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Asking about well-being gets you half an answer: Intra-individual processes of implicit and explicit job attitudes

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Summary Job attitudes, as indicators of well-being, vary within individuals across cognitive processes and not just time. Research on employee well-being has relied primarily on self-reported measures of explicit job and life attitudes. Our work takes a different perspective on this issue by examining the role of implicit attitudes regarding one's organization, coworkers, and supervisor as indicators of well-being. Implicit attitudes are automatic, introspectively inaccessible, and predict behavior in socially sensitive contexts in which self-report measures may be impaired by impression management. The results of a field study demonstrate that implicit and explicit job attitudes reflect relatively independent intra-individual processes. Additionally, this study demonstrates that job performance and citizenship behaviors are best predicted by a combination of implicit and explicit job attitudes, and that a dissociation between implicit and explicit attitudes impacts organizational identification. We conclude with a discussion of how capturing implicit cognition in the workplace can better describe and subsequently help improve employee well-being. Copyright © 2011 John Wiley & Sons, Ltd.

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Introduction

Recent work on employee well-being has described job satisfaction as a set of judgments created in the moment (Weiss & Cropanzano, 1996; Ilies & Judge, 2004), with the expectation that these evaluative states change over time and as a function of events along multiple dimensions, including current goals (Smith & Lazarus, 1993). These advances recognize that employee well-being is a fluid and dynamic process, and measurement techniques and theories have been developed that better explain the complexity of how employees respond to workplace events. One variable that remains central to our understanding of employee well-being is job satisfaction.

Job satisfaction has been identified as a key indicator of employee well-being (De Jonge & Schaufeli, 1998), a strong predictor of employee physical and mental health (Faragher, Cass, & Cooper, 2005), and the focus of most of the attention paid to work-life and well-being (Spector, 1997). Its role as an indicator of well-being and predictor of employee wellness (Faragher et al., 2005) and subsequent organizational outcomes (Judge, Thoreson, Bono, & Patton, 2001) highlights its continued value to organization scholars.

Recently, studies using experience-sampling methodologies (ESM) have added a great deal of sophistication to our understanding of satisfaction as an intra-individual process (Fisher, 2000; Ilies & Judge, 2002). We add to the

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discussion of intra-individual processes by exploring two *simultaneously occurring* indicators of employee well-being: explicit job attitudes (which have a long history in organizational scholarship), and implicit job attitudes (which have until now been relatively neglected). Because implicit and explicit attitudes have been shown to be, at least in part, mutually independent predictors of behavior (Greenwald, Poehlman, Uhlmann, & Banaji, 2009), using both types of measures can offer a more complete picture of employee well-being in the workplace. The present research examines how implicit attitudes towards one's organization, supervisor, and coworkers combine with explicit job satisfaction measures to better predict job performance. Additionally, we examine how the relationship or conflict between implicit and explicit attitudes impacts organizational identification.

What are Implicit Attitudes?

In recent years, social cognition research has developed measures of *implicit attitudes,* revealing cognitive processes that often occur outside of awareness (Greenwald & Banaji, 1995). Implicit attitudes have been shown to predict a wide variety of behavioral, judgmental, and physiological indicators (Greenwald et al., 2009). For instance, an implicit association between ''male'' and ''science'' predicted females' choice of undergraduate major more than aptitude (Smyth, Nosek, Greenwald, & Banaji, 2009). And, high implicit self-esteem has been associated with ability to buffer oneself from failures (Greenwald & Farnham, 2000)—a domain relevant to well-being.

We argue here that accumulated attitudes developed associatively over time are stored in tandem to deliberative and explicit attitudes about one's job. These implicit attitudes usually precede the cognitive reflection and deliberation used in the construction of explicit attitudes, are frequently introspectively inaccessible to the individual (Greenwald & Banaji, 1995), and drive unique variance in behavior (Greenwald et al., 2009). Our goal here is not to replace self-reported or explicit measures of job attitudes and well-being in the literature, but to present complementary indicators that contribute to a more complete picture of employee well-being.

How Might Implicit and Explicit Attitudes towards Work Differ?

Research shows that explicit attitudes in particular can be influenced by cognitive and motivational forces including social desirability, evaluation apprehension and dissonance reduction (Greenwald & Nosek, 2009). By contrast, recent research suggests that implicit attitudes do not typically incorporate social norms (Nosek & Hansen, 2008).

For example, when asked whether she is satisfied with her work, an employee might answer after reflecting on her tenure in the organization for several years, having a mortgage to pay in an uncertain economy, and working fewer hours than her friend. By contrast, implicit attitudes may be shaped by a myriad of past experiences and interactions in the workplace, uninfluenced by thoughts that require reflective, conscious deliberation.

