

# A Dual-Process Perspective on How Sexual Experiences Shape Automatic Versus Explicit Relationship Satisfaction: Reply to Brody, Costa, Klapilová, and Weiss (2018)



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In our original article (Hicks, McNulty, Meltzer, & Olson, 2016), we reviewed evidence that sexual behaviors tend to be unrelated to self-reported relationship satisfaction. We then described two studies demonstrating that a measure of the frequency of various sexual behaviors was unassociated with self-reported relationship satisfaction but positively associated with implicitly assessed automatic partner attitudes. Brody, Costa, Klapilová, and Weiss (2018) presented evidence that, when specifically assessed, penile-vaginal intercourse (PVI) tends to be associated with self-reported relationship satisfaction, whereas other sexual behaviors do not. In this Reply, we articulate how the theories of implicit social cognition that guided our original research, including the well-supported associative propositional evaluation (APE) model (Gawronski & Bodenhausen, 2006, 2011) and the motivation and opportunity as determinants (MODE) of judgments and behavior model (Fazio & Olson, 2014), can reconcile our findings with those described by Brody et al.; we support this reconciliation with preliminary data.

According to dual-process models, experiences with a person can lead to evaluations of that person that manifest in two ways: as automatic attitudes and as explicit attitudes. Automatic attitudes are object-evaluation associations that are activated spontaneously and without intention and are best captured by implicit measures. Explicit attitudes are based on deliberative reasoning processes and are best captured by self-report measures; they may or may not align with automatic attitudes, depending on one's motivation and opportunity to deliberate (Fazio & Olson, 2014). The APE model, as well as decades of research on evaluative conditioning (see Jones, Olson, & Fazio, 2010), suggests that experiences involving an attitude object, such as a relationship partner,

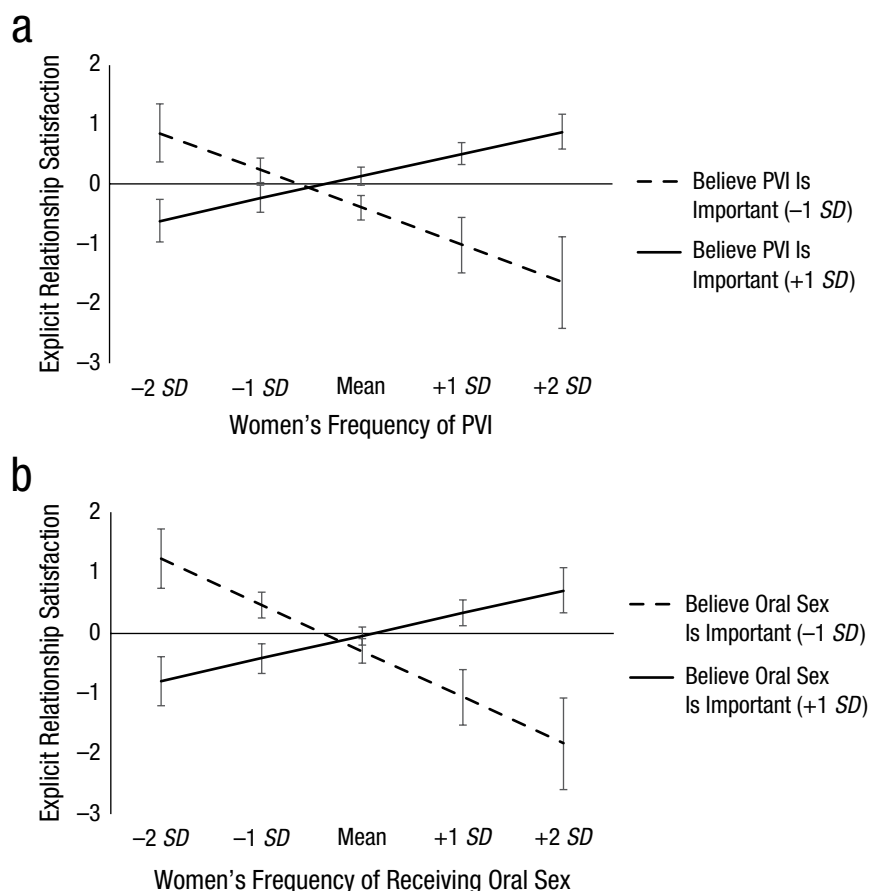
can lead to positive or negative affect that becomes associated with that object to influence one's automatic attitude (for effects involving relationship evaluations, see McNulty, Olson, Jones, & Acosta, 2017; for effects in the sexual domain, see Hoffmann, 2017). Given the evolved benefits of PVI and the different experiences associated with PVI and non-PVI sexual behaviors highlighted by Brody et al., humans may experience more positive affect during PVI compared with other sexual behaviors, which may lead to a stronger link between PVI and automatic partner attitudes. This could explain why our general measure of sex was associated with automatic partner attitudes. However, we argue that the general measure of sex we used in our original research was associated with automatic partner attitudes because even non-PVI sexual behaviors can result in positive affect (e.g., from orgasm) that can become automatically associated with one's partner. Indeed, a preliminary test of this hypothesis ( $N = 202$ ; some participants failed to complete all measures) revealed a positive association between the frequency of orgasm from PVI and automatic partner attitudes,  $t(142) = 2.30, p = .023$ , effect-size  $r = .19$ , and a similar, though nonsignificant, pattern of results for frequency of orgasm from oral sex,  $t(142) = 1.73, p = .085$ , effect-size  $r = .14$  (the Supplemental Material available online provides details).

