Article

Implicit Ambivalence: A Driving Force to Improve Relationship Problems

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Abstract

Implicit ambivalence involves holding strong positive *and* negative implicit evaluations toward the same object. This state is common in close relationships because even the most satisfying partnerships involve in conflicts and other frustrating experiences that can be explained away through effortful motivated reasoning yet remain in memory as mental representations involving the partner. In fact, it appears normative for implicit measures of partner attitudes to reveal implicit ambivalence. Despite being common, however, little is known about the consequences of implicit ambivalence. The present longitudinal investigation provides initial evidence that implicit ambivalence can motivate relationship improvements. Across two studies of newlywed couples ($N = 448$ individuals), multilevel dyadic modeling revealed that higher implicit ambivalence was associated with higher motivation to make efforts to improve current marital problems, which predicted reduced marital-problems severity reported by the partner and increased marital satisfaction reported by both spouses 4 months later.

Keywords

implicit ambivalence, attitudes, motivation to improve, marriage, automatic processes

People can, and often do, hold both positive and negative evaluations of the same object (Cacioppo & Berntson, 1994), resulting in ambivalent attitudes toward that object (van Harreveld et al., 2009). Although people may sometimes be aware of and able to report such mixed feelings in questionnaires (i.e., explicit ambivalence), research using implicit measures indicates that people can also fail to admit that any particular object automatically triggers ambivalent evaluations (Zayas et al., 2017). Yet, prior research has extensively focused on the consequences of explicit ambivalence (van Harreveld et al., 2015), leaving questions about whether and how such *implicit ambivalence*[1] may affect downstream processes.

Implicit Ambivalence in Close Relationships

We believe close relationships offer an ideal domain in which to address these questions. Unlike the abstract constructs, imaginary targets, and out-groups that attitude researchers typically study, romantic relationships offer unique contexts to examine how attitudinal processes that stem from real-life emotional experiences with a significant other may form, change, and affect well-being (see Faure et al., 2020). With respect to implicit ambivalence in particular, close romantic relationships can be a source of both intense pleasure and intense pain. Regarding pleasure, studies consistently document that romantic relationships offer a variety of rewards including closeness, support, care, and intimacy (Algoe, 2019; Gable & Reis, 2010), and such rewards positively predict both mental and physical health (Proulx et al., 2007; Robles et al., 2014). Regarding pain, however, there are times in which relationships also engender considerable costs. Marriage is a particularly notable example, as increased commitment necessitates that spouses endure conflicts (Braiker & Kelley, 1979), divergent interests (Righetti et al., 2016), rejections (Murray et al., 2013), and thwarted autonomy needs (Deci & Ryan, 2014), all of which can cause negative affect and impair well-being over time (Holt-Lunstad et al., 2008; Sbarra et al., 2011). What is important to realize with respect to these costs is that people are strongly motivated to maintain positive views of their partner (Murray et al., 1996) and thus frequently engage in motivated reasoning to minimize the extent to which their partner is a stable source of any negative affect (see Fletcher & Kerr, 2010; Gagné & Lydon, 2004; Murray, 1999). That is, people commonly misremember (Karney & Frye,

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2002), deemphasize (McNulty & Karney, 2001), and reinterpret (Murray & Holmes, 1994) the inevitable costs engendered by their partner. For this reason, self-reported relationship evaluations tend to be quite positively skewed (Murray, 1999).

Such negative feelings do not simply disappear, however. A central tenet of social cognition and attitudinal models is that affectively charged experiences—whether they are positive or negative—become automatically etched in memory as mental representations (Baldwin, 1992; Cacioppo & Berntson, 1994; Fazio, 2000; Gawronski & Bodenhausen, 2006), the sum of which defines one's automatic attitudes toward the source of those experiences (Fazio, 2007). Such attitudes are reactivated spontaneously each time one encounters the attitude object (Fazio et al., 1986) to guide subsequent responses toward that target (Fazio, 2000), unless people have sufficient opportunity and motivation to respond otherwise (Fazio, 1990). Therefore, a large body of work indicates that implicit measures are especially suited to capture these and other undesirable attitudes because they restrict opportunities to engage in motivated responding (Fazio & Olson, 2003; Nosek et al., 2011) and can thus detect negativity that is not always acknowledged on more motivationally biased self-reports (Hofmann et al., 2005).

Research on romantic relationships is consistent with these ideas. Not only do implicit measures of automatic partner attitudes appear more attuned to people's positive relationship experiences than are self-reported evaluations (Hicks et al., 2016, 2018), they also appear to better reflect their more negative relationship experiences (Murray et al., 2010), making them uniquely positioned to detect attitudinal ambivalence. Accordingly, in contrast to the positively skewed nature of self-reported relationship evaluations, implicit measures of partner attitudes demonstrate considerable ambivalence on average, even in the absence of explicit ambivalence (McNulty et al., 2019; Zayas & Shoda, 2015; see Zayas et al., 2017). For instance, McNulty and colleagues revealed it was common for people to simultaneously hold strong positive and negative implicit evaluations toward a spouse despite reporting overwhelmingly positive explicit relationship evaluations; in that study, priming people with photos of their spouse facilitated equally faster responding to both positive *and* negative words compared to a neutral prime, whereas self-reported relationship evaluations were uniformly positive.

