

# Implicit Consistency Processes in Social Cognition: Explicit-Implicit Discrepancies Across Systems of Evaluation

Tonya M. Shoda<sup>1\*</sup>, Allen R. McConnell<sup>1</sup> and Robert J. Rydell<sup>2</sup>

<sup>1</sup>*Department of Psychology, Miami University*

<sup>2</sup>*Department of Psychological and Brain Sciences, Indiana University*

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## Abstract

What happens when our automatic evaluations conflict with our attitudes that we can reflect on and articulate? In this paper, we review some processes by which explicit implicit evaluative discrepancies (EIEDs) arise and can impact our thoughts, feelings, and behavior, using a dual-systems perspective on attitudes to explain the psychological processes underlying these evaluative inconsistencies. EIEDs emerge when differential positive and negative evaluations toward attitude objects reside in systems of knowledge governed by language and reasoning (i.e., explicit evaluations) and systems of knowledge that are association-based (i.e., implicit evaluations). We discuss factors that produce EIEDs, including the influence of extrapersonal associations on attitudes, temporal, and qualitative differences in encountering attitude-relevant information, and the differential influence of processing goals. Finally, we discuss consequences of holding EIEDs, including their impact on behaviors toward attitude objects, enhanced elaboration and scrutiny of social information, motivated reasoning, errant affective forecasting, and self-regulatory success and failure.

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Imagine the following common life experiences. A recent graduate must decide between two attractive job offers, one providing a great sense of community located in a bustling and exciting city with the other featuring autonomy in a quiet picturesque coastal town. After thoughtfully considering these two opportunities and the happiness they each may bring, the graduate chooses the first offer yet would have been more satisfied with the second position. Or consider a woman on a blind date who experiences uncertainty and aversive feelings for reasons unknown despite the date seemingly going well (e.g., pleasant interactions, engaging conversations). Finally, consider the all-too-familiar dilemma faced by dieters where they should forgo a delicious but unhealthy candy bar and resist short-term pleasure in favor of a low calorie, nutrient rich apple that serves long-term health goals. In our article, we describe how a dual-systems perspective on attitudes explains the psychological processes underlying situations such as these. In particular, we focus on situations where our implicit evaluations of attitude objects are inconsistent with our explicit evaluations of them, describing how these inconsistencies are formed and examining their implications for outcomes ranging from impression formation to motivated reasoning to affective forecasting errors.

## Definitions and Background

Before exploring these issues, one must consider assumptions (and some controversies) in the attitudes literature. First, an attitude is a “psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagly & Chaiken, 1993, p.1). Accordingly, people should pursue attitude objects that are evaluated positively and avoid attitude objects that are seen as negative (e.g., Ferguson & Bargh, 2004). However, research has repeatedly demonstrated that attitudes do not invariantly predict behavior (e.g., Fazio, 1986).

Although most people prefer to regard their perceptions of people and of attitude objects as unbiased products of well-formulated thought, research suggests that evaluations and their underlying processes are neither invariably rational nor always accessible for conscious reflection (e.g., Bargh & Chartrand, 1999; Nisbett & Wilson, 1977). Although many factors underlie this reality, one potential reason for tenuous attitude-behavior relations is that many theoretical models of attitudes assume that evaluative processes ultimately converge on a singular evaluation of an attitude object (e.g., Fazio & Towles-Schwen, 1999; Petty & Wegener, 1998). More recent research, however, views attitudes as being multifaceted rather than singular in evaluation, and that different types of evaluative processes are represented in qualitatively distinct ways in memory (e.g., Deutsch & Strack, 2006; Smith & DeCoster, 2000). That is, rather than attitude-behavior inconsistency being revealed because of normative pressures (e.g., Ajzen & Fishbein, 1973), social desirability concerns (e.g., Dunton & Fazio, 1997), or evaluative context (e.g., McConnell, Leibold, & Sherman, 1997), these more recent perspectives on attitudes distinguish between people's explicit evaluations (i.e., more controllable, deliberately reported, and for which individuals are often more aware) and implicit evaluations (i.e., uncontrollably activated, association based, and for which individuals are often less aware).

