Implicit ambivalence of significant others: Significant others trigger positive and negative evaluations

Vivian Zayas | Gizem Surenkok | Gayathri Pandey

Abstract

Despite the rich literature on implicit partner evaluations, there has been scant attention to a defining feature of significant other mental representations—their affective complexity. Recent findings (Zayas & Shoda, 2015), however, provide an empirical demonstration that significant others automatically and simultaneously activate positive and negative evaluations—a phenomenon we refer to as implicit ambivalence. A primary aim of this paper is to extend extant theory by elaborating on the features of the dyadic context that may contribute to the formation of implicit ambivalence. Particularly, drawing from research from relationship science, social cognition, and social neuroscience, we focus on the ability of significant others to dynamically and simultaneously confer rewards and threats, the attunement of perceivers to potential social rewards and social threats, and aspects of sense-making of another person’s mind that may give rise to implicit ambivalence. From this new perspective, implicit ambivalence is not a pathological or rare state. Quite the opposite, implicit ambivalence may be a normative, typical process, that is triggered even by people who are highly positive in one’s network. We identify future directions for social cognition and relationship science.

1 INTRODUCTION

Odi et amo. quare id faciam fortasse requiris?
I hate and I love. Why I do this, perhaps you ask?
(Roman poet Catullus)

Poets, historians, artists, philosophers, and psychologists have long acknowledged that close relationships can be the source of our greatest joys, as well as the source of our greatest sorrows. A key assumption of various theories of close relationships is that the affective complexity that defines our closest relationships becomes etched in memory and stored as mental representations of significant others (e.g., Baldwin, 1992; Bowlby, 1973; Pietromonaco & Barrett,
One aspect of mental representations that has received considerable attention over the past three decades is implicit partner evaluations. These are the evaluations that come to mind automatically, effortlessly, unintentionally, and nonconsciously when one thinks of a significant other (see Zayas & Shoda, 2005; see also LeBel & Campbell, 2009). Although such evaluations may not be consciously felt, there is evidence that they color expectations, subjective experience, and relationship outcomes (Günaydin, Zayas, Selcuk, & Hazan, 2012; McNulty, Olson, Meltzer, & Shaffer, 2013; Murray, Holmes, & Pinkus, 2010; Selcuk, Zayas, Günaydin, Hazan, & Kross, 2012).

Despite these insights, there is one glaring paradox in the study of implicit partner evaluations: Mental representations of significant others are affectively complex, yet most of the work has focused on an individual difference perspective in which some people experience greater rewards (vs. threats) and thus form positive (vs. negative) implicit partner evaluations. There has been scant attention on the more normative question of the very nature of significant other representations, and the possibility that one’s partner is associated with good, and the same partner is associated with bad.

Recently, Zayas and Shoda (2015) demonstrated that thoughts of a significant other spontaneously activated positive and negative evaluations, even though participants did not consciously report holding these ambivalent feelings. We refer to the finding that significant others automatically trigger positive and negative evaluations as implicit ambivalence because it involves the simultaneous coactivation of positive and negative (i.e., ambivalence; Norris, Gollan, Berntson, & Cacioppo, 2010) and may not be consciously felt (i.e., implicit; Banaji & Greenwald, 1995).

In the present paper, we first provide a brief review of theory and research on implicit partner evaluations (see Andersen, Saribay, & Przybylinski, 2012; Baldwin, Lydon, McClure, & Etchison, 2010; McNulty & Olson, 2015 for thorough reviews). We then turn to the main goal of the paper, which is to examine in greater depth the affective complexity of significant other representations, motivated by Zayas and Shoda’s (2015) empirical findings. Based on a review of findings from relationship science, social cognition, and social neuroscience, we theorize about the key aspects of dyadic context that may be particularly important in the formation of implicit ambivalence. Specifically, we focus on characteristics of partners as targets who are capable of dynamically and simultaneously conferring social rewards and punishments, and we discuss characteristics of perceivers who are exquisitely attuned to social rewards and social punishments. We argue that these target and perceiver characteristics lead to the acquisition of partner—negative and partner—positive associations in memory. We end by discussing directions for future research.