In short, implicit and explicit attitudes are inevitably somewhat independent appraisals of a social target. Low to moderate correlations between implicit and explicit measures have been repeatedly demonstrated in domains such as gender and racial bias (Greenwald et al., 2009), and as a function of social desirability pressures, attitude complexity, and time allowed for deliberation (Fazio & Olson, 2003; Nosek & Smyth, 2007). Thus, implicit work attitudes might be best described as more *reflexive*, and explicit attitudes as more *reflective* (Lieberman, 2007; Meglino & Korsgaard, 2007).

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Implicit Attitudes and Job Behaviors

There are three explanations for why implicit attitudes may lead to independent predictions of work behavior. First, implicit attitudes have been shown to be significantly more predictive than their explicit counterparts in socially sensitive or personally threatening domains, where impression-management or self-deception might likely redirect self-reports (Greenwald et al., 2009).When job attitudes are reported explicitly, they are subject to a complex process of labeling, attributing, and appraising (Judge et al., 2001). Workplaces are complex social environments, and as such, reports of job attitudes likely take into account social sensitivities and personal motivations.

Secondly, although implicit attitudes can drive judgments made rapidly and without conscious awareness (Greenwald et al., 2009), they are still independently predictive of a wide range of more deliberative outcomes, including voting behavior (Galdi, Arcuri, & Gawronski, 2008), suicide attempts (Nock, Park, Finn, Deliberto, Dour, & Banaji, 2010), and discrimination in inviting applicants for job interviews (Rooth, 2010). A recent meta-analysis has shown that implicit attitudes reliably predict a wide variety of behaviors in analyses that include their explicit counterparts as predictors (Greenwald et al., 2009).

Thirdly, because job performance is episodic (Motowidlo & Schmit, 1999), it consists of elements of deliberative and sustained efforts, as well as behaviors that are discretionary, automatic and in the moment (Motowidlo, Borman, & Schmit, 1997). Implicit attitudes should be good predictors in both domains, whereas explicit attitudes are generally more predictive in the former. Below, we discuss how specific implicit attitudes might predict traditional job performance and organizational citizenship behaviors (OCBs), both behaviors that influence and are influenced by employee well-being.

Implicit Organizational Attitudes and Job Performance

Following the arguments of Lane and Scott (2007) that the organization itself is the central social category representing one's work, we first propose that implicit attitudes about the organization should predict job performance. It is generally accepted that when we hold positive attitudes towards something (e.g. the organization where we work), we will engage in behaviors that sustain that target (e.g. have high job performance). Evidence for this claim has been demonstrated with the use of explicit measures of job satisfaction (see Judge et al., 2001 for a review). However, as the meta-analysis conducted by Judge et al. (2001) demonstrates, the relationship between explicit job satisfaction and job performance is only a moderate correlation, leaving room for other explanatory factors. For the reasons described above, we contend that including implicit attitudes towards an organization will add greater predictive power for job performance in general:

Hypothesis 1. Implicit attitude toward the organization will predict general job performance, controlling for explicit job satisfaction.

Implicit Attitudes and OCBs

There is also reason to believe that implicit attitudes might influence performance in other domains related to job performance. Job attitudes are particularly likely to be powerful predictors in domains where personal discretion is high, such as OCBs, which fall out of the purview of traditional task performance. For instance, while my liking for my colleagues might not influence how I perform my formal job requirements, my feelings towards them might

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influence the extent to which I would spontaneously help a coworker when there is no formal incentive to do so. In addition, Organ (1994) discusses how OCBs emerge in ''weak situations'' where contextual factors such as personality or disposition might play a role. We argue here that implicit attitudes are yet another factor that might determine whether an employee chooses to spontaneously help a fellow coworker or his/her organization. OCBs are discretionary in part because they address problems that are unforeseen and can't be pre-planned (Organ, 1994) and the choice to engage in a specific OCB may happen in the moment, as opposed to after lengthy deliberation. Thus, implicit attitudes, because of their automatic nature, may be just as influential in driving OCBs as explicit attitudes, which are reflective and thought to drive more deliberative behavior.

Of course, not all citizenship behavior occurs spontaneously, and other motives (e.g. impression management and self-enhancement) sometimes drive citizenship. However, implicit attitudes have been shown predictive of both spontaneous and deliberative behavior (Greenwald et al., 2009), and there is reason to believe that implicit attitudes may also influence more deliberate citizenship behaviors as well.

