

Mate Value Discrepancy and Mate Retention Behaviors of Self and Partner

Yael Sela,¹ Justin K. Mogilski,¹ Todd K. Shackelford,¹
Virgil Zeigler-Hill,¹ and Bernhard Fink²

¹Oakland University

²University of Göttingen

Abstract

Objective: This study investigated the relationship between perceived mate value discrepancy (i.e., the difference between an individual's mate value and their partner's mate value) and perceived frequency of mate retention performed by an individual relative to his or her partner.

Method: In two studies, participants in long-term, exclusive, sexual, heterosexual relationships reported their own, and their partner's, mate value and mate retention. Samples included 899 community members (Study 1) and 941 students and community members (Study 2).

Results: In Study 1, we documented that individuals with higher self-perceived short-term mate value, and who perceive their partner to have lower (vs. higher) short-term mate value, perform less frequent Benefit-Provisioning mate retention, controlling for the partner's Benefit-Provisioning mate retention. In Study 2, we documented that individuals who perceive that they could less easily replace their partner, and who perceive their partner could more (vs. less) easily replace them, perform more frequent mate retention (Benefit-Provisioning and Cost-Inflicting), controlling for the partner's mate retention.

Conclusion: These results highlight the importance of assessing perceived discrepancies in mate value (notably, regarding the replaceability of self and partner with another long-term mate) and perceived mate retention behaviors of self, relative to partner, between men and women in long-term relationships.

Keywords: Mate retention, mate value discrepancy, perceived replaceability, short-term mate value, romantic relationships

Mate value refers to an individual's relative desirability on the "mating market" (Sugiyama, 2005). Individuals with higher mate value are more desirable as mates than those with lower mate value. Mate value comprises physical traits (e.g., higher shoulder-to-hip ratio in men, lower waist-to-hip ratio in women, greater facial symmetry in both sexes; Cloud & Perilloux, 2015; Hughes & Gallup, 2003; Marlowe, Apicella, & Reed, 2005; see Rhodes, 2006, for a review; Singh, 1993) and social attributes (e.g., social status, generosity, intelligence, resource-earning potential, history of fidelity; Miller, 2000; Mogilski, Wade, & Welling, 2014; Shackelford, Schmitt, & Buss, 2005) that signal health, genetic quality, fertility, parenting skills, or likelihood and quality of investment in offspring (Buss & Shackelford, 2008; Gangestad & Simpson, 2000; Johnston & Franklin, 1993; Miller, 2000; Pérusse, 1993; Singh, 1995). Self-report measures of mate value typically ask participants to self-assess socially desirable and sexually desirable traits such as physical attractiveness, health, industriousness, intelligence, social status, relationship fidelity, generosity, and financial prospects.

Researchers often measure an individual's mate value independent of his or her partner's mate value. However, research demonstrates the importance of measuring mate value discrepancy—that is, the difference between an individual's mate value and his or her partner's mate value. Mate value discrepancy predicts several relationship behaviors, including forgiveness and jealousy (Sidelinger & Booth-Butterfield, 2007), the perceived likelihood of partner defection (Buss & Shackelford, 1997a), and mate retention behaviors (Buss & Shackelford, 1997b; Miner, Starratt, & Shackelford, 2009). Individuals who assess a partner's mate value relative to the value of other potential partners may select higher-value partners than those who do not assess a

The authors thank three anonymous reviewers and Associate Editor Shanhong Luo for valuable comments and suggestions that improved the quality of this article.

Correspondence concerning this article should be addressed to Yael Sela, 130 Pryale Hall, Oakland University, Department of Psychology, Rochester, MI 48309-4401. Email: ysela@oakland.edu.

partner's mate value. Likewise, individuals who assess their own mate value relative to their partner's mate value may more accurately detect the likelihood of their partner's infidelity and defection compared to those who do not assess mate value discrepancy. Consistent with this idea, women who are independently rated as having higher mate value than their husbands report greater likelihood of divorcing him as a result of his infidelity (Shackelford & Buss, 1997). Similarly, individuals objectively rated as less physically attractive, and whose partners are objectively rated as more physically attractive, perform more frequent intrasexual mate retention behaviors (Oltmanns, Markley, & French, 2016). Accordingly, perceptions of mate value discrepancy may affect perceptions of relationship stability and, therefore, influence behaviors intended to retain that relationship. For example, those who perceive that they have lower mate value than their partner may be at greater risk of losing their partner to a rival. Indeed, men who perceive their wives to be more (vs. less) physically attractive report tendencies to display their resources and enhance their appearance; they also communicate more verbal signals of possession and make more intrasexual threats (Buss & Shackelford, 1997b). Likewise, wives of men with higher (vs. lower) mate value than themselves (according to interviewers' ratings) report that their husbands are more likely to have brief and serious affairs in the next year and that they (i.e., the wives) are more likely to kiss another man and to have affairs with other men (Buss & Shackelford, 1997b). Thus, perceptions of mate value may influence the relative frequency with which individuals engage in behaviors that reduce the likelihood of partner infidelity (i.e., mate retention behaviors).

Mate Retention

Mate retention behaviors (i.e., effort devoted to thwarting partner infidelity) were identified in humans by Buss (1988), resulting in the 104-item Mate Retention Inventory (MRI; Buss, 1988). Miner et al. (2009) categorized these behaviors into two domains: Cost-Inflicting and Benefit-Provisioning. Cost-Inflicting behaviors 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. Benefit-Provisioning behaviors reduce the risk of partner infidelity by increasing a partner's relationship satisfaction (Miner et al., 2009).

Scores on the MRI predict a number of relationship outcomes, behaviors, and attitudes in American newlywed couples (e.g., Buss & Shackelford, 1997a) and American undergraduate dating couples (e.g., Buss, 1988), in Spanish and Croatian samples (e.g., de Miguel & Buss, 2011, and Kardum, Hudek-Knežević, & Gračanin, 2006, respectively), and in consensually nonmonogamous romantic relationships (Mogilski, Memering, Welling, & Shackelford, 2015). Men's mate retention behaviors vary in evolutionarily predicted ways with men's perceptions of the risk of their partner's infidelity (Starratt, Shackelford, Goetz,

& McKibbin, 2007), the phase of their partner's ovulatory cycle (e.g., Gangestad, Thornhill, & Garver, 2002), their partner's use of hormonal contraceptives (Welling, Puts, Roberts, Little, & Burriss, 2012), and men's self-esteem (Holden et al., 2014). Mate retention also vary as a function of both men's and women's self-evaluations and partner evaluations of mate value (Miner et al., 2009; Starratt & Shackelford, 2012), partner-directed oral sex behavior (Pham & Shackelford, 2013; Sela, Shackelford, Pham, & Euler, 2015), sociosexuality (Kardum et al., 2006), and personality traits (e.g., Holden, Zeigler-Hill, Pham, & Shackelford, 2014; Pham, Shackelford, Holden, Zeigler-Hill, Sela, & Jeffrey, 2014).