2 | CONCEPTUALIZING IMPLICIT PARTNER EVALUATIONS

Social cognitive perspectives conceptualize a person’s “mind” as a distinctive network of interconnected cognitions and affects that are assumed to mediate a person’s response to the situation (Mischel & Shoda, 1995; Shoda & Mischel, 1998). From this perspective, implicit partner evaluations are represented as associated nodes within a person’s mind. Activation of the partner node within a person’s network spreads to associated attitudes, which are also conceptualized as nodes (Zayas, Günaydin, & Shoda, 2015; Zayas, Shoda, & Ayduk, 2002; Zayas, Whitsett, Lee, Wilson, & Shoda, 2008). The strength of association between the partner node and the evaluation node determines the ease with which activation spreads within a person’s network (see Figure 1).

It is assumed that implicit evaluations develop slowly, with repeated experiences encountered over time (Rydell, McConnell, Strain, Claypool, & Hugenberg, 2007; Wilson, Lindsey, & Schooler, 2000). When one repeatedly interacts

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1For the purpose of this paper, we focus on abstract, context-insensitive, implicit partner evaluations that reflect an evaluative summary of interactions with the partner (e.g., Murray, Gomillion, Holmes, Harris, & Lamarche, 2013). However, because implicit partner evaluations reside within a larger network of associations that include nodes of other people, places, and things, as well as behavioral strategies and scripts (Zayas et al., 2002; Zayas et al., 2009), we acknowledge that evaluations spontaneously triggered in a given moment may depend on the other activations within a person’s network. For example, given that partners are commonly used to regulate distress, stressful situations are likely to increase the positivity of partner representations (Mikulincer, Hirschberger, Nachmias, & Gillath, 2001).
with an aspect of the environment—whether it be a person, place, or thing—the evaluations that are triggered in the moment begin to be stored in memory. Overtime, the statistical regularities between the environmental stimulus and the evaluation are encoded into associative structures (Conrey & Smith, 2007; Fazio, 2007). If the stimulus is repeatedly associated with rewarding experiences, then the mental representation of the stimulus will acquire an association with a positive attitude (see Figure 1a). In contrast, if the stimulus is repeatedly associated with aversive experiences, the mental representation of the stimulus will acquire an association with a negative attitude (see Figure 1b). Thus, individual differences in the quality of one’s relationship can give rise to individual differences in implicit partner evaluations (e.g., Scinta & Gable, 2007; Zayas & Shoda, 2005).

**FIGURE 1**  Structural representation of implicit evaluations in memory: positive (panel A), negative (panel B), and ambivalent (panel C). In each panel, the large circle represents a person’s mind, and the smaller circles within each person’s mind represent the thoughts and affects that are accessible. The lines among the concepts indicate which concepts are connected with one another and the strength of association. Solid lines connecting concepts indicate an excitatory association (i.e., activation of one concept results in the activation of the associated concept). Dashed lines connecting concepts indicate an inhibitory association (i.e., activation of one concept inhibits activation of the associated concept).
3 | A BRIEF HISTORY OF THE STUDY OF IMPLICIT PARTNER EVALUATIONS

Implicit partner evaluations—i.e., the spontaneous evaluations that come to mind in response to activating the partner representation—are assumed to occur within milliseconds and without conscious awareness of the stimulus being evaluated or the downstream consequences of the evaluation (e.g., Zayas, Shoda, Mischel, Osterhour, & Takahashi, 2009; see also Ferguson & Zayas, 2009; Ross & Nisbett, 1991). Accordingly, researchers have been using a variety of implicit methods to infer how people think about others (e.g., Banse, 1999; McNulty, Baker, & Olson, 2014, for a review see Baldwin et al., 2010). Some work has focused on normative aspects: What evaluations spontaneously come to mind in response to activating a significant other representation? But the majority of the work has focused on questions involving individual differences: What are the antecedents and consequences of individual differences in implicit partner evaluations? We review this literature below.