Theory on organizational citizenship conceptualizes the immediate supervisor as the perceived principal beneficiary of OCB enacted on behalf of the organization (Bateman & Organ, 1983). Contemporary research on OCB has theorized a social transaction approach, wherein trust in the supervisor (Konovsky & Pugh, 1994) or relationship quality with one's supervisor (Wang, Law, Hackett, Wang, & Chen, 2005) are key determinants of OCB. Additionally, meta-analysis demonstrates a significant correlation between leader-member exchange (relationship quality between a supervisor and a subordinate) and subordinate OCB (Gerstner & Day, 1997; Ilies, Nahrgang, & Morgeson, 2007). As such, an employee's liking of their supervisor should be associated with citizenship behaviors; this liking should be best captured by measuring both implicit and explicit attitudes.

Hypothesis 2. Implicit attitude toward one's supervisor will predict organizational citizenship behavior, controlling for explicit job satisfaction.

Not only might one's attitude towards a supervisor influence citizenship, but our feelings towards our coworkers are also a likely predictor of OCBs. While explicit attitudes about coworkers may include reflection and elaboration about a coworker's dedication, competence, integrity, instrumentality, or other professional attributes, implicit attitudes reflect a simpler, reflexive appraisal of the individual. Cialdini (2001) has demonstrated that interpersonal liking is a powerful driver of compliance with requests and offering interpersonal helping. Indeed, we have an evolutionarily developed need to establish and maintain meaningful social relationships (Cialdini & Goldstein, 2004), which we accomplish by helping those we like. It has even been demonstrated that perceptions of moral obligation to help a coworker varies as function of liking—helping others is a moral obligation, but only if we like the target (Miller & Bersoff, 1998).

It is reasonable to believe, then, that implicit attitudes create a signal to help—we will automatically seek to approach and actively engage the people we perceive positively. An appraisal of one's colleagues might be best captured through the measurement of both implicit and explicit attitudes. Thus, we expect that implicit attitudes about coworkers should also drive citizenship behavior:

Hypothesis 3. Implicit attitudes toward one's coworkers will predict organizational citizenship behavior, controlling for explicit job satisfaction.

Finally, we investigate the consequences of the level of correspondence between implicit and explicit attitudes on employee well-being. While there has been very little work done on the relationships between implicit and explicit attitudes (cf. Penner et al., 2009) and their consequences for how individuals feel and behave, it stands to reason that a divergence between implicit and explicit attitudes might have important, long-term effects on employee well-being. It is important to note that because implicit attitudes frequently operate outside of conscious awareness, cognitive dissonance is not necessarily triggered when they fail to correspond with their explicit counterparts. However, this lack of correspondence may still create some form of subtle ambivalence (Nosek, 2005), and, in the case of job attitudes, prevent individuals from fully embracing the organizations to which they belong. Therefore, we

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also chose to examine the effects of correspondence between implicit and explicit job satisfaction on one factor closely related to well-being: organizational identification. Organizational identification is the extent to which an individual perceives themselves to be a part of the larger organization, and the organization as an important part of who they are (Rousseau, 1998). Organizational identification has been argued as a driving force behind worker well-being (Weiss, 1990), and the process of organizational identification requires changing one's deep self-structures to include the organization in the self (Turner, 1978). We argue here that low correspondence between implicit and explicit attitudes might lead employees to not merge their self-concept with the greater ''we,'' a process which has been demonstrated to be influenced by subtle and non-conscious processes (Brewer & Gardner, 1996). As such, low correspondence between implicit and explicit job satisfaction should be associated with reduced identification with the organization:

Hypothesis 4. Individuals who show greater differences between implicit and explicit attitudes towards their organizations will demonstrate lower levels of organizational identification.

To summarize, the current study introduces implicit attitudes into the organizational literature. Though previous scholars have described the organizational implications of implicit race and gender biases (Chugh, 2004; Hekman, Aquino, Owens, Mitchell, Schilpzand, & Leavitt, 2010) and used Implicit Association Test (IAT) methodology to test implicit assumptions about the moral nature of business (Reynolds, Leavitt, & Decelles, 2010), this study represents the first contribution employing implicit association to examine employee well-being. We also provide theoretical rationale to explain why implicit job attitudes may be effective predictors of job performance, above and beyond explicit measures of job satisfaction. In addition, we also examine how the relationship between implicit and explicit attitudes might impact employee well-being in the form of organizational identification.

Methods

Sample

E-mails and flyers were distributed to 450 employees of a military community hospital in the Rocky Mountain region of the United States, asking them to participate in a 6-week voluntary study of job attitudes. Of these, 89 completed the initial enrolment survey and informed consent, representing a response rate of 19.7%. One participant asked to disenroll from the study following the initial registration.

Of the 89 participants who completed the initial enrollment, 36 participants (39%) had been employed in the hospital for 5 or more years, and 22 participants had been employed at the hospital for <1 year, with a mean of 3.78 years. The median total of full-time work experience was >16 years, and the median age was 39–49 years.

