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Though They May Be Unaware, Newlyweds Implicitly Know Whether Their Marriage Will Be Satisfying

James K. McNulty,^{1*} Michael A. Olson,² Andrea L. Meltzer,³ Matthew J. Shaffer²

For decades, social psychological theories have posited that the automatic processes captured by implicit measures have implications for social outcomes. Yet few studies have demonstrated any long-term implications of automatic processes, and some scholars have begun to question the relevance and even the validity of these theories. At baseline of our longitudinal study, 135 newlywed couples (270 individuals) completed an explicit measure of their conscious attitudes toward their relationship and an implicit measure of their automatic attitudes toward their partner. They then reported their marital satisfaction every 6 months for the next 4 years. We found no correlation between spouses' automatic and conscious attitudes, which suggests that spouses were unaware of their automatic attitudes. Further, spouses' automatic attitudes, not their conscious ones, predicted changes in their marital satisfaction, such that spouses with more positive automatic attitudes were less likely to experience declines in marital satisfaction over time.

Getting married is typically associated with high levels of satisfaction and optimism regarding the future. But for many people, such positive sentiments are ultimately replaced by feelings of dissatisfaction and despair (1). When asked directly about their likelihood of success, however, newlyweds are unable to accurately predict whether they will remain satisfied or join the ranks of the unfulfilled (2). Indeed, spouses' strong motivations to perceive their relationship in a positive light can lead to biased evaluations of the relationship (3) that prevent them from accurately forecasting their fate.

But new spouses may know more than they are able to report. Although the motivation to see the relationship in a positive light may distort spouses' explicit, conscious evaluations of their relationship, their implicit, automatic evaluations of the relationship appear to be relatively impervious to such motivations (4, 5). And dual-process models of social cognition suggest that how people approach and respond to others is guided not only by their conscious evaluations of those others, but also by these automatic evaluations (6). For example, the Motivation and Opportunity as Determinants (MODE) model of attitude-behavior processes (7) posits that automatic attitudes facilitate (i) attention to attitude-consistent features of attitude objects, (ii) attitude-consistent interpretations of attitude objects, and (iii) attitude-consistent behavior toward attitude objects. Accordingly, even though people may be unwilling or unable to recognize any deep-seated discontent they have toward their partners, that

discontent may nonetheless shape their relationship outcomes.

Empirical research supports this perspective (8). In one particularly relevant set of studies (9), participants' automatic attitudes toward various faces were made more or less accessible (i.e., likely to be activated) through an attitude rehearsal manipulation. Then participants were again shown the faces, some of which had been changed by partially morphing them with other unseen faces. Participants whose automatic attitudes toward the original faces had been made more accessible were less likely to perceive that the faces had changed.

If newly married spouses' automatic attitudes have similar implications for their perceptions of their marriages, spouses with more positive automatic attitudes may be less likely to perceive undesirable changes in their relationships and thus more likely to maintain their initial levels of satisfaction over time. Although several studies have examined the implications of automatic attitudes for interpersonal outcomes over intervals of 1 year or less (5, 10–14), no studies have examined the extent to which automatic attitudes predict the development of a marriage over an interval longer than 1 year; in fact, we are not aware of any study that has examined the extent to which any automatic attitude predicts any outcome over such an extended period.

To examine the extent to which spouses' initial automatic attitudes toward their partner predicted the trajectory of their marital satisfaction, we recruited 135 newlywed couples in eastern Tennessee as participants in a 4-year, eight-wave longitudinal study. We predicted that spouses with more positive automatic attitudes toward their partner would demonstrate less substantial declines in their marital satisfaction because, consistent with the MODE model, they would perceive fewer undesirable changes in the marriage.

