Provided for non-commercial research and education use. Not for reproduction, distribution or commercial use.



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

http://www.elsevier.com/copyright



Available online at www.sciencedirect.com



RESEARCH IN ORGANIZATIONAL BEHAVIOR

Research in Organizational Behavior 29 (2009) 135-162

Review

Implicit affect in organizations $\stackrel{\text{tr}}{\rightarrow}$

Sigal G. Barsade^{a,*}, Lakshmi Ramarajan^{b,1}, Drew Westen^{c,2}

^a Department of Management, Suite 2000 Steinberg-Dietrich Hall, Wharton School of Business, University of Pennsylvania, Dieledelakie, PA 10002, United States

Philadelphia, PA 19093, United States

^b Organizational Behavior Unit, Morgan Hall, Harvard Business School, Harvard University, Boston, MA 02163, United States ^c Department of Psychology, and Department of Psychiatry and Behavioral Sciences, Emory University, 36 Eagle Row,

ychology, and Department of Psychiatry and Benavioral Sciences, Emory University, 3 Atlanta, GA 30322, United States

Available online 3 August 2009

Abstract

Our goal is to integrate the construct of implicit affect—affective processes activated or processed outside of conscious awareness that influence ongoing thought, behavior, and conscious emotional experience—into the field of organizational behavior. We begin by offering a definition and review of implicit processes, including implicit cognition, motivation and affect. We then draw upon recent empirical research in psychology and neuroscience to make the case for a three category framework of implicit affect: (1) implicit sources of affect (2) implicit experiencing of affect and (3) implicit regulation of affect. To demonstrate the use of this framework in organizational scholarship, we present illustrative examples from organizational behavior research that represent each category. Given the limited amount of research in the organizational domain, we focus on demonstrating how an implicit affect perspective might alter or extend theoretical perspectives about a variety of organizational phenomena. We then discuss methodological options and challenges for studying implicit affect within the organizational domain. In sum, we provide a theoretical and methodological roadmap as well as a call for action for understanding the role of implicit affective processes in organizational behavior.

© 2009 Elsevier Ltd. All rights reserved.

Contents

1.	The in	mplicit revolution	137
	1.1.	Early work on implicit processes	137
2.	Implie	cit affect	139
	2.1.	Implicit Affect Category 1-Implicit Source of Affect: "People feel the emotion but are not consciously	
		aware of the source from which their conscious emotion was primed or its influence on their cognitions,	
		motivation and behaviors."	139
	2.2.	Implicit Affect Category 2-Implicit Experience of Affect: "People are not consciously aware of feeling	
		the emotion which has an influence on their cognitions, motivation and behaviors."	141

* Corresponding author. Tel.: +1 215 898 1373.

¹ Tel.: +1 617 496 2844.

0191-3085/\$ – see front matter © 2009 Elsevier Ltd. All rights reserved. doi:10.1016/j.riob.2009.06.008

^{*} We thank Art Brief and Barry Staw for their insightful comments and Marina Milonova, Jihae Shin, Julia Sodbinow, Chia Tsay and Victor Chica for their research assistance. Thank you to the Center for Human Resources and the Center for Leadership and Change at the Wharton School, University of PA, for financial support for this study. Last, much gratitude to CK for the inspiration.

E-mail addresses: barsade@wharton.upenn.edu (S.G. Barsade), lramarajan@hbs.edu (L. Ramarajan), dwesten@emory.edu (D. Westen).

² Tel.: +1 404 727 7407.

136		S.G. Barsade et al./Research in Organizational Behavior 29 (2009) 135–162	
	2.3.	Implicit Affect Category 3—Implicit Regulation of Affect: "People are not consciously aware of regulating their emotions (to protect themselves from negative emotions or enhance positive emotions), and the implicit affect regulation has an influence on their cognitions, motivations and behaviors."	142
	2.4.	Discussion	144
3.	Impli	cit affect in organizational behavior	144
	3.1.	Organizational Implications of Implicit Sources of Affect: "People feel the emotion but are not consciously aware of the source from which their conscious emotion was primed or its influence on their cognitions,	
		motivation and behaviors."	145
		3.1.1. External sources of implicit affect: emotional contagion	145
	32	3.1.2. Internal sources of implicit affect: transference and attachment patterns	147
	5.2.	feeling the emotion which has an influence on their cognitions, motivation and behaviors."	150
	3.3.	Organizational Implications of the Implicit Regulation of Affect: "We are not consciously aware of regulating our emotions (to protect ourselves from negative emotions or enhance positive emotions),	
		and the implicit regulation influences our cognitions, motivations and behaviors."	151
4.	Methe	ods for examining implicit affect in organizational behavior	153
5.	The i	mplications of making implicit affect, explicit	155
6.	Conclusion		
	Refer	ences	156

There is a swath of human functioning that organizational scholars have left virtually unexplored, a terrain that, as we argue here, has tremendous potential to help us understand how and why people feel, think, and behave the way they do in organizations. This untapped terrain consists of implicit affect, defined as affective processes activated or processed outside of conscious awareness that influence ongoing thought, behavior, and conscious emotional experience. We argue that such implicit affective processes are ubiquitous in organizations, as they are in everyday life.

The underlying assumption of most prevailing theories in our field is that employees are completely conscious of their emotions, attitudes and cognitions. When we ask questions such as "how angry do you feel right now?," "how satisfied are you with your job?," "what are your attitudes toward this person or group?" and "how likely are you to leave your organization?," it is assumed that employees are conscious of what these emotions, attitudes and cognitions are and then act on them with related consequences. Through this theorizing we have indeed seen clear evidence that people can have valid, meaningful, and conscious awareness of these processes. However, conscious processes are only a subset of the processes that influence behavior, and organizational behavior is no exception. A large body of experimental evidence now documents that cognitive, motivational, and emotional processes can be implicit—i.e., they can occur outside of people's conscious awareness. Our specific focus is on implicit affect³ (also called implicit emotion, or unconscious affective processes). We will present evidence to show that people are influenced by affective processes outside of their conscious awareness, and that these processes can and do influence the behavior of employees within organizations.

The past decade has seen tremendous advances within psychology and neuroscience in our understanding of how implicit processes operate in the arenas of memory, cognition, and motivation (see Bargh, 2006; Westen, 1998a; Wilson, Lindsey, & Schooler, 2000 for reviews). Our focus here is the frontier in this implicit revolution: implicit affect. Given the relatively recent research on implicit affect within the basic sciences, and the minimal study of implicit affect in organizational behavior, to integrate implicit affect in organizational behavior research we offer a detailed review of what is currently known about implicit affect from a variety of fields within psychology.⁴ We begin by describing the "implicit revolution" that established the importance of implicit processes in memory, cognition, motivation, and ultimately emotion. We then define criteria by which affect can be considered implicit and offer evidence for the existence and impact of implicit affect from research in psychology, through the use of three heuristic categories of implicit affect. We then extend the discussion of these three categories into the organizational behavior domain. We use them to illuminate what current research within organizational behavior would be relevant to each, as

³ We intentionally use the term "affect" as an "inclusive term to refer to both moods and emotions" (Forgas, 1994, p. 3), and use the term affect and emotions interchangeably for semantic purposes (see also Barsade, 2002; Barsade, Brief, & Spataro, 2003; Davidson, 2003).

⁴ While detailed with numerous research examples, we do not intend this review to be exhaustive. For more thorough reviews of the research literature on implicit affective processes, see Kihlstrom (2000), Westen (1998a, 1998b) and Winkielman and Berridge (2004).

well as offer examples of how each category could influence our perspective, hypotheses, and research questions in various domains within the field of organizational behavior. We then discuss methodological implications and challenges in studying the three categories of implicit affect, and end with a call for future research investigating this largely unexplored but important aspect of organizational life.

1. The implicit revolution

1.1. Early work on implicit processes

In the 1960s, a "cognitive revolution" began in psychology with the "three box" model of memory, which included sensory registers, short term memory, and long-term memory (for a review see Healy & McNamara, 1996). Although this model was the primary model presented in textbooks for three decades, it was silent on the question of consciousness. To the extent that consciousness was addressed in this model, it was implicit in the concept of short term memory, which was later expanded and renamed *working memory*, reflecting its role as a conscious "workspace" for holding and manipulating information (Baddeley, 2000). The question of the extent to which particular mental events required conscious awareness began to emerge in the 1980s with the discovery of implicit processes, that is, psychological processes that occur outside conscious awareness, starting with research on implicit memory (see Roediger, 1990; Schacter, 1992; Squire, 1987).

Implicit memory. Memory researchers since Ebbinghaus in the mid to late 19th century had focused only on explicit memory, which involves conscious retrieval (through recall or recognition) of information and facts such as one's workplace address, or the names of friends or colleagues. It includes both generic (previously called semantic) memory—memory for facts—as well as episodic memory—memory for specific episodes, experiences or situations in which people have found themselves (Baddeley, 2000). However, by the 1980s, researchers in both cognitive psychology and neuroscience began to discover that explicit memory—memory expressed with conscious awareness—was just the tip of the cognitive iceberg. Implicit memory, or memory expressed without conscious awareness, was responsible for much of our day-to-day action (Schacter, 1992).

Cognitive neuroscientists (Squire, 1986), particularly with the advent of modern neuroimaging techniques, helped to underscore the distinction between implicit and explicit memory,⁵ and came to distinguish at least two types of implicit memory: procedural and associative (Thompson, 2000). Procedural memory is the "how to" knowledge of procedures or skills (Cohen, 1984). This type of memory is in operation when we just "know" when to make or avoid eye contact or how close to stand to another person. When people violate these rules, they feel uncomfortable, even though they have never explicitly articulated them. The second kind of implicit memory is associative memorymental connections among feelings, thoughts, memories, goals, and emotions that have been linked through experience and thought (Anderson & Bower, 1980). Associative memory can be understood in terms of "activation" and "inhibition." These two key concepts are critical not just to our understanding of implicit memory, but are also applicable to the other implicit processes, such as thought, motivation, and affect, that we discuss later. Activation typically refers to the level of excitation of particular thoughts, feelings, memories, or networks in the brain (Higgins, 1991, 1996). The extent to which one thought, feeling, or memory activates another is the degree to which the two are associatively linked, so that activation of one will spread activation to the other. Mental contents can be at any state of activation, from relatively dormant (not recently enough activated to influence thought, feeling, or behavior extensively) to unconscious (active but still latent) to conscious (active and accessible to conscious introspection) (e.g., Cronin, 2004).

A concept related to activation is inhibition. Researchers examining the class of cognitive models variously known as parallel distributed processing, connectionist, and neural network models recognized that activation of one node or network may not only spread activation to related thoughts or memories but may also spread inhibition to units of information that are unlikely to be true or relevant if this particular unit has been activated (Rumelhart & McClelland, 1986; Thagard, 2006). For example, if a manager perceives one of his employees as

⁵ These researchers have documented that implicit and explicit memory involve different neural mechanisms, suggesting that the two kinds of memory are dissociable and hence constitute different systems (Hampton & Hampstead, 2006). In particular, the hippocampus appears central to explicit recall and recognition but not to implicit memory, with hippocampal damage often disrupting the first but not the second (Bechara et al., 1995).

unmotivated, then when he observes the employee still working in the office at 8pm, activation is likely to spread to the network representing "using the office phones for personal business," and inhibition is likely to spread to the network representing, "working hard until he's finished the project I've assigned him." It would take new data, such as overhearing the employee speaking with a client, to start to change the pattern of activation and inhibition ("updating" the associative links between the employee, motivation, and hard work), and it would likely take several such instances for the manager to begin changing his or her mental representation of the employee—that is, the networks of thoughts, feelings, and memories that constitute the manager's attitudes toward the employee.

Associative memory is particularly important for understanding implicit processes, including implicit affect. Indeed, researchers often study associative memory using "priming" experiments, in which participants are presented with a word or image that activates a network of associations (a bundle of emotions, thoughts, images, memories and motives that have become linked, usually through experience), which in turn facilitates the processing of related information (whether activating or inhibiting it).

Implicit thought and learning. The first extension of the implicit concept—from where it began, with implicit memory—took place in the late 1980s and early 1990s with the distinction between implicit and explicit thought and learning (Holyoak & Spellman, 1993; Kihlstrom, 1987; Lewicki, 1986). Before gaining widespread acceptance, this research was foreshadowed by nearly a decade by research by Ellen Langer and colleagues, whose research suggested that much of the time people process information "mindlessly," without explicit processing (Langer, Blank, & Chanowitz, 1978). Research by Tversky and Kahneman (1974) similarly showed the extent to which people make judgments using cognitive shortcuts or heuristics that occur without conscious awareness, and that consciousness serves more as a "referee" when people try to adjudicate between conflicting judgments and decisions that cannot be readily handled "on autopilot."

More squarely in the domain of implicit thought and learning, researchers began studying whether people could learn "rules" without conscious awareness. For example, Rubin, Wallace, and Houston (1993) (see also Schnapp and Dobyns cited in Holyoak & Spellman, 1993) asked participants to compose a ballad after hearing a series of ballads. When asked to make up a similar ballad, participants could readily do it, but they were able to follow twice as many rules in constructing their ballads than they could consciously articulate. Similar findings have emerged in numerous domains, showing that when people learn information by doing (rather than through instruction), they tend to follow procedural rules and learn about the regularities in their environment by forming associations without conscious awareness (Holyoak & Spellman, 1993).

Implicit motivation. The sliding slope from implicit memory to implicit cognition led to a subsequent landslide visà-vis motivation and emotion. Conscious motives and emotions do not generally "come out of the blue" any more than conscious thoughts do. They must be activated, and their components often are assembled automatically such that they are encoded on networks and activated the same way other networks are activated. A large body of data now supports the distinction between implicit and explicit motives. In an important article in Psychological Review that foreshadowed future research in implicit motivation, McClelland, Koestner, and Weinberger (1989) showed the distinction between motive systems that are conscious, and hence direct people's behavior when they are consciously thinking of their goals and motives, and those that are unconscious or implicit, and hence direct people's behavior when they are running on autopilot. For example, they found that, over the long run (e.g., 20 years), assessment of implicit motives from Thematic Apperception Test (TAT) stories predicted entrepreneurial success much better than self-report measures of need for achievement or power, which tended to have little predictive validity. On the other hand, people's conscious, self-attributed motives assessed through self-report measures predicted their effort and performance when their conscious goals or motives were activated (e.g., when asked to answer what they were told was a set of questions from an IQ test, which activates conscious achievement strivings) much better than implicit motives assessed from TAT responses (McClelland et al., 1989; Weinberger & Hardaway, 1990). This research foreshadowed the now enormous body of social-cognitive research on implicit versus explicit attitudes and the power of each construct to predict different outcomes.