Mate Retention Discrepancy

Research on mate retention typically focuses on self-reported and partner-reported mate retention behaviors separately. No research has explored how mate retention *discrepancy* (i.e., frequency of self's mate retention performance relative to frequency of partner's mate retention performance) is associated with relationship behaviors and attitudes. Previous research has demonstrated a strong tendency of romantic partners to reciprocate both positive and negative resources, such as affection, respect (Gaines, 1996), hostility, and criticism (e.g., Cordova, Jacobson, Gottman, Rushe, & Cox, 1993). According to a norm of reciprocity, individuals should return favors and avoid incurring debts, in a tit-for-tat manner. Thus, individuals in a romantic relationship tend to repay or retaliate in kind what was given or withheld (Converse & Foa, 1993). People tend to match contributions in a reciprocal manner, and mate retention behaviors should follow a similar pattern.

However, we expect there to be some differences between self's and partner's mate retention efforts. These differences may be influenced by the perceptions of discrepancy between members of a couple that indicate a greater or lesser risk of partner infidelity. For example, if one perceives oneself as having low mate value, and one's partner as having high mate value, one should perceive a greater risk of partner infidelity than if one perceives one's partner as also having low mate value. Consequently, it is reasonable to expect that one would increase mate retention efforts, above and beyond merely reciprocating a partner's mate retention efforts. This increase in mate retention relative to a partner's mate retention behaviors would not be captured by assessing only one of the partners' mate retention behaviors.

In the current studies, we investigated whether perceptions of mate value discrepancy between self and partner predict own mate retention, relative to the partner's mate retention, in long-term romantic relationships. Given the documented associations between mate retention and mate value, we expected that people would adjust their mate retention behaviors relative to their partner's mate retention behaviors as a result of comparing their own mate value to their partner's mate value. Differences between men's mate value (as perceived by their female partner)

and women's mate value (as perceived by their male partner) predict the frequency of self's mate retention behaviors differently for each mate retention domain: Individuals who perceive their mate value to be closer to their partner's mate value perform more frequent Benefit-Provisioning mate retention behaviors, and individuals who perceive their mate value to be further from their partner's mate value perform more frequent Cost-Inflicting mate retention behaviors (Salkicevic, Stanic, & Grabovac, 2014). Although this demonstrates that *absolute* mate value discrepancy predicts the types of mate retention an individual performs, previous research has not investigated whether *self*-perceived mate value discrepancy—and, in a particular direction—predicts the frequency with which people engage in various types of mate retention *relative to their partner*. Further, previous research has not addressed the interaction between self's mate value and partner's mate value (cf. Oltmanns et al., 2016), which is necessary for identifying the levels of mate value for which these discrepancies might be important. To extend previous research, we conducted two studies investigating the association between mate value discrepancy and mate retention discrepancy.

STUDY 1: SHORT-TERM MATE VALUE DISCREPANCY

We examined whether one's perception of short-term mate value discrepancy is associated with one's frequency of performing mate retention, controlling for partner's mate retention frequency, in long-term relationships, using a sample of several hundred community members. We used perception of short-term mate value as a proximate measure of perceived opportunities for short-term mating—of self and of partner. First, we hypothesized that there would be a positive association between self's mate retention frequency and partner's mate retention frequency (Hypothesis 1). Individuals who perceive greater frequency of their partner's Cost-Inflicting behaviors should perform more frequent Cost-Inflicting behaviors themselves (H1a). Similarly, individuals who perceive greater frequency of their partner's Benefit-Provisioning behaviors should perform more frequent Benefit-Provisioning behaviors themselves (H1b). Second, we hypothesized that there would be a positive association between partner's short-term mate value and self's mate retention frequency (Hypothesis 2). Individuals who perceive their partner to be of higher (vs. lower) short-term mate value should perform more frequent Cost-Inflicting behaviors (H2a) and more frequent Benefit-Provisioning behaviors (H2b). Third, we hypothesized that there would be a negative association between self's short-term mate value and self's mate retention frequency (Hypothesis 3). Individuals who perceive they have higher (vs. lower) short-term mate value should perform less frequent Cost-Inflicting behaviors (H3a) and less frequent Benefit-Provisioning behaviors (H3b).

One's own short-term mate value relative to partner's short-term mate value should affect one's perceived risk of partner

infidelity, and therefore one's mate retention behaviors (above and beyond matching a partner's mate retention behaviors). However, this perceived mate value discrepancy may influence mate retention behaviors differently, depending on the levels of one's own mate value (for an extended discussion of testing discrepancy hypotheses, see Griffin, Murray, & Gonzalez, 1999). One possibility is that mate value discrepancy influences self's mate retention behaviors (relative to partner's mate retention) for individuals lower on mate value, but it does not influence individuals with higher mate value. This possibility would be consistent with previous findings that individuals lower (but not higher) on attractiveness perform more frequent intrasexual mate retention behaviors when their partner is higher (vs. lower) on attractiveness (Oltmanns et al., 2016). Another possibility is that individuals of any short-term mate value perform more frequent mate retention behaviors when they perceive their partner to be higher (vs. lower) in short-term mate value because these partners have more opportunities to be unfaithful. However, it is important to note that there may be differences in the magnitude of this positive association depending on self's short-term mate value.