At baseline (June 2006 to October 2007), and every 6 months for the next 4 years, both members of these couples reported their relationship satisfaction and the severity of their specific relationship problems. Also at baseline, spouses completed an explicit measure of their conscious attitudes toward the relationship and an implicit measure of their automatic attitudes toward their partner. The explicit measure was an oft-used semantic differential (15) that asked spouses to report the extent to which they would describe their marriage using 15 pairs of opposing adjectives (e.g., "good" versus "bad," "satisfied" versus "dissatisfied"). The implicit measure was a version of an associative priming task (16) that required spouses to indicate as quickly as possible the valence of positively and negatively valenced words after being exposed to 300-ms primes of photographs of their partner and various control individuals. An index of spouses' automatic attitudes was formed by subtracting the time it took them to indicate the valence of the positive words from the time it took them to indicate the valence of the negative words. Both attitude indexes were standardized before analyses. Higher scores on both measures indicate more positive attitudes. We also assessed several notable covariates: implicit and explicit self-esteem, neuroticism, automatic attitudes toward alternatives, barriers to leaving the marriage, partner facial and body attractiveness, and attachment insecurity (17).

A two-level analysis indicated that spouses' reports of their conscious attitudes were not correlated with their automatic attitudes [$r = 0.00$, not significant (n.s.)], which suggests that spouses were unaware of their automatic attitudes. Consistent with other research on newlyweds (1), a

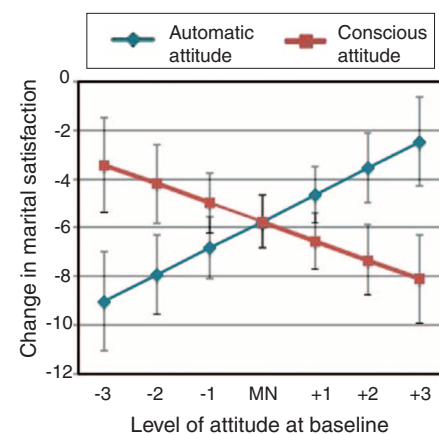


Fig. 1. Changes in marital satisfaction as a function of automatic and conscious attitudes. The blue line depicts the significantly positive association between automatic attitudes and changes in marital satisfaction. The red line depicts the non-significant association between conscious attitudes and changes in marital satisfaction. The two associations are significantly different from one another. MN, arithmetic mean.

¹Department of Psychology, Florida State University, Tallahassee, FL 32306, USA. ²Department of Psychology, University of Tennessee, Knoxville, TN 37996, USA. ³Department of Psychology, Southern Methodist University, Dallas, TX 75275, USA.

*Corresponding author. E-mail: mcnulty@psy.fsu.edu

three-level growth curve analysis indicated that spouses' marital satisfaction declined significantly over the 4 years of the study [$B = -0.60$, $SE = 0.11$, $t(133) = -5.36$, $P < 0.001$]. The primary analysis used both indexes of attitudes to account for initial levels of and changes in marital satisfaction.

Although spouses' automatic attitudes were not significantly associated with their initial reports of marital satisfaction [$B = 0.20$, $SE = 0.14$, $t(250) = 1.44$, n.s.; effect size $r = 0.09$], spouses' automatic attitudes were positively associated with changes in their marital satisfaction over time [$B = 0.14$, $SE = 0.07$, $t(250) = 2.02$, $P = 0.044$; effect size $r = 0.13$]. The blue line in Fig. 1 depicts the significant association between automatic attitudes and changes in marital satisfaction over time. As can be seen, the more positive spouses' automatic attitudes were at baseline, the less their marital satisfaction declined over time. Notably, this effect remained significant controlling for all covariates [$B = 0.14$, $SE = 0.06$, $t(232) = 2.15$, $P = 0.032$; effect size $r = 0.14$].

Spouses' conscious attitudes, in contrast, were positively associated with initial levels of marital satisfaction [$B = 2.48$, $SE = 0.21$, $t(250) = 11.72$, $P < 0.001$; effect size $r = 0.60$] but were not significantly associated with changes in satisfaction over time [$B = -0.10$, $SE = 0.06$, $t(250) = -1.53$, n.s.; effect size $r = 0.10$]. For comparison purposes, the red line in Fig. 1 depicts the non-significant association between spouses' conscious attitudes at baseline and changes in their marital satisfaction over time. Although the association between conscious attitudes and changes in marital satisfaction was not significantly different from zero, a test that constrained that association to be equal to the positive association between automatic attitudes and changes in satisfaction indicated that the two effects were significantly different from one another [$B = 0.23$, $SE = 0.08$, $\chi^2(1) = 7.64$, $P < 0.01$; effect size $r = 0.17$].

