

TESTING THE ABILITY OF THE BENEFIT-PROVISIONING AND COST-INFLICTING MATE RETENTION DOMAINS TO PREDICT INITIATOR OF RELATIONSHIP DISSOLUTION

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ABSTRACT

Research on mate retention often only aims to identify what constitutes mate retention tactics. In the current study, the effectiveness of mate retention tactics is explored by measuring relationship outcomes of tactics unlike previous research that measures effectiveness through perceptions of relationship satisfaction. Individuals who have experienced a nonmarital breakup reported on their own and their ex-partners' mate retention tactics before the breakup to see which ones predicted the outcome of relationship dissolution. Tests for moderation by participant gender and male mate value were also included. Results revealed that, in accord with the mate retention tactic categorization put forth by Miner, et al., (2009), tactics that are performed by participants' ex-partners that inflict costs increase the odds of dissolution. Moderation by gender was also observed such that women were more likely to dissolve relationships with men who engaged in frequent benefit-provisioning tactics. Discussion addresses both supporting and conflicting evidence for the effectiveness of the benefit-provisioning and cost-inflicting categorization of mate retention.

Keywords: *relationship dissolution, mate retention tactics, mate value*

INTRODUCTION

Mate Retention

Mate retention has been a recurrent adaptive problem throughout human history, as evidenced by the common occurrence of divorce across both industrialized as well as hunter gatherer societies, and with official divorce records dating back to ancient Rome and Medieval Europe (Coontz, 2007). Nonmarital relationships are even more prone to dissolution, as more than 85% of Americans report having had at least one romantic relationship dissolve before marriage (Battaglia et al. 1998) and over one-third of young singles report having experienced a breakup within a two-year timeframe (Rhoades, Kamup-Dush, Atkins, Stanley, & Markman, 2011).

Effective mate retention, then, is important to avoid relationship dissolution given the various sources of relationship threat including partner abandonment, infidelity, and mate poaching (Campbell & Ellis, 2005). Reproductive success is potentially decreased as a consequence of relationship dissolution as partner abandonment can result in wasted investment in time and resources, and possible drop in mate value because of partner abandonment or older age (Daly & Wilson, 1983). Additionally, romantic jealousy has evolved as an emotion to motivate mate retention efforts to deter mate poaching, infidelity, and abandonment from a relationship (Daly, Wilson, & Weghorst, 1982; Schmitt & Buss, 2001). This activated jealousy in response to relationship threats manifests itself in behaviors known as mate retention tactics (Arnocky, Sunderani, Miller, & Vaillancourt, 2012; Buss, 1988).

A sizeable portion of the literature on human mate retention relies upon the Mate Retention Inventory (MRI; Buss, 1988) or the short form version (Buss, Shackelford & McKibbin, 2008) and inquires extensively about these different tactics. Specifically, the MRI contains 19 tactics that are commonly used by both men and women to retain their mates. Examples of mate retention tactics measured on the MRI include monitoring a mate's whereabouts, derogating potential rivals, enhancing one's own appearance, and buying gifts for a partner as an inducement to stay (Shackelford, Goetz, & Buss, 2005).

Early research on mate retention tactics measured through the MRI have centered on the perceived effectiveness of the tactics, often from the perspective of the actor, rather than the target of the tactic. For instance, Buss (1988) asked American undergraduates to rate the perceived effectiveness of all the tactics and subsequently created lists of most and least effective tactics. Buss and Shackelford (1997) later tested these tactics in married couples with the main finding that women report appearance enhancement as more effective and men report resource display as more effective as these highlight men's desire for a physically attractive mate and women's desire for a mate that is willing and able to invest in her and her children. However, mate retention tactics cover a very broad spectrum of behavior. For example, taking one's partner out to dinner at an upscale restaurant and threatening suicide if one's partner ever abandons the relationship are both considered mate retention tactics, yet they are very disparate types of behaviors. For this reason, it is necessary to further categorize and determine the objective effectiveness of these tactics rather than just ranking perceived effectiveness.

