



## Sex differences in the performance frequency of online mate retention behaviors



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### ABSTRACT

People employ mate retention behaviors in response to a perceived threat of partner infidelity, in both offline and online contexts. Previous research has documented sex differences in the use of several mate retention behaviors. In the current study, we investigate sex differences in the performance frequency of mate retention behaviors in an online context. Participants ( $n = 234$ , 56% male) were Facebook users 20 to 63 years old ( $M = 33.1$ ;  $SD = 8.5$ ), each in a committed, heterosexual, romantic relationship of at least three months. Participants completed the Facebook Mate Retention Tactic Inventory (FMRTI) and the Mate Retention Inventory – Short Form (MRI-SF), which assess performance frequencies of mate retention behaviors in online and offline contexts, respectively. The results indicate that women perform some online mate retention behaviors more frequently than men. Additionally, the results provided evidence of convergent validity for the FMRTI and the MRI-SF.

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### 1. Introduction

Men and women often incur costs because of a romantic partner's infidelity (Buss, 2015). Men report greater upset in response to a partner's sexual (vs. emotional) infidelity because men risk unwittingly investing in children to whom they are genetically unrelated (Buss & Shackelford, 1997). Women report greater upset in response to a partner's emotional (vs. sexual) infidelity (Shackelford, Leblanc, & Drass, 2000), because their partner's affection for another woman may lead to diversion of resources to that woman and her offspring (Buss, 1988), and therefore a woman whose long-term partner is emotionally unfaithful risks losing partner-provisioned resources. Over human evolutionary history, the costs associated with a partner's infidelity may have "designed" psychological mechanisms in both men and women that motivate efforts to retain a long-term partner (i.e., mate retention behaviors, which are efforts devoted to thwarting partner infidelity or relationship defection; Buss, 1988).

Mate retention behaviors are often assessed with the 104-item Mate Retention Inventory (MRI; Buss, 1988) or the 38-item Mate Retention Inventory-Short Form (MRI-SF; Buss, Shackelford, & McKibbin, 2008). Both measures assess the performance frequency of 19 mate retention

tactics within two domains. Mate retention tactics within the Cost-Inflicting domain reduce the risk of partner infidelity by lowering a partner's self-esteem, causing the partner to feel unworthy of the relationship or any other potential relationship. Cost-Inflicting tactics include, for example, Vigilance (e.g., "Snooped through my partner's personal belongings") and Punish Mate's Threat to Infidelity (e.g., "Became angry when my partner flirted too much"). Mate retention tactics within the Benefit-Provisioning domain reduce the risk of partner infidelity by increasing a partner's relationship satisfaction. Benefit-Provisioning tactics include, for example, Resource Display (e.g., "Bought my partner an expensive gift"), Appearance Enhancement (e.g., "Made sure that I looked nice for my partner"), Submission and Debasement (e.g., "Acted against my will to let my partner have her way"), and Possessive Ornamentation (e.g., "Gave my partner jewelry to signify that she was taken").

Previous research has documented evolutionarily-predicted sex differences in the use of several mate retention tactics (e.g., Buss, 1988; Buss & Shackelford, 1997; de Miguel & Buss, 2011; Lopes, Shackelford, Santos, Farias, & Segundo, 2016). For example, men perceive women who display cues to greater reproductive capacity as more attractive, with many of these cues being related to physical characteristics (Buss, 2015). Accordingly, women more than men frequently use behaviors included in the Appearance Enhancement mate retention tactic (e.g., Buss & Shackelford, 1997). In contrast, women more than men prefer as long-term partners individuals who display current or future resource acquisition (e.g., Buss, 2015). Accordingly, men more than women frequently use behaviors included in the Resource Display mate retention tactic (e.g., Buss, 1988; Buss & Shackelford, 1997).