For each weekly session, participation ranged from 67 to 84 (75–94.3%). Additionally, participants were asked to print or forward a brief job performance rating form to their direct supervisors. Of these, 45 (50%) of the supervisors completed and returned the confidential supervisor evaluation.

Independent measures

Implicit measures. To date, the most widespread, reliable and generally accepted tool for capturing implicit attitudes is the IAT developed by Greenwald, McGhee and Schwartz (1998). The IAT is a computer-based task that asks participants to rapidly sort target stimuli items by category using a computer keyboard (e.g. the ''d'' key when coworkers' names appear, and the ''k'' key when other names appear). The second experimental block involves

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sorting valenced words using the same procedure. The third block requires participants to complete the two previous tasks in alternation, using a shared response (e.g. a coworker's name *or* a positive word requires a ''d'' key press, and a stranger's name *or* a negative word requires a ''k'' key press). In the final block, the pairings are reversed. Average response latency differences for the combined task blocks constitute the IAT measure (for instance, demonstrating that associating coworkers and unpleasant words takes longer than associating coworkers and pleasant words). Single category training blocks precede experimental blocks, and all blocks are balanced for presentation order and left-right placement (see Greenwald, Nosek & Banaji, 2003, for more details).

Much attention has been devoted to the development and validation of the IAT. Briefly, it has been demonstrated robust to attempts at faking (Asendorpf, Banse, & Mucke, 2002; Steffens, 2004), shows acceptable internal consistency (Greenwald & Farnham, 2000), test–retest reliability (Nosek, Greenwald & Banaji, 2007), and predicts behavioral outcomes across multiple domains of social behavior (Greenwald et al., 2009).

We constructed IAT measures for attitudes toward the organization, coworkers, and supervisor, following the procedures described by Greenwald et al., (2003). We scored all IATs using the most commonly used and generally accepted ''D'' with built in error penalty scoring algorithm for the IAT.[1]

Because average response latency varies as an individual difference, we decided *a priori* to use as disqualification criteria average response latencies under 400 milliseconds combined with error rates over 40%, or all response latencies with error rates over 45%. These procedures were employed to eliminate participants who were either not sufficiently engaged (rapid key pressing) or did not understand the nature of the task. Only one IAT protocol of the total obtained met the disqualification criteria (for the implicit coworker attitudes task). Appendix 2 lists and describes all stimulus items used for the IAT tasks.

For the organization task, we used image-based stimuli, with target items such as the hospital's logo. We used informal interviews with multiple military care providers not taking part in the study to choose equivalent objects from a similar-sized military hospital in another region, in an equivalently-desirable and similarly-sized city. This created an operational definition of the organization as ''the military hospital I work in'' contrasted with ''other military hospitals'' and controlling for attitudes towards the military or attitudes towards working in a hospital versus other types of organizations.

The coworker attitudes IAT and the supervisor IAT employed an idiographic approach to increase relevance. At the beginning of the task, participants were asked to type the proper names of three people they consider to be coworkers. These names were employed as the target category of ''my coworkers''. Next, they were presented with three pairs of names of ''other hospital employees'' and asked to identify those that were least familiar to them. In fact, these names were not actually hospital employees. To avoid gender or ethnicity confounds, items in pairs were matched on gender and ethnicity, so that each participant's control category would include at least one minority-sounding name, one male name and one female name.

Finally, the satisfaction with supervisor IAT used user-generated items asking for their supervisor's name (e.g. John Smith), name with appropriate title (e.g. Col. John Smith, MD), and the supervisor's job title (e.g. Clinic Chief). To control for status or hierarchy within the chain of command, the control category was ''my supervisor's boss'' for which we collected the same user-generated name, name with title, and job title.

Faster responding on one IAT combined task than the other indicates greater strength of association of the concepts sharing the same key in that task. The organization IAT measure was scored so that numerically higher scores indicated stronger association of the participants' own military hospital (than the comparison one) with positive valence; higher coworker attitude IAT scores indicated stronger association of participant-entered coworkers (than other employees) with positive valence; and higher supervisor attitude IAT scores indicated stronger association of participant-entered supervisors (than their supervisor's boss) with positive valence.

[1]The D algorithm uses as numerator the difference between mean latencies of the two combined tasks. These means included error trials, which incorporated a time penalty because the subject was obliged to complete each trial with the correct response. The numerator difference is divided by an ''inclusive'' standard deviation computed from all of the subject's latencies in both combined tasks (not a pooled *SD* for the two tasks). Further computational details are available in Greenwald et al. (2003), who showed that the D algorithm is psychometrically superior to various alternatives.