Initially, the distinction between implicit and explicit evaluations emerged from work that attempted to address attitude-behavior inconsistency issues by developing measures of attitudes that were less susceptible to self-presentation (see Fazio & Olson, 2003). In contrast to explicit measures that typically ask people to report on their evaluations toward an attitude object, initial work on implicit measures attempted to circumvent concerns about social desirability and normative pressures (e.g., Devine, 1989; Fazio, Jackson, Dunton, & Williams, 1995) by indirectly gauging evaluations through performance on speeded judgment tasks such as sequential priming (e.g., Fazio, Sanbonmatsu, Powell, & Kardes, 1986) or stimulus classifications where two hypothetically related concepts share the same response option (e.g., Greenwald, McGhee, & Schwartz, 1998). This latter approach, the Implicit Association Test (IAT), has become the most used measure of implicit evaluations (Nosek, Greenwald, & Banaji, 2007). For example, the IAT can assess implicit racial prejudice by measuring how much more quickly participants can classify stimuli (e.g., positive adjectives, negative adjectives, White faces, Black faces) when prejudice-consistent associations share the same responses (e.g., Black faces or negativity on one response key, White faces or positivity on another key) than when prejudice-inconsistent associations share the same response buttons (i.e., Black faces or positivity on one key, White faces or negativity on another key).

Indeed, early work using implicit measures of evaluation focused on predicting subtle behaviors, such as people's negative nonverbal displays during interracial interactions (e.g., Fazio et al., 1995; McConnell & Leibold, 2001) in circumstances when one's explicit measures of evaluations might reflect self-presentational concerns (e.g., political correctness). Although explicit measures of attitudes can predict behavioral outcomes, implicit measures of attitudes have often been viewed as better predictors of behavior in situations where social sensitivity concerns are considerable (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). Interestingly, explicit and implicit evaluation measures may at times only be weakly correlated (but these relations vary across different attitude object types; for details, see Nosek, 2007) and affected by different experimental manipulations (e.g., Gawronski & Bodenhausen, 2006; Rydell & McConnell, 2006). Although initial perspectives on this modest relation assumed that self-presentational concerns with explicit measures underlie why implicit and explicit evaluation measures show only modest correspondence (e.g., Dunton & Fazio, 1997), others have considered whether these measures capture relatively distinct systems of evaluation (e.g., Rydell & McConnell, 2010; Smith & DeCoster, 2000; Strack & Deutsch, 2004). From a systems of evaluation perspective, implicit and explicit measures of attitudes reflect two dissociable systems

of evaluation, and thus, inconsistency between implicit and explicit measures may reflect different states of evaluative knowledge between two systems (see McConnell & Rydell, forthcoming). Specifically, this approach assumes that explicit measures of attitudes assess the output of a rule-based system of evaluation while implicit measures of attitudes assess the associative system of evaluation. In other words, explicit and implicit evaluations reflect different attitude-relevant knowledge bases, and thus, implicit and explicit measures of attitudes will diverge considerably when their underlying systems of evaluative knowledge are different.

Although the consequences of discrepant attitudes have been studied in literature (e.g., Kaplan, 1972; Petty & Briñol, 2009), these investigations have focused almost exclusively on explicit measures of attitudes. For instance, a dieter can exhibit attitudinal ambivalence regarding cheesecake when that person acknowledges that although cheesecake is tasty, it is also laden with fat and calories. In this example, the positive and negative attributes of the attitude object are available to the individual for explicit report. On the other hand, explicit-implicit evaluative discrepancies (EIEDs) are a new class of phenomena that we need to understand better because, from our perspective, they reflect *systems of knowledge* that produce different evaluations (and by definition, the processes underlying the associative system of evaluation are unavailable for conscious reflection). As a result, EIEDs are distinct from classic attitudinal ambivalence revealed on explicit measures (e.g., Petty, Tormala, Briñol, & Jarvis, 2006). In this article, we review and integrate the emerging literatures that study EIEDs and their consequences for human behavior.

