

An Evolutionary Story of Sexual Jealousy

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Abstract: An evolutionary psychological account claims a sex difference in jealousy arises from a response to different challenges to reproductive fitness in males and females. Proponents claim this explanation holds a more rigorous scientific standing than its alternatives. However, the theory of jealousy as a specific module of adaptation relies on ad hoc amendments and therefore possesses no structural advantage to rival theories.

Table of Contents

Introduction	1
Jealousy as a Specific Innate Module	2
Issues in the Findings	4
The Double-Shot Hypothesis.....	5
Weaknesses in the Critique	6
Concluding Remarks	9

A popular view in evolutionary psychology ascribes jealous tendencies in men and women to specific modules adapted for reproductive fitness. Because of its great intellectual appeal in explaining such a complex human feature in terms of our evolutionary past, there is already a tendency to accept the theory as an established fact. On the contrary, the model has not been solidly supported by empirical findings, nor does it live up to the scientific virtues it claims to possess. In this paper, I intend to test the theoretical strength of an evolutionary explanation of jealousy and show ways in which it lacks the sound scientific authority often assumed. To this end, I will analyze a conceptual criticism of nonevolutionary alternatives and see the ways in which the model fails to meet the standards it proposes. Most importantly, an evolutionary psychological theory is not structurally superior to rival frameworks, since its explanation relies on ad hoc amendments.

The evolutionary psychological model of jealousy I am addressing centers on the presumption that different challenges have historically confronted the reproductive fitness of men and women. Namely, men were faced with the risk of uncertain paternity, and women were threatened by the loss of paternal investment to a rival's children. It follows, then, that men and women exhibit different responses to infidelity in ways that reflect distinctive adaptive considerations (Sagarin, 2003; Buss, Larsen, Westen and Semmelroth 1992; Symons, 1979). As Christine Harris points out, this theory assumes that the human mind is best understood as distinct modules developed through natural selection to solve specific adaptive problems recurring in our ancestral past (Harris, 1996). Since there are alternative theories of evolutionarily shaped mechanisms, I will use Harris' term of "Jealousy as a Specific Innate Module," or JSIM, for the understanding discussed here.

According to JSIM, male and female jealousy should be qualitatively different. Given their distinct adaptive challenges within mating contexts across evolutionary history, men should be primarily jealous over a partner's sexual infidelity and women over a partner's emotional infidelity. In the case of males, there is a strong selection pressure to defend against sexual infidelity, since a cuckolded male may very well waste all the effort he expended in mating and unknowingly invest resources in genetically unrelated offspring (Buss et al., 1992). Many recent evolutionary psychologists claim male sexual jealousy evolved in human beings in order to ensure higher certainty about paternity and therefore greater reproductive success, since the jealous man attends to and acts on the threat of sexual infidelity. On the other hand, females do not risk such an uncertainty; there is no question of maternal parentage regarding their offspring.

However, given a species with biparental care, they do risk the potential loss of time, resources, and commitment from a male if he redirects his investment to alternative mates. This can be reproductively costly for a female, especially under conditions where offspring cannot survive without dual-parent investment. In human beings, the development of emotional attachments reliably signal the redirection of a male's investment in another female, JSIM asserts. It seems, then, that women's tendency toward greater emotional jealousy arose in response to the potential reduction or loss of their partner's long-term commitment (Sagarin, 2003; Buss et al., 1992).

An initial problem presents itself in the simple fact that both types of jealousy exist in both men and women, regardless of their relative intensity. How do evolutionary psychologists account for the presence of both types in both sexes, if reproductive imperatives require separate strategies in men and women? Donald Symons proposes one possible, although unsatisfying, solution; that is, sexual jealousy is facultative in women and an obligate adaptation in men (Symons, 1979, p. 75). It is always adaptive for men to be jealous of their female partners, but women learn to distinguish between threatening and nonthreatening adultery. Another scholar? Psychologist? proposes that since emotional involvement and sexual infidelity are frequently correlated events in everyday life, both sexes should be attuned to both sources of cues to some extent (Buss et al., 1992). Since they can and do occur without each other, however, there will still be a disparity between the sexes regarding emotional and sexual jealousy. These accounts for the occurrence of both kinds of jealousy in men and women appear to be ad hoc amendments rather than intuitive corollaries to JSIM. Though not entirely implausible, they are restitutive and unfalsifiable.

