentation of the first scenario, the participants were informed more specifically that the social situations all referred to a committed romantic relationship that they had had in the past, that they were currently having, or that they would like to have.

There were four scenarios. The contents of the scenarios 1 - 3 were unrelated to the present research objectives. Their only function was to accustom the participants to the experimental procedure. Scenario 4 was a slightly modified version of the infidelity scenario used by Buss et al. (1999, Study 2):

"Imagine you discover that your partner both formed a deep emotional and a passionate sexual relationship with another person.

Which aspect of your partner's involvement would make you more jealous?"

After pressing the space bar, the scenario and the question disappeared and the following two response alternatives were immediately offered:

- (A) the deep emotional relationship.
- (B) the passionate sexual relationship.

The sequence of describing the two aspects of the partner's involvement in the scenario and of their presentation as response alternatives were counterbalanced across participants.

2.4 Procedure

The participants were tested individually in a dimly lit laboratory room. Upon arrival, the participants were seated in front of a computer monitor. In order to enhance the perceived anonymity of the study, the female experimenter informed the participants that her presence was not necessary because the computer would guide them throughout the experiment. The participants were not informed about the measurement of the time expended on the task from the beginning of the presentation of the scenario until they pressed a labeled response key.

3. Results

3.1 Choice between the two aspects of involvement

Consistent with previous findings with a German sample (Buunk et al., 1996), both sexes reported more jealousy about the partner's emotional involvement; however, reliably more men than women (37% vs. 20%) selected their partner's sexual involvement with another person as making them more jealous, $\chi^2(1; N = 200) = 7.1, p < .01$.

3.2 Decision times

The decision times were analyzed with a two-way analysis of variance (ANOVA) with sex and selected infidelity type (emotional vs. sexual infidelity) as the between-subjects factors. Decision times exceeding the respective group means by more than three standard deviations were replaced by the respective group mean. This criterion was met by one male and one female participant both selecting emotional infidelity as making them more jealous.

The mean decision times for men and women selecting emotional or sexual infidelity as eliciting more intense jealousy, respectively, are shown in Figure 1. The two-way ANOVA of the decision times yielded a reliable main effect for sex, $F(1, 196) = 14.69$, $MSE = 582.6$, $p < .001$. Overall, women reached their decision more rapidly than men (16.4 s vs. 20.8 s). The main effect for selected infidelity type was negligible, $F = 0$.