### What Produces Explicit-Implicit Evaluative Discrepancies?

EIEDs may emerge for many reasons (Rydell & McConnell, 2010). At a basic level, these divergent evaluations arise from mental representations of an attitude object that are varied and complex in nature, most often resulting from having both positive and negative experiences with, or knowledge about, the object (e.g., Gawronski & Bodenhausen, 2006; Petty, Briñol, & DeMarree, 2007; Rydell & Gawronski, 2009).

In the current work, we draw on the Systems of Evaluation Model (SEM; McConnell, Rydell, Strain, & Mackie, 2008; Rydell & McConnell, 2006) to explain EIEDs and their consequences. The SEM posits the existence of two dissociable systems of knowledge that give rise to two qualitatively different types of attitude object evaluations. The SEM shares much in common with other frameworks that assume independent mental systems with distinct properties and characteristics (e.g., Kahneman, 2003; Slovic, 1996; Smith & DeCoster, 2000; Strack & Deutsch, 2004) while focusing on a dual-systems approach to attitudes in particular. Specifically, the SEM posits that evaluations may result from two dissociable systems of knowledge. First, the rule-based system of evaluation applies logic and syllogistic reasoning to symbolic forms of knowledge and evaluations expressed based on this knowledge are typically assessed by explicit evaluation instruments that assess attitudes using language and logic (e.g., feeling thermometers, semantic differentials). In contrast, the associative system of evaluation involves associations stored in memory based on paired occurrences involving similarity and contiguity, with evaluations assessed by measurements that gauge strength of association (e.g., IAT, sequential priming techniques). Within this framework, evaluations produced by these two systems should be consistent to the extent that repeated associations with an attitude object and more-abstract knowledge about it are relatively similar in valence. However, the SEM anticipates that evaluations produced by these two systems may diverge when the underlying knowledge represented by these two systems are different.

Although beyond the scope of this paper, other recent attitude models such as the Associative-Propositional Evaluation (APE; Gawronski & Bodenhausen, 2006) model and the Meta-Cognitive

Model (MCM; Petty et al., 2007) consider the interplay of deliberate and more automatic evaluations. These latter models view attitudes as the product of two sometimes interrelated processes, one an associative process involving the activation of associations from memory and the second a controlled process that (given motivation and cognitive capacity) can transform or invalidate the associations activated from memory. The APE and MCM assume that evaluations are shaped over time to accommodate context and one's past experiences and to remain consistent with other motivations and cognitions. The SEM departs from these alternative models by hypothesizing that distinct systems (not separate processes) produce discrete evaluations and that these systems can operate independently and concurrently (for extensive details, McConnell & Rydell, forthcoming).

Because the SEM proposes that the associative evaluation system reflects the accumulation of repeated pairings between an attitude object and appraisals, it follows that implicit evaluations may form and change at a rate that is often slower than explicit evaluations. Consistent with this reasoning, research has shown that explicit evaluations toward a novel target individual changed quickly in response to new counterattitudinal information about the target as it was integrated into one's on-line impressions, whereas changes in implicit evaluations of the same target were much slower and required considerable amounts of counterattitudinal information to change significantly (e.g., Rydell & McConnell, 2006). Thus, integration of new or counterattitudinal information should often have a differential impact on implicit and explicit evaluations, often producing discrepancies between them. Specifically, repeated exposure to counterattitudinal information is typically necessary to change implicit evaluations (e.g., Karpinski & Hilton, 2001; Rudman, Ashmore, & Gary, 2001, Rydell & McConnell, 2006). Returning to a previous example, learning about the poor nutritional contents of a candy bar may immediately change a dieter's explicit evaluation of the snack to be much more negative, yet a couple of new facts about the snack will likely do little to alter the automatic positivity that such sugary sweets elicit until many similar, repeated associations accrue and begin to alter one's implicit evaluation as well.