Benefit-Provisioning Versus Cost-Inflicting Tactics

Later research on mate retention tactics has categorized them in terms of whether they are benefit-provisioning or cost-inflicting (Miner, Shackelford, & Starratt, 2009; Shackelford, Goetz, Buss, Euler, & Hoier, 2005). Benefit-provisioning tactics are those that entice the partner to stay in the current relationship so that it looks more attractive than relationships with other potential mates, such as buying one's partner gifts, taking one's partner to

expensive restaurants, and giving compliments (Holden; Miner, et al, 2009). Cost-inflicting tactics are those that either lower a partner's self-esteem so that they think they are incapable of finding another mate outside the current relationship, or to make partners feel threatened such that attempts to defect from the relationship may be dangerous (McKibbin, et al, 2007). Cost-inflicting tactics include monopolizing a partner's time, being overly vigilant about the partner's whereabouts, emotionally manipulating a partner, and intrasexual threats toward rivals (Holden, et al, 2014).

Research using this categorization system has revealed better insight into mate retention tactic effectiveness. For instance, in a study using married couples in Croatia, the use of benefit-provisioning tactics by both men and women was associated with higher relationship satisfaction compared to those using cost-inflicting strategies, but this relationship was stronger when benefit-provisioning tactics were used by men (Salkicevic, Stanic, & Grabovac, 2014). In married couples in Iran, the use of benefit-provisioning tactics compared to cost-inflicting tactics was associated with emotional maturity, greater intimacy, and more constructive communication patterns (Ghanbarian, Hajhosseini, Mikani, & Mahmoudpour, 2020). Among American newlyweds, a cost-inflicting mate retention strategy was correlated with anxious attachment style, and the use of cost-inflicting tactics by one spouse was associated with a decline in relationship satisfaction in the other spouse over a 3-year period, with further decline for wives compared to husbands (Altgelt & Meltzer, 2019). In a study examining nonmarital relationships, cost-inflicting tactics were associated with lower relationship satisfaction and benefit-provisioning tactics were associated with higher relationship satisfaction (Nascimento & Little, 2020).

Relationship Between Mate Retention and Male Mate Value

One moderating factor that is frequently observed in mate retention research is male mate value (Holden, et al, 2014). Although both sexes report engaging in mate retention tactics, men appear to do it more frequently and more intensely (Buss & Shackelford, 1997; Chegeni, Pirkalani, & Dehshiri, 2018). Furthermore, male mate retention tactics, especially cost-inflicting ones, tend to have more severe consequences (e.g. partner-directed violence and even homicide) relative to women's mate retention tactics (Kaighobadi, Shackelford, & Goetz, 2009) This is likely due to the sex difference in overall choosiness as predicted by parental investment theory (Trivers, 1972). The factors that drive the intensity of male mate retention efforts, however, are unclear. Some research suggests that the male's own mate value determines mate retention intensity (Miner, Starratt, & Shackelford, 2009), whereas other literature suggests that the potential mate value of the woman has a larger effect on men's mate retention strategies (Starratt & Shackelford, 2012).

Furthermore, male mate value may factor into which mate retention strategy men use. Men's mate value is more dependent on their earning potential and access to resources compared to women (Buss, 1989), and because mate retention often incorporates highlighting the features that contribute to one's mate value, men use different strategies based on their mate value. Men who are of high mate value have greater earning potential and access to many resources, therefore they are more likely to choose a benefit-provisioning mate retention strategy (Miner, Starratt, and Shackelford, 2009). Men who are of low mate value, on the other hand, lack access to such resources and are less capable of providing substantial benefits to their partner. In this case, it might be more feasible for men to take the focus away from their own low mate value by using cost-inflicting tactics (e.g. highlighting any flaws of their partner). This may effectively lower the female partner's self-esteem, which would make her think she cannot attract anyone else and/or prevent her from meeting a better mate. Such a strategy is costly, however, in that repeated insults could

increase the likelihood of relationship defection (Miner & Shackelford, 2010; Miner, et al., 2009).

Miner and colleagues (2009) provided evidence to support their argument that this relationship between male mate value and mate retention strategy exists, since men who were of higher mate value (had higher earning potential) were more likely to use benefit-provisioning strategies and those who were of lower mate value were more likely to use cost-inflicting strategies. Other research used this classification system for mate retention strategies and found comparable results. Among married couples, men who were considered to be low in mate value (especially by their wives) were more likely to use cost-inflicting tactics compared to men considered to be of high mate value (Holden, et al., 2014).