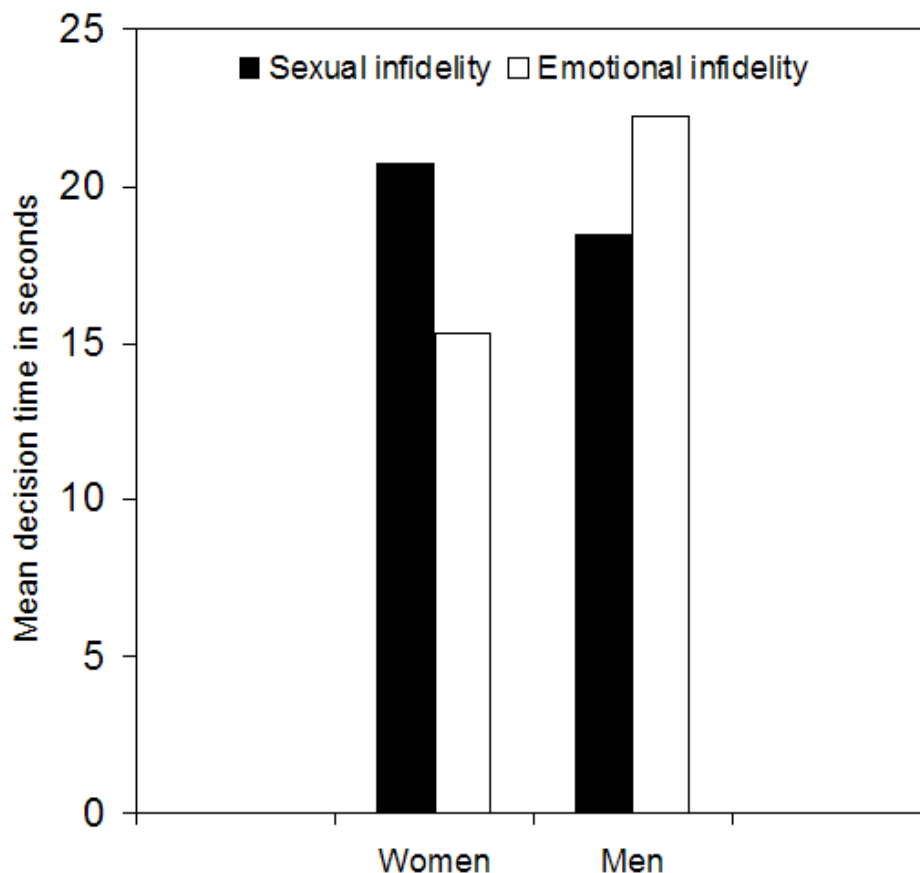


Figure 1. Mean decision times for women and men selecting emotional or sexual infidelity as eliciting more intense jealousy.

Most importantly, however, the predicted interaction between sex and selected type of infidelity was highly reliable, $F(1, 196) = 12.40, p = .001$. In complete agreement with the predictions derived from the evolutionary analysis of jealousy, women selecting emotional infidelity reached their decision reliably faster than women selecting sexual infidelity (15.3 s vs. 20.7 s), $t(22; \text{corrected}) = 2.65, p = .015$. In contrast, men selecting sexual infidelity reached their decision reliably faster than men selecting emotional infidelity (18.5 s vs. 22.2 s), $t(97; \text{corrected}) = 2.13, p = .035$. Thus, the main effect for sex is mainly attributable to the fact that more women than men chose the "rapid", adaptively primary infidelity type.

4. Discussion

In accordance with the hypothesis derived from the evolutionary view of jealousy, decisions for the adaptively primary infidelity type were made significantly faster than decisions for the adaptively secondary infidelity type - irrespective of the participants' sex. These decision time differences suggest that men selecting sexual infidelity employed less elaborate decision strategies than men selecting emotional infidelity. Conversely, women selecting emotional infidelity engaged in less elaborate processing strategies than women selecting sexual infidelity. These findings support the assumption that men and women selecting the adaptively primary infidelity type relied on their initial response tendency suggested by their respective jealousy mechanism, whereas men and women selecting the adaptively secondary infidelity type engaged in additional considerations that lead them to override their initial response tendency (for similar assumptions in overriding presumably evolved anger reactions resulting from unfair social behavior see Sanfey, Rilling, Aronson, Nystrom, & Cohen, 2003). Additionally, these findings also contribute to the emerging evidence of sex-specific differences in the processing of cues to sexual and emotional infidelity (Schützwohl, 2004; Schützwohl & Koch, 2004). Specifically, Schützwohl (2004) reported that men and women more efficiently process cues to the adaptively primary infidelity type; additionally, in the Schützwohl and Koch (2004) study, men and women were found to preferentially recall cues to the adaptively primary infidelity type. This preferential recall was significant for both men and women only when the cues referred to one's own mate infidelity but not when they referred to an unknown member of the opposite sex.

The present findings also suggest that the forced-choice format does not necessarily induce a method specific elaborate decision process that is independent of the participants' sex and final decision as assumed by DeSteno, et al. (2002). These authors argued that the results traditionally obtained with the forced-choice format (women preferentially selecting emotional infidelity and men sexual infidelity) is a method-specific artifact that is attributable to an effortful decision process invoked in all participants and that enables the participants - particularly women - to override their (sex-unspecific) initial response tendency towards sexual infidelity and to finally select emotional infidelity. Moreover, if at all, this reasoning leads to the prediction

that women selecting emotional infidelity engage in a more elaborate decision process than women selecting sexual infidelity (who could rely on their initial response tendency towards sexual infidelity). Obviously, this prediction is clearly refuted by the present findings.

Some shortcomings of the present study which point in the direction of future research need to be addressed. First, it is conceivable, that men and women after engaging in elaborate processing strategies may still select the adaptively primary infidelity type. Note that this possibility hampers the verification of the hypothesis. The present findings, however, suggest that this might have occurred rarely – if at all. Nevertheless, it would be desirable to identify additional evidence for the processing strategies involved in the solution of the forced-choice dilemma. Second, although the present study reveals first insights in men and women's processing strategies when confronted with a forced-choice between sexual and emotional infidelity as the infidelity type eliciting stronger feelings of jealousy, it does not specify the exact nature of the decision processes involved, particularly those that cause especially men and to a considerably lesser extent women to select the adaptively secondary infidelity type. Thus, an important task of subsequent studies would be to detail the relevant cognitive processes underlying the selection of the adaptively primary and secondary infidelity type.