To test these possibilities, we explored the interaction between self's and partner's short-term mate value, which allowed us to assess the conditions under which this discrepancy matters—that is, if the increase in mate retention behaviors as a function of partner's short-term mate value differs in magnitude between those who perceive themselves as having higher (vs. lower) short-term mate value. We hypothesized that self-perceived discrepancy between one's short-term mate value and partner's short-term mate value would be associated with self-reported mate retention frequency, controlling for partner's mate retention frequency (Hypothesis 4). Individuals who perceive they have higher short-term mate value, and who perceive that their partner has lower (vs. higher) short-term mate value, should perform less frequent Cost-Inflicting behaviors (controlling for partner's Cost-Inflicting behavior frequency; H4a) and less frequent Benefit-Provisioning behaviors (controlling for partner's Benefit-Provisioning behavior frequency; H4b). Individuals who perceive they have lower short-term mate value, and who perceive that their partner has higher (vs. lower) short-term mate value, should perform more frequent Cost-Inflicting behaviors (controlling for partner's Cost-Inflicting behavior frequency; H4c) and more frequent Benefit-Provisioning behavior (controlling for partner's Benefit-Provisioning behavior frequency; H4d).

Method

Participants. We recruited 899 participants in a committed, heterosexual relationship lasting at least 1 month via Amazon's Mechanical Turk (MTurk). We implemented MTurk filters recommended by Peer, Vosgerau, and Acquisti (2013): MTurk participants could access and participate in this study if they had successfully completed at least 95% of at least 500 accessed MTurk jobs. We screened the data for, and excluded listwise,

Table 1 Study 1: Descriptive Statistics and Partial Correlations, Controlling for Relationship Length

	1	2	3	4	5	M (SD)
1. Partner's short-term mate value						5.43 (3.34)
2. Self's short-term mate value	.69***					5.28 (3.26)
3. Self's Cost-Inflicting	.07*	.10**				0.52 (0.57)
4. Self's Benefit-Provisioning	.05	.06	.48***			1.39 (0.55)
5. Partner's Cost-Inflicting	.06	.11***	.87***	.46***		0.55 (0.61)
6. Partner's Benefit-Provisioning	.01	.04	.37***	.74***	.49***	1.35 (0.61)

Note. N = 877.
*p < .05. **p < .01. ***p < .001.

missing scores (10 participants) and scores four or more standard deviations from the mean on at least one target variable (12 participants). The remaining sample comprised 877 participants (430 women) with a mean age of 33.2 years (SD = 9.4) and a mean relationship length of 63.3 months (SD = 76.1).

Procedures and Materials. Participants completed a survey including measures of mate retention, mate value, and several other measures beyond the scope of the current study. Participants completed the Mate Retention Inventory–Short Form (MRI-SF), which assesses performance of 38 mate retention behaviors (Buss, Shackelford, & McKibbin, 2008). On a 4-point scale, participants reported how frequently they had performed each behavior in the past month and how frequently their partner had performed each behavior in the past month (0 = *Never*, 1 = *Rarely*, 2 = *Sometimes*, 3 = *Often*). Following Buss et al. (2008), we calculated mate retention domain scores for each participant and partner: self's Cost-Inflicting behavior ($\alpha = .94$), self's Benefit-Provisioning behavior ($\alpha = .87$), partner's Cost-Inflicting behavior ($\alpha = .95$), and partner's Benefit-Provisioning behavior ($\alpha = .89$).

Participants answered several face-valid questions about specific aspects of their own, and their partner's, mate value on a scale ranging from 0 (*Not at all/Extremely low*) to 10 (*Extremely/Extremely high*). Two questions assessed perceptions of their own, and their partner's, short-term mate value: (a) How desirable are you for a short-term uncommitted relationship (e.g., a one-night stand)? (b) How desirable is your partner for a short-term uncommitted relationship (e.g., a one-night stand)?

Results

Table 1 presents descriptive statistics and partial correlations among the target variables, controlling for relationship length. We standardized all variables and performed a path analysis to test our four hypotheses. Path analysis affords examination of unique associations between predictor variables (including interaction terms) and multiple outcome variables entered simultaneously. The results of the path analysis model are presented in Table 2.¹ The model explained 76% of the variance in self's Cost-Inflicting mate retention and 58% of the variance in self's Benefit-Provisioning mate retention.

Supporting Hypothesis 1a, partner's Cost-Inflicting behavior was uniquely and positively associated with self's Cost-Inflicting behavior, such that individuals whose partner performed more (vs. less) frequent Cost-Inflicting behavior performed more frequent Cost-Inflicting behavior themselves. Supporting Hypothesis 1b, partner's Benefit-Provisioning behavior was uniquely and positively associated with self's Benefit-Provisioning behavior, such that individuals whose partner performed more (vs. less) frequent Benefit-Provisioning behavior performed more frequent Benefit-Provisioning behavior themselves. Hypotheses 2a and 2b were not supported; there was no main effect of partner's short-term mate value on self's Cost-Inflicting behavior or self's Benefit-Provisioning behavior. Hypotheses 3a and 3b were not supported; there was no main effect of self's short-term mate value on self's Cost-Inflicting behavior or self's Benefit-Provisioning behavior.

Table 2 Study 1: Summary of path analysis

Causal Variable	Endogenous Variable			
	Self's Cost-Inflicting		Self's Benefit-Provisioning	
	Estimate	SE	Estimate	SE
Partner's Cost-Inflicting	.85***	.02	—	—
Partner's Benefit-Provisioning	—	—	.76***	.02
Relationship length	-.02	.02	-.01	.02
Partner's short-term mate value	.03	.02	.06	.03
Self's short-term mate value	-.01	.02	.00	.05
Partner's short-term mate value × self's short-term mate value	.00	.02	.06**	.02

Notes. Variables were standardized before analysis. Estimate = regression weight estimate. SE = standard error of regression weight estimate.
*p < .05. **p < .01. ***p < .001.

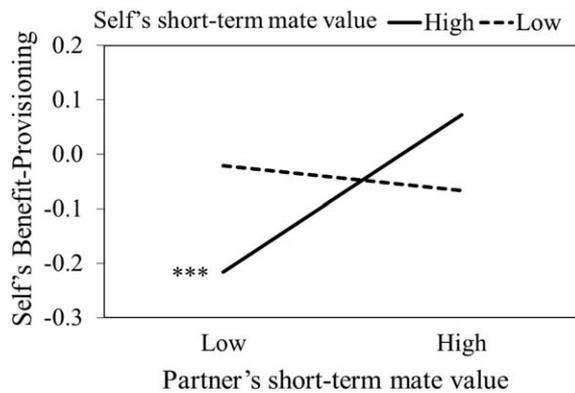


Figure 1 Simple slopes plots for the two-way interaction between self's short-term mate value and partner's short-term mate value, predicting self's Benefit-Provisioning behavior frequency. Scores were standardized before analysis. Model statistically controls for partner's Benefit-Provisioning behavior and relationship length. [Correction added on 3 October 2016, after first online publication: Figure 1 has been replaced.]