Additional research examining how inconsistent evaluations might emerge shows that evaluations stemming from the rule-based system (i.e., explicit evaluations) are affected by providing perceivers with explicit processing goals, whereas implicit evaluations are relatively unaffected by such deliberate instructions (Rydell & McConnell, 2006). For example, giving participants deliberate processing goals (e.g., avoid forming quick first impressions) reduced heavy reliance on early information (i.e., primacy effects; Asch, 1946) when forming explicit impressions of individuals while these conscious instruction set manipulations had no impact on implicit impression formation of individuals. This asymmetry makes sense from the SEM perspective because rule-based evaluations should be amenable to conscious goals (i.e., those supplied by the experimenter) whereas association-based evaluations are based on the overall accumulation of associative knowledge instead of logic.

This is not to say that conditions do not exist where association-based evaluations but not rule-based evaluations may change. For example, the presentation of positive or negative subliminal primes (by definition, not available for conscious consideration and thus unable to contribute to rule-based evaluations) immediately preceding the presentation of an attitude object affect implicit evaluations more than explicit evaluations (e.g., Rydell, McConnell, Mackie, & Strain, 2006). Thus, experiences that are deliberate and conscious in nature more strongly affect explicit evaluations and experiences that are nonconscious such as subliminal primes more strongly affect implicit evaluations. Indeed, when participants are simultaneously given verbal reports of behavioral information performed by a social target (i.e., information for which the rule-based system is sensitive) and subliminal primes (i.e., information for which the associative system is sensitive), explicit evaluations reflect the valence of the verbal reports and implicit evaluations correspond

to the nature of the subliminal primes, producing EIEDs (e.g., Rydell & McConnell, 2006; Rydell et al., 2006). These double dissociations (e.g., seeing explicit and implicit evaluations pushed in different directions by information tailored to each system of evaluation) seem more easily explained by dual-systems approaches (i.e., SEM) than dual process approaches (e.g., APE, MCM). Admittedly, much of the research exploring EIEDs examines dissociations engineered in the lab to maximize differences between explicit and implicit evaluations (e.g., specific impression formation instructions, subliminal priming). Yet, these systems of evaluations may easily differ in everyday situations as well.

In fact, because of the unique properties of the associative system, implicit evaluations may be influenced by subtle, nonverbal cues that are strongly associated with positivity or negativity. For example, McConnell et al. (2008) showed that when a novel target's social group was strongly associated with valence (e.g., negativity associated with African American individuals, positivity associated with very physically attractive individuals), this associative information shaped implicit evaluations toward a novel target individual independent of the desirability of behavioral descriptions of the target's actions (which predicted explicit evaluations of the target). In one study, when an obese man was described as performing positive behaviors, implicit evaluations of him were negative (reflecting the strong association between obesity and negativity) while explicit evaluations of him were positive (indicative of the positivity inherent in the behavioral descriptions of his actions). In other words, the differing evaluative implications arising from the rule-based systems (positive behavioral information) contrasted with the implications derived from the associative system (negativity linked with certain stigmatized groups; e.g., the overweight and the unattractive), producing EIEDs.

In addition to having differential exposure to rule-based and associative knowledge, EIEDs can result when one engages in conscious reasoning about an attitude object, which will be especially likely to alter explicit evaluations of an attitude object. For example, extrapersonal associations may result in EIEDs when implicit evaluation measures are influenced by cultural knowledge that one does not personally endorse about an attitude object (e.g., Fazio, 2007; Fazio & Olson, 2003; Han, Olson, & Fazio, 2006; Karpinski & Hilton, 2001; Olson & Fazio, 2004). Thus, one can adopt egalitarian goals and explicitly eschew racism in ways that make positive explicit evaluations of newly-encountered African American people quite likely. However, living in a culture that has many negative associations with Blacks also means that one's implicit evaluations toward the same African American people may be relatively negative. Thus, cultural associations may be more likely to affect implicit evaluations than explicit evaluations, producing EIEDs (e.g., Fazio et al., 1995; McConnell et al., 2008). These associative influences that trigger EIEDs may be quite broad in impact. For example, the woman on her blind date may have a positive explicit attitude toward her date owing to his charming personality yet have a relatively more negative implicit evaluation toward him simply because of the stigma associated with individuals being set up on such dates.