Consequences of Implicit Ambivalence

Despite being normative, surprisingly little is known about the consequences of implicit ambivalence in close relationships. Although a growing body of research indicates that automatic partner attitudes have important implications for relationships (see Hicks & McNulty, 2019), this work has solely focused on the implications of the overall valence of these attitudes, either as a relative difference between positive and negative or as separate positive and negative dimensions. Yet, having both high positive *and* high negative implicit evaluations may have a unique impact on relationship processes because the co-activation of such conflicting attitudes likely triggers needs and processes that are qualitatively different from those elicited by unconflicted, univalent attitudes (van Harreveld et al., 2015; Zayas et al., 2017).

How might implicit ambivalence affect romantic couples? Both theory and empirical work suggest it may motivate improvement efforts. Drawing on early social–psychological theories (Festinger, 1957; Heider, 1958) positing that people have an important psychological need for cognitive consistency, recent perspectives postulate that ambivalent attitudes involving opposite attributes assessed on the same dimension, such as the ambivalent global partner evaluations revealed by past research, cause discomfort that motivates people to resolve the underlying conflict (Gawronski, 2012; van Harreveld et al., 2009, 2015). Consistent with these ideas, several studies indicate that even inconsistencies that do not explicitly cause discomfort (Maio et al., 2001) and that involve evaluations measured implicitly (Petty et al., 2006) can motivate processes aimed at restoring consistency (see Petty et al., 2012). For instance, discrepancies between explicit and implicit evaluations (e.g., negative implicit and positive explicit) have been linked to enhanced processing of relevant information in order to address, and solve, internal doubts (Petty et al., 2006). Critically, such effects emerged even though people were not necessarily *aware* of the inconsistency and did not report feelings of *discomfort*—two aspects otherwise likely to make ambivalence more detrimental for individual and relational well-being (see Holt-Lunstad & Uchino, 2019; van Harreveld et al., 2009, 2015).

Within a close relationship, implicit ambivalence likely reflects a history of both positive and negative experiences with the partner (see Zayas et al., 2017). Resolving this inconsistency thus requires changing the relationship in some way. The ubiquitous motivation to feel positive about the partner (Murray, 1999), coupled with the numerous constraints that make leaving a close relationship difficult (Rhoades et al., 2010), likely orient this motivation toward improving the relationship in order to better fulfill the fundamental need for connectedness (Baumeister & Leary, 1995). This reasoning aligns with both attachment (Mikulincer & Shaver, 2007) and interdependence (Kelley & Thibaut, 1978) theories, according to which such motivational processes should occur specifically for people who care about but also feel frustrated in their marriage. Indeed, the strong positive implicit evaluation should create the strongest incentives, and the strong negative implicit evaluation should create the highest needs for improvement. This may be especially true in marriage, where the barriers to leaving are particularly significant. In fact, some scholars have argued that when commitment is high, such as among married couples, ambivalence may serve as a necessary catalyst for change to improve marital problems and ultimately prevent dissolution (Jonas et al., 2000; Thompson & Holmes, 1996). In contrast, people with univalent partner attitudes should be less likely to engage in such efforts; those with mostly positive implicit evaluations may not need change, those with mostly negative implicit evaluations may withdraw (Murray et al., 2012), and those with low positive and negative implicit

evaluations may remain indifferent and passive (Holt-Lunstad & Uchino, 2019). Thus, given its automatic features, implicit ambivalence might be functional for marriage by spontaneously promoting the motivational processes that are necessary to address relationship issues without eliciting the emotional distress that may too often undermine couples.

Present Research

This research seeks to investigate the implications of implicit ambivalence in close relationships. Drawing upon work on attitudes and close relationships, we propose that implicit ambivalence fosters motivational processes to improve relationship problems. To examine this question, we drew on two longitudinal studies of newlywed couples to achieve high statistical power and high ecological validity (Curran & Hussong, 2009; Finkel et al., 2015). Newlyweds are a particularly appropriate sample to test our research question given that they have accumulated numerous experiences with one another, are highly committed to one another, and are strongly motivated to see their relationships positively. First, we tested whether greater implicit ambivalence is associated with elevated motivation to make efforts to address existing marital problems. Second, we tested whether elevated motivation was in fact associated with reduced severity of marital problems and thus associated with improved marital satisfaction among both spouses over time. We provide material and code for this project at: https://osf.io/8tx96/.