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Because the MRI was developed before widespread internet use, the MRI and its shorter version, the MRI-SF, do not include online behaviors. With the rise of online social media use in the past couple of decades (e.g., Facebook), and the ambiguity of many online behaviors that may lead to perceived relationship threats (e.g., approved “friend” requests; Elphinston & Noller, 2011), recent research has investigated mate retention behaviors in online contexts. For example, the 34-item Facebook Mate Retention Tactic Inventory (FMRTI; Brem, Spiller, & Vandehey, 2015) assesses performance frequency of mate retention behaviors on Facebook, organized into four categories: Care and Affection (e.g., “Posted on my partner’s Facebook wall”), Jealousy and Surveillance (e.g., “Talked to another man/woman on Facebook to make my partner jealous”), Possession Signals (e.g., “Asked my partner to make our relationship status visible on Facebook”), and Punishment of Infidelity Threat (e.g., “Made fun of people who posted on my partner’s Facebook page”). Brem et al. (2015) did not examine sex differences in online mate retention behaviors, and we address this issue in the current research.

Sex-differentiated patterns of behavior were selected for, over ancestral history, by sex-specific evolutionary pressures. Accordingly, sex differences tend to be stable across cultures and contexts (e.g., mate preferences; Buss, 2015). Nonetheless, evidence of sex differences in the use of mate retention behaviors in different contexts is warranted, particularly in an online (vs. offline) context, which is newer and in which norms about acceptable behavior may be less solidified. We hypothesize that sex differences in online mate retention behaviors will be similar to sex differences documented in offline mate retention behaviors.

Because the FMRTI captures only certain tactics from the MRI-SF (Brem et al., 2015), we hypothesized sex differences only in the FMRTI tactics that have a counterpart in the MRI-SF. Specifically, women (vs. men) more frequently perform offline Vigilance mate retention behaviors (e.g., Lopes et al., 2016). We therefore hypothesized that women (vs. men) will perform more frequent vigilance online behaviors as assessed by the FMRTI item “Snooped through my partner’s personal Facebook messages and/or chat” (Hypothesis 1). Because women (vs. men) more frequently perform Punish Mate’s Infidelity Threat offline mate retention behaviors (e.g., “Became angry when my partner flirted too much”; Buss & Shackelford, 1997), we hypothesized that women (vs. men) will more frequently perform the FMRTI item “Asked my partner to unfriend and/or block someone on Facebook” (Hypothesis 2). Both items describe efforts to minimize a partner’s potential mating opportunities. Because women (vs. men) more frequently perform Appearance Enhancement offline mate retention behaviors (due to men’s preference in women for physical characteristics that cue fertility; e.g., Barbaro, Shackelford, & Weekes-Shackelford, 2016), we hypothesized that women (vs. men) will more frequently perform a similar online mate retention behavior as assessed by the FMRTI item “Chose an attractive profile picture and/or cover photo on Facebook for my partner to see” (Hypothesis 3). Finally, because younger people use social networking sites more frequently than older people (e.g., Lenhart, Purcell, Smith, & Zickuhr, 2010), and because mate retention behaviors are negatively associated with relationship length (e.g., Buss & Shackelford, 1997), we controlled statistically for participant age and relationship length.

## 2. Method

### 2.1. Participants and procedure

We recruited participants ( $n = 234$ , 56% male) aged 20–63 years ( $M = 33.1$ ;  $SD = 8.5$ ) through Amazon Mechanical Turk (MTurk). Eligible prospective participants viewed an advertisement for the study on MTurk’s job listings. Interested and eligible individuals were provided a link to an informed consent form about the study. Those who agreed to participate could access and complete the survey, and those who

did not agree to participate were exited from the study. Eligible participants had a Facebook account and were in a heterosexual, romantic relationship for at least three months ( $M = 79.3$  months;  $SD = 77.0$ ). Those who consented to participate were provided a link to the online survey.

### 2.2. Materials

Participants completed the FMRTI (Brem et al., 2015) and the MRI-SF (Buss et al., 2008), in which they reported how frequently they performed each online, and offline, mate retention behavior (respectively) over the past year using a 4-point scale (0 = *never*, 1 = *rarely*, 2 = *sometimes*, 3 = *often*). Participants also reported demographic information (age, relationship length, ethnicity).