A two-way interaction between self's short-term mate value and partner's short-term mate value, predicting self's Cost-Inflicting behavior, did not emerge. Thus, Hypotheses 4a and 4c were not supported. A two-way interaction between self's short-term mate value and partner's short-term mate value uniquely predicted self's Benefit-Provisioning behavior. Predicted values for this interaction are shown in Figure 1. We conducted simple slopes analyses, recommended by Aiken and West (1991), to describe the interaction of continuous variables. These simple slopes tests were conducted using values one standard deviation above the mean to represent individuals who perceived themselves to have relatively high short-term mate value, and one standard deviation below the mean to represent individuals who perceived themselves to have relatively low short-term mate value. Supporting Hypothesis 4b, the slope of the line representing the association between partner's short-term mate value and self's Benefit-Provisioning behavior was significant and positive for individuals who perceived themselves to have higher short-term mate value ($B = .15, t = 3.70, p < .001$). Individuals who perceived that they have higher short-term mate value, and who perceived their partner to be of lower (vs. higher) short-term mate value, performed less frequent Benefit-Provisioning behavior (statistically controlling for partner's Benefit-Provisioning behavior, self's Cost-Inflicting behavior, and relationship length). Hypothesis 4d was not supported because the slope of the line representing the association between partner's short-term mate value and self's Benefit-Provisioning behavior was not significant for individuals who perceived themselves to have lower short-term mate value ($B = -.02, t = -0.66, p = .509$).

Discussion

We documented that individuals perform less frequent Benefit-Provisioning behavior when they perceive their partner is of lower (vs. higher) short-term mate value, but only when those

individuals also perceive themselves to be of higher short-term mate value. This suggests that individuals of higher short-term mate value are sensitive to the discrepancy in mate value between themselves and their partner, and are judicious in exerting mate retention efforts (Benefit-Provisioning). That is, individuals increase their mate retention efforts when they perceive a greater risk of partner infidelity (i.e., when the partner is of higher short-term mate value than themselves) and decrease these efforts when they perceive a lesser risk of partner infidelity (i.e., when the partner is of lower short-term mate value). Individuals of higher short-term mate value may perform more Benefit-Provisioning behaviors (vs. Cost-Inflicting behaviors), in particular, because these are benefits they can uniquely offer a partner who has extra-pair opportunities as a consequence of the partner's high short-term mate value. For example, satisfying a partner sexually, enhancing one's appearance, and signaling to others that the partner is loved and taken, are effective means to increase the partner's relationship satisfaction. These individuals may opt to increase the partner's satisfaction in the relationship—as opposed to inflicting costs on them (e.g., threatening to leave or punishing the partner)—as a means to decrease the partner's temptations outside the relationship. Accordingly, this may also explain why the same pattern of associations did not emerge to predict these individuals' Cost-Inflicting behavior.

We used perception of short-term mate value as a proximate measure of the perceived risk of a partner's infidelity. Individuals who are more desired as short-term mates would have more opportunities for extra-pair affairs of a short-term nature (e.g., a one-night stand), especially when their partner is lower in short-term mate value and has fewer opportunities for extra-pair affairs (and therefore is less likely to be unfaithful in retaliation or as a means to deter future infidelity). However, to more directly evoke concerns of relationship dissolution and of finding another partner, in a second study, we used a long-term mate value measure assessing ease of replaceability.

STUDY 2: LONG-TERM MATE VALUE DISCREPANCY

To follow up on Study 1, we used a measure of long-term mate value discrepancy that more directly assesses perception of asymmetric risks of infidelity: replaceability. We examined whether one's perception of replaceability discrepancy is associated with one's frequency of performing mate retention (controlling for partner's mate retention frequency and relationship length), in long-term relationships, with a sample of several hundred community members and undergraduates. Individuals who can more easily replace their partner, and whose partner can less easily replace them, should perceive a lesser risk of their partner's infidelity or defection and, thus, should perform less frequent mate retention behavior themselves, controlling for their partner's mate retention behavior frequency.

Replicating the first hypothesis of Study 1, we hypothesized that there would be a positive association between self's mate

retention frequency and partner's mate retention frequency (Hypothesis 1). Individuals who perceive a greater frequency of their partner's Cost-Inflicting behavior should perform more frequent Cost-Inflicting behavior themselves (H1a). Individuals who perceive a greater frequency of their partner's Benefit-Provisioning behavior should perform more frequent Benefit-Provisioning behavior themselves (H1b). Second, we hypothesized that there would be a positive association between partner's ease of replacing self and self's mate retention behavior frequency (Hypothesis 2). Individuals who perceive their partner could more (vs. less) easily replace them should perform more frequent Cost-Inflicting behavior (H2a) and more frequent Benefit-Provisioning behavior (H2b) themselves. Third, we hypothesized that there would be a negative association between self's ease of replacing partner and self's mate retention behavior frequency (Hypothesis 3). Individuals who perceive they could more (vs. less) easily replace their partner should perform less frequent Cost-Inflicting behavior (H3a) and less frequent Benefit-Provisioning behavior (H3b).

Since we documented an interaction between self's and partner's short-term mate value predicting mate retention behavior in Study 1, we explored the potential interaction between self's and partner's long-term mate value predicting mate retention behavior. We hypothesized that self-perceived discrepancy between self's and partner's ease of replacing the other would be associated with self-reported mate retention behavior frequency, controlling for partner's mate retention behavior frequency (Hypothesis 4). Individuals who perceive they could more easily replace their partner, and who perceive that their partner could less (vs. more) easily replace them, should perform less frequent Cost-Inflicting behavior (controlling for partner's Cost-Inflicting behavior frequency; H4a) and less frequent Benefit-Provisioning behavior (controlling for partner's Benefit-Provisioning behavior frequency; H4b). Similarly, individuals who perceive they could less easily replace their partner, and who perceive that their partner could more (vs. less) easily replace them, should perform more frequent Cost-Inflicting behavior (controlling for partner's Cost-Inflicting behavior frequency; H4c) and more frequent Benefit-Provisioning behavior (controlling for partner's Benefit-Provisioning behavior frequency; H4d).