The Current Research

Despite recent advances in the research on the effectiveness of mate retention strategies, it has thus far examined their effectiveness only from measures of relationship satisfaction and/or perceptions of commitment. The dissolution of a dyad is a more objective measure than perceptions of relationship satisfaction, which ebbs and flows for various reasons unrelated to mate retention strategies (e.g., hormonal influences from the menstrual cycle, adverse life events; Larson, Haselton, Gildersleeve, & Pillsworth, 2013; Schulz, Cowan, Pape Cowan, & Brennan, 2004). Therefore, the current research investigated the effectiveness of benefit-provisioning versus cost-inflicting mate retention tactics based on relationship outcomes, specifically the likelihood of relationship dissolution having been initiated by the recipient of the tactic. Nonmarital relationship dissolution was also investigated rather than divorce because it is relatively understudied in comparison to divorce and requires more research to better understand this type of relationship dissolution.

In this study, it was hypothesized that the more cost-inflicting tactics are used in a relationship, the more likely the odds of dissolution (*Hypothesis 1*). Furthermore, the more benefit-provisioning tactics are used in a relationship, the odds of dissolution should decrease (*Hypothesis 2*). Therefore, the partner that received the most cost-infliction should be the one to initiate the breakup. It was also hypothesized that there will be moderation by gender such that the use of cost-inflicting tactics by men would be more likely to result in their ex-partners abandoning the relationship (*Hypothesis 3*). Additionally, it was predicted that male mate value would be negatively correlated with the use of cost-inflicting tactics before the breakup (*Hypothesis 4*).

METHODS

Participants

Initially, 450 participants who were over 18, heterosexual, and had experienced a romantic breakup (for non-marital relationships only) within the past year completed the study via Mechanical Turk. The study was advertised on Mechanical Turk as a study about breakups, and to be eligible, participants had to confirm in a prescreening survey that they were over the age of 18 and that they had experienced a non-marital breakup within the past year. They were compensated with \$1.50 for their time and inconvenience. Due to issues with data quality that occur with data collected through Mechanical Turk, attention checks were incorporated into the surveys of interest at various points. For example, participants were given the item "Please choose purple as the response for this item" with the response

choices containing a few other colors along with purple. With the use of such attention checks, it was found that some participants were not correctly completing surveys (e.g. putting the same number for all responses) so the final sample was 421.

In the final sample, there were 278 men and 143 women. The mean age was 32.43 (range 20-63), and mean relationship length reported before the breakup was 1.5 years ($SD = 1.07$). The sample was 69% Caucasian, 18.6% Asian, 7.4% African American, 2.9% Hispanic, 1% Native American, and 1.2% identified as "Other." Most of the participants were either single or casually dating (55.3% and 26.4% respectively). The most commonly reported education level was that of a bachelor's degree. The most commonly reported income level was between \$31,000 and \$50,000 per year.

Materials

Two main instruments were used for this study. The first was the Relationship Dissolution Questionnaire (RDQ), which is a self-report measure that inquires about emotions and behaviors experienced because of a non-marital breakup as well as items on mate value of the self and the ex-partner based on characteristics such as physical attractiveness, intelligence, and sense of humor (see DeLecce & Weisfeld, 2016). The RDQ is largely based on a questionnaire used by Perilloux and Buss (2008) in terms of items on emotions and behaviors, but was expanded to include a subscale measuring mate value (of both the participant completing the survey and the ex-partner as reported by the participant) and other items related to the process of the breakup itself (e.g., who initiated it, relationship length before breakup). Variables in the RDQ were measured using a Likert-type scale ranging from 1-10. Here is an example of what an item would look like: "How physically attractive do you find yourself to be?" The six items of the mate value subscale inquire about popularity, ambitiousness, kindness, intelligence, and sense of humor—in addition to physical attractiveness. In total, the RDQ contains four subscales: one on mate value (Cronbach's $\alpha = .82$), one focused on causes of the breakup ($\alpha = .73$), one on post-breakup emotions ($\alpha = .83$), and one on post-breakup behaviors ($\alpha = .86$).

The second instrument was the Mate Retention Inventory-Short Form (MRI-SF; Buss, Shackelford, & McKibbin, 2008), which is a condensed version of the original instrument known as the Mate Retention Inventory (Buss, 1988). Alpha reliabilities for each of the tactic composites (e.g., just the section measuring commitment manipulation or just the section measuring violence against rivals) on the short form ranged from $\alpha = .48$ to $\alpha = .85$. For all 38 items on the MRI-SF total score, the alpha reliability was .94.

