



Published in final edited form as:

*J Exp Soc Psychol.* 2010 July 1; 46(4): 650–656. doi:10.1016/j.jesp.2010.03.003.

## A Smart Unconscious? Procedural Origins of Automatic Partner Attitudes in Marriage

**Sandra L. Murray,**

University at Buffalo, State University of New York

**John G. Holmes, and**

University of Waterloo

**Rebecca T. Pinkus**

University of Western Sydney

### Abstract

The paper examines potential origins of automatic (i.e., unconscious) attitudes toward one's marital partner. It tests the hypothesis that early experiences in conflict-of-interest situations predict one's later automatic inclination to approach (or avoid) the partner. A longitudinal study linked daily experiences in conflict-of-interest situations in the initial months of new marriages to automatic evaluations of the partner assessed four years later using the Implicit Associations Test. The results revealed that partners who were initially (1) treated less responsively and (2) evidenced more self-protective and less connectedness-promoting "if-then" contingencies in their thoughts and behavior later evidenced less positive automatic partner attitudes. However, these factors did not predict changes in love, satisfaction, or explicit beliefs about the partner. The findings hint at the existence of a "smart" relationship unconscious that captures behavioral realities conscious reflection can miss.

---

Poets, philosophers and water cooler gossips have long contended that romantic love is blind – or at least in need of glasses. Empirical examples of such romantic nearsightedness abound (see Gagne & Lydon, 2004). For instance, people report virtues in their spouse that are not obvious to their friends (Murray, Holmes, Dolderman & Griffin, 2000). They also report more positive (and fewer negative) qualities in their own marriage than the typical marriage (Van Lange & Rusbult, 1995). Viewed through the lens of conscious sentiments, love indeed seems myopic. Yet such deliberative judgments might underestimate the perceptual acuity of romantic partners. This paper tests the novel hypothesis that people's unconscious (i.e., automatic) judgments of their partner capture ongoing behavioral and experiential realities in the relationship that conscious (i.e., deliberative) judgments often miss or deliberately overlook.

### Safe to Approach? Conditioning Automatic Attitudes Toward One's Partner

Automatic evaluative responses capture the strength of people's motivation to approach or avoid specific social objects (Alexopoulos & Ric, 2007; Chen & Bargh, 1999). Similarly,

---

© 2009 Elsevier Inc. All rights reserved.

Sandra Murray, Department of Psychology, Park Hall, University at Buffalo, The State University of New York, Buffalo, NY, 14260-4110. smurray@buffalo.edu.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

automatic evaluative associations to a romantic partner capture the strength of one's motivation to approach or avoid the partner (LeBel & Campbell, 2009; Murray, Pinkus, Holmes, Aloni, Derrick, Leder & Harris, 2009; Scinta & Gable, 2007). For instance, more positive automatic evaluations of a dating partner predict greater relationship stability even when deliberative or conscious feelings of satisfaction are taken into account (LeBel & Campbell, 2009; Lee, Rogge, & Reis, in press). More positive automatic associations also motivate seeking greater closeness to one's partner in the face of conscious concerns about rejection (Murray et al., 2009). Despite burgeoning research examining the origins and power of automatic social attitudes (Greenwald, Poehlman, Uhlmann & Banaji, 2009), no existing research has examined how automatic attitudes toward one's romantic partner might originate in ongoing interactional processes in marriage.

We propose that automatic partner attitudes develop "bottom-up" through concrete experience with conflict-of-interest situations (Fazio, 1986; Gregg, Seibt, & Banaji, 2006; Whitfield & Jordan, 2009). Imagine that Sally plans to golf the Saturday Harry wants her to attend his family reunion. Such conflict-of-interest situations routinely arise in relationships because partners are interdependent in the life tasks they must complete, in the expression of their personalities, and in their relationship goals. For behavioral interactions in their marriage to be rewarding, each partner must coordinate his or her own goals and behavior to be responsive to the other partner's goals and behavior (Kelley, 1979). Murray and Holmes (2009) proposed the existence of a "smart" relationship unconscious which functions to coordinate mutually responsive interaction patterns (see Bargh & Huang, 2009; Bargh & Morsella, 2008). This relationship unconscious coordinates responsiveness through a system of inter-connected "if-then" or procedural rules. These rules automatically link the risk properties of situations to correspondent interpersonal goals and behavioral strategies for goal pursuit (Murray, Aloni, Holmes, Stinson, Derrick & Leder, 2009; Murray, Holmes, Aloni, Pinkus, Derrick & Leder, 2009; Murray, Derrick, Leder & Holmes, 2008). Figure 1 illustrates these "if-then" rules.<sup>1</sup>

In the golf-reunion conflict, imagine that Harry thinks that Sally loves golf and only tolerates family reunions. Her perceived preferences make the situation high in the risk of her non-responsiveness for Harry. In this situation, expecting Sally to choose golfing over the reunion automatically activates Harry's state goal to self-protect against the possibility of such a rejection. The activation of this goal (i.e., "if") then elicits two complementary behavioral strategies (i.e., "then") for averting such negative outcomes. Namely, it activates the behavioral tendencies to withdraw from Sally (i.e., reduce his own dependence) until he has taken some step that gives her little choice but to be responsive (i.e., promote her dependence). For instance, he might not ask her to attend (i.e., reduce own dependence) until he fixes a computer problem she could not solve on her own (i.e., promote her dependence). Imagine instead that Harry thinks that Sally only goes golfing for exercise and she loves family reunions. Such preferences now make the situation low in the risk of her non-responsiveness for Harry. In this situation, expecting Sally's responsiveness automatically activates his state goal to connect. The activation of this goal (i.e., "if") then elicits two complementary behavioral strategies (i.e., "then") for attaining such positive outcomes. Namely, it activates the behavioral strategy to escalate his dependence on her (e.g., asking her to skip golf and attend the reunion) and the compensatory strategy to justify any cost to his autonomy he incurs through his greater dependence and commitment (e.g., seeing Sally's athleticism more positively when she wakes him to go running on the morning of the reunion).