Method

Participants. Participants included 941 nonstudent community members and undergraduates, each in a committed, sexual, heterosexual relationship from universities and surrounding communities in southeast Florida, recruited with flyers and through word of mouth. Participants were given course credit if they were students, and there was no compensation for community members. We screened the data for, and excluded listwise, missing scores (62 participants) and scores four or more standard deviations from the mean on at least one target variable (29 participants). The remaining sample comprised 850 participants

(480 women) with a mean age of 22.5 years ($SD = 5.8$) and a mean relationship length of 28.7 months ($SD = 31.4$). The current research reports new analyses designed to test new hypotheses using a subset of a larger data set described in Shackelford, Goetz, Buss, Euler, and Hoier (2005).

Procedures and Materials. Potential participants were asked if they were at least 18 years of age and in a committed, sexual, heterosexual relationship. Those who qualified were asked to review and sign a consent form and complete a questionnaire. Participants were asked to place the completed questionnaire in a sealed envelope and to place the consent form in a separate sealed envelope, to retain anonymity.

Participants completed a self-report survey, including demographic information such as their age (in years) and current relationship length (in months). Participants also completed the Mate Retention Inventory (MRI), which assesses performance of 104 mate retention behaviors (Buss, 1988). On a 4-point scale, participants reported how frequently they had performed each behavior in the past month and how frequently their partner had performed each behavior in the past month (0 = *Never*, 1 = *Rarely*, 2 = *Sometimes*, 3 = *Often*). Following Buss (1988), we calculated mate retention domain scores for each participant and partner: self's Cost-Inflicting behavior ($\alpha = .93$), self's Benefit-Provisioning behavior ($\alpha = .91$), partner's Cost-Inflicting behavior ($\alpha = .94$), and partner's Benefit-Provisioning behavior ($\alpha = .93$).

Participants provided responses to two mate value discrepancy items: (a) If you and your partner were to break-up at this moment in time, how easy would it be for you to find another long-term partner who is as desirable as a long-term partner as your current mate? and (b) If you and your partner were to break-up at this moment in time, how easy would it be for your partner to find another long-term partner who is as desirable as a long-term partner as you? (0 = *Extremely difficult to find an equally desirable partner*, 9 = *Extremely easy to find an equally desirable partner*).

Results

Table 3 presents descriptive statistics and partial correlations among the target variables, controlling for relationship length. We performed the same statistical analyses as in Study 1, with the only difference being that instead of self's and partner's short-term mate value, we used self's ease of replacing partner and partner's ease of replacing self, respectively. The results of the path analysis model are presented in Table 4. The model explained 47% of the variance in self's Cost-Inflicting behavior and 55% of the variance in self's Benefit-Provisioning behavior. Supporting Hypothesis 1a, partner's Cost-Inflicting was uniquely and positively associated with self's Cost-Inflicting, such that individuals whose partner performed more (vs. less) frequent Cost-Inflicting behaviors performed more frequent Cost-Inflicting behaviors themselves. Supporting Hypothesis 1b,

Table 3 Study 2: Descriptive Statistics and Partial Correlations, Controlling for Relationship Length

	1	2	3	4	5	M (SD)
1. Partner's ease of replacing self						3.24 (2.54)
2. Self's ease of replacing partner	.44***					2.70 (2.52)
3. Self's Cost-Inflicting	.07*	-.01				0.28 (0.26)
4. Self's Benefit-Provisioning	-.04	-.12***	.56***			1.18 (0.44)
5. Partner's Cost-Inflicting	.08*	.10**	.68***	.39***		0.26 (0.29)
6. Partner's Benefit-Provisioning	-.10**	-.07*	.39***	.74***	.50***	1.13 (0.53)

Note. $N = 850$.

* $p < .05$. ** $p < .01$. *** $p < .001$.

partner's Benefit-Provisioning was uniquely and positively associated with self's Benefit-Provisioning, such that individuals whose partner performed more (vs. less) frequent Benefit-Provisioning behaviors performed more frequent Benefit-Provisioning behaviors themselves.

Supporting Hypotheses 2a and 2b, partner's ease of replacing self was uniquely and positively associated with self's Cost-Inflicting behavior and with self's Benefit-Provisioning behavior. Individuals who perceived their partner could more (vs. less) easily replace them performed more frequent Benefit-Provisioning behaviors and more frequent Cost-Inflicting behaviors. Supporting Hypotheses 3a and 3b, self's ease of replacing partner was uniquely and negatively associated with self's Cost-Inflicting behavior and with self's Benefit-Provisioning behavior. Individuals who perceived they could more (vs. less) easily replace their partner performed less frequent Benefit-Provisioning behavior and less frequent Cost-Inflicting behavior.

These main effects were qualified by the two-way interaction between self's ease of replacing partner and partner's ease of replacing self. We conducted the same simple slopes analyses as in Study 1, using values one standard deviation above the mean to represent individuals who perceived they could more easily replace their partner, and one standard deviation below the mean to represent individuals who perceived they could less easily replace their partner. Hypothesis 4a was not supported because the slope of the line representing the association between partner's ease of replacing self and self's Cost-Inflicting behavior

was not significant for individuals who perceived they could more easily replace their partner ($B = .01$, $t = .37$, $p = .710$). Supporting Hypothesis 4c, the slope of the line representing the association between partner's ease of replacing self and self's Cost-Inflicting was significant for individuals who perceived they could less easily replace their partner ($B = .11$, $t = 3.34$, $p = .001$). Individuals who perceived they could less easily replace their partner, and who perceived their partner could more (vs. less) easily replace them, performed more frequent Cost-Inflicting behaviors (controlling for partner's Cost-Inflicting, self's Benefit-Provisioning, and relationship length). Figure 2A plots the simple slopes for the interaction.

Hypothesis 4b was not supported because the slope of the line representing the association between partner's ease of replacing self and self's Benefit-Provisioning behavior was not significant for individuals who perceived they could more easily replace their partner ($B = .00$, $t = 0.07$, $p = .942$). Supporting Hypothesis 4d, the slope of the line representing the association between partner's ease of replacing self and self's Benefit-Provisioning behavior was significant for individuals who perceived they could less easily replace their partner ($B = .07$, $t = 2.38$, $p = .018$). Individuals who perceived they could less easily replace their partner, and who perceived their partner could more (vs. less) easily replace them, performed more frequent Benefit-Provisioning behaviors (controlling for partner's Benefit-Provisioning, self's Cost-Inflicting, and relationship length). Figure 2B plots the simple slopes for the interaction.