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5. References

- Buss, D. M., Larsen, R. J., Westen, D., & Semmelroth, J. (1992). Sex differences in jealousy: Evolution, physiology, and psychology. *Psychological Science*, 3: 251-255.
- Buss, D. M., Shackelford, T. K., Kirkpatrick, L. A., Choe, J. C., Lim, H. K., Hasegawa, M., Hasegawa, T., & Bennett, K., (1999). Jealousy and the nature of beliefs about infidelity: Tests of competing hypotheses about sex differences in the United States, Korea, and Japan. *Personal Relationships*, 6: 121-150.
- Buunk, B. P., Angleitner, A., Oubaid, V., & Buss, D. M. (1996). Sex differences in jealousy in evolutionary and cultural perspective. Tests from The Netherlands, Germany, and the United States. *Psychological Science*, 7: 359-363.
- Daly, M., Wilson, M., & Weghorst, S. J. (1982). Male sexual jealousy. *Ethology and Sociobiology*, 3: 11-27.
- DeSteno, D. A., Bartlett, M. Y., Salovey, P., & Braverman, J. (2002). Sex differences in jealousy: Evolutionary mechanism or artifact of measurement? *Journal of Personality and Social Psychology*, 83: 1103-1116.
- DeSteno, D. A., & Salovey, P. (1996). Evolutionary origins of sex differences in jealousy? Questioning the “fitness” of the model. *Psychological Science*, 7: 367-372.

- Geary, D. C., Rumsey, M., Bow-Thomas, C. C., & Hoard, M. K. (1995). Sexual jealousy as a facultative trait: Evidence from the pattern of sex differences in adults from China and the United States. *Ethology and Sociobiology*, 16: 355-383.
- Grice J. W., & Seely, E. (2000). The evolution of sex differences in jealousy: Failure to replicate previous results. *Journal of Research in Personality*, 34: 348-356.
- Harris, C. R. (2003). A review of sex differences in jealousy, including self-report data, psychophysiological responses, interpersonal violence, and morbid jealousy. *Personality and Social Psychology Review*, 7: 102-128
- Harris, C. R., & Christenfeld, N. (1996). Gender, jealousy, and reason. *Psychological Science*, 7: 364-366.
- Pietrzak, R. H., Laird, J. D., Stevens, D. A., & Thompson, N. S. (2002). Sex differences in human jealousy: A coordinated study of forced-choice, continuous rating-scale, and physiological responses on the same subjects. *Evolution and Human Behavior*, 23: 83-94.
- Sagarin, B. J., Becker, D. V., Guadagno, R. E., Nicastle, L. D., & Millevoi, A. (2003). Sex differences (and similarities) in jealousy: The moderating effect of infidelity experience and sexual orientation of the infidelity. *Evolution and Human Behavior*, 24: 17-23.
- Sanfey, A. G., Rilling, J. K., Aronson, J. A., Nystrom, L. E., & Cohen, D. (2003). The neural basis of economic decision-making in the ultimatum game. *Science*, 300: 1755-1758.
- Schützwohl, A. (2004). Sex differences in jealousy: The processing of cues to sexual and emotional infidelity. Under review, *Evolution and Human Behavior*.
- Schützwohl, A. & Koch, S. (2004). Sex differences in jealousy: The recall of cues to sexual and emotional infidelity in personally more and less threatening context conditions. *Evolution and Human Behavior*, 25: 249-257.
- Symons, D. (1979). *The Evolution of Human Sexuality*. New York: Oxford University Press.
- Wiederman, M. W., & Allgeier, E. R. (1993). Gender differences in sexual jealousy: Adaptionist or social learning explanation. *Ethology and Sociobiology*, 14: 115-140.
- Wiederman, M. W., & Kendall, E. (1999). Evolution, sex, and jealousy: Investigation with a sample from Sweden. *Evolution and Human Behavior*, 20: 121-128.

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