3.1 | Normative structure of implicit partner evaluations

In one of the first studies on this topic, Zayas and Shoda (2005) developed and validated an Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998) to assess implicit partner evaluations. They found that, for the overwhelming majority of participants, partner representations automatically activated strong positive (vs. negative) evaluations. Similarly, using a version of the name-letter task, LeBel and Campbell (2009) showed that akin to how evaluation of one’s own initials serves to index implicit self-esteem (Nuttin, 1985), people evaluated their partner’s (vs. other’s) initials more positively. These findings have been corroborated by fMRI studies showing that viewing a photograph of one’s partner activates the dopaminergic reward system that is implicated in reward processing and approach behaviors (Aron et al., 2005; Bartels & Zeki, 2004; also reviewed in Guerra et al., 2012).

3.2 | Individual differences in implicit partner evaluations

From an individual difference perspective, a central question is whether past experiences shape implicit partner evaluations. Providing initial correlational evidence, Zayas and Shoda (2005) found that securely attached individuals showed stronger positive implicit partner evaluations, compared to avoidantly attached (also see Banse & Kowalick, 2007; Dewitte, De Houwer, & Buyssse, 2008; Zayas, Mischel, Shoda, & Aber, 2011). In another study, Murray et al. (2010) found that newlyweds with more responsive spouses in conflict-of-interest situations during the first 6 months of marriage showed stronger positive implicit (but not explicit) partner evaluations 4 years later. Similarly, how frequently newlywed couples had sex was positively associated with their later implicit (but not explicit) partner evaluations (Hicks, McNulty, Meltzer, & Olson, 2016).

Not only are implicit partner evaluations assumed to reflect past experiences, they are also expected to shape future ones. Consistent with this idea, Zayas and Shoda (2005) showed that stronger implicit partner positivity was associated with more positive expectations about the future of one’s romantic relationship, and with longer, more emotionally committed, and satisfied relationships. Using a 21-day daily diary study, LeBel and Campbell (2013) provided further evidence that stronger implicit partner positivity, assessed by the name-letter task, predicted subsequent daily self-reports of relationship satisfaction and positive behaviors.

Perhaps most interesting from a practical viewpoint is work showing that implicit partner evaluations predict future breakup. Providing correlational evidence, Zayas and Shoda (2005) found that compared to those who had recently broken-up, participants in intact relationships showed greater implicit partner positivity (also see Imhoff & Banse, 2010). In a longitudinal study, LeBel and Campbell (2009) found that implicit partner evaluations prospectively predicted, 4 months later, a reduced likelihood of relationship dissolution indirectly via relationship satisfaction. Similarly, Lee, Rogge, and Reis (2010) showed that initial stronger implicit partner positivity significantly predicted a reduced risk of relationship dissolution in the following 12 months. Likewise, McNulty et al. (2013) showed that
newlyweds with greater implicit partner positivity experienced less decline in their marital satisfaction over the next 4 years. Finally, in an important extension, McNulty, Olson, Jones, and Acosta (2017) used evaluative conditioning to experimentally enhance implicit positive partner evaluations, which in turn increased subsequent self-reported marital satisfaction.

4 | A PARADOX: THE LACK OF AFFECTIVE COMPLEXITY IN THE STUDY OF IMPLICIT PARTNER EVALUATIONS

Both theory and intuition have long acknowledged that close relationships are affectively complex. Even in the most satisfying and secure relationship, partners experience conflict, frustration, indifference, outright disapproval, or rejection. Negative interactions are as relevant to close relationships as positive interactions as evidenced by the fact that people can readily recall a negative interaction with their partner (e.g., Bachman & Guerrero, 2006; Feeney, 2004). Indeed, Andersen and Chen (2002) importantly noted that “most significant-other representations are unlikely to be exclusively positive or negative, as people may often have ambivalent feelings about their significant others” (p. 629; also see Andersen & Cole, 1990). Increasingly, contemporary approaches have highlighted the need to understand how partners navigate both the rewards and threats within close relationships (e.g., Gable & Reis, 2001; Gere, MacDonald, Joel, Spielmann, & Impett, 2013). A core idea of Murray, Holmes, and Collins’ (2006) risk regulation model, for example, is that every close relationship inherently necessitates reconciling the desire to protect one’s self from rejection or potential separation, with the desire for interpersonal closeness and connectedness.