Table 4 Study 2: Summary of path analysis

Causal Variable	Endogenous Variable			
	Self's Cost-Inflicting		Self's Benefit-Provisioning	
	Estimate	SE	Estimate	SE
Partner's Cost-Inflicting	.67***	.02	—	
Partner's Benefit-Provisioning	—		.72***	.02
Relationship length	-.07	.04	.02	.04
Partner's ease of replacing self	.06*	.03	.07**	.03
Self's ease of replacing partner	-.09**	.03	-.09***	.03
Partner's ease of replacing self \times self's ease of replacing partner	-.05*	.02	-.06**	.02

Notes. Variables were standardized before analysis. Estimate = regression weight estimate. SE = standard error of regression weight estimate.

* $p < .05$. ** $p < .01$. *** $p < .001$.

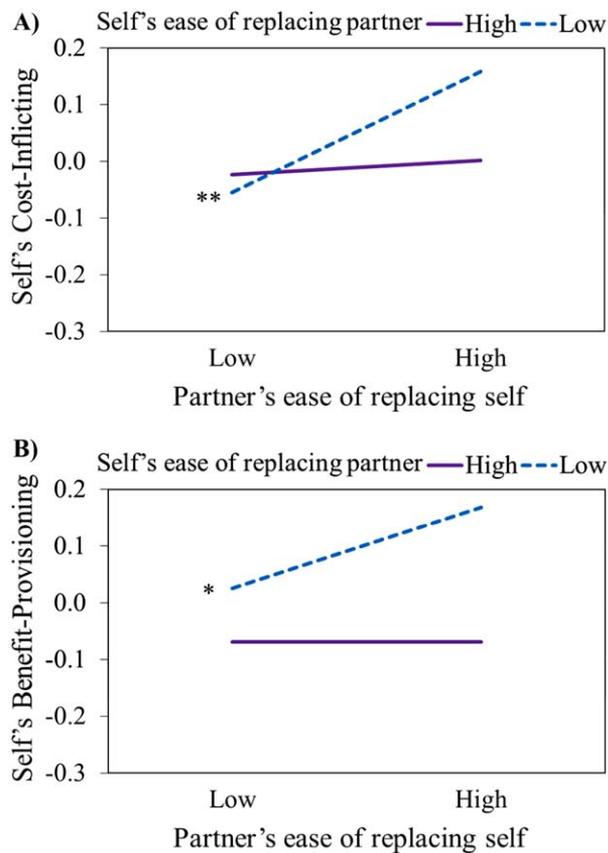


Figure 2 Simple slopes plots for the two-way interactions between self's ease of replacing partner and partner's ease of replacing self, on (A) self's Cost-Inflicting behavior and (B) self's Benefit-Provisioning behavior. Scores were standardized before analysis. Model statistically controls for relationship length and (A) partner's Cost-Inflicting and self's Benefit-Provisioning, and (B) partner's Benefit-Provisioning, and self's Cost-Inflicting. [Color figure can be viewed at wileyonlinelibrary.com]

Discussion

We documented that individuals perform more frequent Benefit-Provisioning behavior, and more frequent Cost-Inflicting behavior, when they perceive their partner can more (vs. less) easily replace them, but only when those individuals also perceive they can less easily replace their partner. This suggests that individuals who could less easily replace their partner are sensitive to the discrepancy in ease of replaceability between themselves and their partner, and they exert mate retention efforts (Benefit-Provisioning and Cost-Inflicting) accordingly: increasing these efforts when they perceive a greater risk of partner infidelity (i.e., when their partner can replace them easily, but they cannot replace their partner easily), and decreasing these efforts when they perceive a lesser risk of partner infidelity (i.e., when both self and partner can less easily replace the other).

Individuals who perceive that they could easily replace their partner, however, do not differ in their mate retention behavior frequency as a function of their partner's ease of replacing them. These findings are consistent with previous research that

documented a positive association between partner's objectively rated physical attractiveness and self's mate retention behavior frequency, but only for individuals objectively rated as less (vs. more) attractive (Oltmanns et al., 2016). Perhaps individuals who perceive they could easily find a high-quality replacement for their current partner perceive less of a risk of their partner's infidelity: A partner who cannot easily replace them would not jeopardize the relationship, and a partner who can easily replace them would not act on this ability because they risk losing a high-value partner (the perceiver). Another non-mutually exclusive possibility is that individuals who perceive they could easily replace their partner are less concerned with the prospect of their partner's infidelity (when the partner could easily replace them) because they do not perceive this event as a devastating loss, and would be able to easily find a suitable replacement.

GENERAL DISCUSSION

We examined the association between self-perceived mate value discrepancy and self-perceived mate retention discrepancy in two large samples, one composed of community members (Study 1) and another composed of college undergraduates and nonstudent community members (Study 2). We hypothesized that when self-perceived mate value discrepancy indicates an increase in the risk of their partner's infidelity, individuals would perform more frequent mate retention behaviors than their partner. We found some support for this hypothesis in Studies 1 and 2. In Study 1, we documented that individuals who perceive they are of higher short-term mate value, and who also perceive that their partner is of lower (vs. higher) short-term mate value, perform less frequent Benefit-Provisioning behavior, controlling for their partner's Benefit-Provisioning behavior. In Study 2, we documented that individuals perform more frequent Benefit-Provisioning behavior and more frequent Cost-Inflicting behavior when they perceive their partner can more (vs. less) easily replace them, but only when those individuals also perceive they can less easily replace their partner.

We documented the above associations while statistically controlling for partner's mate retention behavior. Self's and partner's mate retention behavior frequency are strongly and positively associated, which suggests a tit-for-tat strategy, or a relationship norm, in which mate retention efforts of Benefit-Provisioning, and Cost-Inflicting are matched between partners. Despite a partner's Benefit-Provisioning behavior frequency explaining much of the variance in self's Benefit-Provisioning behavior frequency, we also found the hypothesized effect of mate value discrepancy on this outcome (for individuals higher on short-term mate value, in Study 1; and for individuals who could less easily replace their partner, in Study 2). Further, individuals report mating assortatively (e.g., the strong positive correlation between self and partner in short-term mate value displayed in Table 1). That we documented a unique association between mate value discrepancy and self's Benefit-Provisioning behavior

frequency, controlling for partner's Benefit-Provisioning behavior frequency, suggests that individuals are sensitive to the discrepancy in mate value, above and beyond assortative mating, and behave in ways to minimize the risk of a partner's infidelity above and beyond the tendency to match their partner's mate retention behavior frequency. Thus, individuals seem to be sensitive to differences in the relationship (short-term mate value discrepancy and long-term mate value discrepancy) and exert behavioral output designed to thwart a partner's infidelity.