Research by social psychologist John Bargh and colleagues (e.g. Bargh & Barndollar, 1996; Bargh, Chen, & Burrows, 1996; Bargh & Pietromonaco, 1982) has tremendously advanced our understanding of the power and ubiquity of implicit motives. As Bargh has argued, just as well-learned thoughts or ideas can be activated automatically and unconsciously by environmental stimuli, so, too, can behavioral plans automatically run their course without conscious awareness. In a series of studies, Bargh (2006) primed laboratory participants with words that would

activate either achievement or affiliation motivation, and found that these implicit primes predicted participants' achievement versus affiliative behaviors. Bargh and his colleagues have also documented how subtle environmental cues can lead to a behavioral response, even as people remain completely unaware of the influence of these cues. For example, simply priming people with words related to the elderly leads them to walk more slowly (Bargh et al., 1996).

2. Implicit affect

Given the evidence that both cognition and motivation have implicit components, it should therefore come as no surprise that the same is true of emotion: affective processes can also be implicit. As noted above, cognitive scientists have been using the term "activation" (Collins & Loftus, 1975) to refer to the extent to which a unit of information (whether an entire network of associations, or a node in that network) has been primed, so that it is not only exerting some kind of potential "force" on thought or behavior but is spreading activation (or inhibition) to other nodes or networks to which it has been associatively linked. As cognitive and clinical researchers have increasingly wrestled with "real-life" situations, they have come to recognize the extent to which activation spreads not only to thoughts and memories but to affect, which can also be at varying latent states of activation.

Thus, our definition of implicit affect—affective processes activated or processed outside of conscious awareness that influence ongoing thought, behavior, and conscious emotional experience—is consistent with, and in many respects derived from, the definitions of prior work on implicit thought, memory, and motivation. However, fewer researchers have systematically explored the territory of implicit affect in light of the available evidence (e.g., Westen, 1985, 1998a, 2007; Winkielman & Berridge, 2004). Thus, we have attempted to develop a more refined classification of the kinds of phenomena that can be understood as forms of implicit affective processing, with an eye to considering the way each could manifest itself in organizations. We distinguish here three categories that fall under the rubric of implicit affect:

Implicit Affect Category 1—Implicit Source of Affect: "People feel the emotion but are not consciously aware of the source from which their conscious emotion was primed or its influence on their cognitions, motivation and behaviors."

Implicit Affect Category 2—Implicit Experience of Affect: "People are not consciously aware of feeling the emotion which has an influence on their cognitions, motivation and behaviors."

Implicit Affect Category 3—Implicit Regulation of Affect: "People are not consciously aware of regulating their emotions (to protect themselves from negative emotions or enhance positive emotions), and the implicit affect regulation has an influence on their cognitions, motivations and behaviors."

We describe and discuss the evidence for each of these categories of implicit affect below. We should note that in real life these three categories of implicit affect are not likely to be neatly separable, including organizational contexts. However, we believe this classification is a useful heuristic device to summarize a large body of often disparate research findings and will be helpful in further exploration of the implicit affect construct both in psychology and organizational behavior.

2.1. Implicit Affect Category 1—Implicit Source of Affect: "People feel the emotion but are not consciously aware of the source from which their conscious emotion was primed or its influence on their cognitions, motivation and behaviors."

One body of research on implicit affective process describes situations in which the *source* of the affect remains outside of conscious awareness but the person consciously experiences the emotion. Starting from Zajonc's (1968) finding that "mere exposure" to a phenomenon was enough to lead to greater judgments of liking, many studies have shown that being exposed to a stimulus that is not consciously perceived can lead to an affective preference for it (see Bornstein, 1992, for a review of this literature).⁶

⁶ There have also been non-subliminal priming of mere exposure effects as well, although interestingly in a meta-analysis of these effects, the magnitude of subliminal stimuli was greater than supraliminal (above consciousness) stimuli (Bornstein, 1989).

Evidence for conscious emotional responses being elicited through stimuli that are outside of awareness also comes from the classical conditioning and subliminal priming literatures (for instance, see Ohman and Mineka's, 2001 review of automatic fear elicited through conditioned learning). In subliminal priming classical conditioning studies, a neutral stimulus is presented at very fast speeds (in milliseconds) or outside the range of direct vision so that it can be perceived subliminally but the participant is not consciously aware of it.⁷ In a classic study, Lazarus and McCleary (1951) first presented written nonsense syllables (e.g., blooblah) subliminally, with a mild electric shock. They then showed the nonsense syllables—again, subliminally—with no electric shock to the participants, and found that those nonsense syllables reliably elicited a heightened galvanic skin response (GSR) or electrodermal response (indicating fear) as compared to syllables which had no initial shock paired with them. Thus, the participants in the study showed they were able to process the stimulus and respond affectively (if not necessarily consciously aware of what they were feeling or why they were feeling it) even when the stimulus was implicit.

Conscious emotional experience can also be triggered by unconscious exposure to stimuli that is already affectladen. For example, relying on the fact that humans have innate responses to facial displays, researchers have shown that subliminal exposure to a smiling or frowning face can influence people's subsequent evaluations and preferences (Murphy, Monahan, & Zajonc, 1995; Murphy & Zajonc, 1993). For example, Niedenthal and colleagues found that subliminal affective primes of facial expressions led participants to evaluate the emotion of neutral cartoon characters in a way correspondent to the prime (Niedenthal, 1990; Niedenthal, Setterlund, & Jones, 1994). Winkielman, Berridge, and Wilbarger (2005) found that for thirsty participants, subliminally presented happy faces led to participants pouring and consuming more beverages, as well as an increased willingness to pay for the beverage. The opposite was the case for subliminal angry faces.

Olsson and Phelps (2004) offer a fascinating example of the influence of implicit affect induced by facial expressions, but through vicarious induction. Rather than being conditioned to respond to a stimulus directly, participants observed a confederate who was being exposed to a conditioned emotional stimulus subliminally. Remarkably, when the participants were subsequently exposed to the conditioned stimulus outside their conscious awareness, they exhibited a fear response as though they had received the implicit conditioning themselves. In organizations, such vicarious learning and responsiveness to implicit affective stimuli could be quite relevant. Indeed, these studies of subliminal priming through facial expression bring up an important implication of this first category of implicit affect, that implicit affect can be interpersonally induced (Chen & Bargh, 1997). This interpersonal aspect of implicit affective primes has particular relevance in organizations where it is characteristic for employees to work interdependently.

As the studies reviewed in this section show, people can consciously experience an emotional response without being consciously aware of either the source of that emotion or its influence on their subsequent cognitions and behaviors (e.g., they may know they feel angry but are unaware of where the anger came or that it is influencing their subsequent financial decision-making). While there is a rich literature on the induction of affect through primes that are more explicit than the literature we discuss above (e.g. video clips, receiving small gifts, or recall tasks)—a literature that has been particularly relevant to organizational behavior (see Barsade et al., 2003 for a review)—almost none of these studies explicitly examined whether the affect induction was known to participants or outside of their awareness on either dimension we mention above. Some researchers in this area have recently begun using the term "incidental emotion" to indicate fact that the emotions experienced are normatively irrelevant to the task or judgment at hand (see Gino & Schweitzer, 2008; Lerner, Small, & Loewenstein, 2004). However, to the extent that the prime is not automatically out of awareness due to the way in which it is delivered (e.g., subliminal stimuli), establishing the lack of awareness of the source and its influence is important in categorizing the affect as implicit. In the very few studies which did examine whether the influence of the affect induction occurred outside of awareness, participants reported that they were not aware of these connections (e.g. Lerner et al., 2004; Ruys & Stapel, 2008b).

⁷ When a prime is not consciously perceived it is called a subliminal prime and is either presented at very fast speeds [33 ms; Olsson & Phelps, 2004 or 40–120 ms; Stapel & Koomen, 2005], masked (another object or character is presented right after the prime) or presented in the parafoveal vision (between two to six degrees of visual angle between the stimulus and a fixation point at the center of the screen, see Bargh & Pietromonaco, 1982). Often subliminal priming studies use several or all of these in combination.

2.2. Implicit Affect Category 2—Implicit Experience of Affect: "People are not consciously aware of feeling the emotion which has an influence on their cognitions, motivation and behaviors."

Whereas the first type of implicit affect involves the *source* of consciously felt emotion remaining implicit, another body of research describes the activation of emotional *responses* remaining out of conscious awareness.⁸ Although some emotions researchers have suggested that affect exists only if it is consciously experienced (Barrett, Mesquita, Ochsner, & Gross, 2007) what has become clear is that many affective processes, just like many cognitive processes, are activated, assembled, and influence conscious thought and behavior without ever becoming conscious themselves (e.g. Ruys & Stapel, 2008a, 2008b; Westen, 1998a; Winkielman & Berridge, 2004; Winkielman et al., 2005). For example, drawing on Lang's (1988) theory of multiple systems of emotions, which include physiological, behavioral and subjective systems, Kihlstrom and Cantor (2000) argue that a lack of synchrony between various systems can lead to affect being experienced outside of awareness. This is not a new suggestion in either psychology or neuroscience (Buck, 1999; LeDoux, 2000; Tucker, 1993). For example, research on patients who have undergone "successful" treatment for phobias often shows that even though the person no longer reports subjective fear (e.g., of snakes or dental treatment) and can even approach the once-feared stimulus behaviorally, residual anxiety is often detectable from physiological measurements, such as skin conductance (Hakeberg, Berggren, & Carlsson, 1990). Years ago, Fenz and Epstein (1967) found just such desynchrony in experienced parachute jumpers, whose physiology showed increasing signs of arousal during a jump despite their absence of the subjective feeling of anxiety.

The notion that affective reactions can occur unconsciously is well described in studies of implicit attitudes, such as implicit prejudice (Banaji & Greenwald, 1994; Fazio, Jackson, Dunton, & Williams, 1995; Nosek, Greenwald, & Banaji, 2007). In this research, people who deny any feelings of prejudice will show implicit biases indicative of negative feelings toward various groups, such as African-Americans (Banaji & Bhaskar, 2000; Banaji & Greenwald, 1994).⁹ These feelings can influence a range behaviors, both in and out of the laboratory, from the treatments doctors offer black and white patients with the same symptom patterns (Green et al., 2007) to harsher sentences for criminals depending on how "Afrocentric" their facial features (e.g., the darkness of their skin and the shape of their lips) (Blair, Judd, & Chapleau, 2004). Attitudes are relevant to our discussion as they have both cognitive *and* affective components. Indeed, Greenwald and Banaji (1995) define implicit attitudes as "introspectively unidentified traces of past experience that mediate *favorable or unfavorable feeling*, thought, or action toward social objects" (emphasis added). Research on implicit attitudes has focused on highly affective judgments that are activated automatically and without conscious awareness (Greenwald et al., 2002).

In an organizational setting, for example, a manager may have grown up in a family in which he was explicitly told that racial discrimination was wrong but as a child saw his mother stiffen in discomfort every time they walked past someone of a different race. As an adult the manager may be able to complete a variety of racism questionnaires without any indicators of racial prejudice and may subjectively feel strongly that he harbors no prejudice toward people of a different race. However, his earlier experiences may have left residues in his unconscious associations that can be primed by a range of cues, from skin color to dialect. These can then lead to negative or fearful reactions of which he is not even aware (or which he can rationalize as caused by something a specific job applicant or employee did that he found off-putting). Because this kind of implicit affect or attitudes cannot be measured through deliberation or through an assessment of what individuals articulate, researchers have developed a range of measures to assess implicit attitudes, the most widely used of which is the implicit associations test (IAT) (see Lane, Banaji, Nosek, & Greenwald, 2007; Nosek et al., 2007 for recent reviews of the IAT paradigm).

Just as McClelland et al. (1989) found that implicit and explicit motives can be completely uncorrelated or even contradictory, implicit attitudes as gauged by instruments such as the IAT often differ from or even contradict reported or explicit attitudes (Karpinski & Hilton, 2001; Wilson et al., 2000). As in the research on motivation, both types of attitudes influence cognition and behavior but often in different ways (Devine, 1989; Dovidio & Gaertner, 1993; Son Hing, Chung-Yan, Hamilton, & Zanna, 2008). For example, in a landmark study, Fazio et al. (1995) found that a

⁸ It is also possible that individuals do not report their real affect when asked due to self-presentational reasons, but are consciously aware themselves that they are experiencing an emotion. We do not address the self-presentational aspects here, and instead only review empirical studies in which the unconscious experience of emotion is highlighted.

⁹ It should be noted that while there has been much research using this paradigm, it is not without its theoretical and methodological critics (Arkes & Tetlock, 2004; and see Jost et al., in press; Tetlock & Mitchell, in press for a debate about this paradigm).

measure of individual differences in implicit attitudes predicted an implicit behavioral index—the extent to which a black confederate of the experimenters rated participants as friendly and interested in interaction with her—but not their conscious attitudes about current events involving racial issues. In contrast, a measure of conscious racism predicted participants' responses to these conscious attitude questions. Neuroimaging studies have even found that subliminal presentation of faces of dark-skinned black men leads to amygdala responses in white participants, suggesting fear or other negative affective responses, even though the person has no conscious awareness of either the stimulus or the affective response registered in neuronal "behavior" (Phelps et al., 2000).

2.3. Implicit Affect Category 3—Implicit Regulation of Affect: "People are not consciously aware of regulating their emotions (to protect themselves from negative emotions or enhance positive emotions), and the implicit affect regulation has an influence on their cognitions, motivations and behaviors."

Why might people remain unaware of their emotions? As we have seen thus far, an emotional response may be expressed in physiology but not connected with subjective emotional experience. An emotional response may be at a state of activation strong enough to influence automatic behavior but not strong enough to attain consciousness. In addition different components of emotion may be assembled unconsciously, just as different components of a thought may be unconsciously assembled (e.g., when a person has an "aha" experience that feels like it "came out of the blue" but reflected the convergence of multiple processes interacting outside awareness until the brain resolved a problem or discrepancy).

Another reason an emotional response may be implicit, however, is qualitatively different from these examples and points to the third category of implicit affect, in which motivation plays a central role: people may be unaware of their emotional experience because they are motivated to avoid unpleasant states or motivated to seek out pleasant ones. Just as individuals can be motivated to approach and avoid stimuli because they produce positive or negative feelings (Carver, 2001; Gray, 1990), they can be motivated to approach feelings or thoughts because they are pleasurable or unpleasant. Furthermore, just as emotions are regulated consciously, for instance, through using active coping strategies (Oliver & Gross, 2007), emotions can also be regulated unconsciously (Mauss, Bunge, & Gross, 2007; Westen, 2007). Implicit affect regulation can thus be defined as the unconscious procedures people use to maximize pleasant and minimize unpleasant feelings, emotions and moods (see Westen, 1994; Westen & Blagov, 2007, for reviews of this literature).