Method

Participants

The present research relied on two studies[2] of North American newlywed couples (total $N = 448$). Study 1 included 120 couples (including one same-sex couple, $N = 240$, 50.52% women, $M_{age} = 31.05$, $SD_{age} = 9.04$), and Study 2 included 104 couples (including five same-sex couples, $N = 208$, 52.40% women, $M_{age} = 31.23$, $SD_{age} = 10.56$). In both studies, couples were recruited through various approaches within the first 4 months of their wedding and participated in exchange for US$580 and US$505, respectively. Sample sizes were determined a priori based on financial limitations and in accordance with recommendations for couple research to provide adequate statistical power (Finkel et al., 2015). On average, couples had been together for 45.44 months prior to marriage in Study 1 ($SD = 31.75$) and for 45.97 months in Study 2 ($SD = 37.60$).

Material and Procedure

Both studies followed similar procedures. Following recruitment, all couple members received packets of questionnaires to complete independently at home, which contained a consent form, instructions, and several self-report measures, including a measure of each participant's (a) perceptions of their marital-problem severity, (b) motivations to resolve those problems, and (c) marital satisfaction. Next, couples attended a laboratory session where participants completed an implicit measure of partner attitudes and additional tasks beyond the scope of this investigation. Four months later, participants completed a short follow-up survey that included self-report measures of marital-problem severity and marital satisfaction.

Implicit ambivalence. To assess people's baseline automatic partner attitudes, we used the partner evaluative priming task (PEPT; McNulty et al., 2013). The PEPT was modeled after the original version of this task (EPT; Fazio et al., 1995) and has proven suitable for assessing both positive and negative implicit evaluations involving the partner (Zayas & Shoda, 2015). In this task, participants viewed target words in random order (e.g., charming, disgusting). Their goal was to indicate as rapidly and correctly as possible whether the word displayed was positive or negative. Prior to each target word, a picture prime was briefly shown on screen during 300 ms with no delay, which resulted in a stimulus-onset asynchrony of 300 ms to guarantee automatic processing of the prime (Wentura & Degner, 2010). To maximize methodological quality (Scinta & Gable, 2007), picture primes were photos taken during the laboratory session of (a) the participant, (b) their partner, and (c) an attractive opposite-sex alternative, which were randomly displayed in four possible orientations (i.e., front view of the face, profile view of the face, frontal view of the full body while standing, and frontal view of the full body while sitting). In both studies, participants completed three blocks of 48 trials each with an intertrial delay of 1,000 ms. The first block was a practice block, in which target words were preceded by a neutral prime (i.e., a row of asterisks), which served as a baseline index of participants' reaction time (RT) to positive and negative words. The two remaining test blocks used photos as primes (see Supplemental Material for details and reliability of the task).

Following standard procedures (Wentura & Degner, 2010), we took several steps to compute the separate positive and negative implicit evaluation scores. First, we discarded responses that were either faster than 300 ms or slower than 2,000 ms, eliminated incorrect responses, and removed participants who made more than 20% errors during the task. Second, we computed two facilitation scores (one for RTs to positive words and one for RTs to negative words) by subtracting aggregate RTs following partner primes from those involving neutral primes. Hence, higher facilitation scores reflect more positive and negative implicit partner evaluations, respectively. Third, to ensure that extreme values would not affect our scores, we removed facilitation scores that were below or above 3 *SD*s.

We then used these two facilitation scores to create an implicit ambivalence score and the automatic attitude score typically formed from the PEPT (for control and comparison purposes), and for the abovementioned reasons, we removed scores above or below 3 *SD*s from the mean for both (Wentura & Degner, 2010). To calculate the traditional automatic partner attitudes score, we subtracted negative facilitation scores from positive ones. Thus, higher positive scores reflect relatively more positive automatic partner attitudes. To create the implicit ambivalence

Table 1. Means, Standard Deviations, and Partial Correlations for Baseline Actor Variables.

Variables	*M*	*SD*	(2)	(3)	(4)	(5)
(1) Implicit ambivalence	3.50	109.94	−.14**	.14**	−.05	.01
(2) Automatic partner attitudes	−9.25	103.98	—	−.07	−.02	.01
(3) Marital problems motivation (MPM)	9.82	1.28		—	−.27***	.28***
(4) Marital problems severity (MPS)	2.64	1.12			—	−.60***
(5) Marital satisfaction	0.15	0.64				—

Note. Both MPM and MPS scales from the Inventory of Marital Problems ranged from 1 to 11. Scores from the implicit measure (i.e., implicit ambivalence and automatic partner attitudes) are RTs in ms. Marital satisfaction scores were calculated by averaging *Z*-standardized SMD ($M = 96.62$, $SD = 7.69$; scale ranging from 15 to 105), QMI ($M = 42.53$, $SD = 2.89$; scale ranging from 6 to 45), and KMS ($M = 19.52$, $SD = 1.61$; scale ranging from 3 to 21) scores together. Partial correlations are reported for main actor variables assessed at baseline controlling for study. SMD = semantic differential; QMI = Quality of Marriage Index; KMS = Kansas Marital Satisfaction.
*$p < .05$. **$p < .01$. ***$p < .001$.

score, we applied Griffin's well-established ambivalence formula (Thompson et al., 1995) to the positive and negative facilitation scores [(Positive + Negative) / 2 − |Positive − Negative|]. Hence, higher positive scores reflect stronger implicit ambivalence toward one's romantic partner (i.e., both high positivity *and* high negativity), whereas higher negative scores reflect stronger univalent attitudes toward the partner (i.e., either high positivity *or* high negativity) and neutral scores reflect indifferent attitudes (i.e., neither high positivity nor high negativity).