## 3. Results

We performed a MANCOVA to test our hypotheses, and included all 34 items of the FMRTI, controlling for participant’s age and relationship length.<sup>2</sup> We included all 34 items (as opposed to broader categories) to identify smaller effects in sex differences. Missing data were excluded pairwise from analyses. Men and women differentially used online mate retention behaviors (see Table 1). Follow-up tests (with Bonferroni correction of  $p$ -value threshold) indicated that women reported performing more frequently the behaviors “Snooped through my partner’s personal Facebook messages and/or chat” (supporting Hypothesis 1), “Asked my partner to unfriend and/or block someone on Facebook” (supporting Hypothesis 2), and “Tagged my partner in pictures so that they would appear on his/her Facebook wall.”

For reportorial completeness, we computed the tactics of the MRI-SF by averaging scores for the two items associated with each tactic (see Buss et al., 2008). The tactics showed reasonable internal consistencies given the inclusion of only two items per tactic ( $M_\alpha = 0.68$ ). Additionally, we calculated Pearson’s correlations to explore the relationships between the items of the FMRTI and the tactics of the MRI-SF. The overall pattern of results provided evidence of convergent validity for the FMRTI ( $M_r = 0.27$ ; 43.8% significant at  $p < 0.05$ ; correlation matrix available upon request). We also performed a MANCOVA to investigate sex differences in the performance frequency of the tactics of the MRI-SF, controlling for participant’s age and relationship length. The results indicated that men and women differentially used some of the mate retention tactics. Table 1 summarizes follow-up tests of between-subjects effects.

## 4. Discussion

The current study investigated sex differences in the performance frequency of online mate retention behaviors. Women (vs. men) perform more frequently the online mate retention behavior “Snooped through my partner’s personal Facebook messages and/or chat,” supporting Hypothesis 1. However, the results reached only marginal significance. This behavior is similar to the MRI-SF Vigilance tactic (within the Cost-Inflicting domain), and women (vs. men) report more frequent use of Vigilance (e.g., Lopes et al., 2016) and other Cost-Inflicting tactics (e.g., jealousy induction; Buss & Shackelford, 1997).

Women (vs. men) perform more frequently the behavior “Asked my partner to unfriend and/or block someone on Facebook,” supporting Hypothesis 2. This behavior may reduce the likelihood of partner infidelity by inflicting costs on a partner, as unfriending and/or blocking someone may decrease his or her mating opportunities. A possible explanation for this sex difference is that, because interacting with someone on Facebook does not involve physical contact, individuals may

<sup>2</sup> Results are unchanged when omitting these control variables. Analyses available upon request.

**Table 1**  
Sex differences in the FMRTI behaviors and MRI-SF tactics ( $n = 234$ ).

	Men	Women	F	p (2-tailed)	
	M(SD)	M(SD)			
<i>FMRTI behaviors [Wilks' Lambda = 0.73, F(34, 195) = 2.17, p = 0.001]</i>					
H1	Snooped through my partner's personal Facebook messages and/or chat	0.30(0.70)	0.48(0.83)	3.24	0.093
H2	Asked my partner to unfriend and/or block someone on Facebook	0.15(0.40)	0.28(0.74)	2.95	0.049
H3	Chose an attractive profile picture and/or cover photo on Facebook for my partner to see	1.07(1.14)	1.10(1.24)	0.008	0.643
	Tagged my partner in pictures so that they would appear on his/her Facebook wall	1.16(1.12)	1.69(1.18)	12.32	0.001
<i>MRI-SF tactics [Wilks' Lambda = 0.84, F(19, 212) = 2.13, p = 0.005]</i>					
	Resource display	1.36(0.79)	1.10(0.82)	6.04	0.019
	Appearance enhancement	1.71(0.80)	1.89(0.78)	2.98	0.043
	Submission and debasement	1.12(0.77)	0.90(0.80)	4.55	0.045
	Possessive ornamentation	0.42(0.71)	0.25(0.60)	3.78	0.056

Notes: FMRTI = Facebook Mate Retention Tactic Inventory. FMRTI behaviors not listed were not sex differentiated at the  $p < 0.10$  level. MRI-SF = Mate Retention Inventory – Short Form. MRI-SF tactics not listed are not sex differentiated at the  $p < 0.10$  level.  $M(SD)$  = Mean(Standard Deviation).  $F$  =  $F$ -statistic.

more easily perceive interacting on Facebook as a threat of emotional involvement (vs. physical contact), and women (vs. men) report greater upset in response to a partner's emotional infidelity (Shackelford et al., 2000). This behavior is similar to those included in the MRI-SF tactic Punish Mate's Infidelity Threat, and previous research has documented that women (vs. men) more frequently perform this tactic (e.g., Buss & Shackelford, 1997; Lopes et al., 2016).