Other research suggests that cognitive consistency motives such as dissonance may only alter one's explicit attitudes, leaving implicit attitudes unchanged (Wilson, Lindsey, & Schooler, 2000). For example, after learning that one's first choice in job offers has a lower starting salary than previously expected, the dissonance felt may serve to elevate the explicit positivity of an alternative job offer, but this will have little immediate impact on one's implicit evaluation of the alternative offer, potentially leading to inconsistent explicit and implicit evaluations. In other words, due to the negativity associated with the reduced salary of the preferred job offer, the graduate may begin to think of the ways in which the alternative job offer is attractive, changing their explicit attitude toward the offer and potentially triggering an EIED such that the explicit positivity toward the job offer is increased, leaving the implicit evaluation toward the offer relatively unaffected.

In sum, there appears to be numerous pathways by which inconsistencies between implicit and explicit evaluations may arise. In addition to their presence in everyday experience, more recent research suggests that holding EIEDs toward an attitude object can have meaningful consequences for our thoughts, feelings, and actions. We now describe a number of implications resulting from holding EIEDs.

### **Affective, Cognitive, and Behavioral Consequences of Discrepancies**

Heretofore, we have shown that EIEDs can be produced in the lab (e.g., subliminal priming) and can occur in daily life as well (e.g., unattractive people described as performing positive actions). Now, we explore the consequences for holding these inconsistencies for a wide array of important processes and outcomes.

Broadly, implicit and explicit evaluations have been shown to differentially predict behaviors toward attitude objects (e.g., Dovidio, Kawakami, & Gaertner, 2002; McConnell & Leibold, 2001; Petty & Briñol, 2009). In the realm of intergroup behavior, implicit racial associations have been found to uniquely predict nonverbal behavior toward minority group members (e.g., Dovidio et al., 2002; McConnell & Leibold, 2001), however, this does not necessarily mean that implicit evaluations are better predictors of behavior than are explicit evaluations. For example, although implicit evaluations predict spontaneous behavior toward a novel individual such as seating distance (i.e., people sit closer to those for whom they have more positive implicit evaluations), explicit evaluations predict more deliberative behavior such as desire for future contact (Rydell & McConnell, 2006) and the degree to which people disclose their sexual orientation to others (Jellison, McConnell, & Gabriel, 2004). Returning to our previous example, the woman on her blind date may express verbal positivity and a genuine interest in future activities with her date in line with her positive explicit evaluations of him, yet she may display anxious, negative nonverbal behaviors toward her date as a consequence of her implicit evaluations (and such mixed signals may, in turn, affect the behaviors and attitudes of her dating partner as well; Shelton & Richeson, 2006).

More recently, research has examined new consequences of possessing EIEDs beyond differential predictions of behavior. For example, holding EIEDs toward an attitude object may elicit a type of ambivalence. Petty and colleagues, for instance, demonstrated that such discrepancies can lead to implicit ambivalence (i.e., an association between the attitude object and doubt in memory), which ultimately increases information processing in an attempt to reduce attitudinal inconsistencies (e.g., Briñol, Petty, & Wheeler, 2006; Petty & Briñol, 2009; Petty et al., 2006). Further support comes from research findings that individuals with discrepant self-conceptions (e.g., beliefs about one's own level of shyness) engaged in more elaborate processing of persuasive messages (i.e., central route persuasion) relevant to the domain of their discrepancy (e.g., arguments favoring shyness), although this work did not measure the proposed mechanism of ambivalence directly (Briñol et al., 2006). Similar outcomes showing increased information processing (i.e., making stronger distinctions between strong and weak counterattitudinal arguments) have been observed for perceivers with EIEDs toward a novel target individual when reading persuasive arguments purportedly authored by the target (Rydell, McConnell, & Mackie, 2008). Thus, EIEDs toward an attitude object can produce increased attentional deployment presumably in the service of understanding evaluative discrepancies despite people not being aware they hold mixed feelings toward the attitude object (Petty & Briñol, 2009). Returning to our previous example, when deciding about which job offer to accept, the applicant may exhibit ambivalence when holding inconsistent explicit and implicit evaluations toward the job offers, and this state may

encourage the person to process relevant information in a more elaborative fashion in the wake of this ambivalence (e.g., scrutinize salary, ponder a position's location and climate more extensively).