Inventory of marital problems. At baseline, participants completed a 19-item version of the Marital Problems Inventory (Geiss & O'Leary, 1981) that required participants to indicate (a) the extent to which 19 different relationship areas (e.g., communication, sex) were sources of difficulty in their marriages (marital-problems severity; MPS; 1 = *not a problem*, 11 = *major problem*; Study 1: $\alpha = .88$, Study 2: $\alpha = .87$) and (b) how willing they were to change their own behaviors, preferences, or goals to solve difficulties in each area (marital problems motivation; MPM; 1 = *not at all willing*, 11 = *completely willing*; $\alpha = .92$ and .96, respectively). At follow-up, we assessed participants' MPS using the same inventory ($\alpha = .89$ and .90, respectively). To calculate MPS and MPM scores, items were averaged such that higher scores reflect more problems severity and greater motivation to repair relationship problems, respectively.

Marital satisfaction. We assessed participants' self-reported evaluations of their relationship with their partner at baseline and follow-up using three well-established scales. Participants completed a 15-item semantic differential about their relationship partner (SMD; Osgood et al., 1957), the 6-item Quality of Marriage Index (QMI; Norton, 1983), and the 3-item Kansas Marital Satisfaction (KMS; Schumm et al., 1986). Because these three scales were highly correlated (all *r*s ranged from .74 to .85 at baseline and from .69 to .90 at follow-up), we standardized them and created a composite score of explicit marital satisfaction that showed high consistency in both studies (at baseline, both αs = .92; at follow-up, $\alpha = .91$ and .96, respectively; see Supplemental Material).

Results

Analysis Strategy

Given the samples, designs, and measures were comparable across studies, we combined both studies into one data set to conduct an integrative data analysis[3] (Curran & Hussong, 2009) to maximize statistical power and precision (Cumming, 2012). Specifically, we pooled the raw data together, computed individual scores as described above, and excluded scores above or below 3 *SDs* from the mean. We also included a study variable[4] (coded −0.5 and 0.5) to control for idiosyncratic differences between studies. To account for the fact that participants were nested within couples, we estimated two-level models with random intercepts and fixed slopes, and we treated dyads as indistinguishable given that gender did not moderate our effects (Kenny et al., 2006). In addition, to capitalize on the unique features provided by our dyadic sample, we used the actor–partner interdependent model (APIM) approach to estimate the variance within- and between-dyads and model actor effects (i.e., the influence of partner A's predictor variable on partner A's outcome variable) and partner effects (i.e., the influence of partner A's predictor variable on partner B's outcome variable) separately while accounting for nonindependence between dyad members (Kenny et al., 2006). All variables were standardized around the grand-mean to provide standardized betas as effect size estimates. Descriptive statistics and partial correlations are presented in Table 1.

Primary Analyses

To test our first hypothesis, we regressed actors' motivation scores onto actors' and partners' implicit ambivalence, controlling for study. Consistent with predictions, results revealed a significant actor effect of implicit ambivalence; $\beta = .14$, $SE = .05$, 95% CI [0.04, 0.23], $p = .006$ (see Model 1 in Table 2). Thus, after controlling for their partners' implicit ambivalence, participants' implicit ambivalence was positively associated with their motivation to make efforts to solve marital problems.[5]

To examine the robustness of this effect, we estimated another multilevel model that controlled for (a) traditional

Table 2. Multilevel Models Predicting Actor's Motivation to Change Marital Problems.

	β	*SE*	*df*	*t*	*p*	95% CI
Model 1						
Intercept	.00	.05	182.92	0.07	.945	[−0.09, 0.10]
Study	−.79	.10	182.41	−7.97	< .001	[−0.98, −0.59]
Implicit ambivalence (P)	.04	.05	363.13	0.80	.425	[−0.06, 0.14]
Implicit ambivalence (A)	**.14**	**.05**	**363.08**	**2.76**	**.006**	**[0.04, 0.23]**
Model 2						
Intercept	−.02	.05	161.08	−0.45	.657	[−0.12, 0.07]
Study	−.87	.10	160.83	−8.83	< .001	[−1.06, −0.68]
Gender	.11	.09	169.20	1.20	.233	[−0.07, 0.29]
Automatic partner attitudes (P)	−.02	.05	321.87	−0.49	.622	[−0.12, 0.07]
Automatic partner attitudes (A)	−.08	.05	322.02	−1.69	.093	[−0.18, 0.01]
Marital problems severity (P)	−.05	.07	318.19	−0.81	.421	[−0.18, 0.07]
Marital problems severity (A)	−.21	.07	318.11	−3.29	.001	[−0.34, −0.09]
Marital satisfaction (P)	−.11	.06	316.95	−1.78	.076	[−0.23, 0.01]
Marital satisfaction (A)	.14	.06	316.55	2.33	.020	[0.02, 0.26]
Implicit ambivalence (P)	−.01	.05	322.66	−0.18	.859	[−0.11, 0.09]
Implicit ambivalence (A)	**.12**	**.05**	**322.67**	**2.25**	**.025**	**[0.02, 0.22]**