For years, the notion of implicit affect regulation (e.g. that people can implicitly regulate feelings such as anxiety or fear to protect against unpleasant realities) was a clinical hypothesis with minimal empirical support. Since the 1970s, however, a large number of researchers have been empirically examining defensive processes of this sort using a range of methods (Ihilevich & Gleser, 1986; Paulhus, Fridhandler, & Hayes, 1997; Perry & Cooper, 1987; Vaillant, 1977; Westen, Muderrisoglu, Fowler, Shedler, & Koren, 1997). Another, historically unrelated body of research has addressed the concept of "motivated reasoning," by which individuals reason in accordance with their motivational preferences (Ditto & Lopez, 1992; Ditto, Scepansky, Munro, Apanovitch, & Lockhart, 1998; Kunda, 1990). Both of these literatures have found strong evidence for both the general phenomenon of implicit affect regulation and for individual differences in the way people implicitly protect themselves against various forms of threat. In an ingenious study, Pittinsky, Shih, and Ambady (1999) put Asian-American women in three different situations: a math test, a verbal test, and no test. They also asked the women to generate three positive and three negative memories. In American culture, the Asian ethnic stereotype suggests the participants would be good at math and bad in verbal skills, while the female gender stereotype suggests the opposite. Since negative stereotypes can be threatening (Steele, 1997) and engender negative emotions, the authors reasoned that the participants would be motivated to maintain positive feelings about themselves and hence implicitly endorse the identity (ethnic or gender) that was most adaptive in the situation. Just as predicted, Asian-American women who took the math test reported more positive memories that were associated with their ethnic identity, while those who took the verbal test reported more positive memories that were associated with their gender identity, indicating that individuals were reorienting their feelings about themselves to maximize positive feelings and minimize negative feelings.

A substantial body of research relevant to implicit affect regulation has studied the way people respond when their mortality is made more salient. The social philosopher Becker (1973) argued that one of the primary functions of culture is to deny death, and that people will cling to aspects of their culture and tradition more strongly when their mortality is threatened. A group of social psychologists have ingeniously tested this hypothesis, using experimental

142

methodology cross-culturally in over 250 studies. They compared the responses of participants in a "mortality salience" condition (answering questionnaire items about what will happen to them when they die, or subliminally presenting words or images related to their mortality) to participants presented with other threats, such as descriptions of painful dental surgeries. When confronted with information or images that triggered associations to their own mortality (versus other threats), participants across a range of situations and cultures tend to respond by more strongly asserting and upholding their culture values and beliefs (e.g. Greenberg et al., 2003).

Other negative feelings individuals may want to minimize are emotions such as guilt and shame, and they may engage in seemingly odd behaviors associated with the implicit regulation of these emotions. For example, Zhong and Liljenquist (2006) primed participants with an implicit threat to their moral self-image by asking them to recall unethical behaviors (versus ethical behaviors in another condition). Individuals who recalled unethical behaviors not only completed more cleansing-related words in a word-fragment completion task (wash versus wish when presented with w–h), but also behaviorally manifested a desire to cleanse themselves by choosing to take home a gift of antiseptic wipes (versus the other choice of taking home a gift of pencils). Furthermore, individuals who were then allowed to physically cleanse themselves after the unethical recall reported reduced guilt and shame compared to those who were not allowed to cleanse themselves physically. As the authors argue, the implicit threat to the view of oneself as ethical may result in implicit efforts to assuage or regulate the consequent negative emotions by physical cleansing.

Implicit affect can also have an interpersonal component, as people implicitly regulate affect by shifting their negative feelings onto others. For instance, Schimel, Greenberg, and Martens (2003) fictitiously told participants they had a tendency toward being either high or low in repressed anger, that is, that they had a trait suggesting they were likely (or unlikely) to react with aggression to others when frustrated. Believing that they possessed such a trait would have negative connotations for most participants. Thus, when given an opportunity to project this feared trait onto others, those in the high repressed anger condition were more likely to indicate that the other party in an experimental task was the angry party, not themselves. When participants were asked to finish a word-fragment completion task, those in the repressed anger condition who had projected their negative feelings onto the other party also had significantly fewer anger related word endings, suggesting that attributed anger to the other party "worked" in solving an affective "problem." That is, participants who shifted their negative traits onto others had implicitly reduced their own negative feelings. Studies in political psychology on scapegoating and projection in ethnic warfare also indicate the existence of such implicit affect regulation procedures beyond the laboratory (Greenberg et al., 2003; Staub, 1989).

Nowhere have researchers better documented motivated reasoning as a form of implicit emotion regulation than in politics, where partisans routinely draw conclusions that make them feel good or avoid making them feel bad, whether in judging the debate performances of their party's candidates or weighing the evidence on important issues of the day (Westen, 2007). Westen, Blagov, Harenski, Kilts, and Hamann (2006) studied precisely how this occurs in the brain using neuroimaging techniques. They used functional magnetic resonance imaging (fMRI) to study a sample of 30 partisan Democrats and Republicans during the 3 months prior to the polarized U.S. Presidential election of 2004. They presented participants with stimuli about President Bush, Senator Kerry, and a politically neutral male control (e.g., Tom Hanks). For each, they presented six sets of stimuli, consisting of statements by the candidate followed by another statement that directly contradicted the first statement by the candidate, suggesting that the candidate was dishonest or pandering. Then participants were asked to consider whether the statements were contradictory (which in all cases they were) and to rate the extent to which they were contradictory. Participants' denied contradictions from their own candidates but had little trouble detecting the opposing candidates' contradictions. The fMRI patterns indicated that while participants were considering the contradictions for their own candidate, three distinct patterns of neural activity were observed. First, several circuits involved in the experience of distress or negative emotions became active (e.g., the amygdala and insular gyrus), suggesting that partisans were indeed distressed, whether or not they knew it. Second, contradictions elicited large activations in the anterior cingulate cortex, which is involved in the experience and regulation of conflict. Third, while wrestling with threatening information about their candidate, partisans showed activations in parts of the orbital frontal cortex involved in both a sense of identification with the candidate and in emotion regulation. Interestingly, neither the reasoning circuits nor circuits typically activated when people are *consciously* trying to control their emotions showed much activity, even though the task was essentially a reasoning task (if A, can B be true?). Thus, presentation of threatening information about their candidate appeared to produce distress and conflict, with the brain working hard to try to regulate both. Within a few seconds of the offset of the "contradiction" slide, the reasoning circuits essentially "turned off," as partisans had found a way to implicitly rationalize the contradictions away.

We have focused to this point on the inhibition of negative feelings in implicit affect regulation. However, just as we are motivated to flee or fight things or people associated with negative emotion, we are similarly motivated to pursue actions, objects, or relationships associated with positive emotions (Cacioppo & Gardner, 1999; Carver & White, 1994). Thus we are also more prone to believe ideas that are emotionally enticing (i.e., associated with positive affect) as well as to disbelieve ideas that evoke pain or distress (i.e., associated with negative affect). What this means is that our brains can lead us to draw conclusions that make us feel good, not just those that reflect reality accurately (Westen, 1994). From this standpoint, we might think of the brain as engaged, particularly when making decisions, in a juggling act. It is drawn by cognitive activation and inhibition to believe things not only because data and logic support them but also because doing so reduces unpleasant feelings or increases positive ones. The state of activation of any thought or feeling, then, depends not just on the extent to which it has been primed or cognitively activated, but on the extent to which becoming conscious of it (and coming to a particular conclusion) would feel pleasurable or distressing. Decision making, in this view, is a joint function of level of cognitive and hedonic activation (Westen, 2007). Under what conditions people make decisions that reflect reality versus wishful thinking is one of the great frontiers of decision theory.

2.4. Discussion

What should be clear is that the notion that much of what we do is influenced by processes outside our conscious awareness is no longer a theoretical claim or the province of clinical observation. Regarding implicit affective processes, we have described three categories of implicit affect: (1) implicit sources of affect: when the source of the emotion is implicit but the experience of the emotion is explicit or conscious; (2) implicit affective experience when the emotional reaction is implicit (e.g., expressed in psychophysiology or behavior but not accessible to conscious awareness); and (3) implicit regulation of affect: when the emotion is blocked from consciousness or reduced in strength (if negative) or augmented (if positive) through implicit procedures aimed at its regulation. Furthermore, these implicit affective processes have been empirically examined through rigorous laboratory research in a variety of domains in psychology and neuroscience. Thus, a robust empirical literature shows that consciousness rests atop unconscious processes that work in parallel to produce not only conscious experience, including emotions, but also cognitions and behavior (Zelazo, Moscovitch, & Thompson, 2007). Our review was illustrative, not comprehensive, but at this point, the data are incontrovertible that just as memory, cognition, and motivation can be implicit or explicit, the same is true of emotion. This is not to say that our understanding of the psychological bases of these phenomena is complete. While we are still far from a thorough understanding of the range of implicit affective processes (Kihlstrom, 2004), there is currently sufficient evidence to begin applying the implicit affect construct to the organizational context.

3. Implicit affect in organizational behavior

Over the last 15–20 years, we have gained tremendous insights into many areas and outcomes of organizational behavior by incorporating knowledge of *explicit* affective processes (Barsade et al., 2003; Barsade & Gibson, 2007; Elfenbein, 2007). The construct of implicit affect has the potential to be just as generative. For each of the three categories of implicit affect we have described, we review organizational research that would fall under the rubric of an empirical study of that particular type of implicit affect. Through exemplars, we then explore how incorporating each of the three categories of implicit affect would change our current theorizing and understanding of human behavior within organizations and what new questions it could engender. In doing so, we intentionally use the word "explore" in the context of our theory building below. The evidence from psychology and neuroscience for implicit affect is very clear, and by logical extension these micro-processes should occur in organizations as well. However, organizations pose methodological dilemmas that can make the study of implicit processes more difficult. For example, in a field setting, one cannot always employ research designs in which researchers know by virtue of the experimental procedure (e.g. subliminal priming) that the affect is definitely implicit. Further, because there has not yet been much organizational theorizing in this domain it is necessary to examine prior psychological studies to see how they might bear on the phenomenon. Thus, much of what follows involves extrapolation, theory, and some degree of speculation, as we highlight the few studies that have begun to investigate this phenomenon and offer some suggestions for theoretical integration of this construct into current organizational behavior research. We do this as a first step in what we predict will be a groundbreaking new area in our understanding of organizational behavior.

144

3.1. Organizational Implications of Implicit Sources of Affect: "People feel the emotion but are not consciously aware of the source from which their conscious emotion was primed or its influence on their cognitions, motivation and behaviors."

We begin with the first kind of implicit affect we have described, where the source of the affect is implicit. This is the area in which the most research has been conducted thus far within the organizational behavior domain. Sources of implicit affect can be divided into those that are external or internal to the employee. An external source of implicit priming of affect derives from the employee's *social or physical situation*. For example, from a social perspective, an employee may find herself feeling frustrated about a project that she is otherwise feeling good about because she implicitly "caught" the feeling from fleeting micro-expressions shown by a frustrated co-worker. Aspects of the physical situation, including the presence or absence of sunlight, organizational artifacts (e.g. Rafaeli & Vilnai-Yavetz, 2004), or even ready access to free candy and food at firms such as Google or SAS (Leung, 2003; Lashinsky, 2007) could also serve as implicit affective sources.

On the other end of the internal-external spectrum, multiple sources of implicit affect can arise from people's own internal prior experiences or history, particularly as they interact with physical or interpersonal "primes" they encounter in the organizational setting. Consider a situation in which an interviewer immediately dislikes a job candidate but cannot pinpoint why. It may be that the job candidate's appearance or personality has implicitly triggered the interviewer's own past negative memories, without the interviewer being aware of it.

3.1.1. External sources of implicit affect: emotional contagion

We begin with an exploration of one external source of implicit affect, emotional contagion. Emotional contagion is an excellent exemplar of how implicit affect (even if the field has not called it by this name) has changed our understanding of what happens in organizations, particularly in the areas of group dynamics and service interactions. Primitive emotional contagion is "the tendency to automatically mimic and synchronize facial expressions, vocalizations, postures and movements with those of another person and consequently to converge emotionally" (Hatfield, Cacioppo, & Rapson, 1994, p. 153). As such, primitive emotional contagion involves implicit processes through which the emotion is interpersonally induced without the recipient being aware of the interpersonal "prime" that led to those feelings (e.g. Neumann & Strack, 2000; Wild, Erb, & Bartels, 2001).¹⁰

What allows such emotional contagion process to occur? How can people catch emotions without knowing that they are doing so? Two processes appear to be central. The first is behavioral mimicry: after initial exposure to another's emotions, individuals engage in unconscious, rapid mimicry and synchrony of facial, postural and vocal movements. The second is facial feedback with facial efference (emotional facial action or movement, Adelmann & Zajonc, 1989), in which sensory signals are sent from peripheral sources of emotional information, most importantly the face, to the brain, which then results in the actual experience of the emotion (e.g. Strack, Martin, & Stepper, 1988). Both of these phenomena likely reflect in part the action of what neuroscientists call mirror neurons, first discovered in other primates, which fire in the brain in response to the actions or affect of others (see Rizzolatti & Graighero, 2004). Many neuroscientists believe that mirror neurons form the basis for both imitation and for the direct experience of others' emotional states, unmediated (at least initially) by cognitive processes requiring higher level cortical involvement (e.g., Iacoboni, 2008; Rizzolatti & Graighero, 2004). These higher level cognitive processes may or may not "kick in" later, as people try to understand what they are feeling or engage in deeper processing of what the other person is experiencing. But initially, both emotional reactions and mental "simulations" of the actions of other people are triggered automatically by neurons that respond vicariously, as if what were happening to one person were happening to the other.

3.1.1.1. Exposure and mimicry/synchrony. The most important enabling condition for emotional contagion is shared attention in a social interaction (Hatfield et al., 1994). Once there is some level of shared attention, there is substantial evidence that people engage in rapid, unconscious mimicry and synchronization of movement (see Kelly & Barsade, 2001; Levenson & Ruef, 1997, for a review of this literature). This evidence for unconscious mimicry of others' facial

¹⁰ Emotional contagion has been discussed as being induced either intentionally or not (Gump & Kulik, 1997; Schoenewolf, 1990) and people may be able to be conscious that it is occurring, but we focus here on the type of implicit and automatic "primitive contagion" that Hatfield et al. (1994) discuss, and for which we provide evidence below.

Author's personal copy

S.G. Barsade et al. / Research in Organizational Behavior 29 (2009) 135-162

expressions and bodily movements comes from numerous psychophysiological, social psychological and developmental psychology studies (Bernieri, Reznick, & Rosenthal, 1988; Lundqvist & Dimberg, 1995; Stepper & Strack, 1993). For instance, in a study of both facial expression and postural mimicry in a live interaction, Flack (2006) found that participants in the laboratory smiled when exposed to confederates who smiled, shook their foot when exposed to confederates who shook their foot, and rubbed their faces when exposed to confederates who rubbed their faces. Some researchers call this facial expression and postural mimicry "the chameleon effect," since like a chameleon we passively take on the expressions and movements of those around us "without the intention of or reason for doing so" (Chartrand & Bargh, 1999). This mimicry, particularly the facial mimicry, sets the stage for the next part of the process, facial feedback and efference which lead to the actual feeling of the emotion in the contagion receiving party.