Even if people under implicit ambivalence do not experience mixed evaluations that they understand the cause of or that they can consciously report (Petty & Briñol, 2009), it may be possible that EIEDs may be experienced in other ways. Research on cognitive dissonance shows that holding inconsistent beliefs produces feelings of discomfort and tension, leading people to expend cognitive resources to eliminate this discomfort (e.g., Cooper & Fazio, 1984; Festinger, 1957; Stone & Cooper, 2001). Indeed, considerable work has shown that negative affect can serve as a signal to the individual that something needs greater attention to produce more consonant beliefs (Schwarz & Clore, 1983, 2003), and thus, it is possible that people holding EIEDs may experience tension and discomfort even if they are unable to report on holding implicit evaluations that differ from their explicit evaluations (which makes sense given that associative knowledge is not readily available for conscious reflection). Indeed, if EIEDs elicit negative arousal that individuals are motivated to eliminate, one way to reduce this negative affect is to engage in information processing about the attitude object to learn more about it. Supporting this prediction, Rydell et al. (2008) demonstrated that holding EIEDs toward a novel target person produced feelings of tension and discomfort, which in turn accounted for (i.e., mediated) greater information processing about a persuasive message authored by that target individual. Thus, even when people could not report implicit ambivalence (Petty & Briñol, 2009), they can experience negative affect, which serves as a signal to engage in greater information processing (Rydell et al., 2008).

Enhanced information processing that results from EIEDs may have other consequences. For example, extra cognitive effort (e.g., Briñol et al., 2006; Rydell et al., 2008) may be directed toward biased scrutiny and motivated reasoning. For example, Shoda, McConnell, and Rydell (forthcoming) found that perceivers with divergent explicit and implicit racial evaluations exhibited race-related motivated reasoning. In one study, Shoda et al. showed that holding relatively more positive explicit than implicit evaluations toward African Americans resulted in greater scrutiny being devoted to a counterattitudinal appeal authored by an African American professor. Thus, racial EIEDs triggered greater derision of an African American (but not a White) authors' counterattitudinal appeal, triggering attitude polarization among those with greater racial EIEDs. Thus, in addition to cognitive dissonance, motivated reasoning can result from holding EIEDs.

Other important downstream consequences may also result from holding inconsistent explicit and implicit evaluations. For example, one important source of information we use in decisions about our futures is our attitudes. Returning to our previous example, we would expect that when faced with two job offers, one would be best served by picking the job offer that will lead to the greatest positivity. However, if only evaluations from the rule-based system (i.e., explicit evaluations) are available for deliberation and contemplation, possessing inconsistent implicit evaluations may open one to errors through inaccurate affective forecasting. Thus, although people can only draw on that knowledge that is consciously accessible in anticipating the future, this information may only be a subset of the knowledge that contributes to momentary experiences (Gawronski & Bodenhausen, 2006).

Therefore, one potential cause of systematic error in affective forecasting (e.g., Wilson & Gilbert, 2003) may be an inability to factor discrepant implicit evaluations into one's forecasts because information derived from the associative system is unavailable to people in prospect when attempting to render a prediction about future happiness. Consistent with this prediction, research has shown that when people predict their future enjoyment for eating food items, their forecasts reflect their explicit evaluations of the food items (i.e., the attitude object feelings they

can consciously articulate), yet both rule-based and associative knowledge predict people's in-the-moment enjoyment of eating the food (McConnell, Dunn, Austin, & Rawn, 2011). As a result, people's misforecasts were uniquely predicted by their implicit evaluations (i.e., the knowledge not available to them at the time of rendering a forecast and basing a decision on what was consciously available), demonstrating that EIEDs represent a cognitive blind spot in judgment and decision making situations.