Note. Gender was effects coded (male = −0.5; female = 0.5). A = actor variables, P = partner variables.

scores of automatic partner attitudes[6] to ensure that our results were due to strong ambivalent evaluations (both positive and negative) and not univalent evaluations (either positive or negative), (b) both marital problems severity and marital satisfaction given that people may be more strongly motivated to make changes for mild problems or when their relationship is more satisfying, and (c) gender to ensure our effect did not reflect broader gender differences. As seen in Table 2 (Model 2), none of these constructs accounted for our effect.

Mediation Analyses

Given intentions do not always translate into actual change (Webb & Sheeran, 2006), we examined whether such motivational processes led to corresponding relationship changes over time—that is, whether motivation was associated with (a) decreases in marital problems severity and thus (b) increases in marital satisfaction later on. To do so, we performed mediation using the joint-significance method for sequential mediators (Taylor et al., 2008) to test a three-path mediated effect examining whether stronger implicit ambivalence (X) was associated with higher motivation to make changes (Mediator 1), which in turn predicted lower severity of marital problems over time (Mediator 2), which then led to higher relationship satisfaction (Y). This approach involved testing the significance of each of the three mediation paths (see β_1, β_2, and β_3 in Figure 1), which appears to be the most successful approach to best control for Type I error while warranting good power (Taylor et al., 2008). We again used the APIM approach to examine both the actor's and partner's perception of marital problems severity and marital satisfaction assessed at Time 2 while controlling for baseline scores of these outcome variables at Time 1 to document actual *change* over time.

As previously described (see Table 2), the first path between implicit ambivalence and motivation was significant. For the second path, we performed a multilevel analysis that regressed Time 2 marital problems severity onto Time 1 marital problems severity, actors' and partners' Time 1 implicit ambivalence and motivation scores, controlling for study. Results revealed a significant negative association between actors' motivation and changes in their partners' perceived marital problems severity, $\beta = -.09$, $SE = .04$, 95% CI [−0.18, −0.01], $p = .030$, indicating that participants' motivation to make effort to address marital issues, which stemmed in part from their own implicit ambivalence, predicted a significant decrease in their partner's perception of marital-problem severity 4 months later. Interestingly, the negative association between actors' motivation and changes in their own perceptions of marital problems severity over time did not reach significance. As shown in Table 3, these findings were highly similar when controlling for other actors' and partners' variables.

Finally, for the third and last path, we conducted a multilevel time-lagged analysis in which we regressed marital satisfaction at Time 2 onto Time 1 marital satisfaction study, as well as actors' and partners' implicit ambivalence, motivation, and reports of problems severity at both time points. Results revealed that, controlling for Time 1 variables, marital satisfaction was negatively associated with both actors' and partners' report of marital-problem severity at Time 2; $\beta = -.67$, $SE = .06$, 95% CI [−0.78, −0.55], $p < .001$, and $\beta = -.18$, $SE = .06$, 95% CI [−0.28, −0.07], $p = .002$. Again, we obtained similar results in a full APIM model including all actor and partner effects (see Table 4). In sum, having stronger implicit ambivalence toward one's partner was associated with greater motivation to make changes in one's behavior to improve marital problems, which in turn was associated with reduced marital