---

<sup>1</sup>Murray and Holmes (2009) assume that conflict-of-interest situations create approach-avoidance goal conflicts; the perception of relative risk determines whether the state goal to seek connection or avoid rejection then takes greater priority in orienting action (through "if-then" rules).

The “smart” relationship unconscious also adapts itself to suit the situational risks endemic in a particular relationship (Murray & Holmes, 2009). The risk of experiencing partner non-responsiveness varies across relationships because some partners possess more compatible preferences than other partners. In fact, partners do not selectively assort on basic dimensions of personality, ensuring that some degree of incompatibility is the rule for all but the fortunate few (Lykken & Tellegen, 1993). Incompatible preferences increase the risk of partner non-responsiveness (Kelley, 1979). Because such situational risks vary across relationships, the “if-then” rules that any particular Harry or Sally relies on most often also varies across partners. Partners who possess less compatible preferences are likely to perceive more high-risk situations than partners who possess more compatible preferences perceive. As partners interact across time, the situations (low vs. high risk) they most often perceive control which particular state goals (i.e., connect or self-protect) take more frequent priority. The differential priming of such goals determines whether “if-then” rules for promoting connection or avoiding rejection become more accessible procedural habits (Wood & Neal, 2007).

Because the risks perceived in specific situations automatically prioritize correspondent goals and such goals automatically activate goal-congruent behavior, interaction within conflict-of-interest situations has the potential to condition automatic evaluative responses to one’s partner without requiring the intercession of the conscious mind (Murray & Holmes, 2009). Imagine the different unconscious attitudes that might result if Sally often finds herself in situations that activate her goal to connect, whereas Gayle more often encounters situations that activate her goal to self-protect. Sally’s unconscious attitude toward Harry is likely to be more positive because her situation-exposure repeatedly elicits the automatic inclination to value him more. That is, the situations she encounters automatically pull her to seek Harry out for support (i.e., “if connect goal, then escalate own dependence) and justify any costs she incurs through greater closeness (i.e., “if connect goal, then justify commitment). Gayle’s unconscious attitude toward Ron is likely to be more negative because her situation-exposure elicits “if-then” rules that typically motivate her to value Ron less. That is, the situations she encounters automatically push her to keep her fears to herself (i.e., “if self-protect goal, then withdraw dependence).

But why would people’s more deliberative or conscious beliefs about their partner fail to track assiduously such concrete experiences? Possessing more or less positive deliberative beliefs about one’s partner motivates people to discount certain aspects of their experience (Bradbury & Fincham, 1990). For instance, being more committed motivates people to explain away their partner’s transgressions (Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991). Being more trusting also motivates high self-esteem people to overturn the automatic inclination to protect against the partner’s rejection (Cavallo, Fitzsimons & Holmes, 2009; Murray, Aloni et al., 2009). In contrast, being less trusting of the partner’s responsiveness motivates low self-esteem people to overturn the automatic inclination they have to connect to their partner (Murray et al., 2008; Murray, Holmes et al., 2009). Because people can correct for the “if-then” rules the smart unconscious supplies when they are motivated and able (Olson & Fazio, 2008), deliberative evaluations of the partner can diverge from automatic evaluative associations. Indeed, dual process models anticipate some disconnect between the more experiential origins of automatic attitudes and the propositional basis of explicit ones (Gawronski & Bodenhausen, 2006; Hofmann, Friese & Strack, 2009; Olson & Fazio, 2008). In fact, people who feel pressured to justify their commitments because they are highly invested and have few alternatives claim to be satisfied even when their automatic reactions to their partner are relatively negative (Scinta & Gable, 2007).

## **An Imperfect but Worthwhile Research Opportunity**

With a new theory of the origins of automatic partner attitudes in hand, we were eager to acquire preliminary evidence for its validity. In our ideal study, we would collect measures of