These findings have important implications for self-regulation in general, and with respect to the dieter in our previous example specifically. Successful self-regulation would clearly benefit from an accurate assessment of both future affective states (e.g., how individuals would feel if they forgo the short-term benefits to achieve their long-term goals) as well as temptation strength (e.g., how much do they value this short-term benefit and therefore, what amount of self-regulatory resources must be employed to overcome it). In other words, a dieter is likely to have less self-regulatory success when holding EIEDs toward unhealthy snack options (e.g., negative explicit evaluations with respect to the consequences of eating poorly versus positive implicit evaluations associated with the positivity of yummy, sweet snacks) and base affective forecasts on explicit evaluations alone. Being relatively unaware of the strength of an implicit association between doughnuts and positivity may leave a dieter ill-equipped to deal with the difficulty of self-regulation when it arises and less likely to avoid such temptations in the first place. Initial evidence for the importance of considering both implicit and explicit evaluations in self-control situations comes from research indicating that when self-regulation resources were plentiful, consumption of candy was predicted by dietary restraint standards (i.e., explicit evaluations toward unhealthy snacks), but when self-regulation resources were lacking, consumption was uniquely predicted by automatic or implicit evaluations toward candy (Hofmann, Rauch, & Gawronski, 2007).

Clearly, the implications for holding EIEDs are as varied as they are impactful. Although much of the initial research on implicit attitudes focused on behavioral dissociations associated with evaluations assessed by implicit and explicit attitude measures (e.g., seating distance vs. desire to interact with a person of another race), more recent research documents broader outcomes, ranging from dissonance and ambivalence (e.g., Briñol et al., 2006), to motivated reasoning (Shoda et al., forthcoming) to self-regulation failure (Hofmann et al., 2007).

## Conclusions

Although likely to be caused by a diverse array of processes, the emerging body of research on EIEDs suggests that explicit-implicit inconsistencies may lead people to suboptimal behaviors and choices, and clearly, understanding such dysfunctional outcomes warrants further attention. For example, experiencing such discrepancies may serve a functional role by signaling that additional action and cognitive resource expenditures are required in relation to an attitude object (e.g., Harmon-Jones & Harmon-Jones, 2002). In fact, research demonstrating that evaluation inconsistencies are aversive and trigger additional attentional deployment to better understand one's environment indicates that situations involving evaluative discrepancies may have adaptive value for the perceiver (Rydel & McConnell, 2010).

Although the development of implicit measures of attitudes and the increasing interest of the relation between implicit and explicit evaluations have yielded significant advances during the past few decades, there are still many unanswered questions yet to be explored. For example, moderators of the effects involving EIEDs have yet to be identified. It is plausible that individuals who are more sensitive to their affective experiences (e.g., Epstein, Pacini, Denes-Raj, & Heier, 1996) may show exaggerated effects (e.g., greater attentional deployment) stemming from holding EIEDs. In addition to individual difference moderators, situational

moderators may be important. For instance, prospect theory (Kahneman & Tversky, 1979) asserts that negativity is psychologically greater than positivity, and thus, direction of EIEDs might matter. Specifically, one can imagine that EIEDs involving negative evaluations may have a greater impact than comparable EIEDs that reflect differing degrees of positivity (e.g., mildly positive implicit evaluations with extremely positive explicit evaluations). Additionally, future research would benefit from examining which behaviors aimed at reducing evaluative inconsistencies are actually effective in resolving the discrepancy in addition to reducing ambivalence or dissonance related negative affect. The SEM suggests a possible pattern of attitude change that may often result from such discrepancies. Specifically, explicit evaluations may be more likely to change in response to evaluation discrepancies because they typically change more quickly than implicit evaluations (e.g., Rydell, McConnell, Strain, Claypool, & Hugenberg, 2007). However, research has also shown that implicit attitudes can change quickly and significantly (e.g., Dasgupta & Greenwald, 2001), especially if the self can be implicated (e.g., Woodcock & Monteith, 2013). This is clearly an area where more research is needed.