The MRI-SF covers a wide range of tactics; therefore, the total score may not be the best measure to use, especially when some of the tactics have positive impacts on the relationship while others have negative impacts. Consequently, mate retention tactics were divided into benefit-provisioning and cost-inflicting domains as described by Miner and colleagues (2009). Alpha reliabilities for cost-inflicting tactics and benefit-provisioning domains were .93 and .90 respectively (see Tables 1 and 2 for mate retention tactic categorization).

Table 1: Mate retention tactic domain of cost-inflicting items within the MRI-SF

Category	Tactic	Item
Direct Guarding	Vigilance	Called to make sure my ex-partner was where they said they would be Snooped through my ex-partner's personal belongings
	Concealment of Mate	Did not take my ex to party where other attractive people were present Took my ex away from gathering where attractive others were around
	Monopolize Time	Insisted that my ex-partner spend all their free time with me Spent all my free time with my ex so they could not meet anyone else
Intersexual Neg. Inducements	Jealousy Induction	Talked to someone else at a party to make my ex jealous Showed interest in someone else to make my ex angry
	Punish Threat to Cheat	Became angry when my ex flirted too much Threatened to break up if my ex ever cheated on me
	Emo. Manipulation	Pleaded that I could not live without my ex-partner Told my ex-partner that I was dependent on them
	Commit. Manipulation	Told my ex that we needed a total commitment to each other Asked my ex-partner to marry me
	Derogate Competitors	Pointed out to my ex the flaws of someone else Told my ex-partner that another same-sex member was stupid
Intrasexual Neg. Inducements	Derogation of Mate	Told members of the same sex that my ex was a pain Told others of the same sex that my ex was not a nice person
	Intrasexual Threats	Stared coldly at someone who was looking at my ex-partner Gave someone a dirty look when that person looked at my ex
	Violence on Rivals	Got my friends to beat up someone who was interested in my ex Slapped someone who made a pass at my ex-partner

Table 2: Mate retention tactic domain of benefit-provisioning items within the MRI-SF

Category	Tactic	Item
Positive Inducements	Resource Display	Bought my ex-partner an expensive gift Took my ex-partner out to a nice restaurant
	Sexual Inducements	Performed sexual favors to keep my ex-partner around Had a physical relationship with my ex-partner to deepen our bond
	Enhance Appearance	Made myself extra attractive for my ex-partner Made sure that I looked nice for my ex-partner
	Love and Care	Displayed greater affection for my ex-partner Complimented my ex-partner on their appearance
	Submission and Debasement	Gave in to my ex-partner's every wish Went along with everything my ex-partner said
Public Signals of Possession	Verbal Possession Signals	Told my same sex friends how much my ex-partner and I were in love Bragged about my ex-partner to other people of the same sex
	Physical Possession Signals	Held my ex-partner's hand while attractive others were around Put my arm around my ex-partner in front of others
	Possessive Ornamentation	Gave my ex-partner jewelry to signify that they were taken Asked my ex-partner to wear my ring

Procedure

Participants completed both the RDQ and the MRI-SF followed by a set of demographic questions online via Mechanical Turk. Participants were informed to complete the RDQ in response to their reactions to their most recent breakup. For the MRI-SF, instructions were

to indicate the frequency with which they and their ex-partners preformed the tactics throughout the duration of their most recent relationship. All procedures were approved by the researchers' university's ethics committee.

RESULTS

Predicting Dissolution from Mate Retention Tactic

Mate retention tactics reported before the breakup was experienced were categorized in terms of benefit-provisioning or cost-inflicting domains following Miner and colleagues (2009). The scores were averaged for the items for each category associated with the cost-inflicting domain (direct guarding, intersexual negative inducements, intrasexual negative inducements) and subsequently the averages of these three categories were averaged together to create a mean cost-infliction score. The same procedure was conducted to calculate a mean benefit-provisioning score. Additionally, a mean cost-inflicting and mean benefit-provisioning score was computed for both participants themselves and for the tactics that they reported their ex-partners used. To see descriptive statistics for all target variables and covariates, consult Table 3. Additionally, we produced a correlation matrix for all variables used in the analyses (see supplementary material).