situational risk exposure, “if-then” rule habits, automatic partner attitudes, and deliberative beliefs about the partner; wait; then collect these measures again. However, an already completed longitudinal study of newlywed couples provided us with a preliminary way of testing our hypotheses. In this study, newlywed couples completed daily interaction records for a 2-week period within the first six months of marriage. These diary data provided indices of situational-risk and “if-then” habits of rule use. We then invited these couples to return to the laboratory four years later to complete a partner-specific version of the Implicit Associations Test. This strategy imposed two limitations on our study. First: We did not measure automatic partner attitudes at Time 1. Therefore, we cannot be certain that we are predicting changes in automatic partner attitudes over time.<sup>2</sup> We do not think this poses a serious interpretational problem because responses on the IAT are not highly stable over short time intervals. On the basis of a meta-analysis, Hofmann and colleagues found that test-retest reliabilities for the IAT average .50 with delays between 5 minutes and one week (Hofmann, Gawronski, Gschwender, Le & Schmitt, 2005). It seems unlikely that partner-specific IAT responses would come close to that modest level of stability over a period 200 times longer. Therefore, the inherent instability of IAT responses provides some insurance that we are looking at actual change. Second: We were not able to obtain IAT measures from the entire sample (some participants had moved, had separated, or were not interested). However, participants who completed and did not complete the IAT did not differ significantly at Time 1 on satisfaction, love, deliberative beliefs about the partner, situation-exposure, or “if-then” rule habits. Thus, the present sample is representative of the sample as a whole. We now turn to the strengths of the design. At Time 1, we obtained indirect and direct indices for “if-then” habits of rule use. The types of situations partners encountered provided an indirect index of rule use because low-risk situations prime “if-then” rules for seeking connection; high-risk situations prime “if-then” rules for seeking self-protection (Murray & Holmes, 2009). We indexed low-risk situation exposure by asking participants to report on situational successes in coordinating dyadic responsiveness (e.g., helping one’s partner solve a problem). We indexed high-risk situation exposure by asking participants to report on situational failures in coordinating dyadic responsiveness (e.g., one partner not doing what the other wanted). The association between one day’s feelings and behaviors (i.e., “if”) and the next day’s feelings and behaviors (i.e., “then”) provided a direct index of rule use. Such contingencies capture “if-then” rule habits because feeling, thinking, or doing X in response to Y presupposes a procedural association in memory between X and Y (Bargh, 2007). We indexed connectedness-promoting “if-then” rule habits through commitment justification. This index captured the strength of Harry’s tendency to value Sally more on days after she thwarted more of his goals. We indexed self-protective rule habits through daily risk regulation. This index captured the strength of Harry’s tendency to behave in a cold and distant way toward Sally on days after he felt more rejected.

We expected people’s automatic evaluative attitudes toward their partner to be uniquely grounded in concrete experiences within conflict-of-interest situations. To make this point, we contrasted the power of deliberative sentiment toward the partner (as captured by love, satisfaction, and evaluations of the partner’s traits) with the power of situation-exposure, and “if-then” rule use in forecasting automatic evaluations of the partner. We selected these deliberative sentiments as control variables because correlations between implicit and explicit measures typically are higher when the measure of deliberative sentiment is affective in nature and correspondent in content to the IAT (Hofmann et al., 2005). Therefore, in controlling for love and satisfaction (i.e., affective sentiments) and evaluations of the partner’s traits (i.e., correspondent content) at Time 1, we hope to provide a conservative test of our hypotheses.

---

<sup>2</sup>When we started collecting data, no published research had examined automatic partner attitudes and we did not have the foresight to realize we would one day need such a measure.

We expected people to evidence less positive automatic associations to their spouse after four years of marriage when they (1) experienced more high-risk (and fewer low-risk) situations and (2) evidenced more self-protective (and less connectedness-promoting) “if-then” rule habits in the initial months of marriage. Because we expected concrete experience to uniquely condition unconscious motivations to approach the partner, we did not expect deliberative judgments about the partner at Time 1 to forecast later automatic attitudes.

## Method

### Participants

Two hundred twenty-two childless couples in first marriages between two and six months participated in a 3-year longitudinal study of newlywed couples (Murray, Holmes et al., 2009). Seven couples were eliminated for not following the daily diary protocol. A subset of the remaining sample (127 couples) returned to the laboratory for an unanticipated 4-year follow-up.

### Procedure

In an initial laboratory session (Time 1), each member of the couple completed measures tapping various self (e.g., self-esteem, attachment) and relationship perceptions (e.g., satisfaction, love, perceptions of the partner). Each participant then completed 14-days of standardized and electronic diary assessments. This assessment (completed at the end of each day) asked participants to indicate (yes/no) which specific events and behaviors they experienced and to rate their feelings about themselves, their partner, and their relationship on a number of dimensions. Four years later (Time 2), both members of the couple returned to the laboratory to complete a measure of automatic partner evaluations (among explicit measures).

### Measures

**Deliberative beliefs about partner**—Participants described their partner’s status on the Interpersonal Qualities Scale (IQS) at Time 1 and 2. This measure taps perceptions of the partner’s positive (e.g., warm, responsive) and negative (e.g., critical, lazy) interpersonal qualities (Murray, Holmes & Griffin, 1996).

**Satisfaction**—Participants rated their overall satisfaction in the marriage at Time 1 and 2 on a 4-item measure (e.g., “I am extremely satisfied with my relationship”, Murray et al., 1996).

**Love**—Participants described their feelings of love for their partner at Time 1 and 2 on a 4-item measure (e.g., “I love my partner as much as is humanly possible”).

**Daily low-risk situations**—This diary measure indexed how often one partner behaved in a way that was responsive to the other partner’s needs at Time 1 (e.g., “I listened to and comforted my partner”; “My partner was physically affectionate toward me”; “I helped my partner solve a problem he/she was having”). We averaged the actor’s reports on these 9 sampled situations across the 14-days to index low-risk situation exposure. (We included behaviors the actor identified in the self and behaviors the actor identified in the partner in this composite because either of these perspectives can capture the underlying situation structure involved in the successful coordination of dyadic responsiveness).

**Daily high-risk situations**—This diary measure indexed how often one partner behaved in a way that was not responsive to the other partner’s needs each day (e.g., “My partner put his/her tastes ahead of mine”; “My partner criticized or insulted me: “I did what I wanted to do instead of what my partner wanted me to do”; “My partner did something I didn’t want him/her to do”; “I didn’t do something I told my partner I would do”). We averaged the actor’s



reports of the 13 sampled situations across the 14-days to index high-risk situation exposure. (We included behaviors the actor identified in the self and behaviors the actor identified in the partner in this composite because either of these perspectives can capture the underlying situation structure involved in failures in coordinating dyadic responsiveness).