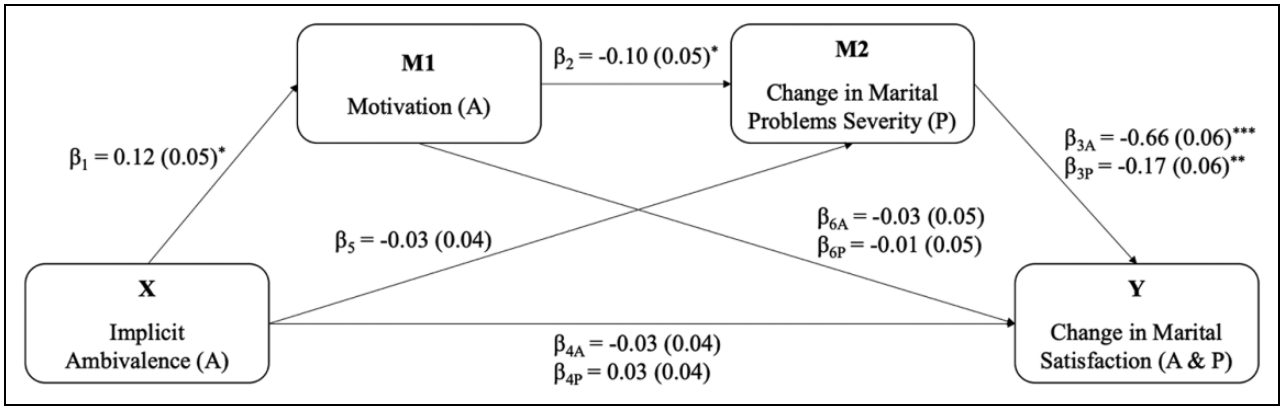

Figure 1. Three-path mediation model for sequential mediation analysis. *Note*. Path diagram of the three-path mediation model for sequential mediation analysis involving actor's implicit ambivalence (X), actor's motivation (Mediator 1), partner's change in marital problems severity (Mediator 2), and both actor's and partner's change in marital satisfaction (Y). All reported values are standardized estimates with their standard errors in parentheses. All values for mediation paths predicting outcomes at Time 2 are drawn from analyses that control for such outcomes at Time 1 (hence, predicting change from Time 1 to Time 2). A = actor variables/effects, p = Partner variables/effects. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Multilevel Models Predicting Change in Actor's Marital Problems Severity Over Time.

	β	*SE*	*df*	*t*	*p*	95% CI
Model 1						
Intercept	−.06	.05	157.59	−1.26	.208	[−0.15, 0.03]
Study	−.05	.11	161.77	−0.51	.611	[−0.26, 0.15]
Marital problems severity (A)	.54	.04	328.00	13.27	< .001	[0.46, 0.62]
Implicit ambivalence (A)	−.04	.04	292.02	−0.90	.367	[−0.26, 0.15]
Implicit ambivalence (P)	−.04	.04	295.90	−0.85	.398	[−0.12, 0.05]
Marital problems motivation (A)	−.05	.05	314.31	−1.14	.254	[−0.14, 0.04]
Marital problems motivation (P)	**−.09**	**.04**	**307.29**	**−2.18**	**.030**	**[−0.18, −0.01]**
Model 2						
Intercept	−.10	.05	142.87	−2.18	.031	[−0.19, −0.01]
Study	−.05	.11	141.54	−0.48	.630	[−0.20, 0.06]
Gender	−.07	.07	146.76	−1.03	.304	[−0.27, 0.16]
Implicit ambivalence (A)	−.03	.04	271.48	−0.76	.448	[−0.12, 0.05]
Implicit ambivalence (P)	−.03	.04	271.33	−0.77	.442	[−0.12, 0.05]
Automatic partner attitudes (A)	−.07	.04	267.81	−1.58	.116	[−0.15, 0.01]
Automatic partner attitudes (P)	−.04	.04	268.34	−0.92	.361	[−0.12, 0.04]
Marital problems severity (A)	.46	.06	290.73	8.32	< .001	[0.36, 0.57]
Marital problems severity (P)	−.05	.05	290.67	−0.96	.337	[−0.16, 0.05]
Marital satisfaction (A)	−.07	.05	293.12	−1.43	.153	[−0.18, 0.03]
Marital satisfaction (P)	−.12	.05	292.53	−2.37	.018	[−0.22, −0.02]
Marital problems motivation (A)	−.09	.05	279.16	−1.77	.078	[−0.18, 0.01]
Marital problems motivation (P)	**−.10**	**.05**	**277.00**	**−2.02**	**.045**	**[−0.19, −0.00]**

Note. Multilevel models predicted actor's marital problems severity at Time 2 controlling for baseline-levels marital problems severity, and hence predicted change in this outcome over time. All variables included in these models were assessed at baseline (i.e., Time 1). Gender was effects coded (male = -0.5; female = 0.5). A = Actor variables, P = Partner variables.

problems severity reported by the partner over time and thus increased marital satisfaction among both spouses.

General Discussion

Even the most satisfying marriages can disappoint. Although people can rationalize negative experiences through effortful reasoning, it appears normative for people to develop both strong positive *and* negative implicit evaluations toward their partner and thus experience implicit ambivalence (Zayas et al., 2017). The present work provides the first empirical evidence that implicit ambivalence may be a driving force to improve marriage. Using a large sample of newlywed couples, we found that implicit ambivalence was positively and robustly associated with the motivation to make efforts in an attempt to solve current marital problems, even after controlling for several confounds. In turn, such motivation was associated with reduced marital problems severity as perceived by the partner

Table 4. Multilevel Models Predicting Change in Actor's Marital Satisfaction Over Time.