3.1.1.2. Facial feedback and efference. Through facial feedback (Buck, 1980) and facial efference (Zajonc, 1985; Zajonc, Murphy, & Inglehart, 1989) people can feel the actual emotion as a result of their facial and physical expressions, and this creates the "catching of the emotion," that is the feeling of what the other person is feeling. As such, even if a person does not feel happy, arranging his or her face in a smile can create the subjective feeling of joy. Physiological support for this hypothesis has been found in myriad studies (e.g. Duclos et al., 1989; Laird, 1974; Larsen, Kasimatis, & Frey, 1992). In a classic study, Strack et al. (1988) showed that when participants were instructed to hold a pen in their mouth in such a way that their cheek muscles corresponded to a smiling face, they reported a more humorous response to funny cartoons, without knowing that holding their face in that position was why they responded that way.¹¹ Taken together, mimicry and efferent feedback processes combine to result in individuals' "catching" each others' emotions in an automatic, implicit way.

3.1.1.3. The implications of emotional contagion for service interactions and work group dynamics. Compelling evidence for emotional contagion influencing organizational behavior has begun to accumulate. Beginning with dyadic relationships, an intriguing domain in which emotional contagion effects have been found is in the reciprocal emotional interaction between client and service provider. Emotional contagion has been shown to exist and influence interactions between salespersons and customers (Pugh, 2001; Tan, Foo, & Kwek, 2004; Verbeke, 1997), teachers and students (Bakker, 2005), and therapists and clients (Hsee, Hatfield, & Chemtob, 1992). Studies of the salespersoncustomer interaction indicate contagion effects of the employee on the customer (Pugh, 2001) and vice-versa (Tan et al., 2004). For example, Pugh (2001) studied employee emotional expressions in banking interactions and showed that when employees displayed more positive affect, such as smiling and making more eye contact (as determined by an outside observer) in a transaction with a customer, the customer reported corresponding positive emotion. Pugh posited this was due to behavioral mimicry and emotional contagion. In the opposite direction, Tan et al. (2004) showed the influence of customer trait affect on employees in a fast food encounter. Customers who reported they were high in trait positive affect, for instance, led cashiers in a fast food restaurant to respond with greater positive emotional expressions (such as smiling and eye contact), as observed by external raters. To what extent the members of these dyads reciprocated based on conscious or unconscious emotion, or even knew that they were behaving more or less positively cannot be determined the way emotion was measured in this study. However, based on past research in this phenomenon it is likely that this is the case, and it also seems unlikely that busy cashiers in a fast food restaurant consciously recognize at every moment the subtle or not-so-subtle affective displays of their customers or their own momentary feelings that lead them to make more or less eye contact. Still, future researchers should examine the implicit nature of this field based phenomenon more carefully.

The construct of emotional contagion has also changed and advanced our field's understanding of group dynamics in work teams by helping elucidate a mechanism through which group emotion can be created. Barsade (2002) exposed participants in a group negotiation to a confederate enacting one of four affective conditions based on the affective circumplex (Larsen & Diener, 1992; Russell, 1980): positive versus negative valence, and high versus low arousal. Barsade found a causal link between the emotions being expressed by the confederate and the emotional changes of the participants (as measured through unobtrusive video-coded measures as well as self and other reports of mood at two points in time), demonstrating emotional contagion. Bartel and Saavedra (2000) examined mood

¹¹ Although this process can also occur consciously if people know about it and desire to do so. Per James (1884/1922), p. 113), "If we wish to conquer undesirable emotional tendencies in ourselves, we must assiduously, and in the first instant cold-bloodedly, go through the outward motions of those contrary dispositions we prefer to cultivate."

convergence in work groups through self-reports of mood and observer ratings and found that mood convergence occurs in work groups and extends to indices of emotion such as facial expression and vocal indicators of affect. In a field setting, Totterdell, Kellett, Teuchmann, and Briner (1998) similarly found that the moods of work teams were related even after controlling for shared hassles at work.

Not only has emotional contagion been shown to exist within organizational contexts, but it has also been found to influence relevant outcomes such as group levels of cooperation and conflict, individual perceptions of performance, and how money is distributed within the group (Barsade, 2002). In the field, Totterdell (2000) showed that not only could team members' moods during a cricket game be reliably predicted from the concurrent moods of their colleagues—controlling for their positive (winning) or negative (losing) situation in the match—but also that individuals' subjective ratings of performance were linked to their teammates' moods through their own moods. That is, as their teammates became happier, the target cricket player became happier and rated his performance higher. In the customer–employee studies discussed above (Pugh, 2001; Tan et al., 2004), the authors also found that the positive emotion from contagion influenced customer perceptions of service. Customers who interacted with employees who displayed positive emotion were not only feeling positive themselves but they subsequently rated those employees more positively in terms of service quality (Pugh, 2001) and customer satisfaction (Tan et al., 2004). Emotional contagion from employees to customers in a large sample of retail shoe stores was also found to influence the amount of time customers spent in the store as well as their behavioral intentions (Tsai & Huang, 2002).

Emotional contagion effects have also been investigated in the realm of leadership (Cherulnik, Donley, Wiewel, & Miller, 2001). Sy, Coté, and Saavedra (2005) used an experimental induction to examine the influence of a group leader's mood on group mood (i.e., emotional contagion) as well as on group processes such as expending effort and coordinating tasks. They presented group leaders with positive or negative visual stimuli and then observed the leaders and their group members' behavior in a group task. The authors found that subordinates of leaders given the positive affect manipulation reported a more positive affective tone than subordinates of leaders given a negative affect manipulation. Groups in a negative mood exhibited greater effort during the task than the positive mood groups, but the positive mood groups exhibited greater coordination.

While the studies we describe above did not directly test whether the emotional contagion was implicit, their theoretical and methodological underpinnings are based on prior laboratory studies of emotional contagion behavioral mimicry and facial feedback. Those laboratory studies have shown that these processes are automatic (Neumann & Strack, 2000), offering indirect support that the participants were not aware that the affect they were catching was due to the other person. A precursor to Barsade's (2002) study described above, in which Barsade (1995) documented that the source of contagion from the mood of an experimental confederate to others in the group was implicit, offers more direct support for the implicit nature of this phenomenon. Study participants were given a list of eight possible attributions that could explain their own mood and their effectiveness during the group negotiation (during which a confederate had served as a source of emotional contagion). One of the attributions was about the source of the affect and explicitly included "the way other group members acted."¹² This item did not predict participants' self-ratings of how pleasant they were during the group discussion. That is, there was no evidence that participants were aware of the confederate (or any other group member) as a source of their mood during the group negotiation. Furthermore, neither participants' ratings of their own mood during the group discussion nor the way other group members acted were significantly correlated with participants' self-perceptions of effectiveness during the group discussion. Thus, despite the clear statistical evidence that the mood emitted from the confederate did lead to emotional contagion and that this emotional contagion then influenced monetary outcomes and participant perceptions of effectiveness, the participants were not aware of either part of this process.

3.1.2. Internal sources of implicit affect: transference and attachment patterns

We have shown thus far that emotions can be influenced in organizational settings by external sources of which people are unaware. We now turn to evidence that emotions can be influenced, as well, by sources internal to the employee that also elude their conscious awareness. These sources arise from the person's prior affective experiences, or history. This is because employees do not come to work as a "tabula rasa." Rather, they have a host of past

¹² The other attributions included personality, intellect, one's own mood, the experimental situation, effort, chance/luck and the quality of the candidate the person was representing.

emotional experiences and expectations that can be activated at any time, often as a result of an external stimulus that has a specific and idiosyncratic meaning to them (e.g. their reactions to the behaviors of a particularly kind manager or demeaning co-worker). We discuss two exemplars of these internal sources of implicit affect: transference and attachment orientation.

3.1.2.1. Transference in organizational relationships. Transference refers to the experience of reacting to a person in a specific way due to his or her similarity to someone else in our past (Andersen, Glassman, Chen, & Cole, 1995; Kelly & Barsade, 2001). One can think of transference as triangle of relationships, in which person A interacts with person B, and something about person B or the interaction between them activates unconscious networks of association (mental representations, including affect) linked to a different person (person C). The activation of these memories can serve as an implicit affective prime which then leads person A to think, feel, or behave toward person B in ways similar to those elicited by Person C (Andersen et al., 1995). In this way, transference phenomena "reflect the tendency of the brain to map past on to current experience … and the co-activation of old and new neural networks" (Bradley, Heim, & Westen, 2005, p. 348).

Although the concept of transference emerged in the context of clinical work, social-psychological research indicates that the "transference" of thoughts, feelings, or behaviors from prior onto current relationships can occur in almost every type of relationship (Chen & Andersen, 2008). An expanding body of research has found that transference processes are largely implicit, as networks or schemas about the self, others, and relationships that are chronically activated become automatic and activated outside of the person's consciousness (see Glassman & Andersen, 1999a, for a review). Glassman and Andersen (1999b) demonstrated that transference processes could even be subliminally activated by a represent of a significant other preceding a description of a novel person. Berk and Andersen (2000) found that when experimental participants conversed with a target person who appeared to resemble their own positively regarded significant others, the interaction triggered the relevant representation, leading thirdparty observers to rate the targets' responses towards the participants as more positive than in a control condition. Thus, transference processes of this sort not only influence the employee who is experiencing them, but also influence other employees, which like emotional contagion makes it a potent interpersonal process. Although Andersen and colleagues have largely focused on significant others from the distant past, in organizational settings, the past may not be, and need not be, so distant. An employee who has just left a job with an explosive belligerent manager may be highly sensitized to seeing any signs of similar traits in his or her current manager. In this case, with relatively little provocation the employee may experience transference and behave with the new manager in the same way she behaved with the old manager. Furthermore, the employee could then trigger a self-fulfilling prophecy (Downey, Freitas, Michaelis, & Khouri, 1998; Madon et al., 2001), as the transference reaction could implicitly evoke the same behavior in the new manager that was present in the old manager.

Given the amount of time most people spend at work, it is very likely that transference processes occur in organizations. Czander and Eisold (2003, p. 480) posited that organizations involve a "mosaic of transferences" because the organizational environment itself contains many triggers for transference reactions generated by interpersonal interactions that involve salient social characteristics such as authority, roles and status. Transference processes may also serve to influence the motivations of people in organizations. For example, in a series of laboratory studies, Fitzsimons and Bargh (2003) found that subliminally priming participants with different significant others from their past led them to take on motivations and goal orientations that matched the goal-content of that prior relationship (that is, if they were subliminally primed with a parent who was very achievement oriented participants increased their achievement oriented goals in that situation). Although these studies can clearly inform and suggest an agenda for future organizational theory and research, to date there has been no empirical research directly examining the process of transference within an organizational setting.

Nonetheless, case studies and clinically informed approaches to organizational behavior (e.g., Kets de Vries, 1991b) can be very useful for generating theory on transference. For example, within the field of leadership and mentoring, the influence of employees representations of authority figures from the past were shown to exert influence on both the way they led, and followed in an organizational setting (Diamond & Allcorn, 2003). These behaviors would likely then in turn elicit responses from the other employees with which the person interacts, in a process of "counter-transference" (a phenomenon empirically documented in clinical settings, where patients with particular kinds of personality disorders "draw" characteristic ways of responding from clinicians, Betan, Heim, Conklin, & Westen, 2005). McAuley (2003) has described the interaction of these kinds of "transference" and "counter-

Author's personal copy

S.G. Barsade et al./Research in Organizational Behavior 29 (2009) 135-162

transference" patterns (broadly speaking, the way the relationship partner responds to the other partner's transference reactions) in mentor-mentee relationships. He posits that transferences on the part of mentees can vary along two axes, adaptiveness (functional/dysfunctional) and valence (positive/negative). Transferences that are functional are those that allow the mentor to be seen as an expert and guide, and the self (as mentee) to be seen as assertive and capable of developing competence through the relationship. Dysfunctional transferences may lead the mentee to hold the mentor in unwarranted awe, disparagement, or some alternation between the two. A ripe area for empirical exploration in organizational settings is the extent and circumstances under which transference patterns may either fade or become accentuated over the course of a long-term employment relationship. On the one hand, the initial transference could set the pattern for all future interactions. For example, mentors and mentees could implicitly collude to keep reinforcing a negative cycle in which they act as parental figure or angry child. On the other hand, change might occur over time as both parties to the interaction develop a better understanding of each other, or if the recipient of a problematic transference reaction specifically addresses it.

3.1.2.2. Attachment patterns in organizational relationships. Another source of internally generated implicit affect comes from attachment patterns (see Shaver & Mikulincer, 2007). Attachment patterns (which are also called attachment orientation or attachment styles) include not only interpersonal behavior but representations of the self, others, and relationships in general. These patterns are called "internal working models" of relationships, including implicit characteristic emotional responses and ways of regulating those emotions, that come from the attachment patterns (Cassidy & Shaver, 2002; Mikulincer, Hirschberger, Nachmias, & Gillath, 2001). Individual differences in attachment patterns emerge and are reliably measured by the end of the first year of life. Although like most psychological characteristics they often change substantially over time, they have been demonstrated to influence thought, feeling, and behavior throughout the lifespan. Researchers have distinguished between three types of attachment patterns: secure attachment, which provides the basis for autonomy and closeness; insecure or anxious attachment in which the individual is preoccupied with closeness and worried about others' availability; and dismissive or avoidant attachment in which the individual is dismissive of the importance of and need for others.¹³ Although researchers differ in the extent to which they believe these attachment patterns are best measured through self-reports or the ratings of trained external observers, most agree that the ways of thinking, feeling, and behaving characteristic of people with different attachment patterns are largely implicit (Cassidy & Shaver, 2002; Mikulincer et al., 2001). For example, studies have shown that avoidant individuals, who prefer to dismiss the importance of close relationships and tend to deny unpleasant feelings, report minimal anxiety during stressful interpersonal tasks while at the same time spiking on measures of physiological arousal (Dozier & Kobak, 1992).

Hazan and Shaver (1990) were the first to extend attachment theory to the workplace. They found that secure workers were more satisfied and happy with recognition, while those with anxious attachments had more negative perspectives, such as feelings of work-life interference and fearing rejection for poor performance. Since then, empirical studies have shown the influence of attachment patterns on quite a few workplace processes and outcomes such as work stress (Schirmer & Lopez, 2001), burn-out (Pines, 2004) and delegation styles and organizational structure of small businesses (Johnston, 2000). For example, in a study of computer scientists and software engineers, Krausz, Bizman, and Braslavsky (2001) found that employees' attachment patterns influenced their preference for the type of employment contract with the organization). Anxious individuals showed the highest preference for external contracts relative to secure and avoidant individuals. In work-family research, attachment patterns have predicted the type of spillover between work and family roles; securely attached employees experienced positive spillover, anxiously attached employees prefer a segmentation strategy (Sumer & Knight, 2001). In leadership theory, attachment patterns have been shown to influence follower performance and mental health (Davidovitz, Mikulincer, Shaver, Izsak, & Popper, 2007).