The state of empirical evidence reveals a dilemma for JSIM theorists even less easily dodged. In Christine Harris' meta-analysis of jealousy studies, she examines several lines of evidence employed by JSIM theorists: self-report responses, psychophysiological data, interpersonal violence, and morbid jealousy (Harris, 2003). She documents how researchers have not found robust support for JSIM apart from self-report studies, since many studies in other lines have either been inconclusive, invalid, or inconsistent with JSIM. For instance, Grice and Seeley failed to replicate physiological test results of a sex difference in jealousy, questioning previous findings of Buss et al (2000). In another line of evidence, sexual jealousy as the leading cause of wife battering and homicide does not lend indisputable support for a sex difference, since it does not take into account how the vast majority of violent offenders are male and whose aberrant behavior may not translate across the species (Harris, 2003). Furthermore, there are several areas of disagreement regarding forced-choice results. One recent study suggests that the sex difference is a measurement artifact from the format of the study, rather than an automatic, sex-linked evolutionarily designed response (Bartlett, Braverman, DeSteno, and Salovey, 2002). Even David Sagarin, a proponent of JSIM, admitted that only one line supports the existence of sex differences (self-report responses); one line is consistent with it but has questionable validity (psychophysiological measures), one line refutes it (retrospective reactions to real infidelity), and the others are too problematic to either refute or confirm JSIM (2005, p. 69). While a full survey of their studies and their merits and weaknesses is well beyond the scope of this paper, even a cursory glance at the literature shows that there is not an unequivocal case for a sex difference in jealousy that would support, or at least be consistent with, JSIM.

For the sake of argument, we will set aside the various difficulties of the empirical findings. Let us suppose, contrary to fact, there is a strong body of evidence in favor of a universal sex difference in jealousy, that men experience more distress from events of sexual rather than emotional infidelity, and that the converse holds true for women. Is JSIM more theoretically sound to explain such a phenomenon than alternative frameworks using culture of social construction? In the article “Sex differences in jealousy: not gone, not forgotten, and not explained by alternative hypotheses,” David Buss, Randy Larsen and Drew Westen defend JSIM by outlining four conceptual problems with nonevolutionary hypotheses of sex differences in jealousy. (publication year?) Apparently, the alternatives fail to match the integrity of JSIM: “By all scientific standards – coherence, parsimony, predictive power, attempts at falsification – the evolutionary account appears to be in good standing” (Buss et al., 1996, p. 375). However, upon examination, we can see that the JSIM theorists have made a straw man out of a single nonevolutionary position and treated their own view’s scientific rigor far too generously. The article addresses the “double-shot hypothesis” as representative of nonevolutionary explanations of a sex difference in jealousy, as opposed to JSIM. The double-shot theory attributes the responses in self-report studies to the different beliefs men and women have about the conditional probabilities of sexual and emotional infidelity. Specifically, women may take emotional infidelity to imply sexual infidelity, and men to assume if their female partner is sexually involved with another man, she is emotionally involved as well (DeSteno and Salovey, 1996). Because of a belief in the nonindependence of these two forms, one type of infidelity may represent both and therefore be more distressing. Though unstated in this particular piece, the double-shot

hypothesis presumably relies on some influence from the widespread cultural expectations that women hold for their male partners, and vice versa – that is, men are expected to view love in the context of sex, and women to view sex in the context of love. However, perceptions may also vary within a gender due to an individual’s past experiences (p. 368). In the article Buss et al. specifically attack, DeSteno and Salovey’s discussion calls into question the evidentiary support for JSIM.

Problem 1 in the counter piece writes, “The double-shot hypothesis fails to provide an account of why the sexes differ in their beliefs about the conditional probabilities of the two types of infidelity” (Buss et al., 1996, p. 373). Since DeSteno and Salovey do not fill out the cultural underpinnings of such beliefs in this particular article, Buss et al. accuse the double-shot hypothesis as incomplete at best, whereas JSIM is straight-forward and well-established. Yet DeSteno and Salovey’s article intends to put forth a negative program to question previous findings, rather than launch into a full-fledged discussion of possible social forces at work. Oddly, in the Problem 1 section, Buss et al. assume silence on the part of double-shot theorists regarding the origins of gendered belief, and then later in Problem 3 claim that they (mistakenly) cite socialization as the causal force. Perhaps the intention here was not to show a failure to provide any causal account, but the vagueness of such a causal theory compared to the “parsimonious, precise, predictive, testable, and hence potentially falsifiable JSIM (p. 374). Yet, as we have already seen, JSIM theorists assume the explanatory power of the evolutionary psychological model and reconcile conflicting phenomena ad hoc. The predictive power is illusory, since its analysis is retroactive. No set of data will truly falsify JSIM; support evolutionary psychologists will merely attack the validity of the

study or reframe its implications. Far from practically exhibiting the virtues of prediction and testability, JSIM holds the status of a pseudo-science. In Harris' words, it makes "a good story" (Harris, 2003, p. 117).