	β	*SE*	*df*	*t*	*p*	95% CI
Model 1						
Intercept	−.05	.04	156.29	−1.07	.286	[−0.13, 0.04]
Study	−.13	.10	150.04	−1.28	.203	[−0.32, 0.07]
Marital satisfaction (A)	.37	.05	294.17	7.34	< .001	[0.26, 0.45]
Implicit ambivalence (A)	−.02	.04	278.18	−0.52	.603	[−0.10, 0.06]
Implicit ambivalence (P)	.03	.04	277.48	0.70	.484	[−0.05, 0.10]
Marital problems motivation (A)	−.03	.04	283.49	−0.70	.487	[−0.12, 0.06]
Marital problems motivation (P)	.00	.05	284.56	0.11	.917	[−0.08, 0.09]
Marital problems severity (A)	.19	.06	297.85	3.21	.001	[0.08, 0.30]
Marital problems severity (P)	.16	.05	297.15	3.14	.002	[0.06, 0.26]
T2 marital problems severity (A)	**−.67**	**.06**	**286.07**	**−11.33**	**< .001**	**[−0.78, −0.55]**
T2 marital problems severity (B)	**−.18**	**.05**	**297.49**	**−3.19**	**.002**	**[−0.28, −0.07]**
Model 2						
Intercept	−.04	.04	147.52	−0.97	.333	[−0.13, 0.04]
Study	−.10	.10	143.03	−0.98	.328	[−0.30, 0.10]
Gender	.01	.07	148.71	0.20	.845	[−0.11, 0.14]
Implicit ambivalence (A)	−.03	.04	264.69	−0.71	.477	[−0.11, 0.05]
Implicit ambivalence (P)	.03	.04	265.46	0.68	.500	[−0.05, 0.11]
Automatic partner attitudes (A)	.01	.04	260.79	0.29	.771	[−0.06, 0.09]
Automatic partner attitudes (P)	−.06	.04	261.19	−1.48	.141	[−0.14, 0.02]
Marital problems severity (A)	.19	.06	283.10	3.21	.001	[0.08, 0.31]
Marital problems severity (P)	.19	.06	282.99	3.23	.001	[0.08, 0.31]
Marital satisfaction (A)	.37	.05	280.69	7.50	< .001	[0.28, 0.47]
Marital satisfaction (P)	.08	.05	280.48	1.67	.097	[−0.01, 0.18]
Marital problems motivation (A)	−.03	.05	267.61	−0.64	.520	[−0.12, 0.06]
Marital problems motivation (P)	−.01	.05	268.33	−0.23	.819	[−0.10, 0.08]
T2 marital problems severity (A)	**−.66**	**.06**	**283.31**	**−11.08**	**< .001**	**[−0.78, −0.55]**
T2 marital problems severity (P)	**−.17**	**.06**	**283.92**	**−3.04**	**.003**	**[−0.28, −0.06]**

Note. Multilevel models predicted actor's marital satisfaction at Time 2 controlling for baseline levels marital satisfaction, and hence predicted change in this outcome over time. All variables included in these models were assessed at baseline (i.e., Time 1) unless specified otherwise (i.e., T2). Gender was effects coded (male = −0.5; female = 0.5). A = actor variables, P = partner variables. T2 = Time 2.

4 months later which, then, predicted increases in both spouses' marital satisfaction.

The present work supports traditional accounts of attitudinal ambivalence (Thompson et al., 1995; van Harreveld et al., 2009, 2015) and cognitive consistency more broadly (Brannon & Gawronski, 2018; Festinger, 1957; Gawronski, 2012; Heider, 1958). Specifically, our findings corroborate the notion that having ambivalent attitudes can foster motivational processes that aim at resolving such evaluative conflict (see Petty et al., 2012). Thus, our results join others in showing that ambivalent attitudes are qualitatively different from univalent attitudes and, although initially conceptualized as weak attitudes (Conner & Sparks, 2002), they may be uniquely predictive of important outcomes when univalent attitudes are not, especially in domains where commitment is high (Jonas et al., 2000; Thompson & Holmes, 1996).

That said, our findings also make several novel contributions to this literature. First, they expand these principles to ambivalence occurring between two automatic processes. Indeed, despite the recognition that an attitude-object can be linked to both positive and negative representations in memory (Cacioppo & Berntson, 1994) and that such dualism is not always reflected through self-report (Greenwald et al., 2002), research on ambivalence primarily relies on self-reported evaluations (van Harreveld et al., 2015). Although some studies have examined the structural properties of implicit ambivalence (e.g., de Liver et al., 2007; McNulty et al., 2019; Mikulincer et al., 2010; Zayas & Shoda, 2015) and the implications of implicit–explicit discrepancies (e.g., Briñol et al., 2006; Petty et al., 2006; Schröder-Abé et al., 2007), no prior research has investigated the consequences of concurrent positive and negative implicit evaluations. Our findings suggest even implicit ambivalence stemming from conflicting mental representations can trigger behavioral intentions aimed at restoring cognitive consistency and, though not directly tested here, that such motivational processes may arise before people even realize and explicitly endorse their mixed feelings. For this reason, implicit ambivalence may be particularly functional by motivating change without eliciting the aversive feelings and other negative consequences that often accompany explicit ambivalence (van Harreveld et al., 2015).