Understanding attachment and the characteristic ways people with different attachment patterns tend to relate interpersonally may also help us to better understand a range of relational behaviors in organizations. For example,

¹³ Recent studies have also proposed a fourth attachment pattern, disorganized/disoriented (Main & Solomon, 1990), a four dimensional model combining prior conceptualizations (Bartholomew & Horowitz, 1991), as well as tested a dimensional (anxious and avoidant) rather than a categorical model of attachment (Schirmer & Lopez, 2001).

anxiously attached individuals (as compared to secure individuals) have been found to be more likely to seek validation from others, react with greater emotional intensity to approval or rejection from important others, and to be more jealous in close relationships compared to securely attached individuals (Bartholomew & Horowitz, 1991; Park, Crocker, & Vohs, 2006). Avoidantly attached individuals tend to prefer independence and to be less likely to seek support and form close, trusting relationships (Brennan & Bosson, 1998; Brennan & Morns, 1997; Simpson, 1990). For workgroups and teams where trust and social support is important, the presence of avoidantly attached members could negatively affect a group's performance. In fact, Rom and Mikulincer (2003) found that avoidance was related to deficits in group performance.

It is interesting to note that while there is a voluminous amount of research within social and personality psychology investigating the nature and influence of attachment patterns, including many articles published in top journals such as Journal of Personality and Social Psychology, we could not find even one article about this construct published in prominent journals within organizational behavior such as Administrative Science Quarterly, Academy of Management Review or Academy of Management Journal. As compared to other implicit affect constructs, given the relative ease with which one can validly measure attachment patterns and their potential for influencing a variety of organizational outcomes, this is a puzzling situation. This could be a particularly fruitful area for expanding our understanding of the influence of implicit affect employees bring with them into the work situation. For example, in addition to what has been studied, the implicit source of attachment patterns could help organizational scholars gain a better understanding of differential employee reactions to difficult workplace events, such as lay-offs. Being laid off may be more likely to spur feelings of rage in an anxiously attached person, as compared to feelings of resignation, or possibly hope and looking for new opportunities, in a securely attached person. An avoidantly attached employee may respond by mentally rejecting the organization (e.g. "they weren't worth working for anyway"). Understanding attachment patterns could also enlighten our view of the responses of layoff survivors. For example, while procedural justice has been shown overall to be beneficial to layoff survivors (Brockner et al., 1994), attachment patterns may moderate this relationship such that procedural justice might matter even more to employees with an ambivalent attachment pattern. This would be because ambivalently attached employees could be desperately seeking signals from the organization that they are still wanted and were chosen to stay in the organization due to "fair" and noncapricious reasons. It may matter much less to avoidantly attached employees who may well have already begun the mental process of separation from the organization, regardless of procedural justice.

We have focused on attachment patterns as an exemplar of an internal source of implicit affect because of the wealth of research in the psychological domain specifically examining this construct from an implicit perspective. However, there are other personality constructs which could also be sources of implicit affect. For example later in the article we discuss the personality trait of narcissism, focusing upon it as a chronic source of implicit affect regulation. In addition, a very recent study examined trait positive and negative affectivity in the form of an implicit construct and measure (Johnson, Tolentino, Rodopman, & Cho, in press), and found that implicit trait affect had incremental validity above explicit affect (using the PANAS scale) in predicting job performance. Thus there are a variety of personality variables which may also have implicit components that organizational researchers could consider investigating.

3.2. Organizational Implications of the Implicit Experience of Affect: "People are not consciously aware of feeling the emotion which has an influence on their cognitions, motivation and behaviors."

The second kind of implicit affect we discussed concerns affective processes that are not conscious but may nevertheless influence cognition and behavior. Prime examples are implicit attitudes and stereotypes, which include a strong emotional component (Greenwald & Banaji, 1995; Spielman, Pratto, & Bargh, 1988) and could profitably be integrated into the study of implicit affect in organizations. For example, research could examine inconsistencies between employees' stated feelings (I do not have negative feelings towards people of other ethnicities) and their behaviors (consistently finding excuses to hire only employees of their own race).

In fact, the existing organizational research on the implicit experience of affect and its impact on behavior has focused almost exclusively on racial and gender attitudes (Bertrand, Chugh, & Mullainathan, 2005; Rudman & Kilianski, 2000; Ziegert & Hanges, 2005). As we have seen, measures of implicit attitudes such as how quickly participants respond to positive or negative words after a racial prime (a black or white face) predict a range of behaviors, such as whether or not participants manifest negative nonverbal behaviors (e.g., eye blinking and avoiding eye contact) that are largely outside of conscious control (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997).

This kind of "leaking" of implicit affect into nonverbal behavior can lead to a cycle of negative self-fulfilling prophecies. For example, in a classic study, Word, Zanna, and Cooper (1974) found that when job applicants (who were both Black and White) who were treated with the kind of distant interpersonal behavior described in the Dovidio et al. (1997) study above, were subsequently rated by independent judges as performing less adequately than those applicants treated with more closeness in their socio-emotional contact. It seems that the participants treated with distance also reciprocated this distance, which led to an unproductive spiral of negativity.

In the same way that explicit affect has shown been shown to influence human resource practices such as hiring and performance appraisals (Robbins & DeNisi, 1998), implicit affective responses could also influence such outcomes (see Bargh et al., 1996; Fazio, Sanbonmatsu, Powell, & Kardes, 1986). As explicit racial attitudes have changed dramatically over the last half century, much of the prejudice and intergroup stereotyping that has been shown to interfere with minority groups' attainment of career goals and workplace diversity (Fiske & Lee, 2008) likely reflects greater implicit rather than explicit affective evaluations. This is particularly the case because when people are not consciously aware that they are having an emotional reaction, they can then misattribute their thoughts and behaviors to other sources that seem fair and reasonable (Wilson & Brekke, 1994). However, organizations and the employees within them may have more control than they think over this phenomenon, as implicit attitudes have also been found to be malleable. That is, implicit affective experiences are not fixed, but can be changed based on situational factors and other boundary conditions (Blair, 2002). One organizationally relevant boundary condition which was shown to influence the implicit experiencing of affect, and its subsequent effect on discrimination, was found in a study of hiring discrimination conducted by Ziegert and Hanges (2005). In this study participants were asked to complete a jobcandidate evaluation task in which they had to rate both Black and White applicants based on their resumes. Participants were randomly assigned to a condition in which they were part of an organization in which there was a "climate for racial bias" or to a control condition. Participants were also asked to respond to an IAT about implicit racial attitudes. The authors found that in the climate for racial bias condition, implicit racial attitudes were strongly related to discriminatory ratings of the Black candidates, while in the control condition there was no relationship between implicit racial attitudes and discrimination. Thus, experiencing implicit affect may not only predict different outcomes than conscious affective experience, but may be differentially influenced by organizational factors.

3.3. Organizational Implications of the Implicit Regulation of Affect: "We are not consciously aware of regulating our emotions (to protect ourselves from negative emotions or enhance positive emotions), and the implicit regulation influences our cognitions, motivations and behaviors."

The third category of implicit affect involves situations in which individuals are unaware of their feelings because they are motivated to regulate them. As described above, a rich body of research supports the notion of implicit affect regulation and we see it as relevant to organizational behavior as a whole, but will focus here on three domains: leadership, decision making and organizational culture.

One area in which there has been a fair amount of research in implicit affect regulation in organizations revolves around leaders who are narcissistic. The personality trait of narcissism is a chronically activated implicit affect regulatory construct (Morf & Rhodewalt, 2001; Russ, Bradley, Shedler, & Westen, 2008), which describes individuals who are motivated to maintain an inflated positive self-view. Narcissism has been found to have largely corrosive (Hogan, Raskin, & Fazzini, 1990) but also positive (Paunonen, Lönnqvist, Verkasalo, Leikas, & Nissinen, 2006; Rosenthal & Pittinsky, 2006) influences on organizational outcomes. For example, research has suggested that narcissistic CEOs are more likely to make bold and risky decisions than are non-narcissistic CEOs (Chatterjee & Hambrick, 2007). This can at times be helpful—the boldness and vision can be viewed as charismatic—or harmful, if narcissistic leaders exercise poor judgment in the attempt to maintain an inflated image of themselves. Also of concern in the decision making of narcissistic leaders is their tendency to believe that everyone around them agrees with their point of view (McGregor, Nail, Marigold, & Kang, 2005). This belief is problematic as it could inhibit their ability to heed warning signals from others in their environment.

Implicit affect regulation can pose problems for a range of decision-making phenomena in organizations, even for individuals for whom narcissism is not a primary personality trait. Take for example the decision making involved in the organizational phenomenon of "escalation of commitment," the tendency to stay locked into a losing course of action (or throwing good money after bad) (Staw, 1976). While this has been a robust area of inquiry, its focus has remained largely on the cognitive rationales (or rationalizations) people offer for this escalation (see Brockner, 1992;

Staw, 1997, for reviews). From the standpoint of affect regulation, these rationalizations are likely to be as unconscious as the affective states that motivated them—although within the affective domain only conscious affect has been focused upon to date (Wong, Yik, & Kwong, 2006). While it is definitely important to examine explicit emotions, such as regret, and their impact on escalation of commitment (Ku, 2008; Wong & Kwong, 2007), an implicit affect perspective could complement this view.

More broadly, decision-makers may be unconsciously avoiding the experience of useful, but negative emotions such as regret or guilt. Indeed, implicitly regulating away these types of emotions could lead to other decision-making problems, including problems with ethical decision making and corruption in organizations. Emotions such as empathy and guilt are essential signals in moral self-regulation (Detert, Treviño, & Sweitzer, 2008; Moore, 2008). Therefore implicitly regulating and reducing these emotions could be a precursor to moral disengagement and may result in unethical decision making. Certainly, theoretical arguments have been made that executives cognitively rationalize away these negative feelings when engaged in unethical acts or corruption (Anand, Ashforth, & Joshi, 2005; Ashforth & Anand, 2003). Were they consciously aware of the feelings (rather than the rationalizations that protect them from those feelings), they would experience a countervailing pressure that might mitigate acting unethically. Bazerman, Loewenstein, and Moore (2002) argued that in the case of good accountants performing bad audits, "it is not a case of conscious corruption but unconscious bias." Implicit regulation of affect may well be a source of this unconscious bias, which can then lead to misuses of power (Bargh & Alvarez, 2001).

Patterns of implicit affective regulation may also be part of, or interact with, affective culture of organizations. Barsade and O'Neill (2009) define affective culture as "the manifestation of specific emotions (or moods) that help members understand and communicate the affective meaning of their group or organizational environment and the shared norms for the appropriate enactment of these emotions (or moods)." For instance, in some employment domains, emotions such as fear may be quite reasonable to expect, particularly where physical safety is in danger (e.g., military, firefighters, rescue workers). However, ethnographic research has shown that people often avoid conscious expressions of fear in these types of organizational cultures (Lois, 2003). Altering those norms could have positive effects, negative effects, or both, depending on the circumstance and time frame. For example, fearful soldiers are likely to freeze, so teaching soldiers (through implicit or explicit norms) to suppress their fear (and ultimately to automatize the suppression, so it becomes an implicit affect-regulatory strategy) is likely adaptive in combat, but this suppression may not be adaptive in other circumstances (e.g., once soldiers have returned to civilian life). Thus, a strategy that is effective for regulating affect at one point in one organizational setting may be highly dysfunctional in others.

It may be that cultural rules are initially formed via implicitly regulated affect at the individual level, and this individual-level process leads to the emergence of a group-level norm, rather than arising through reasoned cognitions about which emotions would best serve the group. If so, this could offer an additional mechanism for understanding how affective cultures form. Affective culture may also arise from the degree of external threat to the self-esteem of the group members. For example, Rudman, Dohn, and Fairchild (2007) found that when people engaged in implicit affect regulation to protect their self-esteem they were more likely to exhibit automatic intergroup bias, showing more positive attitudes towards their own identity groups as compared to others. Thus, by extension, external threats to an organization's existence could lead to a stronger organizational culture, such as the case of Southwest Airlines, which experienced early and continued threats to its survival (Pierce, Gardner, Cummings, & Dunham, 1989) Of course, this also means that external threats and strong cultures could also lead to intense inter-organizational rivalries that may or may not be functional for the organization.

As can be seen by our descriptions above, implicit affect regulation can be either adaptive or maladaptive. In certain circumstances, implicit regulation of affect may be highly adaptive, as when an employee is passed over for promotion, given a negative evaluation, or simply has to cope with a difficult manager. Many affect regulation strategies, however, can have paradoxical and often maladaptive consequences. For example, research suggests that conscious emotional regulation through suppression (explicit inhibition of the experience or expression of an emotion) can lead to a "boomerang" effect, such that the suppressed emotions actually influence bodily symptoms and negatively influence cognitive skills, such as memory and learning (see Gross, 1998 for a review). One can imagine similar boomerang effects for emotions that are implicitly regulated and expressed in ways over which the person has no conscious control. Thus, the extent to which it will be one or the other is likely to vary based on a host of factors yet to be explored.

Last, while we have not focused on a clinical perspective of implicit affect, there is a long history of writing in organizational behavior based on such a perspective, especially when dealing with defensive processes as they play out

in organizations (Bion, 1965; Levinson, 1987; Levinson, Molinari, & Spohn, 1972; McLeod & Kettner-Polley, 2004; Tuckman, 1965), including a large body of work by Kets de Vries and colleagues (e.g. Kets de Vries, 1990, 1991a, 1991b; Kets de Vries & Miller, 1985). Some scholars in this tradition have recently used case studies to apply the concept of implicit anxiety and defenses to phenomena such as mergers and acquisitions (Astrachan, 2004), and even pilots' desire to carry handguns after the 9/11 terrorist attacks (Fraher, 2004). This body of clinical work, which is largely based on case studies or is theoretical in nature, offers a useful source for ideas about where implicit affect regulation can be manifested in organizations. With the theoretical advances we have discussed here, along with new empirical methodologies available to researchers, it will be possible to empirically test and further our understanding of the difficult-to-capture yet important phenomena of implicit affect regulation.