Still, although various theoretical perspectives highlight the inherent affective complexity of relationships, empirical work on implicit partner evaluations has focused primarily on an individual difference approach; people differ from one another in the extent to which they encounter rewards (vs. threats) in their relationship, and this, in turn, leads people to differ from one another in the extent to which they develop positive (vs. negative) implicit partner evaluations. The focus on individual differences has directed attention away from the normative question: Do the rewards and threats that are an inherent part of close relationships become etched in memory, such that activation of the significant other representation comes to simultaneously trigger both positive and negative evaluations.

4.1 | Theoretical frameworks for positing the separability of positivity and negativity

The possibility that significant-other representations could automatically elicit positive and negative evaluations simultaneously is supported by several theories that posit that the human mind is highly attuned to both rewards and threats (e.g., Carver & White, 1994; Gable & Reis, 2001; Gray, 1987; Metcalfe & Mischel, 1999). According to the evaluative space model (see Cacioppo & Berntson, 1994), positivity and negativity reflect two distinct and separable neural systems: One is sensitive to appetitive cues and the other to aversive cues. That is, people scan the environment in terms of its appetitive (i.e., rewards) and aversive (i.e., threats) features, and these two evaluations of potential rewards and threats occur independently, in parallel, and simultaneously. These evaluations occur very early in the processing stream and are eventually integrated into a behavioral response that is confined to either approach or withdrawal.

Illustrating the benefits of assessing the rewards and the possible threats in the environment independently and simultaneously, Cacioppo, Berntson, Norris, and Gollan (2012) described a situation in which a thirsty animal on a savannah would be motivated to go to a water hole (appetitive stimulus), but in so doing would also be making itself vulnerable to attacks by predators (aversive stimulus). In such circumstances, the ability to continuously and simultaneously monitor the environment for rewards and threats is highly adaptive: it enables the animal to approach the needed water, while remaining vigilant and ready to flee if a predator approaches.
A DEMONSTRATION OF IMPLICIT AMBIVALENCE TRIGGERED BY SIGNIFICANT OTHERS

Although various theoretical frameworks allow for the mental representation of a significant other to acquire positive and negative associative links, only recently has there been a direct empirical demonstration of this hypothesis. Zayas and Shoda (2015) showed that mental representations of significant others are implicitly ambivalent by using a measure that was designed to assess implicit positive and negative evaluations separately. In these experiments, participants were first asked to nominate a significant person whom they most liked and a second significant person whom they most disliked. In the comparison condition, participants nominated an object that they most liked and another object that they most disliked. The names of people and objects nominated were used as primes in a sequential priming task (Fazio, Sanbonmatsu, Powell, & Kardes, 1986) designed to assess positive and negative evaluations separately.

To illustrate the key findings the data are reproduced in Figure 2. As shown in the left panel, attitude objects elicited univalent automatic evaluations—either positive or negative, but not both. This finding replicated the well-documented effect of automatic activation of attitude objects. Specifically, liked objects activated positive evaluations, as reflected by faster classification of positive targets (upward-going bars), but inhibited negative evaluations, as reflected by slower classification of negative targets (downward-going bars). Disliked objects activated negative evaluations, as reflected by faster classification of negative targets, but inhibited positive evaluations, as reflected by slower classification of positive targets.