Second, these findings extend insights regarding the role of ambivalence to a novel context—that of ongoing romantic relationships. Indeed, previous studies on ambivalence have typically been conducted in artificial settings and examined ambivalence towards attitude objects that (a) might not be

personally meaningful (e.g., imaginary targets; Petty et al., 2006), (b) might not be regularly encountered (e.g., minority groups; Pacilli et al., 2013), and (c) can be easily avoided in daily life (e.g., food; Gillebaart et al., 2016). In contrast, romantic relationships offer fruitful contexts to study attitudinal processes as dyads continuously interact with one another despite inevitable ups and downs, and ambivalence is particularly meaningful in such contexts because it stems from an accumulation of emotionally charged experiences (see Faure et al., 2020). Hence, not only do our results show that implicit ambivalence predicts outcomes that are theoretically relevant in real-life settings, they also illustrate that implicit measures of attitudinal ambivalence can uncover important practical implications. Indeed, relationship quality is key to well-being (Robles et al., 2014; Sbarra et al., 2011), and the fact that implicit ambivalence was indirectly associated with a significant *increase* in marital quality over the course of several months for *both spouses* is particularly impressive; though small, this association (a) suggests such change was grounded in shared reality rather than in the mere subjective perception of that reality, (b) emerged while spouses continued to encounter real-life experiences, and (c) benefited an outcome that is practically relevant for society.

Relatedly, these findings join and extend existing research highlighting the unique implications of automatic processes for relationships in at least two ways (Hicks & McNulty, 2019). First, whereas previous work on automatic partner attitudes has examined the benefits of the relative difference between positive and negative implicit evaluations, the current work reveals benefits of positive and negative implicit evaluations *in combination* (rather than *in comparison*). In other words, our findings indicate that negative implicit feelings are not inherently costly for relationships and may even serve important motivational functions under certain circumstances (see Baker et al., 2014; McNulty, 2016). Second, whereas explicit ambivalence tends to be associated with negative relationship outcomes (Holt-Lunstad & Uchino, 2019), our findings suggest that implicit ambivalence can be beneficial, presumably because experiencing the conflict implicitly offers intimates the motivational benefits of ambivalence without the potential costs associated with acknowledging it explicitly.

That said, we did not directly assess explicit ambivalence, leaving several questions for future research. First, future research should examine whether explicit ambivalence has similar implications and whether implicit ambivalence offers incremental predictive validity beyond such effects. Given that different types of measures (implicit vs. self-report; Hicks et al., 2020) and different types of ambivalence (objective vs. subjective, explicit vs. implicit; (van Harreveld et al., 2015; Zayas et al., 2017) are weakly associated and frequently have different effects, we expect implicit ambivalence does in fact offer incremental predictive validity, but future work would prove informative. Second, future research may also benefit from examining how implicit ambivalence relates to or translates into explicit ambivalence, which prior work suggests may occur when individuals have more tolerance for conflicting feelings (e.g., dialectical thinkers; Shiota et al., 2010), reduced opportunities to engage in motivated reasoning (e.g., under stress; Hicks et al., 2020), or external threats making their ambivalence salient (e.g., attractive alternatives; Zoppolat et al., 2021). Third, future research may also illuminate the factors explaining how and why explicit ambivalence then becomes detrimental for relationships. For instance, it might be that the conscious experience of mixed feelings engenders destructive ruminative thoughts (Kachadourian et al., 2005) and motivates people to change their spouse more than themselves (Hira & Overall, 2011).

Before closing, it is important to discuss the limitations of our work. Foremost, these results remain preliminary and should be interpreted with caution until replicated and extended. Additionally, the absence of total effects in our mediation analyses suggests additional mediating variables of opposite valence may explain the link between implicit ambivalence and relationship well-being. Further work is needed to identify the personal and relational characteristics that may determine when implicit ambivalence becomes less functional for couples. One possibility, for example, may be that implicit ambivalence results in freezing or even destructive responses for individuals who are more susceptible to psychological tensions such as for anxious (Simpson et al., 1999) or ruminative individuals (Kachadourian et al., 2005).

Conclusions

The present research provides novel evidence that implicit ambivalence—the spontaneous activation of both positive and negative evaluations toward one's spouse—may play a key role in improving relationships. That is, implicit ambivalence may represent the hidden force that drives people's efforts to change their own behaviors, preferences, and goals in order to successfully reduce the severity of their relationship problems and, ultimately, improve the quality of the relationship for both partners.

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Supplemental Material

The supplemental material for this article is available online.

Notes

1. We use the terms implicit ambivalence, implicit evaluations, and automatic attitudes to describe the observable outcomes obtained on indirect performance-based measures (i.e., implicit measures) while remaining agnostic regarding their underlying nature and processes.
2. Both studies were part of broader longitudinal projects on couples.
3. Compared to other cumulative approaches (e.g., meta-analyses), integrative data analyses focus on unit-level generated data (vs. study-level aggregated data), which provides greater statistical power and precision to detect small effect sizes, greater confidence in their reliability and replicability, and unique ways to examine theoretical and methodological questions.
4. Auxiliary analyses indicated that study did not moderate our effects.
5. Higher implicit ambivalence was also linked to higher motivation in a multilevel model that did not include partners' implicit ambivalence, $\beta = .13$, $SE = .05$, 95% CI [0.04, 0.22], $p = .005$.
6. Controlling for positive and negative components separately provided similar results (see Supplemental Material).

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