4. Methods for examining implicit affect in organizational behavior

There remains a difficult question of how to measure implicit sources, experience, and regulation of affect in organizations, an area which has taken years of work to study in the laboratory¹⁴ let alone in field settings. With respect to implicit sources of affect, we suggest a two-step process. Determining whether the implicit affective source indeed has led to a particular emotion, cognition or behavior in the employee (e.g. determining that a smiling versus frowning customer led to more smiles and better service on the part of the waiter) is the first step. The second is to then determine if people are indeed unaware that this process is occurring (is the waiter aware that the smiling customer is improving his mood, or that his improved mood has led to better performance?). Much research has examined the first step, but not the second. One limitation of the second question is that it may be particularly vulnerable to demand characteristics. On the one hand, participants may want to believe (or convince the researchers) that they are in control of their emotions and cognizant of their effects even if they are not. Alternatively, the opposite demand characteristic would involve reactance, with participants denying that a stimulus influenced their emotions and behaviors even if it did. One method to deal with this is to use "extensive funnel debriefing," which involves asking research participants to answer increasingly specific questions about the study involving their perceptions of relationships between tasks performed or different parts of the experiment (Ruys & Stapel, 2008b, p. 780). An even more simple way of addressing both the question of the influence of implicit affect and potential demand characteristics is to embed the implicit affect source into a viable set of possible attributions for an explicitly felt emotion or a behavior, as when Barsade (1995) embedded the relevant attributions in a list and asked participants to rate the influence of all the attributions on their outcomes. One advantage of this technique is that it can work equally well in laboratory or field settings.

A more complex method of assessing implicit sources of affect is the use of implicit procedures such as subliminal priming. However, the ubiquity of computers and access to the Internet make subliminal priming studies more accessible to field researchers. For example, political psychologists have begun using these methods in a large systemic context—national elections—yielding data of relevance to organizational studies of leadership. For example, in the 2000 election, the Bush campaign ran an ad ostensibly about Gore's health care plan that drew the attention of journalists. They noticed that when the ad was slowed down the phrase BUREACRATS DECIDE had been presented in successive frames, with BUREAC separate from RATS, and the latter words presented subliminally while the announcer talked about Gore and his plan. The Bush campaign, advertising executives, and pundits called the claim preposterous, and the debate ended after a few of news cycles. However, Weinberger and Westen (2008) tested the impact of subliminal presentation of the word RATS versus the control stimulus STAR ("rats" spelled backwards) in a mass media setting by subliminally presenting participants on the Internet with one word or the other prior to having them evaluate an unknown political candidate. Subliminal RATs did, in fact, have a substantial impact on negative ratings of the candidate, even though participants had no idea whether they had been exposed to the subliminal stimulus or, if so, what it was. In a follow-up study, the authors also found that the effects of subliminal primes of real political leaders influenced voters' attitudes towards candidates in a real election. Such methods could be readily applied to organizational settings, as could other implicit measurement strategies that rely on reaction time as a measure of unconscious affect or attitudes (e.g., the IAT). For example, employees could be asked to rate a hypothetical manager, peer, or subordinate described briefly, along with a subliminal image of their boss (or a control image), providing an implicit affective measure of feelings toward their boss. Similarly, the same technique could be

¹⁴ Indeed much of this research was pioneered in the 1940s and 1950s in perception research but left untouched until the 1990s (see Erdelyi, 1985; Westen, Weinberger, & Bradley, 2007).

used to assess employees' implicit feelings about their organization, subliminally presenting the company's logo just prior to presenting them with a neutral image. Their ratings of this neutral image could then provide an implicit measure of their attitudes toward their current organization.

A complexity of measurement, and one which has not yet been addressed sufficiently in the research literature on implicit affect or implicit processes more generally, pertains to the necessary exposure to the implicit prime and the duration of its likely effects. Laboratory tests usually assess effects within moments or at most hours and rarely test repeated exposure to a prime. In contrast, in an organization, a stimulus that functions as an implicit affective prime can occur for much longer time periods. We do not know, for example, whether the positive affect induced by a picture of smiling children on a co-worker's desk, or an inspirational poster on the factory floor, fades with constant exposure or how rapidly or completely its influence is swamped or enhanced by more direct and intense stimuli, such as deadlines or other realities of work that consume conscious attention. The richness of the field setting may make investigating the boundary conditions and contingencies that render implicit affective processes more or less influential in organizations particularly promising, in not only bringing basic science to organizational settings but contributing to the basic science literature on implicit processes by expanding the examination of new boundary conditions of the phenomena.

Turning to the measurement of internal sources of implicit affect, attachment researchers have argued about the relative utility of using self-reports or the coding of narratives to capture the phenomenon, without relying on people to know about their own attachment patterns. The general consensus is that although self-report versus coded measures of attachment may correlate only moderately, if at all, both have predictable correlates, suggesting that they are tapping explicit versus implicit dimensions of attachment respectively (Cassidy & Shaver, 2002). With regard to transference processes, most of the research has involved creating an implicit prime from participants' descriptions of a significant other generated in a laboratory session (e.g. Andersen et al., 1995; Glassman & Andersen, 1999b). Another approach is that of Bradley et al. (2005) who created a subtle questionnaire that successfully measured transference processes, in a manner that organizational researchers can emulate.

With respect to measuring the implicit experience of affect, as suggested above, measures such as the IAT (Banaji & Greenwald, 1994; Nosek, Greenwald, & Banaji, 2005), designed to measure implicit affective biases, are available online and could be readily administered in an organizational setting (for examples, see http://understandingprejudice.org/ iat).¹⁵ Other readily administered measures of implicit affect include word fragment and word stem completion tasks (DeWall & Baumeister, 2007). In these measures, individuals receive a series of word stems that can yield either positive or negative emotion words (as well as non-emotional words). For example, "JO_" can be either JOY or JOB, and "ANG__" can be either ANGER or ANGLE. Johnson et al. (in press) recently created a word-fragment task to measure implicit trait positive and negative affect, although the task may also be used to measure currently experienced implicit affect as well. A similar technique asks participants to spell aurally presented homophones (words that sound alike but have different meanings). Participants tend to spell words (e.g. die or dye) congruent with their moods or emotions (Halberstadt, Niedenthal, & Kushner, 1995). Word-fragment tasks have also been used in experiments testing the implicit *regulation* of affect (e.g. Schimel et al., 2003), as respondents may produce or avoid words depending on whether they reduce or augment an affect, whether or not they were aware of feeling it.

Physiological and behavioral measures can also be used to assess implicit experience and regulation of affect. Coding of facial expressions, tone and body language, by both trained coders and naïve participants, can be an effective way of reading emotions that participants may not be aware of feeling. With regard to facial expressions, some of the most potentially useful in coding systems for organizational settings include Ekman's Facial Action Coding System (Ekman & Rosenberg, 2005) and Gottman's Specific Affect Coding System (Coan & Gottman, 2007). Measures such as EMG are helpful for assessing muscular contractions that are too small to show up visibly (Cacioppo, Petty, Losch, & Kim, 1986), although facial affect coding is more practical in field settings, where behavior can be either observed and rated or videotaped and later coded. Other physiological measures such as hormone levels, skin conductance, cardiovascular activity, electroencephalogram readings (EEG), and functional magnetic resonance imaging (fMRI) can be used to measure emotions of which participants may not be aware, although researchers would need to still determine this lack of conscious awareness (see Cacioppo, Tassinary, & Berntson, 2007, for a review). While there are clearly challenges to implementing these physiological measures within field studies, they are increasingly emerging in organizational behavior research, and can be very useful to the study of this implicit domain.

¹⁵ Although in doing so, taking into account critiques of this method (e.g. Blanton & Jaccard, 2006; Tetlock & Mitchell, in press).

A specific challenge in measuring the implicit regulation of affect is that it involves the motivation to avoid feeling negative affect (or the motivation to enhance feelings of positive affect), and these motivations may differ across individuals. One way to study implicit affect regulation is to examine domains in which the researcher can reasonably assume that all participants will be motivated to avoid negative affect and seek positive affect. For example, organizational researchers could study the impact of negative feedback or performance reviews, which provide a threat to self-esteem. Alternatively, researchers can measure individual differences in motives using reliable implicit measures (see McClelland et al., 1989).

Many of the methods needed to fully examine implicit affect in organizations are challenging. To measure this construct, organizational researchers will need to become comfortable with a set of methods which most have not been using to this point. At the same time, there is still some skepticism by organizational researchers about implicit constructs, who require specific demonstration of the lack of awareness of the affect on the part of organizational members. We understand such skepticism, and indeed this section has tried to provide some avenues for measurement in organizational settings. Nonetheless, we hope that organizational researchers will (at one point) be able to rely upon other scholars' research in both organizational behavior and psychology, who have already shown that a particular phenomenon (such as emotional contagion) is implicit. Of course, such acceptance of implicit processes may be dependent on the specific research question (is this a context in which it is important to delineate implicit from explicit affect) and the richness of the prior literature in establishing that the phenomenon is indeed implicit.

5. The implications of making implicit affect, explicit

Once organizational researchers have begun to examine the role of implicit affect in organizational life, an important next step will be to consider whether and how organizational members can become more aware of these processes. In research on implicit cognition, Langer and colleagues shifted their research agenda from the study of mindlessness to the study of mindfulness and its benefits, including in the work domain (Crum & Langer, 2007; Langer & Moldoveanu, 2000). There is some preliminary evidence that simply making people aware of these implicit processes is sufficient to change their emotions, cognitions and behaviors. For example, participants alerted to think that bad weather might adversely influence their mood reported more subjective well-being during bad weather than did participants who were not primed to consider situational influences on their happiness (Schwarz & Clore, 1983). In an organizational setting, Diamond and Allcorn (2003) described an organizational consulting project in which the client had overly positive and dysfunctional transferences to the consultants (who were going to "save" the client), which then shifted to extremely negative and dysfunctional transferences (the consultants "betrayed" the client). When the consultants made this pattern explicit, rather than leaving it implicit, both parties were able to break the cycle. These examples fit with empirical research showing that teaching people about their own implicit processes (e.g., implicit stereotypes) can free them to make more appropriate conscious decisions (Steele, 1997). On the other hand, making the implicit, explicit, may not be possible in all situations. For example, undoing already formed implicit preferences has been shown to be more difficult than forming new implicit preferences (e.g. Gregg, Seibt, & Banaji, 2006). Also, as we discussed in our introduction, implicit processes in general are often adaptive and allow us to devote our conscious attention to many other activities. Hence, in some situations, it may not always be functional to make the implicit, explicit. Ultimately, asking questions about the conditions under which implicit processes can be or should be surfaced, and examining whether raising implicit processes to conscious awareness has positive or negative consequences for various types of tasks and decisions, are important issues for organizational researchers. But first, we need to better understand the role of implicit affective processes within organizations.

6. Conclusion

We have described a number of challenges to the study of implicit affect in organizations, but we conclude with one final challenge that is attitudinal rather than methodological. Some organizational scholars may have been reluctant to examine anything "unconscious," just as was the case in much of psychology for the better part of a century. Ironically, perhaps the greatest source of such skepticism may be the often implicit (and sometimes explicit) negative associations learned by organizational researchers in their doctoral training toward any concept perceived to be psychodynamic. Interestingly, this "conditioned emotional response" to anything "unconscious" has now been virtually extinguished in both personality and social psychology (not to mention cognitive science and neuroscience). This is because the concept

of unconscious or implicit processes has been corroborated and accepted by these academic fields. The current consensus in the scientific community is that consciousness is indeed the tip of the proverbial iceberg, that implicit processes have important effects and that these processes, including implicit affect, can be measured effectively. Investigating implicit affect will lead to our more complete understanding of organizational behavior. It is therefore time for organizational researchers to relinquish any "implicit bias" against such constructs and move the field forward. By drawing upon a deep foundation of psychological research, introducing a three category model of implicit affect, and demonstrating its applicability within organizational behavior, we provide a conceptual and methodological basis for studying implicit affect in organizations. We offer a call to action for the study of implicit affect within organizational behavior, an examination we believe will offer a more complete understanding of organizational life.

References

- Adelmann, P. K., & Zajonc, R. B. (1989). Facial efference and the experience of emotion. Annual Review of Psychology, 40, 249-280.
- Anand, V., Ashforth, B. E., & Joshi, M. (2005). Business as usual: The acceptance and perpetuation of corruption in organizations. Academy of Management Executive, 19, 9–23.
- Anderson, J. R., & Bower, H. B. (1980). Human associative memory: A brief edition (2nd ed.). Philadelphia: Lawrence Erlbaum Associates.
- Andersen, S. M., Glassman, N. S., Chen, S., & Cole, S. W. (1995). Transference in social perception: The role of chronic accessibility in significantother representations. *Journal of Personality and Social Psychology*, 69, 41–57.
- Arkes, H., & Tetlock, P. (2004). Attributions of implicit prejudice, or "Would Jesse Jackson 'Fail' the Implicit Association Test?". Psychological Inquiry, 15, 257–278.
- Ashforth, B. E., & Anand, V. (2003). The normalization of corruption in organizations. In Kramer, R. M., & Staw, B. M. Eds. Research in organizational behavior. Vol. 25 (pp.1–52). Greenwich, CT: JAI Press.
- Astrachan, J. H. (2004). Organizational departures: The impact of separation anxiety as studied in a mergers and acquisitions simulation. *The Journal of Applied Behavioral Science*, 40, 91–110.
- Baddeley, A. D. (2000). Working memory: The interface between memory and cognition. In M. Gazzaniga (Ed.), Cognitive neuroscience: A reader (pp. 292–304). Oxford, UK: Blackwell Publishers Ltd.
- Bakker, A. B. (2005). Flow among music teachers and their students: The crossover of peak experiences. Journal of Vocational Behavior, 66, 26-44.
- Banaji, M. R., & Bhaskar, R. (2000). Implicit stereotypes and memory: The bounded rationality of social beliefs. In D. L. Schacter & E. Scarry (Eds.), *Memory, brain, and belief* (pp. 139–175). Cambridge, MA: Harvard University Press.
- Banaji, M., & Greenwald, A. G. (1994). Implicit stereotyping and prejudice. In Zanna, M. P., James, M., *The psychology of prejudice: The Ontario symposium*. Vol. 7 (pp.55–76). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Bargh, J. A. (2006). What have we been priming all these years? On the development, mechanisms, and ecology of nonconscious social behavior. *European Journal of Social Psychology*, 36, 147–168.
- Bargh, J. A., & Alvarez, J. (2001). The road to hell: Good intentions in the face of nonconscious tendencies to misuse power. In Lee-Chai (Ed.), *The use and abuse of power: Multiple perspectives on the causes of corruption; the use and abuse of power: Multiple perspectives on the causes of corruption*; the use and abuse of power: Multiple perspectives on the causes of corruption (pp. 41–55). New York: Psychology Press.
- Bargh, J. A., & Barndollar, K. (1996). Automaticity in action: The unconscious as repository of chronic goals and motives. In P. M. Gollwitzer & J.
 A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 457–481). New York: Guilford Press.
- Bargh, J. A., Chen, M., & Burrows, L. (1996). Automaticity of social behavior: Direct effects of trait construct and stereotype activation on action. *Journal of Personality and Social Psychology*, 71, 230–244.
- Bargh, J. A., & Pietromonaco, P. (1982). Automatic information processing and social perception: The influence of trait information presented outside of conscious awareness on impression formation. *Journal of Personality and Social Psychology*, 43, 437–449.
- Barrett, L. F., Mesquita, B., Ochsner, K. N., & Gross, J. J. (2007). The experience of emotion. Annual Review of Psychology, 58, 373-403.
- Barsade, S. G. (1995). Emotional contagion in groups. Unpublished Dissertation. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 56, 1876.
- Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. Administrative Science Quarterly, 47, 644-675.
- Barsade, S. G., Brief, A. P., & Spataro, S. E. (2003). The affective revolution in organizational behavior: The emergence of a paradigm. In J. Greenberg (Ed.), *Organizational behavior: The state of the science* (pp. 3–52). Mahwah, NJ: Lawrence Erlbaum Associates.
- Barsade, S. G., & Gibson, D. E. (2007). Why does affect matter in organizations? Academy of Management Perspectives, 21, 36-59.
- Barsade, S. G, & O'Neill O. A. (2009). Affective organizational culture: It's influence in the long-term care setting. Working Paper.
- Bartel, C. A., & Saavedra, R. (2000). The collective construction of work group moods. Administrative Science Quarterly, 45, 197-231.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, *61*, 226–244.
- Bazerman, M. H., Loewenstein, G., & Moore, D. A. (2002). Why good accountants do bad audits. Harvard Business Review, 80, 96-102.
- Bechara, A., Tranel, D., Damasio, H., Adolphs, R., Rockland, C., & Damasio, A. R. (1995). Double dissociation of conditioning and declarative knowledge relative to the amygdala and hippocampus in humans. *Science*, 269, 1115–1118.
- Becker, E. (1973). The denial of death. NY: Free Press.
- Berk, M. S., & Andersen, S. M. (2000). The impact of past relationships on interpersonal behavior: Behavioral confirmation in the social-cognitive process of transference. *Journal of Personality and Social Psychology*, 79, 546–562.