These findings support the idea that sensitivity to mate value discrepancy is a feature of mating psychology that is relationship-specific (i.e., changes from one relationship to the next), offering unique predictive power about relative behaviors between a couple, beyond a person's self-assessment that is independent of his or her partner. To our knowledge, this is the first time these relationships have been documented.

LIMITATIONS AND FUTURE DIRECTIONS

Given the correlational nature of our data, we cannot with any certainty identify causation or direction of influence. It may be that individuals who perceive themselves as having higher mate value than their partner perceive a lower risk of infidelity and, therefore, perform mate retention behaviors less frequently than their partner. However, it may also be that individuals perceive themselves as having higher mate value *because* their partner performs mate retention behaviors more frequently than them, indicating that the partner more strongly wants to retain the relationship. A longitudinal design such as a daily diary study would be able to address this issue (e.g., if perceptions of mate value discrepancy changed first, and then perceptions of mate retention discrepancy followed, this would indicate a clearer direction for the causal relationship between the two).

Future research should also examine whether discrepancy among relationship quality variables predicts mate retention discrepancy. For example, relationship satisfaction is associated with mate retention behavior and mate value discrepancy (e.g., Salkicevic et al., 2014). Future research may benefit from assessing relationship satisfaction *discrepancies* (in particular, each individual's perceptions of the satisfaction discrepancies), as these may also influence perceived risk of a partner's infidelity and, consequently, mate retention discrepancy. We predict that a person who is more satisfied than he or she perceives his or her partner to be perceives a greater risk of the partner's infidelity, and consequently performs more mate retention (especially Benefit-Provisioning) behavior to increase the partner's satisfaction. Likewise, mate retention behavior is associated with sexual behaviors that influence relationship satisfaction, such as oral sex (Pham & Shackelford, 2013; Sela et al., 2015), copulation frequency (Barbaro, Pham, & Shackelford, 2015), and pretending orgasm (Kaighobadi, Shackelford, & Weekes-Shackelford, 2012). Future research could explore perceived discrepancies in these behaviors

and their relationships with mate retention discrepancy and mate value discrepancy. For example, a person who perceives his or her partner to be less satisfied with the relationship may initiate these sexual behaviors more frequently than the partner as part of a broader Benefit-Provisioning mate retention strategy.

CONCLUSION

These studies are the first to investigate (a) directional mate value discrepancy (as opposed to absolute differences in mate value; Salkicevic et al., 2014) as it relates to mate retention behaviors, (b) the frequency of performing mate retention behaviors relative to one's partner, and (c) the relationship between mate value discrepancy and relative mate retention between members of a couple. Individuals who perceive they are of higher short-term mate value perform Benefit-Provisioning behaviors less frequently when mated to a lower (vs. higher) short-term mate value partner, and individuals who perceive that they could less easily replace their partner perform Benefit-Provisioning behaviors and Cost-Inflicting behaviors more frequently when they perceive their partner can more (vs. less) easily replace them. These studies highlight the importance of assessing individuals' perceptions of discrepancies in mate value (despite assortative mating) for relationship behaviors such as mate retention relative to one's partner (despite strong partner matching of such behaviors).

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Note

1. Controlling for participant's sex in this and subsequent analyses yields very similar results. Analyses available upon request.

References

- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.
- Barbaro, N., Pham, M. N., & Shackelford, T. K. (2015). Solving the problem of partner infidelity: Individual mate retention, coalitional mate retention, and in-pair copulation frequency. *Personality and Individual Differences, 82*, 67–71.
- Buss, D. M. (1988). From vigilance to violence: Tactics of mate retention in American undergraduates. *Ethology and Sociobiology, 9*, 291–317.
- Buss, D. M., & Shackelford, T. K. (1997a). From vigilance to violence: Mate retention tactics in married couples. *Journal of Personality and Social Psychology, 72*, 346–361.