However, Buss et al. make a clear and pertinent point in their next critique. Problem 2 states, "DeSteno and Salovey fallaciously infer spuriousness when sex differences are real and require explanation, regardless of their causal origins" (p. 374).

DeSteno and Salovey write,

[T]here is no evidence that sex exerted a direct influence on the choice between sexual or emotional infidelity as more distressing. Rather, this relation appears to be due to a specification error. Sex is correlated with perceptions of the nonindependence of these types of infidelity, and it is these perceptions, we argue, that influence choice of infidelity type. p. 372.

This is indeed a puzzling part of the article. After all, if perceptions are correlated with the sex of the believers, then there is an established relation between the sex of the chooser and his or her choice. Regardless of causal origins, Buss et al. points out, the sex difference in jealousy is still real. It is likely DeSteno and Salovey meant that the influence of gender is more indirect and contextually contingent than JSIM assumes. To say there was no sex difference at all would deny the reality of this particular study's results.

In Problem 3, Buss et al. criticize the double-shot hypothesis for assuming a causal relationship between social influence and belief. By simply pointing out that the participants held differing beliefs about emotional and sexual infidelity, and that these perceptions accounted for the sex difference in jealousy, it does not necessarily prove the separate causal force as socially influenced, nor does it disprove the influence of evolutionary psychology. After all, an evolutionary psychological model could readily

account for the presence of such beliefs about the nonindependence of emotional and sexual infidelity. Problem 3 is right in showing that the presence of differing beliefs is not completely inconsistent with a formulation of JSIM, nor does it indisputably point to socialization over evolutionary forces as an explanatory device. Thus, DeSteno and Salovey's piece itself does not refute Buss et al. on theoretical grounds. However, it is not difficult to see the advantages of a social-influence model to explain their interpretation of the data; the relationship between belief and socially derived influences is much more direct and intuitive than the account of belief through evolutionary pressures. Furthermore, just as JSIM could incorporate the double-shot hypothesis, a socialization model could incorporate evolutionary considerations. In this way, the two positions may simply speak past one another.

Finally, Problem 4 states, "Causation is erroneously inferred from correlational data." Just because the difference in belief about conditional probabilities corresponds to sex differences in reactions to infidelity does not necessitate that the beliefs are causally responsible. Indeed, the distress may cause the beliefs, the beliefs may cause the distress, some third factor might cause both, or the correlation may be coincidental (p. 374). As Buss et al. write,

If this procedure were valid, then one could propose difference in height, hat size, testosterone levels, index-finger length, or beer consumption as causes of sex differences in jealousy because, like beliefs, such differences are highly correlated with sex and so could 'account for' anything else that happens to be highly sex-linked. p. 374.

One again, this shows an unfair reading of DeSteno and Salovey's work. Certainly, there is more at work than mere correlation. A belief that sexual and emotional infidelity are not independent, that one implies the other, gives a causal explanation as to why a

participant chooses as he or she does in such a forced-decision format. A belief is not as unrelated a feature to choice as height or hat size. Arguably, it is a smaller step to account for jealous tendencies through belief than to resort to evolution. Furthermore, the connection is far more parsimonious and tenable with regard to variation within a gender than the story connecting sex differences in jealousy and specific modules of evolved adaptation. Darwin's evolutionary theory does not call for JSIM; adaptive psychological traits need not be as discrete as it suggests. Sex differences in jealousy do not provide necessary causal proof of JSIM, either. Buss et al. again seem to exploit the fact that DeSteno and Salovey do not delve into the full implications of their interpretation and neglect the probably causal principle, despite its simplicity relative to the principles of evolutionary psychology.

Ultimately, the article presents no reason why JSIM holds a better conceptual standing than nonevolutionary alternatives. Beyond its tentative integrity, JSIM's tendency to generalize in terms of species-given universals and heteronormative standards serves to perpetuate its own premises rather than take true exploratory risks. Still, even basic questions persist on the nature of jealousy as a specific innate module of adaptation, such as the question of its effectiveness. For instance, men's sexual jealousy should only respond to infidelity that risks conception though is clearly not the case. Also, more often than not, jealousy has a negative influence on relationships and sometimes leads to their dissolution. Is it not more consistent that a specific innate module would tend to foster greater fidelity to ensure paternity and long-term commitment? Additionally, JSIM does not acknowledge the fact that jealousy does not just occur in sexual contexts, but within many kinds of relationships (parent-child, sibling

to sibling, friendship, and so on). A more successful theory may be compatible with evolutionary considerations but appreciate jealousy as we actually experience it, as a multi-faceted social phenomenon crossing an assortment of contexts, and open further avenues for inquiry.

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