In this article, we reviewed some key factors that improve our understanding of the processes by which EIEDs emerge and influence our thoughts, feeling, and behavior. At a fundamental level, inconsistent evaluations are the product having positive and negative knowledge about attitude objects (e.g., Gawronski & Bodenhausen, 2006; Petty et al., 2007; Rydell & Gawronski, 2009), and the SEM explains how these evaluative inconsistencies affect behavior in meaningful ways (e.g., McConnell & Rydell, forthcoming; Rydell & McConnell, 2010). Such discrepancies may arise in response to the influence of extrapersonal associations (e.g., Fazio & Olson, 2003), differences in experiences that shape rule-based and associative knowledge (e.g., Rydell et al., 2008), differences in when one encounters evaluative knowledge (e.g., Rydell et al., 2007), and differences between propositional information and group-relevant cues that are strongly associated with valence (e.g., McConnell et al., 2008). In addition to differential influences on behaviors toward attitude objects (e.g., Dovidio et al., 2002; McConnell & Leibold, 2001), EIEDs can also trigger increased information processing (e.g., Briñol et al., 2006), motivated reasoning (Shoda et al., forthcoming), errors in affective forecasting (e.g., McConnell et al., 2011), and self-regulatory shortcomings (e.g., Hofmann & Kotabe, 2012). Although a dieter resisting temptation, a recent graduate making a choice between job offers, and a person forming an impression of a blind date may seem quite different, feelings and behaviors in these everyday situations will be driven by multiple forms of knowledge (i.e., associative and rule-based), which, when inconsistent for any number of reasons previously outlined, produce a variety of important outcomes that may be quite similar across contexts (e.g., ambivalence, aversive affect, greater information processing). Given the role of implicit inconsistencies in shaping human behavior and its lack of availability for conscious reflection and deliberation, understanding the processes involved in explicit-implicit evaluative discrepancies is especially important.

### Short Biographies

Tonya M. Shoda is a doctoral student in social psychology at Miami University. She received her BA in Psychology from Arizona State University, and she earned her MA in Psychology from Miami University. Tonya's research has been published in a number of outlets, including *Journal of Personality and Social Psychology*, *Journal of Experimental Social Psychology*, *Social Cognition*, and *The Oxford Handbook of Social Cognition*. Her research interests include interpersonal sensitivity, motivated reasoning, the implications of holding implicit-explicit evaluations discrepancies, and the psychology of pet ownership.

Allen R. McConnell is the James and Beth Lewis Professor of Psychology at Miami University. He received his BA in Psychology from the University of Cincinnati, and he earned his PhD in Psychology from Indiana University. He is currently Editor in Chief of *Social Psychological and Personality Science*, and he has served as an Associate Editor of *Journal of Personality and Social Psychology* and as an Associate Editor of *Journal of Experimental Social Psychology*. Allen's primary areas of research include the formation and consequences of implicit and explicit evaluations, self-concept representation and its implications, social stigma and its consequences for performance, and the psychology of pet ownership. His research has been supported by grants from the National Institute of Mental Health and the National Science Foundation.

Robert J. Rydell ("BJ") is an Assistant Professor of Psychological and Brain Sciences at Indiana University. He received his BS in Psychology from Purdue University, earned his PhD in Psychology from Miami University, and was a post-doctoral fellow at the University of California, Santa Barbara. He is currently an Associate Editor of *Personality and Social Psychology Bulletin*. BJ has received a number of recognitions, including the International Social Cognition Network Early Career Award and being named "Rising Star" by the Association for Psychological Science. BJ's research primarily focuses on understanding the mechanisms underlying stereotype threat-based performance and learning decrements and on the differences between implicit and explicit attitude measures (i.e., attitude formation, attitude change, attitudinal discrepancies, and attitude-behavior correlations).

### Note

\* Correspondence: Department of Psychology, Miami University, Oxford, OH, 45056, USA. Email: shodatm@miamioh.edu

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