Table 3: Descriptives for target variables and covariates

Variable	Self		Ex-Partner	
	Mean	SD	Mean	SD
Mate retention averaged scores				
Cost-inflicting scores	1.52	0.53	1.67	0.57
Benefit-provisioning scores	2.22	0.65	2.11	0.60
Male mate value items				
Ambitiousness	6.33	2.56	6.04	2.61
Intelligence	7.62	1.69	6.68	1.92
Popularity	5.23	2.59	6.44	2.14
Covariates				
Length of time elapsed since breakup (months)	3.0	0.52		
Relationship length (years)	1.5	1.07		
Age (years)	32.43	7.26		
	N	%	N	%
Breakup initiation	104	24.7	317	75.3

To determine if cost-inflicting tactics and benefit-provisioning tactics predicted dissolution (to test *Hypotheses 1* and *2*), a 3-step hierarchical logistic regression was conducted that included just the covariates of age, race, gender, length of relationship before dissolution occurred, time elapsed since dissolution, and current relationship status as *Step 1*. The dependent variable was self-initiated relationship dissolution. The overall model for *Step 1* was significant ($\chi^2(6) = 24.53, p < .001$) as it explained 8.5% of variance and classified 74.8% of cases correctly. Two covariates were significant as well: age, with increasing age of participants making it 1.04 times more likely that they would initiate the breakup ($p = .005$), and length of relationship, with increasing length decreasing the odds of participant-initiated dissolution by .69 ($p = .002$). Refer to Table 4.

Table 4: Step 1 of hierarchical logistic regression results for predicting odds of self-initiated relationship dissolution from demographic covariates

Variable	B	S.E.	Wald	ExpB	p
Length of time elapsed since breakup	.004	.110	2	1.004	.968
Length of relationship	-.370**	.117**	10.06**	.691**	.002**
Current relationship status	.144	.101	2.03	1.155	.154
Age	.044**	.016**	7.80**	1.044**	.005**
Race/Ethnicity	-.254	.159	2.54	.776	.111
Gender	-.290	.245	1.40	.748	.237
$X^2(6) = 24.53, 24.53 p < .001^{***}$					

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; The first chi-squared value refers to that for the model, the second value is for the block only.

In *Step 2* of the hierarchical logistic regression, the cost-inflicting scores for the self and for ex-partners, as well as the benefit-provisioning scores for the self and for ex-partners were added. This second step of the logistic regression revealed an overall significant model ($\chi^2(10) = 47.60, p < .001$) as it explained 16.1% of the variance and classified 76.2% of cases correctly. The same covariates of length of relationship and age remained significant. Also, as participants' own use of benefit-provisioning tactics increased, the risk of self-initiated dissolution decreased by .536 ($p = .023$). For cost-inflicting tactics, as ex-partners' use of cost-inflicting tactics increased, the odds of participants abandoning the ex-partner and dissolving the relationship also increased by 2.448 ($p = .003$). See Table 5 for more detail on *Step 2* of this analysis and see Figure 1 for the logistic regression plot for just ex-partner cost-infliction on the odds of dissolution, as ex-partner cost-infliction was the strongest predictor associated with mate retention tactics that are of interest in the hypotheses.

Table 5: Step 2 of hierarchical logistic regression results for predicting odds of self-initiated relationship dissolution from self and ex-partner mate retention tactics

Variable	B	S.E.	Wald	ExpB	p
Length of time elapsed since breakup	.43	.117	.138	1.044	.711
Length of relationship	-.323**	.122**	7.00**	.724**	.008**
Current relationship status	.134	.104	1.66	1.143	.197
Age	.043*	.017*	6.58*	1.044*	.010*
Race/Ethnicity	-.202	.166	1.48	.817	.224
Gender	-.301	.256	1.38	.740	.240
Cost-inflicting tactics (self)	-.688	.370	3.46	.502	.063
Benefit-provisioning tactics (self)	-.624*	.275*	5.14*	.536*	.023*
Cost-inflicting tactics (ex-partner)	.895**	.303**	8.73**	2.448	.003**
Benefit-provisioning tactics (ex-partner)	.300	.275	1.19	1.350	.276