- Buss, D. M., & Shackelford, T. K. (1997b). Susceptibility to infidelity in the first year of marriage. *Journal of Research in Personality*, **31**, 193–221.
- Buss, D. M., & Shackelford, T. K. (2008). Attractive women want it all: Good genes, economic investment, parenting proclivities, and emotional commitment. *Evolutionary Psychology*, **6**, 134–146.
- Buss, D. M., Shackelford, T. K., & McKibbin, W. F. (2008). The Mate Retention Inventory–Short Form (MRI-SF). *Personality and Individual Differences*, **44**, 322–334.
- Cloud, J. M., & Perilloux, C. (2015). Drawing conclusions about perceptions of ideal male and female body shapes. *Evolutionary Psychological Science*, **1**, 1–9.
- Converse, J., & Foa, U. G. (1993). Some principles of equity in interpersonal exchanges. In U. G. Foa, J. Converse, K. Y. Tornblom, & E. B. Foa (Eds.), *Resource theory: Explorations and applications* (pp. 31–39). San Diego, CA: Academic Press.
- Cordova, J. V., Jacobson, N. S., Gottman, J. M., Rushe, R., & Cox, G. (1993). Negative reciprocity and communication in couples with a violent husband. *Journal of Abnormal Psychology*, **102**, 559–564.
- de Miguel, A., & Buss, D. M. (2011). Mate retention tactics in Spain: Personality, sex differences, and relationship status. *Journal of Personality*, **79**, 563–586.
- Gaines, S. O. (1996). Impact of interpersonal traits and gender-role compliance on interpersonal resource exchange among dating and engaged/married couples. *Journal of Social and Personal Relationships*, **13**, 241–261.
- Gangestad, S. W., & Simpson, J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences*, **23**, 573–587.
- Gangestad, S. W., Thornhill, R., & Garver, C. E. (2002). Changes in women's sexual interests and their partner's mate-retention tactics across the menstrual cycle: Evidence for shifting conflicts of interest. *Proceedings of the Royal Society of London, Series B: Biological Sciences*, **269**, 975–982.
- Griffin, D., Murray, S., & Gonzalez, R. (1999). Difference score correlations in relationship research: A conceptual primer. *Personal Relationships*, **6**, 505–518.
- Holden, C. J., Shackelford, T. K., Zeigler-Hill, V., Starratt V. G., Miner, E. J., Kaighobadi, F., et al. (2014). Husband's esteem predicts their mate retention tactics. *Evolutionary Psychology*, **12**, 655–672.
- Holden, C. J., Zeigler-Hill, V., Pham, M. P., & Shackelford, T. K. (2014). Personality features and mate retention strategies: Honesty-Humility and the willingness to manipulate, deceive, and exploit romantic partners. *Personality and Individual Differences*, **57**, 31–36.
- Hughes, S. M., & Gallup, G. G. (2003). Sex differences in morphological predictors of sexual behavior: Shoulder to hip and waist to hip ratios. *Evolution and Human Behavior*, **24**, 173–178.
- Johnston, V. S., & Franklin, M. (1993). Is beauty in the eyes of the beholder? *Ethology and Sociobiology*, **14**, 183–199.
- Kaighobadi, F., Shackelford, T. K., & Weekes-Shackelford, V. A. (2012). Do women pretend orgasm to retain a mate? *Archives of Sexual Behavior*, **41**, 1121–1125.
- Kardum, I., Hudek-Knežević, J., & Gračanin, A. (2006). Sociosexuality and mate retention in romantic couples. *Psychological Topics*, **15**, 277–296.
- Marlowe, F., Apicella, C., & Reed, D. (2005). Men's preferences for women's profile waist-to-hip ratio in two societies. *Evolution and Human Behavior*, **26**, 458–468.
- Miller, G. F. (2000). *The mating mind: How sexual choice shaped the evolution of human nature*. New York: Anchor Books.
- Miner, E. J., Starratt, V. G., & Shackelford, T. K. (2009). It's not all about her: Men's mate value and mate retention. *Personality and Individual Differences*, **47**, 214–218.
- Mogilski, J. K., Memering, S. L., Welling, L. L., & Shackelford, T. K. (2015). Monogamy versus consensual non-monogamy: Alternative approaches to pursuing a strategically pluralistic mating strategy. *Archives of Sexual Behavior*. Advance online publication. doi:10.1007/s10508-015-0658-2
- Mogilski, J. K., Wade, T. J., & Welling, L. L. (2014). Prioritization of potential mates' history of sexual fidelity during a conjoint ranking task. *Personality and Social Psychology Bulletin*, **40**, 884–897.
- Oltmanns, J. R., Markey, P. M., & French, J. E. (2016). Dissimilarity in physical attractiveness within romantic dyads and mate retention behaviors. *Journal of Social and Personal Relationships*. doi: 10.1177/02654075166647203.
- Peer, E., Vosgerau, J., & Acquisti, A. (2013). Reputation as a sufficient condition for data quality on Amazon Mechanical Turk. *Behavior Research Methods*, **46**, 1–9.
- Pérusse, D. (1993). Cultural and reproductive success in industrial societies: Testing the relationship at the proximate and ultimate levels. *Behavioral and Brain Sciences*, **16**, 267–322.
- Pham, M. N., & Shackelford, T. K. (2013). Oral sex as mate retention behavior. *Personality and Individual Differences*, **55**, 185–188.
- Pham, M. N., Shackelford, T. K., Holden, C. J., Zeigler-Hill, V., Sela, Y., & Jeffrey, A. J. (2014). Men's Benefit-Provisioning mate retention behavior mediates the relationship between their agreeableness and their oral sex behaviors. *Archives of Sexual Behavior*, **44**, 1723–1728.
- Rhodes, G. (2006). The evolutionary psychology of facial beauty. *Annual Review of Psychology*, **57**, 199–226.
- Salkicevic, S., Stanic, A. L., & Grabovac, M. T. (2014). Good mates retain us right: Investigating the relationship between mate retention strategies, mate value, and relationship satisfaction. *Evolutionary Psychology*, **12**, 1038–1052.
- Sela, Y., Shackelford, T. K., Pham, M. N., & Euler, H. A. (2015). Do women perform fellatio as a mate retention behavior? *Personality and Individual Differences*, **73**, 61–66.
- Shackelford, T. K., & Buss, D. M. (1997). Anticipation of marital dissolution as a consequence of spousal infidelity. *Journal of Social and Personal Relationships*, **14**, 793–808.
- Shackelford, T. K., Goetz, A. T., Buss, D. M., Euler, H. A., & Hoier, S. (2005). When we hurt the ones we love: Predicting violence against women from men's mate retention tactics. *Personal Relationships*, **12**, 447–463.
- Shackelford, T. K., Schmitt, D. P., & Buss, D. M. (2005). Universal dimensions of human mate preferences. *Personality and Individual Differences*, **39**, 447–458.

- Sidelinger, R. J., & Booth-Butterfield, M. (2007). Mate value discrepancy as predictor of forgiveness and jealousy in romantic relationships. *Communication Quarterly*, *55*, 207–223.
- Singh, D. (1993). Adaptive significance of female physical attractiveness: Role of waist-to-hip ratio. *Journal of Personality and Social Psychology*, *65*, 293–307.
- Singh, D. (1995). Female health, attractiveness, and desirability for relationships: Role of breast asymmetry and waist-to-hip ratio. *Ethology and Sociobiology*, *16*, 465–481.
- Starratt, V. G., & Shackelford, T. K. (2012). He said, she said: Men's reports of mate value and mate retention behaviors in intimate relationships. *Personality and Individual Differences*, *53*, 459–462.
- Starratt, V. G., Shackelford, T. K., Goetz, A. T., & McKibbin, W. F. (2007). Male mate retention behaviors vary with risk of female infidelity and sperm competition. *Acta Psychologica Sinica*, *39*, 523–527.
- Sugiyama, L. (2005). Physical attractiveness in adaptationist perspective. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (pp. 292–342). New York: Wiley.
- Welling, L. L., Puts, D. A., Roberts, S. C., Little, A. C., & Burriss, R. P. (2012). Hormonal contraceptive use and mate retention behavior in women and their male partners. *Hormones and Behavior*, *61*, 114–120.