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Explicit job satisfaction. We used a nine-item scale based upon Edwards and Rothbard's (1999) job satisfaction scale to measure explicit job attitudes, capturing sub-domains of attitude toward the job itself, attitude toward coworkers, and attitude toward supervisor. All items were rated on a 5-point Likert scale, with endpoints of 1 (strongly disagree) and 5 (strongly agree). Appendix 1 lists items for all explicit scales.

Implicit/explicit correspondence. For each of the three implicit attitudes, we standardized all variables and created a difference score from the standardized variable of explicit job satisfaction. As such, a higher number represents a greater distance between standardized implicit attitudes and explicit job satisfaction.

General job performance. Supervisors were asked to confidentially rate their participating subordinates' current performance on a 4-point scale (4. excellence/exceeds standards 3. success/meets standards 2. needs improvement 1. fails) using a form that mirrored the existing items and rating scale currently in use by the hospital.

OCBs. Participants were asked ''How often do you help your coworkers by taking on some of their work (e.g. helping with patient load, taking on some of their paperwork, staying late if they need to leave early, etc.)?.'' Response options appeared on a 6-item Likert scale including: 1. Never; 2. Two or fewer times per year; 3. 3–6 times per year; 4. Once a month or more; 5. Once a week or more; 6. Daily or nearly daily.

Organizational Identification. We used items from O'Reilly and Chatman's (1986) organizational commitment scale intended to capture identification with the organization. The two items were scored on the same Likert-scale as the explicit job satisfaction items. Items were ''I feel a sense of 'ownership' for this organization rather than being just an employee'' and ''I am proud to tell others that I am a part of this organization.''

Procedure

We employed a multi-source, multiple outcome approach to produce a conservative test of our hypotheses. Further, to reduce threats associated with common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) we separated our measures across time. It should be noted, however, that the research design is cross-sectional, as each measure was taken only once. The study consisted of 6 weekly sessions, each requiring about 10–15 min to complete. Session 1 included reviewing the information statement and informed consent for the study, establishing a confidential study pin number, and providing demographic information. The following four sessions (presented in random order) were as follows: (2) All explicit (self-report) satisfaction items, and providing supervisor information for the job performance rating; (3) The organizational IAT; (4) The coworkers IAT; (5) The supervisor IAT. Finally, the sixth session (not randomly ordered) included the OCB measure and a debriefing statement.

Results

Scales. Our nine-item explicit job satisfaction scale ($\alpha = 0.85$) and supervisor-rated job performance scale ($\alpha = 0.92$) showed high internal consistency.

Descriptive statistics for the IAT measures can be found in Table 1. A positive mean for all three IAT tasks (0.33–0.68) suggests a moderate association between the organization and ''good'', ''coworkers'' and ''good'', and ''supervisor'' and ''good.'' In other words, most participants in this sample appear to have positive implicit attitudes towards their organization, supervisor and coworkers. However, a relatively large standard deviation for each (0.34–0.42) and the presence of some negative scores suggest that implicit job attitudes remain a wide-ranging individual difference within this organization. Additionally, employing Nosek's (2005) method, we computed three separate D sub-scores for each IAT (using a split thirds method, wherein IAT tasks were separated into three equivalent sub-sets of trials). Internal reliability (Cronbach's alpha for the three D sub-scores) for all three IATs ranged from 0.80 to 0.92, demonstrating high internal consistency for IAT tasks.

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Table 1. Descriptive statistics, scale reliability and correlation matrix of all measures

Variable	Mean	*SD*	1.	2.	3.	4.	5.	6.	7.
1. Explicit organizational identification	3.97	0.85	$\alpha = 0.69$, $N = 75$						
2. Explicit job satisfaction	4.12	0.56	0.39^{**}, $N = 74$	$\alpha = 0.85$, $N = 75$					
3. Organization IAT	0.67	0.42	0.17, $N = 69$	0.16, $N = 69$	$\alpha = 0.92$, $N = 71$				
4. Coworker IAT	0.68	0.34	0.01, $N = 54$	0.20, $N = 54$	0.19, $N = 55$	$\alpha = 0.84$, $N = 68$			
5. Supervisor IAT	0.33	0.39	0.05, $N = 52$	0.19, $N = 52$	0.30^{*}, $N = 54$	0.15, $N = 50$	$\alpha = 0.80$, $N = 54$		
6. General job performance	3.70	0.44	0.37^{**}, $N = 36$	0.32, $N = 36$	0.35^{*}, $N = 38$	-0.11, $N = 32$	0.19, $N = 33$	$\alpha = 0.92$, $N = 44$	
7. OCB	4.77	1.25	-0.03, $N = 56$	-0.13, $N = 56$	-0.10, $N = 57$	0.36^{**} $N = 51$	-0.13, $N = 50$	-0.23, $N = 36$	$N = 65$

*Indicates $p < .05$, two-tailed. **Indicates $p < .01$, two-tailed. Due to the multi-session nature of the study, N varies per correlation. Implicit (IAT) scores range from negative (association of the target with "bad") to positive (association of the target with "good"); scores approaching zero show weak associations between the two categories. Coefficient α for IATs was computed using a "split thirds" reliability method.