We next tested whether spouses' perceptions of their marital problems mediated the effects of their automatic attitudes on changes in their marital satisfaction. This required conducting two additional analyses (18). In the first, we examined whether spouses' automatic attitudes predicted their perceptions of marital problems over the intervening years of the study by repeating the growth curve analysis, except this time substituting the seven reports of problem severity that preceded the predicted changes in marital satisfaction for those reports of satisfaction, and once again entering both the automatic and conscious attitude indexes to account for the level-2 intercepts and slopes. Additionally, to more rigorously demonstrate that spouses' automatic attitudes were associated with perceptions of fewer problems (rather than actually developing fewer problems), we controlled for the variance common to both partners' reports of problem severity by including spouses' partners' reports of problem severity as a time-varying covariate.

Spouses' automatic attitudes were not significantly associated with their initial perceptions of their marital problems [$B = 0.04$, $SE = 0.05$, $t(250) = 0.75$, n.s.; effect size $r = 0.05$]. Nonetheless, consistent with the first criterion necessary to establish mediation, spouses' automatic attitudes were negatively associated with changes in their perceptions of marital problems over time [$B = -0.04$, $SE = 0.02$, $t(250) = -2.44$, $P = 0.016$; effect size $r = 0.15$], indicating that spouses with more positive automatic attitudes reported perceiving fewer problems over time. Spouses' reports of their conscious attitudes were not significantly associated with changes in their perceptions of their problems [$B = 0.00$, $SE = 0.02$, $t(250) = 0.25$, n.s.; effect size $r = 0.02$].

In the second analysis, we examined the extent to which spouses' perceptions of their marital problems predicted changes in their marital satisfaction by entering spouses' reports of problem severity as a time-lagged level-1 predictor of satisfaction, controlling for time-lagged partner reports of problems and time-lagged reports of own satisfaction at level 1 and spouses' automatic and explicit attitudes at level 2. Consistent with the second criterion necessary to establish mediation, spouses' perceptions of their marital problems at each assessment significantly negatively predicted changes in their satisfaction from that assessment to the next [$B = -0.54$, $SE = 0.15$, $t(133) = -3.69$, $P < 0.001$].

Finally, we multiplied these two effects together, which yielded an indirect effect of $B = 0.02$, and estimated the 95% confidence interval (CI) for this indirect effect (0.003, 0.046), which was significant. Thus, automatic attitudes toward one's partner appear to protect marital satisfaction by desensitizing oneself to undesirable changes in the relationship.

We also estimated equivalent models testing the alternative possibility that changes in satisfaction mediated the effect of automatic attitudes on changes in perceived problems. Although automatic attitudes directly predicted changes in marital satisfaction over the first seven waves of the study [$B = 0.19$, $SE = 0.08$, $t(250) = 2.36$, $P = 0.019$; effect size $r = 0.15$], these reports of marital satisfaction did not predict subsequent perceptions of problems [$B = 0.01$, $SE = 0.01$, $t(133) = 1.41$, n.s.; effect size $r = 0.12$], and thus the indirect effect ($B = 0.002$) was not significant [95% CI, (-0.001, 0.006)].

For decades, social psychological theories have posited that the automatic processes captured by implicit measures have important implications for social outcomes (19). Yet few studies have demonstrated any long-term implications of automatic processes outside of the laboratory, leading some to question the relevance and even the validity of these theories (20–22). Our findings demonstrate not only the validity of automatic processes as a theoretical construct, but also their practical importance. Although spouses' explicit reports of their conscious attitudes toward their relationships at the time of marriage were unrelated to changes

in their satisfaction over time, their automatic reactions to 300-ms exposures of pictures of their partner positively predicted changes in their relationship satisfaction over the course of 4 years. In sum, although they may be largely unwilling or unable to verbalize them, people's automatic evaluations of their partners predict one of the most important outcomes of their lives—the trajectory of their marital satisfaction.

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Supplementary Materials

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Materials and Methods
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