

The crux of cognitive load: constraining deliberate and effortful decision processes in romantic jealousy[☆]

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Abstract

DeSteno, Bartlett, Braverman, and Salovey [*Journal of Personality and Social Psychology*, 83(2002)1103–1116] challenged the evidentiary support for the hypothesis of evolved sex differences in jealousy. They attribute this support emanating from studies forcing men and women to choose between sexual and emotional infidelity as generating more negative emotional responses to a methodological artifact. This attribution is based on the results of their study allegedly demonstrating that sex differences in jealousy emerge in the forced-choice response format only when participants employ deliberate and effortful decision processes but disappear when using automatic or simple decision processes. The present study offers and tests an alternative account of their results. Specifically, the participants were forced to employ a simple decision process by either a substantial time pressure or a jealousy-related word load or jealousy-unrelated digit-string load imposed on the participants while choosing between sexual and emotional infidelity as causing more jealousy. The sex differences predicted by the evolutionary hypothesis were found in the time pressure and word-load condition, and they were attenuated in the digit-string condition. Additionally, only in the digit-load condition was sexual infidelity selected more frequently when it appeared as the first response option, indicating that the empirical basis of DeSteno et al.'s challenge of the evolutionary view of jealousy is in all likelihood attributable to a methodological artifact.

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1. Introduction

Several evolutionary psychologists (Buss, Larsen, Westen, & Semmelroth, 1992; Daly, Wilson, & Weghorst, 1982; Symons, 1979) proposed the hypothesis of a sex-specific evolved jealousy mechanism (EJM) because different infidelity types have recurrently threatened male and female reproductive success. Specifically, a woman's sexual infidelity deprives her mate of a reproductive opportunity and may burden him with years of investment in a genetically unrelated child. In contrast, a man's sexual infidelity does not burden his mate with unrelated children, but he may divert resources from his mate's progeny. This resource threat may

be signaled by his level of emotional attachment to another female. As a consequence, women more than men are predicted to be concerned about a mate's sexual infidelity. Conversely, women more than men are predicted to be concerned about a mate's emotional infidelity.

An impressive body of research during the past 15 years has been primarily devoted to testing the hypothesis that men respond with stronger negative emotions than women to a mate's sexual infidelity, whereas women respond with stronger negative emotions than men to a mate's emotional infidelity. Studies employing a forced-choice response format consistently supported the hypothesis (e.g., Buss et al., 1992; Buss, Larsen, Westen, & Semmelroth, 1992; Buss et al., 1999; Buunk, Angleitner, Oubaid, & Buss, 1996; DeSteno & Salovey, 1996; Pietrzak, Laird, Stevens, & Thompson, 2002; Sagarin, Becker, Guadagno, Nicastle, & Millevoi, 2003). In contrast, studies using continuous ratings of the intensity of negative emotional responses elicited by emotional and

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sexual infidelity yielded less consistent results (e.g., Bohner & Wänke, 2004; DeSteno et al., 2002; Edlund, Heider, Scherer, Farc, & Sagarin, 2006; Pietrzak et al., 2002; Sabini & Green, 2004, Sabini & Green, 2006; Sagarin et al., 2003; for reviews, see Harris, 2003; Penke & Asendorpf, in press).

This lack of correspondence between the findings obtained with the forced-choice response format and the continuous ratings of emotional intensity led DeSteno et al. (2002) to question the validity of the empirical support for the evolutionary hypothesis of sex differences in jealousy. These authors argue that the limitation of the empirical support for the evolutionary hypothesis to a single methodology always carries the risk of dealing with an artifact of measurement. This possible limitation “takes on greater weight when one considers that the use of a forced-choice response format ... is known to induce different and more effortful decision strategies in the production of preference judgments” (DeSteno et al., 2002, p. 1105). As a consequence, “the previous findings used to support the evolutionary view might not represent differential jealousy resulting from sex-specific evolved modules, but a methodological artifact resulting from a specific and effortful decision strategy invoked by the format of the question” (DeSteno et al., 2002, p. 1105).