Importantly, the pattern was drastically different for primes related to significant others (see Figure 2). Activating the mental representation of significant persons elicited positive and negative evaluations, a pattern reflecting implicit ambivalent evaluations. Specifically, liked persons activated positive evaluations, but importantly, they also facilitated negative evaluations. Indeed, it is worth noting that the liked person facilitated negative evaluations to the same extent as the disliked object facilitated negative evaluations. Disliked persons activated negative evaluations, but also facilitated positive evaluations. A follow-up study replicated the finding that significant others trigger implicit ambivalence and ruled out alternative explanations for the results, such as heightened general arousal or an alerting response triggered by the significant other primes (see Zayas & Shoda, 2015, Experiment 2).

FIGURE 2 Implicit evaluations of objects (left panel) and significant persons (right panel), as assessed with the sequential priming paradigm. Bars represent facilitation-inhibition scores (milliseconds) as a function of prime valence and target valence, and reflect the extent to which the prime led to faster or slower reactions times in the target classification task as compared to a baseline neutral prime (e.g., "BBB"). Error bars represent 1 SE ± the mean. Figure is reproduced with permission from Zayas and Shoda (2015)
SIMILARITIES AND DIFFERENCES WITH PREVIOUS WORK ON AMBIVALENCE

Given that ambivalence has been widely studied, it is worth highlighting the ways in which the findings from Zayas and Shoda (2015) corroborate past work, as well as extend it.

6.1 | From single (relative) dimensional measures to two dimensional measures

As already discussed, the majority of the work on implicit partner evaluations has focused on individual differences of relative implicit partner evaluations. This approach focuses on a person's implicit evaluation of his or her partner on a continuum from good on one end and bad on another. Thus, there has been scant attention to the possibility that significant others elicit both positive and negative evaluations.

6.2 | Implicit activation of ambivalence

Previous work has typically operationalized ambivalence as a series of alternating positive and negative states (e.g., Mikulincer, Shaver, Bar-on, & Ein-dor, 2010), as incongruity between emotions and behaviors (e.g., Berenson & Andersen, 2006), or as incongruity between explicit and implicit evaluations (e.g., Petty, Tormala, Briñol, & Jarvis, 2006). Although these definitions reflect various ambivalent states, they do not reflect a situation in which the same stimulus simultaneously automatically triggers two different and opposing evaluations (Figure 1c). To the best of our knowledge, the Zayas and Shoda (2015) finding is the first demonstration of a situation in which the same concept can prime positive and negative evaluations simultaneously.

6.3 | Implicit vs. explicit ambivalence

It is worth noting that participants in the experiments by Zayas and Shoda (2015) were unaware of their ambivalence toward the liked significant other. Still, even though they reported holding strong positive feelings and an absence of negative feelings towards the liked person, the liked significant person automatically triggered negative evaluations. These findings suggest that implicit ambivalence may occur even in the absence of explicit ambivalence (e.g., Ferguson & Zayas, 2009; Ross & Nisbett, 1991). This aligns with work that distinguishes between consciously experienced ambivalence and structural ambivalence in which positive and negative may coexist in the absence of the subjective experience of ambivalence (e.g., Priester & Petty, 1996).

6.4 | Implicit ambivalence as a normative (typical) state

Finally, historically ambivalence is viewed as an uncommon and often times pathological or destructive state. For example, it is assumed to be a state only experienced by a subset of the population (e.g., insecurely attached; MacDonald, Locke, Spielmann, & Joel, 2013), elicited only in unique situations, such as by a volatile or unsatisfying partner (Berk & Andersen, 2008; Holt-Lunstad, Uchino, Smith, Olson-Cerny, & Nealey-Moore, 2003), or to engender negativity in close relationships (Fincham & Linfield, 1997; Kachadourian, Fincham, & Davila, 2005). But implicit ambivalence, as assessed in Zayas and Shoda's (2015) experiments, was anything but uncommon; the majority (>66%) of the participants showed evidence that the liked significant person triggered implicit ambivalence. These findings suggest that implicit ambivalence of significant others is a normative (typical) state in an ongoing relationship, and that perhaps more consciously felt ambivalent responses are rare.
WHAT GIVES RISE TO IMPLICIT AMBIVALENCE?