$X^2(10) = 47.60, 23.07; p < .001^{***}$

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

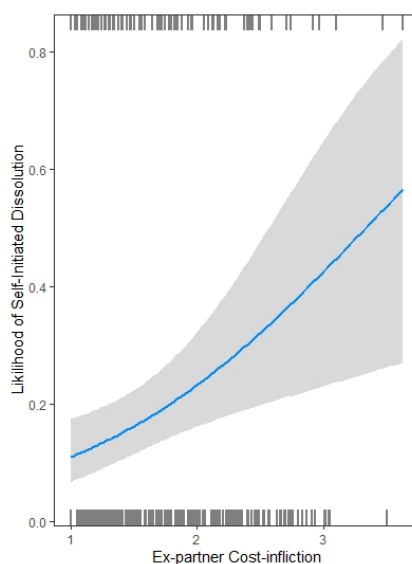


Figure 1: Logistic regression showing that as the reported use of cost-infliction by ex-partners increased, the odds of participants dissolving the relationship with that partner also increased.

Note: Cost-inflicting tactics are scored in terms of frequency from 1 - 4, with increasing numbers reflecting increasing frequency of use of cost-inflicting tactics.

Moderation by Gender

To determine whether the relationship between mate retention tactics and the likelihood of dissolution was moderated by participants' gender (to test *Hypothesis 3*), *Step 3* of the previous hierarchical logistic regression model included the variables of interest (benefit-provisioning self and ex-partner scores, cost-inflicting self and ex-partner scores, and gender), interaction terms, and the same demographic covariates. Four interaction terms were created, one that interacted participant gender and the benefit-provisioning score of the self, one that interacted participant gender and the benefit-provisioning score of the ex-partner, one that interacted participant gender and the cost-inflicting score of the self, and lastly one that interacted participant gender and the cost-inflicting score of the ex-partner. The overall model for *Step 3* was significant ($\chi^2(14) = 60.34, p < .001$, 20% variance explained, 78.1% of cases classified correctly) and revealed one significant interaction. This interaction was that between gender and benefit-provisioning score of the ex-partner ($p = .004$). To aid in the interpretation of this interaction, it was graphed using a simple slopes technique. This made it clear that women were 5.03 times more likely to initiate a breakup with a male ex-partner who exhibited increased use of benefit-provisioning tactics (See Table 6 and Figure 2).

Table 6: Step 3 of hierarchical logistic regression results for predicting odds of self-initiated relationship dissolution from self and ex-partner mate retention tactics after addition of interaction terms to test for gender moderation

Variable	B	S.E.	Wald	ExpB	p
Length of time elapsed since breakup	.28	.120	0.05	1.028	.819
Length of relationship	-.285*	.124*	5.27*	.752*	.022*
Current relationship status	.114	.105	1.19	1.121	.276
Age	.039*	.017*	5.18*	1.040	.023*
Race/Ethnicity	-.270	.168	2.59	.763	.108
Gender	-3.15**	1.13**	7.75**	.043**	.005**
Cost-inflicting tactics (self)	-1.37*	.609*	5.07*	.254*	.024*
Benefit-provisioning tactics (self)	-.306	.420	0.53	.737	.467
Cost-inflicting tactics (ex-partner)	.911*	.412*	4.90*	2.488*	.027*
Benefit-provisioning tactics (ex-partner)	-.368	.357	1.07	.692	.302
Cost-inflicting self * Gender	1.123	.768	2.14	3.074	.144
Benefit-provisioning self * Gender	-.818	.574	2.03	.441	.154
Cost-inflicting ex * Gender	-.344	.624	0.30	.709	.582
Benefit-provisioning ex * Gender	1.671**	.586**	8.13**	5.317**	.004**

$X^2(14) = 60.34, 12.73; p < .001^{***}$

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; The first chi-squared value refers to that for the model, the second value is for the block only.

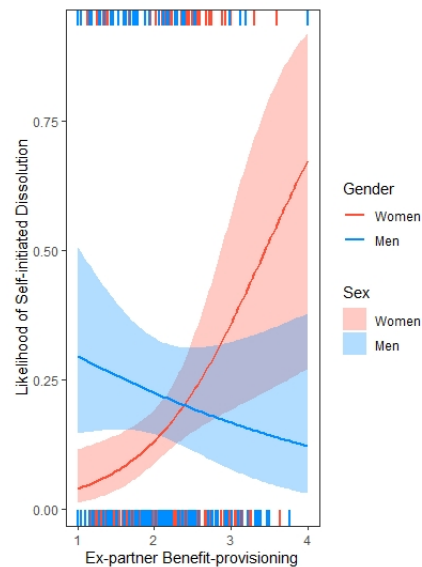


Figure 2: Simple slopes analysis within logistic regression showing the interaction effect between benefit-provisioning scores of ex-partners and participant gender on the odds of participants initiating the breakup (revealed in *Step 3* of the hierarchical logistic regression). Women are more likely to break up with ex-partners that engaged in frequent benefit-provisioning tactics compared to men.