**Self-protective “if-then” rule habits**—This index, derived from the daily diary, tapped variability in the tendency to self-protect against feeling rejected by behaving in a cold, distant way toward the partner on subsequent days. As in Murray, Bellavia, Rose and Griffin (2003), we estimated a multi-level model predicting today’s cold, distant behavior (e.g., “I snapped or yelled at my partner”; “I ignored or didn’t pay attention to my partner”) from the intercept, the fixed effect of yesterday’s distant behavior, the random effect of yesterday’s felt rejection (e.g., “I feel rejected or hurt by my partner”; “My partner doesn’t care what I think”) and error terms. The standardized residual component of the intercept captures how often each person behaved in a cold, distancing way. The standardized residual component of the slope captures how much each person responds to feeling rejected by being cold and distancing. More positive slopes index more self-protective “if-then” habits of rule use.

**Connectedness-promoting “if-then” rule habits**—This index, derived from the daily diary, tapped variability in the tendency to compensate for the partner’s infringement on one’s autonomy by valuing one’s partner more on subsequent days. As in Murray, Holmes et al. (2009), we estimated a multi-level model predicting today’s partner-valuing (e.g., “My partner is a great person”) from the intercept, the fixed effect of yesterday’s valuing, the random effect of yesterday’s autonomy costs (e.g., “My partner used the last of something I needed and did not replace it”; “My partner didn’t do something he/she said he/she would do) and error terms. The standardized residual component of the intercept captures how much each person valued the partner across days. The standardized residual component of the slope captures how much each person responds to costs by valuing the partner more. More positive slopes index more connectedness-promoting “if-then” habits of rule use.

**Automatic attitudes toward partner (IAT)**—In a 7-block romantic partner version of the Implicit Associations Test (Zayas & Shoda, 2005), participants categorized words belonging to four categories: (1) pleasant words (e.g., vacation, pleasure), (2) unpleasant words (e.g., bomb, poison), (3) words associated with the partner (e.g., the partner’s name), and (4) words not associated with the partner (e.g., a name not associated with any known other). (Participants initially responded to a series of questions to generate words associated and not associated with the partner, idiographically for each participant.) The critical blocks consisted of the compatible pairing blocks (practice and test blocks), in which participants used the same response key to respond to pleasant words and partner words, and the incompatible pairing blocks (practice and test blocks), in which participants used the same response key to respond to unpleasant words and partner words. We computed IAT scores following the improved scoring algorithm procedure recommended by Greenwald, Nosek and Banaji (2003). Higher scores reflect a more positive automatic attitude toward the partner.

## Results

We used structural equation modeling (SEM) to test our hypotheses because SEM accommodates the dyadic structure of data from two partners and allows the estimation of pooled effects across gender (Kenny; 1996; Kenny & Cook, 1999). SEM also allowed us to examine both actor (i.e., Sally’s Time 1 responses predicting Sally’s IAT score at Time 2) and partner effects (i.e., Sally’s Time 1 responses predicting Harry’s IAT score). Because including partner effects did not significantly improve the fit of any of the models, we report the results of SEM models that included only actor effects.<sup>3</sup> Table 1 through Table 3 contain the results.

### Low- and High-Risk Situation Exposure

We conducted a SEM model predicting the actor's automatic attitudes from the actor's average daily reports of low-risk and high-risk situations, explicit evaluations of the partner on the interpersonal qualities scale, love, and satisfaction at Time 1. Table 1 contains the results. As expected, the actor's greater concrete experience with more high-risk situations during the 14-day diary period predicted the actor's less positive later automatic attitudes. No significant effects emerged for low-risk situation exposure or deliberative sentiments.

### Self-Protective Rule Habits

We conducted a SEM model predicting the actor's automatic attitudes from the actor's daily cold and distancing behavior (i.e., the intercept), the actor's tendency to respond to feeling rejected by being cold and distancing (i.e., the slope), the interaction between the actor's intercept and slope, the actor's deliberative beliefs about the partner at Time 1, love, and satisfaction. (We included the interaction between the centered intercept and slope because reacting to felt rejection by distancing might be particularly detrimental for people who engage in more rejecting behaviors overall).<sup>4</sup> Table 2 contains the results. The actor's reports of engaging in more cold, distancing behaviors across 14-days (i.e., intercept) significantly predicted the actor's less positive later automatic attitudes. As expected, the actor's self-protective rule habit to respond to feeling rejected by behaving in a cold and distancing way (i.e., slope) also significantly predicted the actor's less positive later automatic attitudes.<sup>5</sup>

### Connectedness-Promoting Rule Habits

We conducted a SEM model predicting the actor's automatic attitudes from the actor's daily valuing of the partner (i.e., the intercept), the actor's tendency to respond to the partner's thwarting their goals by valuing their partner more (i.e., the slope), the interaction between the actor's intercept and slope, and the actor's deliberative beliefs about the partner at Time 2. Table 3 contains the results.<sup>6</sup> The expected main effect of the commitment justification slope was not significant, but the intercept by slope interaction was significant in predicting actor's later automatic attitudes. We decomposed this interaction into the simple effects of partner-valuing for actors who evidenced stronger and weaker tendencies to justify commitment (one standard deviation above and below the mean, respectively). When participants valued their partner more in response to costs (i.e., stronger connectedness-promoting rule habit), valuing the partner predicted significantly more positive later automatic attitudes,  $b = .30$ ,  $z = 3.19$ ,  $p < .01$ ,  $sr^2 = .08$ . When participants compensated less for costs (i.e., weaker rule habit), valuing the partner had no significant effect on later automatic attitudes,  $b = .01$ ,  $z = .12$ ,  $sr^2 = .00$ . This suggests that valuing one's partner on a daily basis only predicted more positive later automatic attitudes when it functioned as a mechanism for deflecting costs.