Although various theorists have discussed the inherent affective complexity that characterizes mental representations of significant others, less attention has been given to this more basic question of why. In this section, we speculate about the characteristics of significant others as targets, as well as characteristics of perceivers that are likely to contribute to the formation of implicit ambivalent evaluations of significant others.

7.1 Characteristics of significant others as targets

The implicit evaluations of an object are assumed to develop slowly from repeated interactions with the object. Thus, a feature that is likely to give rise to the acquisition of ambivalent implicit evaluations is the nature of dyadic context. Specifically, significant others are routinely associated with both reward and punishment (Figure 1c). A significant other can be associated with various rewarding experiences, including touch, comfort, security, and sex, thereby engendering the formation of positive implicit partner evaluations (Zayas, Merrill, & Hazan, 2015). But negative interactions are also a part of close relationships, and their occurrence can impair mood, decrease relationship satisfaction (Gable, Reis, & Downey, 2003), and trigger psychological and physiological distress (Kiecolt-Glaser et al., 2005; Lemay, Overall, & Clark, 2012; for a review see Loving & Slatcher, 2013).

We posit that negative interactions—actual or perceived, consciously felt or not—are a basis for the formation of partner-negative associations in memory even for those partners that are highly supportive. In other words, a normative feature of mental representations is the presence of not just positivity but also the presence of some negativity.

Findings from neuroimaging studies on romantic love are consistent with this idea. Although not the focus of their study, using fMRI, Bartels and Zeki (2000) found that when participants viewed pictures of their romantic partner activation was seen in reward-related brain areas (i.e., ventral striatum and ventral tegmental area) and in pain/loss-related brain regions (i.e., dorsal anterior cingulate cortex). Eisenberger and Muscatell (2013) speculate that the activation of dorsal anterior cingulate cortex could indicate an increased sense of vigilance for potentially losing the partner in addition to instilling a sense of positivity and security.

Other characteristics of significant others as targets may make them more likely to acquire positive and negative evaluations. For one, significant others not only are associated with rewards and punishments, but are capable of conveying both simultaneously. Situations in which a partner conveys “mixed” messages are commonplace. For example, one’s partner can be smiling, while expressing a critical remark, or expressing that everything is fine, while her body language suggests that she is angry. We argue that the ability of significant others to simultaneously convey rewards and punishments may be a critical feature that gives rise to implicit ambivalence.

Yet another factor is the inherent difference between people and inanimate objects as targets of perception (for a review, see Fiske & Taylor, 2013). Stated simply, inanimate objects do not have minds but social beings do. They possess internal states, including affects, thoughts, goals, desires, and fears (Lee & Harris, 2013). Because social beings have minds, they elicit processes of sense making (Waytz, Morewedge, et al., 2010; Waytz, Gray, Epley, & Wegner, 2010). Moreover, mental states can vary quickly, from moment to moment, and accordingly, behavioral manifestations of these internal states also vary from moment to moment (Hartshorne & May, 1928; Semin & Cacioppo, 2008). Thus, although speculative, from our perspective, possessing a mind is expected to automatically elicit continuous monitoring and sense making of an interaction partner, particularly their rapidly changing internal states and behaviors (Blakemore & Decety, 2001; Frith & Frith, 2010). Because such monitoring involves basic evaluations of goodness and badness (Ferguson & Zayas, 2009), possessing, or seeming to possess a mind is likely to increase the likelihood that an aspect of the environment will be evaluated in terms of goodness and badness.
7.2 | Characteristics of perceivers