DeSteno et al. (2002) proposed three assumptions that in combination try to partially reconcile the diverging results obtained with the two response formats. (1) Men and women actually share the same default distress response that is greater to sexual than emotional infidelity. (2) Continuous ratings invariably elicit rather simple decision strategies that revert to this default distress response toward sexual infidelity. (3) The forced-choice response format invariably generates deliberate and effortful considerations of the possible trade-offs of the two events that asymmetrically affect men and women’s decisions: The output of these trade-off considerations does not affect men’s final decision inasmuch as that most men continue insisting on their default distress response toward sexual infidelity. In complete contrast, the same trade-off considerations have an extremely profound impact on women’s choices inasmuch as that the vast majority of women uses the output of these considerations to override their default distress response they share with men and now claims that emotional infidelity generates more intense jealousy feelings. This presumed asymmetry in the influence of the deliberate and effortful trade-off considerations on men and women’s responses is finally made responsible for a method-specific sex difference in jealousy obtained with the forced-choice response format.

DeSteno et al. (2002) (Study 2) tested their hypothesis in an experiment in which the participants based their decision in the forced-choice response format either on deliberate and effortful or automatic (simple) decision processes. Specifically, in the deliberate and effortful condition, the participants were instructed to carefully consider their response before choosing between sexual and emotional infidelity. In the automatic condition, the deliberate and effortful decision

processes were supposedly suppressed by a cognitive load in terms of a digit-string memory task imposed on the participants while choosing between the two response alternatives, thus, forcing the participants to make their choice using simple decision processes.

DeSteno et al. (2002) consider their cognitive load study a crucial test contrasting their assumptions with the evolutionary hypothesis of jealousy. They argue that the operation of the EJM as an evolved cognitive mechanism does not depend on deliberate and effortful decision processes but necessarily operates automatically. Thus, when forcing the EJM to operate automatically by imposing a cognitive load in terms of a digit-string memory task while choosing between the two response alternatives, the sex differences predicted by the evolutionary view of jealousy should emerge unmasked. In contrast, their assumptions predict that the majority of both men and women under cognitive load engage in simple decision strategies and select sexual infidelity in accordance with their shared default distress response toward this infidelity type. Sex differences should emerge only when decisions in the forced-choice response format are based on deliberate and effortful decision processes, which lead women but not men to turn toward emotional infidelity. As predicted by DeSteno et al. (2002), in the deliberate and effortful condition, 96% of the men but only 36% of the women selected sexual jealousy. In contrast, in the automatic condition, the majority of not only the men but also of the women chose sexual infidelity (92% and 65%, respectively). Note, however, that contrary to DeSteno et al.’s (2002) claim that “the sex difference on the forced-choice measure disappeared under conditions of cognitive constraint,” (p. 1103), which has been repeated by DeSteno, Bartlett, and Salovey (2006) (see also Berman & Frazier, 2005; Harris, 2003, for the same claim), a reanalysis of their data shows that the sex difference in the cognitive load condition was merely attenuated but did not completely disappear inasmuch as still significantly more women than men chose emotional infidelity (35% vs. 8%), $\chi^2=6.20$; $df=1$; $n=57$, $p=.013$ (see also Sagarin, 2005).

The goal of the present study is to test an alternative account of the results of DeSteno et al.’s (2002) cognitive load study. According to this alternative account, their results are attributable to an artifact in measurement that is based on a conceptual misapprehension and methodological peculiarities boosting decision processes that are irrelevant for the EJM. Concerning the conceptual misapprehension, being considered an evolved information processing mechanism does not necessarily imply that the EJM operates automatically. As recently pointed out by Barrett, Frederick, Haselton, and Kurzban (2006), many evolved mechanisms including the EJM probably depend on specific input (e.g., imagining a mate’s emotional and/or sexual infidelity) from deliberate and effortful processes in order to operate properly. The digit-string memory task, which is completely unrelated to the EJM, probably interfered with or suppressed these deliberate and effortful processes and thus prevented

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