Note: Benefit-provisioning tactics are scored in terms of frequency from 1 - 4, with increasing numbers reflecting increasing frequency of use of benefit-provisioning tactics.

Predicting Cost-Infliction Scores from Mate Value

To see if low male mate value was associated with increased use of cost-infliction tactics, multiple regression analyses were performed. The predictors were proxies for male mate value, including ratings of intelligence, ambitiousness, popularity, education level, and income level (see Buss, 1989). The outcome variable was cost-inflicting tactics score.

Two analyses were conducted, one to predict male participants' own cost-infliction scores, and one to predict female participants' ex-partner's cost-infliction scores. It should be noted that although participants reported on their ex-partner's personality characteristics (e.g. intelligence and ambition), they did not report on their ex-partners' education and income levels; therefore, such variables could not be included in ex-partner mate value analysis. This first multiple regression analysis predicting male participants' cost-infliction scores was not significant.

The second multiple regression analysis, in which women's perceptions of their male ex-partners' mate value predicted the ex-partners' cost-infliction scores, was significant ($r = .27$, $F(3, 138) = 3.74$, $p = .013$). The predictors in this model were women's rating of their ex-partner's level of ambitiousness, intelligence, and popularity. Even though ambitiousness and intelligence were not significant as predictors, they were in the predicted direction, such that higher levels on these traits predicted lower cost-infliction scores ($p < .10$ for intelligence). The only significant predictor in the model was popularity rating, with higher popularity predicting higher cost-infliction scores ($b = .05$, $t(141) = 2.36$, $p = .020$). Refer to Table 7 for male mate value results.

Table 7: Multiple regression results for predicting cost-inflicting scores from male mate value

Variable	<i>b</i>	S.E.	β	<i>t</i>	<i>p</i>	<i>r</i> ²	<i>F</i>	<i>p</i>
Predicting men's own scores from mate value						.025	1.37	.235
Yearly income	-.026	.025	-.070	-1.07	.288			
Education Level	.066	.034	.125	1.96	.051			
Ambitiousness	-.001	.026	-.003	-.043	.966			
Intelligence	-.027	.021	-.083	-1.30	.196			
Popularity	.016	.016	.074	1.04	.301			
Predicting women's male ex-partners' scores						.075*	3.74*	.013*
Ambitiousness	-.025	.020	-.120	-1.25	.212			
Intelligence	-.048	.026	-.165	-1.81	.073			
Popularity	.051*	.022*	.205*	2.36*	.020*			

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

DISCUSSION

The results of this study somewhat supported the hypotheses regarding the effects of different types of mate retention tactics. The use of cost-inflicting tactics did increase the odds of relationship dissolution; however, this was only the case for perceptions of mate retention tactics used by ex-partners as reported by participants (supporting *Hypothesis 1*). Regarding *Hypothesis 2*, frequent use of benefit-provisioning decreased the odds of participants themselves dissolving relationships. Overall, *Hypotheses 1* and *2* were partially supported.

These findings were moderated by gender, but not in the direction predicted by *Hypothesis 3*. Instead, women were more likely to dissolve relationships if they perceived that their male ex-partner performed frequent benefit-provisioning tactics. This was the opposite pattern to what was predicted. One speculation for this opposite pattern was considered. Previous research has found that, especially for males, both positive and negative types of mate retention tactics increase for individuals who are of low status or detect a threat to their relationship (Shackelford, et al., 2005). Therefore, male participants could be having better memory for the benefit-provisioning behaviors they performed than for the cost-inflicting ones that they also performed simultaneously as a last-ditch effort to prevent partner abandonment. This biased memory that conveniently forgets using cost-

inflicting tactics could maintain a positive image of the self, especially as a buffer to the decline in self-esteem and/or status associated with partner abandonment.