From an evolutionary perspective, the formation and maintenance of affective ties promote survival and reproduction and ensures that offspring live to reproductive years (Baumeister & Leary, 1995; Spoor & Williams, 2007). As such, it is assumed that perceivers have inherited a suite of psychological processes that make them highly sensitive to various simple and complex cues that promote social ties (e.g., smile, touch). Encountering such cues is highly rewarding (e.g., Gonzaga, Keltner, Londahl, & Smith, 2001), activating the dopaminergic system, which is linked to approach-related behaviors (Depue & Morrone-Strupinsky, 2005), and over time serves as the basis for forming partner—positive associations in memory (Zayas, Gunaydin, et al., 2015). Ironically, perceivers' attunement to affiliation also makes them exquisitely attuned to various forms of social threats, real or imagined (e.g., Chernyak & Zayas, 2010; Critcher & Zayas, 2014; Eisenberger, Lieberman, & Williams, 2003; Gonsalkorale & Williams, 2007; Ho, Surenkok, & Zayas, 2014; Lockenhoff, Cook, Anderson, & Zayas, 2012; Zayas et al., 2009). Clear-cut instances of rejection to milder threats induced by everyday conflicts (Coan & Sbarra, 2015) can trigger circuitry involved in the processing and monitoring of threat. As is the case with other types of threats, one response is avoidance—i.e., to move psychologically and behaviorally, away from the source of the threat (Murray, Holmes, et al., 2013).

Thus, perceivers are attuned to any social rewards and social threats. Although there are physiological and emotional costs to detecting threat, detecting threat can serve to recruit attentional, motivational, and strategic behaviors to eliminate or minimize the threat. For example, in early life, sensitivity to separation from a "wise and stronger" caregiver triggers distress and prompts infants and toddlers to restore physical closeness with the caregiver (Bowlby, 1969). Similarly, in adulthood, perception of threats from a partner can prompt a variety of responses aimed at restoring the threatened ties (e.g., Lakin, Chartrand, & Arkin, 2008; Mikulincer & Shaver, 2007). Moreover, conflict within a relationship provides an opportunity for reassessing one's feelings about the relationship, reassessing what has been working, and discussing problems, doubts, and disappointments openly, thereby possibly being beneficial for the relationship in the long run (Braiker & Kelley, 1979; for a review, see McNulty, 2016). Thus, despite the aversiveness, functionally, attunement to threats may be essential for maintaining affective ties.

7.3 | Perceiver and target characteristics contribute to implicit ambivalence evaluations

We posit that mental representations of significant others should reflect the affectively rich and dynamic interactions of their relationship, especially given the characteristics of perceivers and of targets. As such, they should acquire affectively complex evaluations that include both positivity and negativity (see Figure 1c). This proposition naturally builds on the assumption of the evaluative space model regarding the separability of positive and negative. However, importantly, as a point of distinction from previous theorizing, we propose that it is possible for the same stimulus in the environment—in our discussion, significant others—to be automatically evaluated as a source of possible reward and as a source of possible threat (Figure 1c). This conceptualization is quite different than the one posed by Cacioppo et al.’s (2012) thirsty animal hypothetical scenario. Whereas the thirsty animal evaluates water as rewarding and a predator as threatening, here, we posit that perceivers evaluate a significant other as rewarding and the same significant other as the source of threat.

7.4 | Formation of partner—negative associations

Given ample evidence that significant others are associated with positivity, we focus on the factors that are likely to give rise to partner—negative associations. In particular, we hypothesize that the formation of partner—negative associations is likely to be fairly robust for several reasons.

1. We speculate that even in the most satisfying relationships, aversive experiences with significant others are inevitable. Whether actual or imagined, subtle or strong, felt or not, aversive experiences are the basis for forming partner—negative associations (Murray et al., 2010).
2. Perceivers are highly (even overly) attuned to threat, such that they may perceive a threat even in situations involving no real threat (Chernyak & Zayas, 2010; Critcher & Zayas, 2014). This sensitivity may be particularly strong in the context of close relationships (Zayas et al., 2009), given that the desire for closeness ironically increases sensitivity to the pain of interpersonal rejection (Braiker & Kelley, 1979; Murray et al., 2006). The mere possibility that a partner could be rejecting, frustrating, hurtful, and disappointing can disrupt the belief that the partner can be counted on and may make perceivers particularly attuned to threats, real or imagined (Murray et al., 2006). Thus, partner-negative association may form even when the partner has not actually engaged in an objectively negative manner.