Bernieri, F. J., Reznick, J. S., & Rosenthal, R. (1988). Synchrony, pseudosynchrony, and dissynchrony: Measuring the entrainment process in mother–infant reactions. *Journal of Personality and Social Psychology*, 54, 243–253.

Bertrand, M., Chugh, D., & Mullainathan, S. (2005). Implicit discrimination. American Economic Review, 95(2), 94-98.

- Betan, E., Heim, A. K., Conkline, C. Z., & Westen, D. (2005). Countertransference phenomena and personality pathology in clinical practice: An empirical investigation. *American Journal of Psychiatry*, 162, 890–898.
- Bion, W. R. (1965). A theory of thinking. Revista de Psicoanálisis, 22, 1-9.
- Blair, I. V. (2002). The malleability of automatic stereotypes and prejudice. Personality and Social Psychology Review, 6, 242-261.
- Blair, I. V., Judd, C. M., & Chapleau, K. M. (2004). The influence of Afrocentric facial features in criminal sentencing. *Psychological Science*, 15(10), 674–679.
- Blanton, H., & Jaccard, J. (2006). Arbitrary metrics in psychology. American Psychologist, 61, 27-41.
- Bornstein, R. F. (1989). Exposure and affect: Overview and meta-analysis of research 1968–1987. Psychological Bulletin, 106, 265–289.
- Bornstein, R. F. (1992). Subliminal mere exposure effects. In R. F. Bornstein & T. S. Pittman (Eds.), *Perception without awareness: Cognitive, clinical, and social perspectives* (pp. 191–210). New York: Guilford Press.
- Bradley, R., Heim, A. K., & Westen, D. (2005). Transference patterns in the psychotherapy of personality disorders: Empirical investigation. British Journal of Psychiatry, 186, 342–349.
- Brennan, K. A., & Morns, K. A. (1997). Attachment styles, self-esteem, and patterns of seeking feedback from romantic partners. *Personality and Social Psychology Bulletin*, 23, 23–31.
- Brennan, K. A., & Bosson, J. K. (1998). Attachment-style differences in attitudes toward and reaction to feedback from romantic partners: An exploration of the relational bases of self-esteem. *Personality and Social Psychology Bulletin, 24*, 699–714.
- Brockner, J. (1992). The escalation of commitment to a failing course of action: Toward theoretical progress. Academy of Management Review, 17(1), 39–61.
- Brockner, J., Konovsky, M., Cooper-Schneider, R., Folger, R., Martin, C., & Bies, R. J. (1994). Interactive effects of procedural justice and outcome negativity on victims and survivors of job loss. Academy of Management Journal, 37, 397–409.
- Buck, R. (1980). Nonverbal behavior and the theory of emotion: The facial feedback hypothesis. *Journal of Personality and Social Psychology, 38*, 811–824.
- Buck, R. (1999). The biological affects: A typology. Psychological review, 106, 301-336.
- Cacioppo, J. T., & Gardner, W. L. (1999). Emotions. Annual Review of Psychology, 50, 191-214.
- Cacioppo, J. T., Petty, R. E., Losch, M. E., & Kim, H. S. (1986). Elecotromyographic activity over facial muscle regions can differentiate the valence and intensity of affective reactions. *Journal of Personality and Social Psychology*, 50, 260–268.
- Cacioppo, J. T., Tassinary, L. G., & Berntson, G. G. (2007). Psychophysiological science: Interdisciplinary approaches to classic questions about the mind. In J. T. Cacioppo, L. G. Tassinary, & G. G. Berntson (Eds.), *Handbook of psychophysiology* (3rd ed., pp. 1–16). New York: Cambridge University Press.
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS Scales. *Journal of Personality and Social Psychology*, 67, 319–333.
- Carver, C. S. (2001). Affect and the functional bases of behavior: On the dimensional structure of affective experience. *Personality and Social Psychology Review*, *5*, 345–356.
- Cassidy, J., & Shaver, P. R. (Eds.). (2002). Handbook of attachment: Theory, research, and clinical applications. New York: Guilford Press.
- Chartrand, T. L., & Bargh, J. A. (1999). The chameleon effect: The perception-behavior link and social interaction. *Journal of Personality and Social Psychology*, 76, 893–910.
- Chatterjee, A., & Hambrick, D. C. (2007). It's all about me: Narcissistic chief executive officers and their effects on company strategy and performance. *Administrative Science Quarterly*, 52, 351–386.
- Chen, M., & Bargh, J. A. (1997). Nonconscious behavioral confirmation processes: The self-fulfilling consequences of automatic stereotype activation. *Journal of Experimental Social Psychology*, 33, 541–560.
- Chen, S., & Andersen, S. M. (2008). The relational self in transference: Intrapersonal and interpersonal consequences in everyday social life. In J. V. Wood, A. Tesser, & J. G. Holmes (Eds.), *The self and social relationships* (pp. 231–253). New York: Psychology Press.
- Cherulnik, P. D., Donley, K. A., Wiewel, T. S. R., & Miller, S. R. (2001). Charisma is contagious: The effect of leaders' charisma on observers' affect. *Journal of Applied Social Psychology*, 31, 2149–2159.
- Coan, J. A., & Gottman, J. M. (2007). The specific affect coding system (SPAFF). In J. A. Coan & J. J. B. Allen (Eds.), Handbook of Emotion Elicitation and Assessment. Series in Affective Science (pp. 267–285). New York: Oxford University Press.
- Cohen, N. J. (1984). Preserved learning capacity in Amnesia: Evidence for multiple memory systems. In L. Squire & N. Butters (Eds.), *Neuropsychology of memory* (pp. 88–103). New York: Guilford Press.
- Collins, A. M., & Loftus, E. F. (1975). A spreading-activation theory of semantic processing. Psychological Review, 82, 407-428.
- Cronin, M. A. (2004). A model of knowledge activation and insight in problem solving. Complexity, 9, 17-24.
- Crum, A., & Langer, E. (2007). Mind-set matters: Exercise and the placebo effect. Psychological Science, 18, 165–171.
- Czander, W., & Eisold, K. (2003). Psychoanalytic perspectives on organizational consulting: Transference and counter-transference. *Human Relations*, 56, 475–490.
- Davidovitz, R., Mikulincer, M., Shaver, P. R., Izsak, R, & Popper, M. (2007). Leaders as attachment figures: Leaders' attachment orientations predict leadership-related mental representations and followers' performance and mental health. *Journal of Personality and Social Psychology*, 93, 632– 650.
- Davidson, R. (2003). Seven sins in the study of emotion: Correctives from affective neuroscience. Brain and Cognition, 52(1), 129-132.
- Detert, J. R., Treviño, L. K., & Sweitzer, V. L. (2008). Moral disengagement in ethical decision making: A study of antecedents and outcomes. *Journal of Applied Psychology*, 93, 374–391.

Author's personal copy

158

S.G. Barsade et al. / Research in Organizational Behavior 29 (2009) 135-162

- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56, 5–18.
- DeWall, C. N., & Baumeister, R. F. (2007). From terror to joy: Automatic tuning to positive affective information following mortality salience. *Psychological Science*, *18*, 984–990.
- Diamond, M., & Allcorn, S. (2003). The cornerstone of psychoanalytic organizational analysis: Psychological reality, transference and countertransference in the workplace. *Human Relations*, 56, 491–514.
- Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: Use of differential decision criteria for preferred and nonpreferred conclusions. *Journal of Personality and Social Psychology*, 63, 568–584.
- Ditto, P. H., Scepansky, J. A., Munro, G. D., Apanovitch, A. M., & Lockhart, L. K. (1998). Motivated sensitivity to preference-inconsistent information. *Journal of Personality and Social Psychology*, 75, 53–69.
- Dovidio, J. F., & Gaertner, S. L. (1993). Stereotypes and evaluative intergroup bias. In D. M. Mackie & D. L. Hamilton (Eds.), Affect, cognition, and stereotyping: Interactive processes in group perception (pp. 167–193). San Diego: Academic Press.
- Dovidio, J. F., Kawakami, K., Johnson, C., Johnson, B., & Howard, A. (1997). On the nature of prejudice: Automatic and controlled processes. *Journal of Experimental Social Psychology*, 33, 510–540.
- Downey, G., Freitas, A. L., Michaelis, B., & Khouri, H. (1998). The self-fulfilling prophecy in close relationships: Rejection sensitivity and rejection by romantic partners. *Journal of Personality and Social Psychology*, 75(2), 545–560.
- Dozier, M., & Kobak, R. R. (1992). Psychophysiology in attachment interviews: Converging evidence for deactivating strategies. *Child Development*, 63(6), 1473–1480.
- Duclos, S. E., Laird, J. D., Schneider, E., Sexter, M., Stern, L., & Van Lighten, O. (1989). Emotion-specific effects of facial expressions and postures on emotional experience. *Journal of Personality and Social Psychology*, 57, 100–108.
- Ekman, P., & Rosenberg, E. L. (2005). What the face reveals: Basic and applied studies of spontaneous expression using the facial action coding system (FACS) (2nd ed.). New York, NY: Oxford University Press.
- Elfenbein, H. A. (2007). Emotion in organizations: A review in stages. In Brief, A., & Walsh, J. Eds. Academy of Management Annals. Vol. 1 (pp.315–386). Amsterdam: Elsevier.
- Erdelyi, M. (1985). Psychoanalysis: Freud's cognitive psychology. San Francisco: W H Freeman.
- Fazio, R. H., Jackson, J. R., Dunton, B. C., & Williams, C. J. (1995). Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline? *Journal of Personality and Social Psychology*, 69, 1013–1027.
- Fazio, R. H., Sanbonmatsu, D. M., Powell, M. C., & Kardes, F. R. (1986). On the automatic activation of attitudes. Journal of Personality and Social Psychology, 50, 229–238.
- Fenz, W., & Epstein, S. (1967). Gradients of physiological arousal of experienced and novice parachutists, as a function of an approaching jump. *Psychosomatic Medicine*, 29, 3–51.
- Fiske, S. T., & Lee, T. L. (2008). Stereotypes and prejudice create workplace discrimination. In A. Brief (Ed.), *Diversity at work. Cambridge companions to management* (pp. 13–52). New York, NY, US: Cambridge University Press.
- Fitzsimons, G. M., & Bargh, J. A. (2003). Thinking of you: Nonconscious pursuit of interpersonal goals associated with relationship partners. Journal of Personality and Social Psychology, 84, 148–164.
- Flack, W. (2006). Peripheral feedback effects of facial expressions, bodily postures, and vocal expressions on emotional feelings. *Cognition & Emotion*, 20, 177–195.
- Forgas, J. P. (1994). The role of emotion in social judgments: An introductory review and an Affect Infusion Model (AIM). European Journal of Social Psychology, 24, 1–24.
- Fraher, A. L. (2004). 'Flying the friendly skies': Why US commercial airline pilots want to carry guns. Human Relations, 57, 573–595.
- Gino, F., & Schweitzer, M. (2008). Blinded by anger or feeling the love: How emotions influence advice taking. *Journal of Applied Psychology*, 93(5), 1165–1173.
- Glassman, N. S., & Andersen, S. M. (1999a). Streams of thought about the self and significant others: Transference as the construction of interpersonal meaning. In J. A. Singer & P. Salovey (Eds.), At play in the fields of consciousness: Essays in honor of Jerome L. Singer (pp. 103– 140). Mahwah, NJ: Lawrence Erlbaum Associates.
- Glassman, N. S., & Andersen, S. M. (1999b). Activating transference without consciousness: Using significant-other representations to go beyond what is subliminally given. *Journal of Personality and Social Psychology*, 77, 1146–1162.
- Gray, J. A. (1990). Brain systems that mediate both emotion and cognition. Cognition & Emotion, 4, 269-288.
- Green, A. R., Carney, D. R., Pallin, D. J., Ngo, L. H., Raymond, K. L., Iezzoni, L. I., et al. (2007). Implicit bias among physicians and its prediction of thrombolysis: Decisions for Black and White Patients. *Journal of General Internal Medicine*, 22(9), 1231–1238.
- Greenberg, J., Martens, A., Jonas, E., Eisenstadt, D., Pyszczynski, T., & Solomon, S. (2003). Psychological defense in anticipation of anxiety: Eliminating the potential for anxiety eliminates the effect of mortality salience on worldview defense. *Psychological Science*, *14*, 516–519.
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. Psychological Review, 102, 4-27.
- Greenwald, A. G., Banaji, M. R., Rudman, L. A., Farnham, S. D., Nosek, B. A., & Mellott, D. S. (2002). A unified theory of implicit attitudes, stereotypes, self-esteem, and self-concept. *Psychological Review*, 109, 3–25.
- Gregg, A. P., Seibt, R., & Banaji, M. R. (2006). Easier done than undone: Asymmetry in the malleability of implicit preference. *Journal of Personality and Social Psychology*, 90, 1–20.
- Gross, J. J. (1998). The emerging field of emotional regulation: An integrative review. Review of General Psychology, 2, 271-299.
- Gump, B. B., & Kulik, J. A. (1997). Stress, affiliation, and emotional contagion. *Journal of Personality and Social Psychology*, 72, 305–319. Hakeberg, M., Berggren, U., & Carlsson, S. G. (1990). A 10-year follow-up of patients treated for dental fear. *Scandinavian Journal of Dental*
- Research, 98, 53–59.
- Halberstadt, J. B., Niedenthal, P. M., & Kushner, J. (1995). Resolution of lexical ambiguity by emotional state. Psychological Science, 6, 278-282.