The role of male mate value on the use of cost-inflicting tactics was not as expected for *Hypothesis 4*. Men's own reports of their mate value were not significantly related to their own reports of their use of cost-inflicting tactics. However, female participants' perceptions of their male ex-partners' mate value and mate retention tactics were significantly associated. Specifically, higher ratings of popularity for their ex-partners were associated with greater use of cost-inflicting tactics, which was unexpected as popularity should be related to status. Perhaps being popular provides males greater opportunity to flirt with other women besides their partner, which is considered a cost-inflicting tactic. Also, there were more participants who reported being abandoned by their ex-partner in this study and there were more males; therefore, it could be that males in this study tended to be of lower status than is normally seen in the population since they could not effectively retain their partners.

There were several covariates involved in the analyses but only participants' age and length of relationship before the breakup occurred were significant. As participants' age increased, so did their likelihood of initiating relationship dissolution. However, as the length of the relationship increased, the likelihood of participants' dissolving relationships decreased.

Some speculation could be made to explain this pattern of findings. Men are more concerned about a mate's physical attractiveness than women as it signals health and fertility (Buss, 1989). Only women have a finite fertile period in their lives that is ended abruptly by menopause (Menken & Larsen, 1986); therefore, age is an indicator of fertility, and often physical attractiveness in women is possible due to being of a relatively young age. Previous research finds that, in general, men prefer women who are younger than themselves (Buss, 1989), and this preference for mates that are younger becomes exaggerated as men age themselves (Kenrick & Keefe, 1992).

The present findings align with sex differences in age preferences of a mate from an evolutionary perspective. Participants were more likely to initiate breakups from their partners as their own age increased. Because there were more male than female participants (66% to 34% respectively), the age preference of men could be reflected in the results; they are breaking up with their aging partners in the hopes of acquiring a younger mate in the future. However, the extent to which men can successfully replace their mate with a higher value one is dependent upon their own mate value, which depends on status. The pattern that men were more likely to break up with partners as their own age increased but their partners were also less likely to abandon them, supports this speculation, too. Men typically accrue resources and status as they age, and could afford to breakup with their aging partner due to this increased status (Kenrick & Keefe, 1992).

Limitations and Future Directions

The current research is not without its limitations. The data collected depended upon self-reports from participants to describe themselves and their ex-partners, which could possibly lead to biased perceptions of ex-partner mate retention tactic reports. Since approximately 75% of the sample did not initiate the breakup, a "dumpee effect" could be in place in which the results reflect people who were abandoned rather than a balanced look at both sides of a breakup. This could also be why there were more male participants than female. This male-biased sex ratio supports greater female choosiness as predicted by parental investment theory (Trivers, 1972) and corroborates literature that found evidence of greater female choosiness in both initial mate selection (Todd, Penke, Fasolo, & Lenton, 2007) and relationship maintenance (Kalmijn & Poortman, 2006). Alternatively, given the

counterintuitive finding that women are more likely to break up with ex-partners that provide more benefits could be an indicator that this sample is not representative of the normal population and that these results are not generalizable. Thus, these results should be interpreted with extreme caution.

Future research could use a longitudinal design to track couples on their use of mate retention tactics, and whether or not they break up. If they do break up, it would be easier to get reports on mate retention tactics and breakup dynamics from both partners rather than using a cross-sectional design of one-sided reports from participants who recently experienced a breakup. The current study does, however, provide a good starting point in the investigation of mate retention tactics to predict relationship dissolution.

Conclusion

The present study attempted to use the cost-inflicting and benefit-provisioning categorization of mate retention tactics (Miner et al., 2009) to predict relationship dissolution. While this categorization effectively predicted dissolution in some cases, it did not in others. Specifically, participants were more likely to initiate breakups with ex-partners who engaged in frequent cost-inflicting tactics; however, participants were more likely to be abandoned by ex-partners when they displayed frequent benefit-provisioning tactics. This greater propensity for abandonment associated with benefit-provisioning tactics was more pronounced for male participants. Additionally, the factor with the most influence on participants initiating breakups was increasing age of their ex-partners (which was an unexpected finding). Taken together, these findings do support a growing body of literature suggesting that cost-inflicting tactics decrease relationship satisfaction, and in this case to the point that it contributes to relationship dissolution. The results of the current study also are incremental in contributing to this existing literature, and are tentative in that they suggest that the relationship between mate retention tactics and relationship dissolution is complex and requires further research.

ETHICAL STATEMENT

These studies were conducted in accordance with the 1964 Helsinki declaration and later amendments or comparable ethical standards.

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