3. In some instances, a partner may be perceived as having engaged in a harmful act based on incorrect information. Research shows that the elicited negative reaction may remain in memory despite learning that the originally encountered information was wrong. Specifically, even if one learns that a negative event actually did not occur, one can revise one’s explicit beliefs, but cannot “undo” the negativity at the implicit level (Gawronski & Bodenhausen, 2006, 2011).

4. Even in the absence of conscious awareness, a partner's negative behavior can still negatively impact one's subjective state (Gable et al., 2003), and may lead to the formation of partner-negative associations.

5. Given the profound need for affiliation (Harlow, 1958), and that social connection appears to be our brain’s baseline (Coan & Sbarra, 2015), even commonplace separation may be aversive and may give rise to partner-negative association in memory. Similarly, because close relationships involve mutual interactive regulation in which partners experience gratification as well as frustration, and union as well as separation (Blatt, Auerbach, & Levy, 1997; Blatt & Blass, 1990; Feldman & Blatt, 1996), we speculate the possibility that even instances of asynchrony within an ongoing interaction may activate neural circuitry recruited in monitoring and expectancy violation and may leave traces of negativity (Hove & Risen, 2009).

6. Finally, our proposal that the formation of negative partner evaluations may be robust is bolstered by work documenting a negativity bias in which negative stimuli wield a stronger and broader impact than positive stimuli (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Gable & Reis, 2001). Indeed, only few instances of actual or perceived threat are enough to form negative associations of unknown others (Oosterhof & Todorov, 2008). Negative feelings resulting from hurtful interactions tend to linger for a long while (Leary, Haupt, Strausser, & Chokel, 1998) and are easily remembered and relived even several years later (Chen, Williams, Fitness, & Newton, 2008).

8 | UNANSWERED QUESTIONS AND FUTURE DIRECTIONS

8.1 | For whom and for what would implicit ambivalence occur?

The findings that mental representations of significant others are associated in memory with positive and negative evaluations raises questions for future inquiry. From an individual differences perspective, we can ask: How do the positive and negative evaluations independently or jointly contribute to relationship dissolution (vs. stability)? From a normative perspective, we can ask: How do the implicit evaluations triggered by significant others differ from the implicit evaluations that may be triggered by other people in one's network, including strangers and self? From a relationship science perspective, we can ask: Does the presence of relationship threat affect the relative strength of positive and negative evaluations? Finally, from a social cognitive perspective, we can ask: Compared to univalent evaluations elicited by commonplace objects, what implication does implicit ambivalence triggered by significant others have on attention and behavior?
8.2 | Broadening our methodological toolkit

To examine the above questions, it is necessary to use and implement measures that assess implicit positivity and implicit negativity separately. Typically, methods used to assess implicit partner evaluations are implemented in such a manner that they assess evaluations of partners on a single dimension with good and bad at opposite ends of the spectrum (see Ito, Cacioppo, & Lang, 1998 for a detailed discussion). To fully understand the nature of significant other representations and the antecedents and consequences of implicit ambivalence, it will be beneficial to expand the methodological toolkit so as to be able to assess positive and negative evaluations separately. This likely also involves including a comparison condition to establish a baseline of responding.

9 | CONCLUSION

Research in implicit partner evaluations has grown. A main conclusion from this work is that stronger implicit partner evaluations reflect better experiences and predict better outcomes. But overall the literature on implicit partner evaluations has focused little on the affective complexity of significant other mental representations. Recent empirical evidence (Zayas & Shoda, 2015) shows that significant others automatically activate positive and negative evaluations. We theorize that such implicit ambivalence arises from and is an inevitable consequence of naturally occurring and typical dyadic interactions between two partners. From this new perspective, instead of viewing implicit ambivalence as a pathological state—observed among only a subset of the population or a subset of people in one’s network—implicit ambivalence appears to be a normative, typical process, that is triggered even by people who are highly positive in one’s network. We speculate that appreciating the implicit ambivalence that characterizes significant other representations brings additional insight into intrapersonal and interpersonal processes operating within the relationship domain.

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