Contrary to Hypothesis 3, men and women similarly performed the online mate retention behavior "Chose an attractive profile picture and/or cover photo on Facebook for my partner to see." Despite this behavior's similarity to those included in the offline mate retention tactic Appearance Enhancement—which women perform more frequently than men (e.g., Barbaro et al., 2016; Lopes et al., 2016), it may function differently in an online context, where a profile picture is intended to be displayed to all Facebook users. Women's choice of an attractive profile picture could be perceived by their partner as an intentional advertisement of their physical attractiveness to other men, and therefore as an invitation to courtship from other men. Therefore, this tactic may inflict costs such as inducing partner jealousy, rather than provisioning benefits and satisfying a partner.

Women (vs. men) perform more frequently the behavior "Tagged my partner in pictures so that they would appear on his/her Facebook wall." Tagging a person in a picture allows that person's friends to see the picture, and therefore may communicate to others that the partner is dating him or her, exerting a similar function to the MRI-SF tactic Possessive Ornamentation and Physical Possession Signal. Previous research has identified no sex difference in the performance frequency of the tactics Possessive Ornamentation and Physical Possession Signal (e.g., Buss & Shackelford, 1997; Lopes et al., 2016). A possible explanation for the sex difference in this FMRTI behavior, but not for the corresponding MRI-SF tactic, is that women (vs. men) share more personal information on social media (e.g., Hillsberg, 2014), including pictures of themselves (Duggan, 2013). Therefore, women more than men may tag their partner in pictures simply because they post more pictures than men. Such a difference in Facebook use is limited to sharing personal information, in general, and pictures, in particular, and therefore does not undermine our findings. Future research may investigate whether sex differences in the use of social media predict differences in performance frequency of mate retention behaviors.

The current study has limitations. Although the FMRTI is a valid and reliable measure of performance frequency of mate retention behaviors in an online context (Brem et al., 2015), it does not capture certain sex-differentiated facets of the mate retention domains (e.g., there is no mention of Resource Display, a tactic used more frequently by men; Buss et al., 2008). Thus, our hypotheses were limited to certain tactics. Perhaps because the online context has unique characteristics, some offline behaviors (e.g., Resource Display) may have no counterparts in

the online context (e.g., it is less commonplace to give an expensive gift through social media). Future research may investigate discrepancies between the online and offline contexts in sex-differentiated use of mate retention tactics.

Furthermore, some of the FMRTI items, although redundant in content, were categorized differently, which may obscure smaller effects in sex difference analyses. For example, although the items "Posted pictures with another man/woman on Facebook to make my partner jealous" and "Talked to another man/woman on Facebook to make my partner jealous" are similar in content, they fall in the FMRTI categories Punishment of Infidelity, and Jealousy and Surveillance, respectively. Researchers may explore the component structure of the FMRTI in an attempt to provide a more concise, less ambiguous, measure of online mate retention behaviors. This limitation does not undermine our findings, however, as we investigated sex differences in the FMRTI items, not the categories.

This study contributes to the mate retention literature in several ways. First, it documents sex differences in mate retention behaviors in one online context (Facebook), which may guide future research to form and test evolutionarily-informed hypotheses about these behaviors in other online contexts (e.g., Instagram, Tumblr). Moreover, people's increasing use of online social networking (Hillsberg, 2014) may increase online infidelity opportunities, which may lead to increased online mate retention behaviors. The current research provided evidence of sex differences in the performance frequency of offline and online mate retention tactics, in line with an evolutionary perspective on mate selection.

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