Of course, the most critical point in light of Brody and colleagues' Commentary regards why PVI may predict explicit relationship satisfaction on average, whereas other sexual behaviors do not. Both the APE and MODE

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**Fig. 1.** Mean rating of explicit relationship satisfaction as a function of (a) women's frequency of penile-vaginal intercourse (PVI) and (b) women's frequency of receiving oral sex, separately for women high and low in the belief that such behavior is important. Error bars represent standard errors.

models can be used to explain this as well. According to both models, propositional beliefs can determine whether positive and negative experiences associated with one's partner (e.g., PVI or non-PVI sexual experiences) ultimately influence explicit relationship judgments. Specifically, people's propositional beliefs about the importance of sex for relationships may determine the extent to which they consider associations involving their sexual experiences relevant when reporting their explicit satisfaction. Indeed, although most people believe that PVI is more intimate than non-PVI sexual behaviors (Chambers, 2007; Vannier & Byers, 2013), there is important variance in such beliefs, and some people believe that oral sex is *more* intimate than PVI (Vannier & Byers, 2013). Although individual differences in such beliefs may not directly shape explicit satisfaction (see Brody & Costa, 2009), both the MODE and APE models suggest that such beliefs may moderate the impact of non-PVI sexual experiences on explicit satisfaction. Our preliminary investigation also revealed support for this hypothesis. Specifically,

significant interactions emerged between the frequency and perceived importance of both PVI,  $t(194) = 4.11$ ,  $p < .001$ , effect-size  $r = .28$ , and oral sex,  $t(188) = 2.06$ ,  $p = .040$ , effect-size  $r = .15$ . Exploratory analyses revealed that biological sex significantly moderated this interaction for oral sex,  $t(184) = 2.53$ ,  $p = .012$ , effect-size  $r = .18$ , and there was a nonsignificant pattern suggesting that biological sex also moderated this interaction for PVI,  $t(190) = 1.79$ ,  $p = .075$ , effect-size  $r = .13$ . Specifically, both interactions emerged as significant only among women—PVI:  $t(190) = 4.19$ ,  $p < .001$ , effect-size  $r = .29$ ; oral sex:  $t(184) = 3.19$ ,  $p = .002$ , effect-size  $r = .23$ —whereas for men, neither interaction was statistically significant—PVI:  $t(190) = 1.39$ ,  $p = .165$ , effect-size  $r = .10$ ; oral sex:  $t(184) = 0.36$ ,  $p = .716$ , effect-size  $r = .10$ . As can be seen in Figure 1, the association between frequency of each type of sex and women's explicit relationship satisfaction depended critically on their beliefs about the importance of each type of sex. Although each type of sexual frequency was positively associated with explicit relationship satisfaction

among women who reported believing the corresponding type of sex is important, each type of sexual frequency was *negatively* associated with explicit relationship satisfaction among women who reported believing the corresponding type of sex is less important. In retrospect, these findings support the idea that women's explicit sexual evaluations are particularly susceptible to context (e.g., Baumeister, 2000; see the Supplemental Material for details).

Although both sets of findings support our theoretical framework, they are preliminary and should thus be interpreted with caution until longitudinal research can replicate and extend them; given the cross-sectional nature of the data, it is possible that automatic attitudes led to orgasm rather than vice versa or that dissatisfaction with infrequent sex led to beliefs in the decreased value of sex rather than vice versa. Moreover, future research may also benefit from examining how the strength of the associations involving the cognitive measures used here compare with those involving the physiological measures described by Brody et al., which may be larger. Nevertheless, regardless of the outcomes of such studies, reliable evidence from other domains supports the dual-process perspectives described here (see Fazio & Olson, 2014; Gawronski & Bodenhausen, 2011). Accordingly, theories of implicit social cognition may provide valuable insights into when and how sexual experiences shape relationship evaluations, which appear to be relatively sensitive to the influence of propositional beliefs.

### Action Editor

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### Author Contributions

L. L. Hicks and J. K. McNulty contributed to the study design and conducted data analyses. L. L. Hicks drafted an initial version of the manuscript, and J. K. McNulty, A. L. Meltzer, and M. A. Olson provided critical revisions. All authors approved the final version of the manuscript for submission.

### Declaration of Conflicting Interests

The author(s) declared that there were no conflicts of interest with respect to the authorship or the publication of this article.

### Supplemental Material

Additional supporting information can be found at <http://journals.sagepub.com/doi/suppl/10.1177/0956797618760848>

### Open Practices



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The complete Open Practices Disclosure for this article can be found at <http://journals.sagepub.com/doi/suppl/10.1177/0956797618760848>. This article has received badges for Open Data and Open Materials. More information about the Open Practices badges can be found at <http://www.psychologicalscience.org/publications/badges>.

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