### Discriminant Validity

Initial deliberative beliefs (i.e., initial partner evaluations, satisfaction, and love) did not significantly predict later automatic attitudes (see Table 1 through Table 3). Moreover, further analyses revealed that initial situation-exposure, connectedness-promoting rule habits, and self-protective rule habits did not significantly predict changes in deliberative beliefs about the

<sup>3</sup>We included all possible correlations among the exogenous variables and correlated errors between men's and women's later automatic attitudes in the estimation of all SEM models.

<sup>4</sup>We included the intercepts, slopes, and their interaction in the SEM models because the intercept and slope terms can be correlated, and as a result, the unique effect of the slope (i.e., rule use) can best be examined in the context of the intercept; the intercept can also qualify the effect of the slope (Murray, Griffin, Rose & Bellavia, 2006).

<sup>5</sup>The main effect for the actor's self-protective tendency to distance in response to feeling rejected (i.e., the slope) was also significant in a model that omitted the interaction term.

<sup>6</sup>The effect of initial love on later satisfaction differed significantly for men and women, although love did not predict later automatic attitudes in either case.

partner's interpersonal qualities, love, or satisfaction (despite the fact that these sentiments evidenced only modest levels of stability over this four year period, average  $r = .45$ ).

## Discussion

Relatively unconscious attitudes toward one's spouse appear to capture early behavioral realities in the marriage that more deliberative judgments miss. Specifically, early experience in conflict-of-interest situations uniquely predicts later automatic evaluative responses to one's partner. First, people who initially experienced more high-risk conflict-of-interest situations later evidenced less positive automatic evaluative responses to their partner. Second, people who were more likely to respond to feeling rejected by behaving in a cold and distancing way toward their partner (i.e., a self-protective rule habit) later evidenced less positive automatic associations to their partner. Third, people who valued their partner more on a daily basis evidenced more positive automatic associations to their partner when they made valuing contingent on the perception of costs (i.e., a connectedness-promoting rule habit),<sup>8</sup>

The findings are impressive on four counts. First, we linked automatic partner attitudes to experiences in conflict-of-interest situations utilizing both an indirect index of rule use (situation exposure) and a direct index of rule use (slope contingencies). Second, we linked situation-exposure in a 2-week period when couples were still immersed in the relative bliss of being newly married to automatic attitudes toward the partner four years later. The power of such high-risk situations suggests that conflicts-of-interest are uniquely important in "diagnosing" when an automatic inclination to approach the partner is likely to be sustained.

Third, we linked "if-then" habits of rule-use to automatic attitudes toward the partner assessed four years later. These latter findings are striking because they suggest that it is not just the content of what partners think that provides the basis for automatic evaluative responses. Rather – it is the "if-then" contingencies in how partners think and behave that provide the basis for stronger automatic inclinations to approach the partner (Murray & Holmes, 2009). Indeed, valuing the partner on a daily basis only predicted more positive automatic attitudes when valuing occurred in response to the partner thwarting their autonomous goals. These findings provide the first "in relationships" demonstration of how perceptual and cognitive processes that are inaccessible to consciousness might condition automatic evaluative reactions (Bargh & Morsella, 2008). Fourth, initial deliberative beliefs about the relationship (i.e., satisfaction, love, evaluations of the partner's interpersonal qualities) did not predict later automatic evaluative associations to the partner. Moreover, early experiences in conflict-of-interest situations did not predict changes in deliberative beliefs about the partner's traits (or love or satisfaction). This discriminant validity evidence suggests that automatic partner attitudes are grounded uniquely in situations that diagnose a partner's capacity to be responsive. Such conflict-of-interest situations may condition automatic evaluative responses because they function as an ongoing "test" of the functional value of a reflexive impulse to approach the partner (Kelley, 1979).

Not obtaining a measure of automatic partner attitudes at Time 1 limits our findings. A critic might argue that our "longitudinal" findings largely capture cross-sectional correlations already evident at Time 1 (had we looked). Our theoretical model indeed assumes that situations and "if-then" rule habits are linked both concurrently and longitudinally to automatic partner evaluations. Nonetheless, there is good reason to believe that we are predicting changes in automatic partner evaluations. The "cross-sectional" alternative implies considerable stability

<sup>8</sup>We cannot explain why the expected main effect for the cost contingency slope failed to emerge. The interaction suggests that valuing the partner is more likely to condition positive automatic attitudes when it occurs through cost compensation (i.e., connectedness-promoting rule habits). Understanding the basis of such "contextualized" effects requires further research.