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Bivariate correlations and tests of hypotheses

Because these three IAT scales are new measures, we completed a confirmatory factor analysis using structural equation modeling software (EQS) to demonstrate construct independence of the three IAT tasks. We specified a model identifying the three implicit measures as independent constructs, using the three split- third D scores for each IAT, and compared it to a model which specified one latent construct for the three IAT tasks (RMSEA for three factor model = 0.07, CFI = .97, $\chi^2/df = 1.14$). As expected, the three-factor model was significantly better than the one-factor model describing implicit job associations ($\Delta\chi^2 = 44.13$, $p < 0.001$). A three-factor solution confirms that the three IATs capture unique attitudinal constructs.

To help demonstrate the construct validity of our implicit attitudinal measures we correlated our three implicit attitudinal measures with explicit job satisfaction. It is important to note that implicit and explicit attitudinal measures about the same target frequently show zero to modest correlations (Nosek, 2005). We computed the zero-order correlation between the three implicit attitudes (toward the organization, coworkers, supervisor) and explicit job satisfaction. As expected, the relationship between each was positive and relatively small, but not significant at the $p = 0.05$ level (r (67) = 0.157, $p = 0.098$; r (52) = 0.198, $p = 0.076$; r (50) = 0.188, $p = 0.091$; respectively).

Implicit attitudes and job performance

Hypothesis 1. Hypothesis 1 proposed that implicit attitudes toward the organization should predict job performance, above and beyond explicit job satisfaction. Although there was a positive relationship between explicit job satisfaction and performance, this relationship did not reach traditional levels of significance ($\beta = 0.32$, $p = 0.06$). Interestingly, the regression coefficient of 0.32 (which is equivalent to a zero-order correlation because this regression involved a single predictor) is very close to the meta-analytic average documented by Judge et al. (2001). Thus, we proceeded with a test of H1 by entering the implicit measure at step 2. A model including both implicit attitude toward the organization and explicit job satisfaction had significantly more explanatory power for predicting job performance (ΔR^2 (33) = 0.10, $p < 0.05$). Controlling for explicit job satisfaction, the implicit attitude demonstrated a significant main effect on job performance ($\beta = 0.32$, $p < 0.05$). Hence, Hypothesis 1 is supported. Table 2 presents coefficients from the regression analysis.

Hypothesis 2. Hypothesis 2 stated that implicit attitude toward one's supervisor should predict unique variance in OCBs, controlling for explicit satisfaction. In step 1 of a hierarchical linear regression, we entered the explicit job satisfaction measure. Surprisingly, it did not significantly predict OCB ($\beta = -0.13$, $p > 0.05$). At step 2, we entered the implicit attitude toward supervisor. Contrary to our hypothesis, implicit attitude toward one's supervisor did not

Table 2. Summary of hierarchical regression analysis for variables predicting general job performance ($N = 35$)

Variables	*B*	*SE B*	β	*p*	*F*(*df*)	R^2	ΔR^2
Step 1							
Constant	2.6	0.56					
Explicit job satisfaction	0.26	0.13	0.32	0.06	3.81(1,34)	0.10	
Step 2							
Constant	2.5	0.54					
Explicit job satisfaction	0.22	0.13	0.27	0.09	4.21(2,33)*	0.20	0.10*
Implicit job satisfaction (Organization IAT)	0.37	0.18	0.32*	0.05			

Note: Because of the multi-session nature of the design, *N* for Hierarchical regression (including all three variables) is lower than for bivariate correlations including these variables.
*$p < 0.05$.

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Table 3. Summary of hierarchical regression analysis for variables predicting OCBs ($N = 52$)

Variables	*B*	*SE B*	β	*p*	*F*(*df*)	R^2	ΔR^2
Step 1							
Constant	5.93	1.32					
Explicit job satisfaction	−0.28	0.31	−0.13	0.38	0.789 (1,45)	0.02	
Step 2							
Constant	5.67	1.22					
Explicit job satisfaction	−0.45	0.30	−0.21	0.13			
Implicit job satisfaction (Coworker IAT)	0.87	0.40	0.40*	0.00	4.96 (2,44)	0.17	0.16

Note: Because of the multi-session nature of the design, *N* for hierarchical regression (including all three variables) is lower than for bivariate correlations including these variables.
*$p < 0.05$.

predict OCB ($\beta = -0.11$, $p > 0.05$) and inclusion of implicit attitudes did not improve explanatory power ($\Delta R^2 = 0.01$, $p > 0.05$). Thus, Hypothesis 2 was not supported.