in automatic partner evaluations over time. However, implicit attitudes toward various social objects are not all that stable over much shorter time intervals (i.e., hours, days) than the interval of four years examined here. Greenwald and Farnham (2000) reported that responses on the self-esteem IAT only correlated .52 over an average interval of only eight days. It is hard to believe that responses on the partner IAT could even come close to this modest level of stability over four years. The stronger likelihood of considerable instability in partner IAT responses suggests that we are predicting changes in automatic evaluative associations. The “cross-sectional” alternative also suggests that the Time 2 proximal association between situations and automatic partner attitudes should explain our “longitudinal” association between Time 1 situations and Time 2 IAT. How so? Situations assessed at the same point in time as the IAT should better capture the “true” cross-sectional effect and should fully explain our “longitudinal” effect if it just represents a weak proxy for a stronger cross-sectional association at Time 1. We did ask participants at Time 2 to rate how often they experienced various high-risk situations (e.g., “My partner did what he/she wanted to do instead of what I wanted him/her to do”) over the past two weeks. Having this measure in hand allowed us to re-conduct all of the analyses controlling for Time 2 situation reports. Any effects of Time 1 situations and “if-then” rule use evident in these analyses arguably capture effects of distal situations that are not redundant with proximal situations at Time 2. All of the significant effects reported in Table 1 through Table 3 remained in these analyses.

By linking automatic partner attitudes to thoughts and behaviors in real relationship situations, the current findings reveal that a fledgling science on the relationship effects of automatic partner attitudes holds much promise (LeBel & Campbell, 2009; Lee et al., in press; Murray et al., 2009; Scinta & Gable, 2007; Zayas & Shoda, 2005). Collectively this research suggests that one’s automatic evaluative responses to the partner can paint a different picture of ongoing relationship dynamics than considering only deliberative beliefs. For instance, prior research suggests that conscious concerns about a romantic partner’s rejection lose all of their power to corrode relationships when people possess more positive automatic evaluative associations to their dating or marital partner. In such circumstances, the automatic inclination to approach trumps such conscious relationship doubts (Murray et al., 2009).

## Conclusion

The findings hint at the existence of a “smart” relationship unconscious: Behavioral dynamics that seem to escape one’s conscious reflection nevertheless shape one’s automatic evaluative responses to the partner. This unique behavioral grounding to automatic partner attitudes allows for theoretical and research innovation on the factors that promote relationship resilience. Specifically, it raises the possibility that what partners cannot directly tell themselves (or close relationships researchers) may be even more important in diagnosing a relationship’s fate than what partners can directly tell themselves (or close relationships researchers).

## Acknowledgments

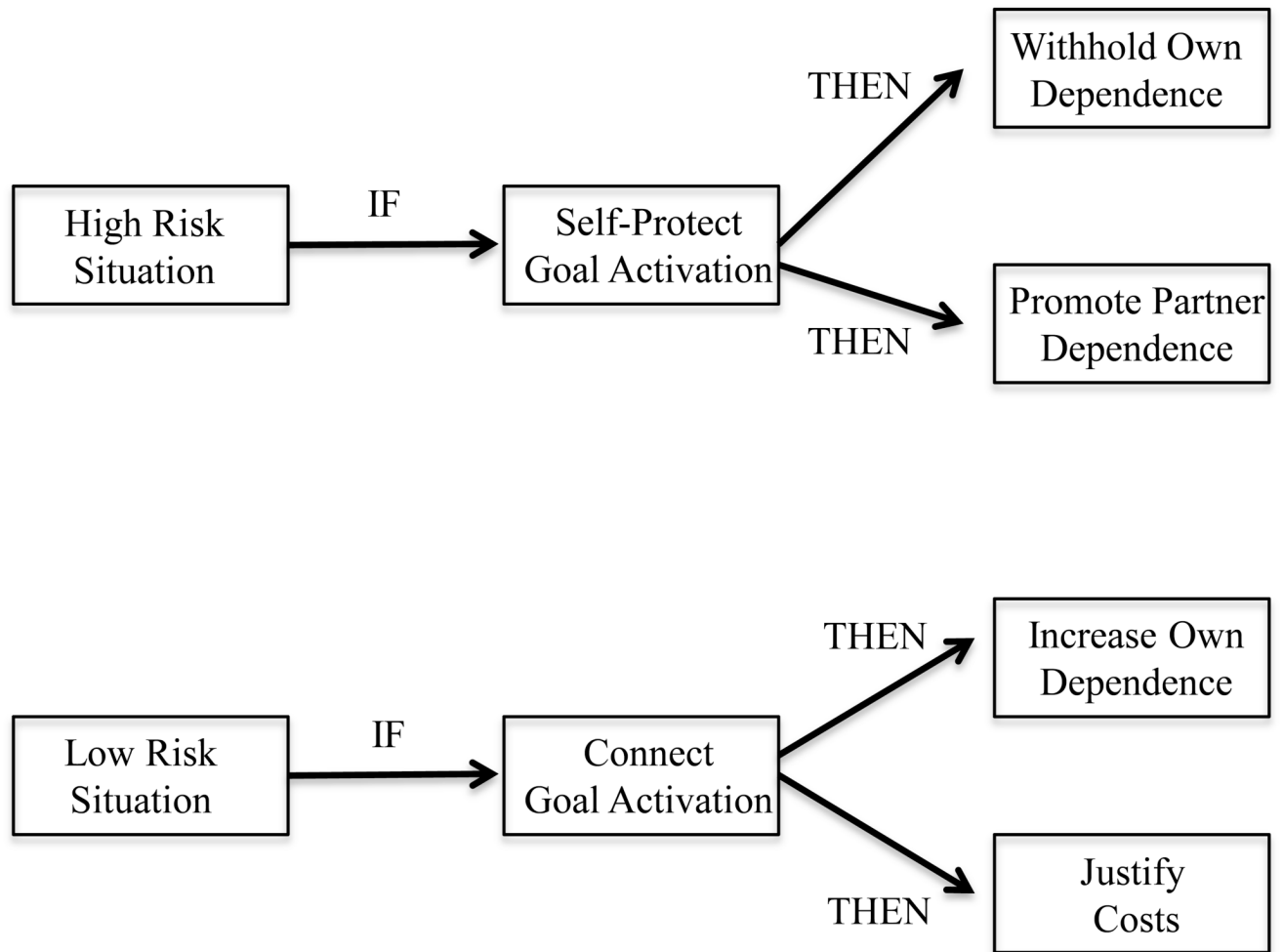
We thank Maya Aloni, Jaye Derrick, Ashley Fulmer, Dale Griffin, Brianna Harris, Lisa Jaremka, Sadie Leder, and Cara O’Donnell. A National Institute of Mental Health (MH 60105) grant awarded to S. Murray supported the research.

## References

- Alexopoulos T, Ric F. The evaluation-behavior link: Direct and beyond valence. *Journal of Experimental Social Psychology* 2007;43:1010–1016.
- Bargh, JA. *Social psychology and the unconscious: The automaticity of higher mental processes*. NY: Psychology Press; 2007.
- Bargh, JA.; Huang, JY. The selfish goal. In: Moskowitz, GB.; Grant, H., editors. *The psychology of goals*. NY: The Guilford press; 2009. p. 127-150.

- Bargh JA, Morsella E. The unconscious mind. *Perspectives on Psychological Science* 2008;3:73–79. [PubMed: 18584056]
- Bradbury TN, Fincham FD. Attributions in marriage: Review and critique. *Psychological Bulletin* 1990;107:3–23. [PubMed: 2404292]
- Cavallo J, Fitzsimons GM, Holmes JG. Taking chances in the face of threat: Romantic risk regulation and approach motivation. *Personality and Social Psychology Bulletin* 2009;35:737–751. [PubMed: 19307432]
- Chen M, Bargh JA. Consequences of automatic evaluation: Immediate behavioral predispositions to approach or avoid the stimulus. *Personality and Social Psychology Bulletin* 1999;25:215–224.
- Fazio, RH. How do attitudes guide behavior?. In: Sorrentino, RM.; Higgins, ET., editors. *The handbook of motivation and cognition: Foundations of social behavior*. New York: Guilford Press; 1986. p. 204-243.
- Gagne FM, Lydon JE. Bias and accuracy in close relationships: An integrative review. *Personality and Social Psychology Review* 2004;8:322–338. [PubMed: 15582857]
- Gawronski B, Bodenhausen GV. Associative and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin* 2006;132:692–731. [PubMed: 16910748]
- Greenwald AG, Farnham SD. Using the Implicit Association Test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology* 2000;79:1022–1038. [PubMed: 11138752]
- Greenwald WG, Nosek BA, Banaji MR. Understanding the implicit association test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology* 2003;85:197–216. [PubMed: 12916565]
- Greenwald AG, Poehlman TA, Uhlmann EL, Banaji MR. Understanding and using the implicit association test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology* 2009;97:17–41. [PubMed: 19586237]
- Gregg AP, Seibt B, Banaji MR. Easier done than undone: Asymmetry in the malleability of implicit preferences. *Journal of Personality and Social Psychology* 2006;90:1–20. [PubMed: 16448307]
- Hofmann W, Friese M, Strack F. Impulse and self-control from a dual systems perspective. *Perspectives on Psychological Science* 2009;4:162–176.
- Hofmann W, Gawronski B, Gschwendner T, Le H, Schmitt M. A meta-analysis on the correlation between the Implicit Associations Test and explicit self-report measures. *Personality and Social Psychology Bulletin* 2005;31:1369–1385. [PubMed: 16143669]
- Kelley, HH. *Personal relationships: Their structures and processes*. Hillsdale, NJ: Erlbaum; 1979.
- Kenny DA. Models of non-independence in dyadic research. *Journal of Social and Personal Relationships* 1996;13:279–294.
- Kenny DA, Cook W. Partner effects in relationship research: Conceptual issues, analytic difficulties, and illustrations. *Personal Relationships* 1999;6:433–448.
- LeBel EP, Campbell L. Implicit partner affect, relationship satisfaction, and the prediction of romantic break-up. *Journal of Experimental Social Psychology* 2009;45:1291–1294.
- Lee S, Rogge RD, Reis HT. Assessing the seeds of relationship decay: Using implicit evaluations to detect the early stages of disillusionment. *Psychological Science*. in press.
- Lykken DT, Tellegen A. Is human mating adventitious or the result of lawful choice? A twin study of mate selection. *Journal of Personality and Social Psychology* 1993;65:56–68. [PubMed: 8355143]
- Murray SL, Aloni M, Holmes JG, Derrick JL, Stinson DA, Leder S. Fostering partner dependence as trust-insurance: The implicit contingencies of the exchange script in close relationships. *Journal of Personality and Social Psychology* 2009;96:324–348. [PubMed: 19159135]
- Murray SL, Bellavia G, Rose P, Griffin D. Once hurt, twice hurtful: How perceived regard regulates daily marital interaction. *Journal of Personality and Social Psychology* 2003;84:126–147. [PubMed: 12518975]
- Murray SL, Derrick J, Leder S, Holmes JG. Balancing connectedness and self-protection goals in close relationships: A levels of processing perspective on risk regulation. *Journal of Personality and Social Psychology* 2008;94:429–459. [PubMed: 18284291]