Hypothesis 3. Explicit job satisfaction did not predict OCBs when entered into a linear regression model by itself ($\beta = -0.13$, $p > 0.05$). However, implicit attitudes towards one's coworkers did significantly predict OCBs when controlling for explicit attitudes ($\beta = 0.40$, $p < 0.05$), and the model with both types of attitudes had significantly more explanatory power ($\Delta R^2 = 0.16$, $p < 0.05$). Table 3 presents all coefficients from this regression analysis.

Hypothesis 4. We also sought to explore the possibility that low correspondence between implicit and explicit attitudes would be associated with some psychic penalty (Nosek, 2005) in the form of lower organizational identification. Distance scores between implicit and explicit attitudes towards coworkers and supervisors were negatively associated with organizational identification ($r\ (53) = -0.35$, $p < .01$; $r\ (51) = -0.26$, $p < 0.05$, respectively). And, the same relationship was true for attitudes towards the organization, though the correlation did not reach traditional levels of significance ($r\ (68) = -0.17$, $p = 0.08$). Thus, we can conclude that overall, as expected, individuals who felt a 'conflict' or larger distance between their implicit and explicit attitudes about their organization were less likely to identify with the organization.

Discussion

This research identifies the theoretical and practical importance of implicit job attitudes as a factor in employee well-being, adapts a series of measures for capturing them, and distinguishes them from explicit attitudes. Our research uncovers several important findings. First, implicit satisfaction with one's organization and coworkers predict both job performance and OCBs, respectively, above and beyond explicit attitudes. Thus, capturing both implicit and explicit job attitudes produces a clearer picture of employee well-being. Moreover, our research shows that the correspondence between these two types of attitudes has real consequences for employee well-being via organizational identification. Broadly speaking, our results highlight the importance of examining employee well-being across implicit and explicit cognitive processes.

Our study makes several significant contributions. First, and perhaps most importantly, we introduce the concept of implicit attitudes to organizational studies. While the study of implicit attitudes has often been associated with stereotyping and prejudice, our research advances the possibility that implicit or unconscious attitudes can have broader implications for employee well-being, job performance, and organizational dynamics. Second, we developed and empirically tested three new measures of implicit attitudes (towards coworkers, supervisors, and organization) in a real world setting. Most research on implicit attitudes has been conducted in laboratory settings with undergraduate student populations, causing critics of this research to question the external validity of most of

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the research done with the IAT (see Landy, 2008, and Greenwald, 2008 for a reply). By contrast, the current research uses an adult working sample in an organizational setting to demonstrate that these implicit attitudes, and their relationships with explicit attitudes, can have important consequences on employee and organizational well-being. Finally, we provide convincing evidence that the relationship between implicit and explicit attitudes towards one's job can both be an important indicator and effect of employee well-being.

Limitations

The design of this research project—which required participants to commit to logging in several times to complete multiple measures over 6 weeks, as well as asking their supervisors for an additional performance appraisal—led to some necessary sacrifices. We recognize, for instance, that a larger sample size and additional scale items to measure OCBs and organizational identification would allow for additional analyses and strengthen our study conclusions.

Due to the field setting of our study, it was also not possible to capture the impact of non-conscious processing on behavior directly. However, the unique variance in performance outcomes predicted by implicit measures demonstrates that some portion of work performance is driven by non-conscious processing. Controlling for explicit scales and relying upon a relatively small sample, we demonstrate that implicit cognition in the workplace meaningfully indicates employee well-being and impacts performance. Finally, implicit attitudinal measures are in no way a perfect solution for predicting job behavior, but rather represent an important and heretofore scientifically neglected element of job attitudes, tapping unique and surprisingly relatively independent processes.

Implications for theory and practice

Despite the limitations listed above, we believe that the current research study has provided compelling reasons for introducing implicit attitudes into the study of employee well-being. Our research shows that including implicit attitudes helps organizational researchers to better capture employee's appraisals of organizational life, and that this broader picture has consequences for employees and the organizations to which they belong. Further, we demonstrate that non-conscious and taken for granted processes are related to performance, citizenship, and organizational identification, all factors that are important when assessing employee well-being.

Most importantly, our research brings a new perspective to the study of intra-individual processes and employee well-being. Rather than conceptualizing fluctuations in well-being across time, we examine well-being within the individual, as a function of two types of cognitive processes: one reflexive and automatic, the other reflective and deliberate. These findings highlight the importance of conceptualizing well-being as a complex juxtaposition of internal and external factors, which can vary within individuals. From a theoretical perspective, our findings make an exciting advance in the classic debate regarding the relationships between job satisfaction and job performance. Many organizational scientists have been stymied by the low correspondence between job attitudes (namely satisfaction) and performance, and our research uncovers a new area that explains additional variance. We demonstrate why reliance on self-report measures may have contributed to the low explanatory power of explicit measures of job satisfaction in the past.