- Murray SL, Griffin DW, Rose P, Bellavia G. For better or worse? Self-esteem and the contingencies of acceptance in marriage. *Personality and Social Psychology Bulletin* 2006;32:866–882. [PubMed: 16738021]
- Murray SL, Holmes JG. The architecture of interdependent minds: A motivation-management theory of mutual responsiveness. *Psychological Review* 2009;116:908–928. [PubMed: 19839690]
- Murray SL, Holmes JG, Aloni M, Pinkus RT, Derrick JL, Leder S. Commitment insurance: Compensating for the autonomy costs of interdependence in close relationships. *Journal of Personality and Social Psychology* 2009;97:256–278. [PubMed: 19634974]
- Murray SL, Holmes JG, Dolderman D, Griffin DW. What the motivated mind sees: Comparing friends' perspectives to married partners' views of each other. *Journal of Experimental Social Psychology* 2000;36:600–620.
- Murray SL, Holmes JG, Griffin D. The benefits of positive illusions: Idealization and the construction of satisfaction in close relationships. *Journal of Personality and Social Psychology* 1996;70:79–98.
- Murray, SL.; Pinkus, RT.; Holmes, JG.; Aloni, M.; Derrick, JL.; Leder, S.; Harris, B. Curbing risk-regulation processes in romantic relationships: The power of automatic partner attitudes. State University of New York at Buffalo; 2009. Unpublished manuscript
- Olson, MA.; Fazio, RH. Implicit and explicit measures of attitudes: The perspective of the MODE model. In: Petty, RE.; Fazio, RH.; Brinol, P., editors. *Attitudes: Insights from the new implicit measures*. Erlbaum: Mahwah, NJ; 2008. p. 19-63.
- Rusbult CE, Verette J, Whitney GA, Slovick LF, Lipkus I. Accommodation processes in close relationship: theory and preliminary research evidence. *Journal of Personality and Social Psychology* 1991;60:53–78.
- Scinta A, Gable SL. Automatic and self-reported attitudes in romantic relationships. *Personality and Social Psychology Bulletin* 2007;33:1008–1022. [PubMed: 17502418]
- Van Lange PAM, Rusbult CE. My relationship is better than – and not as bad as – yours is: The perception of superiority in close relationships. *Personality and Social Psychology Bulletin* 1995;21:32–44.
- Whitfield M, Jordan CH. Mutual influence of implicit and explicit attitudes. *Journal of Experimental Social Psychology* 2009;45:748–759.
- Wood W, Neal DT. A new look at habits and the habit-goal interface. *Psychological Review* 2007;14:843–863. [PubMed: 17907866]
- Zayas V, Shoda Y. Do automatic reactions elicited by thoughts of romantic partner, mother, and self relate to adult romantic attachment? *Personality and Social Psychology Bulletin* 2005;8:1011–1025. [PubMed: 16000264]



**Figure 1.**  
“If-then” Procedural Rules for Motivating Mutual Responsiveness

**Table 1**

Predicting later automatic attitudes from initial low- and high-risk situation exposure.

<b>Actor's Predictor at Time 1</b>	<b>Automatic Partner Attitudes at Time 2</b>		
	<b>b</b>	<b>Z</b>	<b>sr<sup>2</sup></b>
Low-risk situations	.07	.99	.01
High-risk situations	-.18	-2.78**	.06
Deliberate beliefs about partner	-.06	-.77	.00
Satisfaction	.08	1.00	.01
Love	.01	.06	.00

CFI = .99, RMSEA = .048,  $\chi^2(15, N = 127) = 19.3$ , ns.

\*  $p < .05$ ,

\*\*  $p < .01$ .



**Table 2**

Predicting later automatic attitudes from self-protective “if-then” procedural rule habits.

Actor's Predictor at Time 1	Automatic Partner Attitudes at Time 2		
	b	z	sr <sup>2</sup>
Distancing behavior intercept	-.18	-2.80**	.06
Rejection contingency slope	-.17	-2.34*	.04
Intercept by slope interaction	.06	.85	.01
Deliberative beliefs about partner	-.04	-.54	.00
Satisfaction	.06	.70	.00
Love	.03	.36	.00

CFI = 1.00, RMSEA = .02,  $\chi^2(18, N = 127) = 19.0$ , ns.

\*  $p < .05$ ,

\*\*  $p < .01$ .

**Table 3**

Predicting later automatic attitudes from connectedness-promoting “if-then” procedural rule habits.

Actor's Predictor at Time 1	Automatic Partner Attitudes at Time 2		
	b	z	sr <sup>2</sup>
Partner valuing intercept	.16	2.29*	.04
Cost contingency slope	.00	.04	.00
Intercept by slope interaction	.13	1.98*	.03
Deliberative beliefs about partner	-.05	-.72	.00
Satisfaction	.06	.79	.01
Love	.13 <sub>w</sub>	1.47 <sub>w</sub>	.02
	-.12 <sub>M</sub>	-1.15 <sub>M</sub>	.01

CFI = 1.00, RMSEA = .026,  $\chi^2(17, N = 127) = 18.4$ , ns.

\*  $p < .05$ ,

\*\*  $p < .01$ .