The focus on implicit attitudes may be of interest to practitioners as well for several reasons. First, any additional predictive value in job performance may translate to additional revenues generated, heightened customer satisfaction, or number of lives saved. Given that employee well-being (in the form of combined implicit and explicit indicators) might explain more variance in performance outcomes than previously thought, organizations may have greater incentive to attend to employee well-being. Second, managers have begun to recognize the limitations of self-report measures, which are susceptible to impression management, social desirability and various processes described above. Managers might find opportunity in capturing implicit job attitudes within contexts where self-reports are unlikely to be accurate, such as when layoffs are feared or when employees are incentivized for appearing

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content. Theories of implicit attitudes also allude to how organizational leaders might effectively manage relationships between the organization, employee, and coworkers. Our findings suggest that those leaders who wish to encourage higher performance might try to strengthen associations between the organization and positive feelings, while those who want to encourage citizenship would benefit more from strengthening friendship networks between coworkers. Attending to the differences between implicit and explicit attitudes also provides insightful implications for how to deal with organizational change. For instance, Rudman (2004) and Rudman, Ashmore, & Gary (2001) demonstrated that factors that predict change from explicit attitudes are different from those that determine change in implicit attitudes. In juxtaposition with our current research, their research suggests that organizational leaders should take a two-pronged approach (attending to both deliberative and automatic aspects of organizational life) to optimize organizational well-being.

To conclude, our research provides a strong foundational test for the study of implicit job attitudes within a professional field setting. While this study is the first empirical test of implicit job attitudes, it was nevertheless designed to employ a rigorous and conservative test of implicit attitudes; namely to (1) Capture multi-source or behavioral outcomes while reducing common method threats; (2) Test predictions in a ''real-world'' field setting with clear organizational structure, appraisal process, and roles; and (3) Evaluate value-added in the presence of analogous explicit (self-report) attitudes. As such, the current study demonstrates that intra-individual employee well-being varies as a function of process, as well as time. Other domains of employee well-being may also benefit from adding implicit analogs to the explicit measures already in use. Additionally, scholars using ESM might investigate the role of changes in both attitude types over time. We suggest that including implicit cognition in organizational theories and methodologies will provide greater understanding of employee well-being in organizational life.

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Appendix 1: Explicit Measures

Explicit job satisfaction

1. All in all, the job I have is great.
2. In general, I am satisfied with my job.
3. My job is very enjoyable.
4. In general, I am satisfied with my coworkers.
5. My coworkers are highly competent at their jobs.
6. My coworkers are likeable people.
7. In general, I am satisfied with my supervisor.
8. My supervisor is highly competent at his or her job.
9. My supervisor is a likeable person.

Job performance scale (supervisor-rated)

A. Technical competence (technical knowledge, skills, abilities, doing work right/on-time, sound judgment).
B. Adaptability and initiative (adjusting to change-situations/people, trying new things, seeking self-development).
C. Working relationships and communications (supporting team, respecting others, expressing ideas clearly, listening/understanding).
D. Responsibility/dependability (dependable/reliable, maintaining facilities/equipment, conserving supplies/time, people/equipment safety).
E. Supervision/leadership (mission focused/performance oriented; sets standard/leads by example, motivating/developing others; managing resources).
F. EEO and Affirmative Action (respecting dignity, achieving planned actions, providing opportunity, solving problems).
G. Overall performance.

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Appendix 2: IAT Stimuli

Organization IAT		Coworker IAT		Supervisor IAT		Valence words (paired with each IAT task)	
My organization (target hospital)	Not my organization (control hospital)	My coworkers	Not my coworkers	My supervisor	Not my supervisor	Pleasant	Unpleasant
Website banner	Website banner	Coworker name 1 (entered by subject)	Stranger name 1 (selected by subject)	Supervisor's name (entered by subject)	Supervisor's boss' name (entered by subject)	Rainbow	Vomit
Organizational Seal	Organizational Seal	Coworker name 2 (entered by subject)	Stranger Name 1 (selected by subject)	Supervisor's name with credentials (entered by subject)	Supervisor's boss' name with credentials (entered by subject)	Cake	Agony
Official letterhead	Official letterhead	Coworker name 3 (entered by subject)	Stranger name 1 (selected by subject)	Supervisor's formal office/title (entered by subject)	Supervisor's boss' formal office/title (entered by subject)	Sunshine	Poison
						Joy	Stink
						Laughter	Rotten
						Gift	Pain

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