- Hampton, R. R., & Hampstead, B. M. (2006). Spontaneous behavior of a rhesus monkey (*Macaca mulatta*) during memory tests suggests memory awareness. *Behavioural Processes*, 72, 184–189.
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). Emotional contagion: Studies in emotion and social interaction. New York: Cambridge University Press.
- Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. Journal of Personality and Social Psychology, 59, 270-280.
- Healy, A. F., & McNamara, D. S. (1996). Verbal learning and memory: Does the modal model still work? Annual Review of Psychology, 47, 143–172.
- Higgins, E. T. (1991). Expanding the law of cognitive structure activation: The role of knowledge applicability. Psychological Inquiry, 2, 192–193.
- Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability and salience. In E. T. Higgins & A. W. Kruglanski (Eds.), Social psychology: Handbook of basic principles (pp. 133–168). New York: Guilford Press.
- Hogan, R., Raskin, R., & Fazzini, D. (1990). The dark side of charisma. In K. Clark & M. Clark (Eds.), *Measures of leadership* (pp. 343–354). West Orange, NJ: Leadership Library of America.
- Holyoak, K. J., & Spellman, B. A. (1993). Thinking. Annual Review of Psychology, 44, 265-315.
- Hsee, C. K., Hatfield, E., & Chemtob, C. (1992). Assessments of the emotional states of others: Conscious judgments versus emotional contagion. Journal of Social & Clinical Psychology, 11, 119–128.
- Iacoboni, M. (2008). Mirroring people: The new science of how we connect with others. New York, NY: Farrar, Straus, and Giroux.
- Ihilevich, D., & Gleser, G. (1986). Defense mechanisms: Their classification, correlates and measurement with the Defense Mechanisms Inventory. Owosso, MI: DMI Associates.
- James, W. ([1884]1922). The emotions. In W. James, & C. Lange (Eds.) *The emotions*: Vol. 1 (Chapter XXV, p. 113). Baltimore: Williams & Wilkins Company.
- Johnson, R. E., Tolentino A. L., Rodopman, O. B., & Cho, E. (in press). We (sometimes) know not how we feel: Predicting job performance with an implicit measure of trait affectivity. *Personnel Psychology*.
- Johnston, M. A. (2000). Delegation and organizational structure in small businesses: Influences of manager's attachment patterns. *Group & Organization Management*, 25, 4–21.
- Jost, J. T., Rudman, L. A., Blair, I. V., Carney, D. R., Dasgupta, N., Glaser, J., et al. (in press). The existence of implicit bias is beyond reasonable doubt: A refutation of ideological and methodological objections and executive summary of ten studies that no manager should ignore. *Research* in organizational behavior, doi:10.1016/j.riob.2009.06.004.
- Karpinski, A., & Hilton, J. L. (2001). Attitudes and the Implicit Association Test. Journal of Personality and Social Psychology, 81, 774-788.

Kelly, J. R., & Barsade, S. G. (2001). Mood and emotions in small groups and work teams. *Organizational Behavior & Human Decision Processes*, 86, 99–130.

Kets de Vries, M. F. R. (1990). Leaders on the couch. Journal of Applied Behavioral Science, 26, 423-431.

- Kets de Vries, M. F. R. (1991a). Organizations on the couch: Clinical perspectives on organizational behavior and change. San Francisco: Jossey-Bass. Kets de Vries, M. F. R. (1991b). On becoming a CEO: Transference and the addictiveness of power. In M. F. R. Kets de Vries (Ed.), Organizations on the couch: Clinical perspectives on organizational behavior and change (pp. 120–139). San Francisco: Jossey-Bass.
- Kets de Vries, M. F. R., & Miller, D. (1985). Narcissism and leadership: An object relations perspective. Human Relations, 38, 583-601.

Kihlstrom, J. F. (1987). The cognitive unconscious. Science, 237, 1445-1452.

- Kihlstrom, J. F. (2000). Freud's influence on psychology has been that of a dead weight. In R. I. Atkinson, R. C. Atkinson, E. E. Smith, D. J. Bem, & S. Nolen Hoeksema (Eds.), *Hilgard's introduction to psychology* (pp. 480–). New York: Harcourt Brace.
- Kihlstrom, J. F. (2004). Implicit methods in social psychology. In C. Sansone, C. C. Morf, & A. T. Panter (Eds.), The Sage handbook of methods in social psychology (pp. 195–212). Thousand Oaks, CA: Sage.
- Kihlstrom, J. F., & Cantor, N. (2000). Social intelligence. In R. J. Sternberg (Ed.), Handbook of intelligence (2nd ed., pp. 359–379). Cambridge, U.K. Cambridge University Press.
- Ku, G. (2008). Learning to de-escalate: The effects of regret in escalation of commitment. Organizational Behavior and Human Decision Processes, 105, 221–232.
- Krausz, M., Bizman, A., & Braslavsky, D. (2001). Effects of attachment style on preferences for and satisfaction with different employment contracts: An exploratory study. *Journal of Business and Psychology*, 16, 299–316.
- Kunda, Z. (1990). The case for motivated reasoning. Psychological bulletin, 108, 480-498.
- Laird, J. D. (1974). Self-attribution of emotion: The effects of expressive behavior on the quality of emotional experience. *Journal of Personality and Social Psychology*, 29, 475–486.
- Lang, P. J. (1988). What are the data of emotion? In Hamilton, V., Bower, G. H., & Frijda, N. H. Eds. Cognitive perspectives on emotion and motivation. NATO ASI series D: Behaioural and social sciences. Vol. 44 (pp.173–191). New York: Kluwer Academic/Plenum Publishers.
- Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of "placebic" information in interpersonal interaction. *Journal of Personality and Social Psychology*, *36*, 635–642.
- Langer, E., & Moldoveanu, M. (2000). The construct of mindfulness. Journal of Social Issues, 56, 1-9.
- Lane, K. A., Banaji, M. R., Nosek, B. A., & Greenwald, A. G. (2007). Understanding and using the Implicit Association Test. IV. What we know (so far) about the method. In B. Wittenbrink & N. Schwarz (Eds.), *Implicit measures of attitudes* (pp. 59–102). New York, NY, US: Guilford Press.
- Larsen, R. J., & Diener, E. (1992). Promises and problems with the circumplex model of emotion. In M. S. Clark (Ed.), *Review of personality and social psychology: Emotional and social behaviour* (pp. 2559–). Newbury Park: Sage.
- Larsen, R. J., Kasimatis, M., & Frey, K. (1992). Facilitating the furrowed brow: An unobtrusive test of the facial feedback hypothesis applied to unpleasant affect. *Cognition & Emotion*, *6*, 321–338.
- Lashinsky, A. The Perks of Being A Googler. Retrieved May 8, 2009 from http://money.cnn.com/galleries/2007/fortune/0701/gallery.Google_food/ index.html.

Lazarus, R. S., & McCleary, R. A. (1951). Autonomic discrimination without awareness: A study of subception. Psychological Review, 58, 113-122.

- LeDoux, J. E. (2000). Emotion circuits in the brain. Annual Review of Neuroscience, 23, 155-184.
- Lerner, J. S., Small, D. A., & Loewenstein, G. (2004). Heart strings and purse strings: Carryover effects of emotions on economic decisions. *Psychological Science*, 15, 337–341.
- Leung, R. (2003, April). Working The Good Life: SAS Provides Employees With Generous Work Incentives. Retrieved May 8, 2009 from http:// www.cbsnews.com/stories/2003/04/18/60minutes/main550102.shtml.
- Levenson, R. W., & Ruef, A. M. (1997). Physiological aspects of emotional knowledge and rapport. In W. J. Ickes (Ed.), *Empathic accuracy* (pp. 44–72). New York: Guilford.
- Levinson, H. (1987). Psychoanalytic theory in organizational behavior. In J. W. Lorsch (Ed.), *Handbook of organizational behavior* (pp. 51–62). Upper Saddle River, NJ: Prentice Hall.
- Levinson, H., Molinari, J., & Spohn, A. G. (1972). Organizational diagnosis. Upper Saddle River, NJ: Harvard University Press.
- Lewicki, P. (1986). Processing information about covariations that cannot be articulated. *Journal of Experimental Psychology: Learning, Memory, & Cognition, 12*, 135–146.
- Lois, J. (2003). Heroic efforts: The emotional culture of search and rescue volunteers. New York: New York University Press.
- Lundqvist, L. O., & Dimberg, U. (1995). Facial expressions are contagious. Journal of Psychophysiology, 9, 203-211.
- Madon, S., Smith, A., Jussim, L., Russell, D. W., Eccles, J., Palumbo, P., et al. (2001). Am I as you see me or do you see me as I am? Self-fulfilling prophecies and self-verification. *Personality and Social Psychology Bulletin*, 27(9), 1214–1224.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. X. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), Attachment in the preschool years: Theory, research, and intervention. Chicago: University of Chicago Press.
- Mauss, I. B., Bunge, S. A., & Gross, J. J. (2007). Automatic emotion regulation. Social and Personality Psychology Compass, 1, 146-167.
- McAuley, M. J. (2003). Transference, countertransference and mentoring: The ghost in the process. *British Journal of Guidance & Counselling*, 31, 11–23.
- McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? Psychological Review, 96, 690-702.
- McGregor, I., Nail, P. R., Marigold, D. C., & Kang, S. (2005). Defensive pride and consensus: Strength in imaginary numbers. *Journal of Personality* and Social Psychology, 89, 978–996.
- McLeod, P. L., & Kettner-Polley, R. B. (2004). Contributions of psychodynamic theories to understanding small groups. *Small Group Research*, 35, 333–361.
- Mikulincer, M., Hirschberger, G., Nachmias, O., & Gillath, O. (2001). The affective component of the secure base schema: Affective priming with representations of attachment security. *Journal of Personality and Social Psychology*, 81, 305–321.
- Moore, C. (2008). Moral disengagement in processes of organizational corruption. Journal of Business Ethics, 80, 129-139.
- Morf, C. C., & Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychological Inquiry*, *12*(4), 177–196.
- Murphy, S. T., Monahan, J. L., & Zajonc, R. B. (1995). Additivity of nonconscious affect: Combined effects of priming and exposure. Journal of Personality and Social Psychology, 69, 589–602.
- Murphy, S. T., & Zajonc, R. B. (1993). Affect, cognition, and awareness: Affective priming with optimal and suboptimal stimulus exposures. *Journal of Personality and Social Psychology*, 64, 723–739.
- Neumann, R., & Strack, F. (2000). Mood contagion: The automatic transfer of mood between persons. *Journal of Personality and Social Psychology*, 79, 211–223.
- Niedenthal, P. M. (1990). Implicit perception of affective information. Journal of Experimental Social Psychology, 26, 505-527.
- Niedenthal, P. M., Setterlund, M. B., & Jones, D. E. (1994). Emotional organization of perceptual memory. In P. M. Niedenthal & S. Kitayama (Eds.), *The heart's eye: Emotional influences on perception and attention* (pp. 87–113). San Diego: Academic Press.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2005). Understanding and using the Implicit Association Test. II. Method variables and construct validity. *Personality and Social Psychology Bulletin*, 31, 166–180.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2007). The Implicit Association Test at age 7: A methodological and conceptual review. In J. A. Bargh (Ed.), *Social psychology and the unconscious: The automaticity of higher mental processes* (pp. 265–292). New York: Psychology Press.
- Ohman, A., & Mineka, S. (2001). Fears, phobias, and preparedness: Toward an evolved module of fear and fear learning. *Psychological Review, 108*, 483–522.
- Oliver, J., & Gross, J. (2007). Individual differences in emotional regulation. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 351–372). New York: Guilford Press.
- Olsson, A., & Phelps, E. A. (2004). Learned fear of "Unseen" faces after Pavlovian, observational, and instructed fear. *Psychological Science*, 15, 822–828.
- Park, L. E., Crocker, J., & Vohs, K. D. (2006). Contingencies of self-worth and self-validation goals. In K. D. Vohs & E. J. Finkel (Eds.), Self and relationships: Connecting intrapersonal and interpersonal processes (pp. 84–102). Guilford Press.
- Paulhus, D. L., Fridhandler, B., & Hayes, S. (1997). Psychological defense: Contemporary theory and research. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 543–579). San Diego, CA: Academic Press.
- Paunonen, S. V., Lönnqvist, J., Verkasalo, M., Leikas, S., & Nissinen, V. (2006). Narcissism and emergent leadership in military cadets. *Leadership Quarterly*, 17(5), 475–486.
- Perry, J. C., & Cooper, S. H. (1987). Empirical studies of psychological defense mechanisms. In J. R. Michels & J. O. Cavenar (Eds.), *Psychiatry*. Philadelphia: J.B. Lippincott.
- Phelps, E. A., O'Connor, K. J., Cunningham, W. A., Funayama, E. S., Gatenby, J. C., Gore, J. C., et al. (2000). Performance on indirect measures of race evaluation predicts amygdala activation. *Journal of Comparative Neuroscience*, 12(5), 729–738.

- Pierce, J. L., Gardner, D. G., Cummings, L. L., & Dunham, R. B. (1989). Organization-based self-esteem: Construct definition, measurement, and validation. Academy of Management Journal, 32(3), 622–648.
- Pines, A. M. (2004). Adult attachment styles and their relationship to burnout: A preliminary cross-cultural investigation. Work & Stress, 18, 66-80.
- Pittinsky, T. L., Shih, M., & Ambady, N. (1999). Identity adaptiveness: Affect across multiple identities. Journal of Social Issues, 55, 503-518.
- Pugh, S. D. (2001). Service with a smile: Emotional contagion in the service encounter. Academy of Management Journal, 44, 1018–1027.

- Rizzolatti, G., & Graighero, L. (2004). The miror-neuron system. Annual Review of Neuroscience, 27, 169–192.
- Robbins, T. L., & DeNisi, A. S. (1998). Mood vs. interpersonal affect: Identifying process and rating distortions in performance appraisal. *Journal of Business and Psychology*, 12, 313–325.

Roediger, H. L. (1990). Implicit memory: Retention without remembering. American Psychologist, 45, 1043–1056.

- Rom, E., & Mikulincer, M. (2003). Attachment theory and group processes: The association between attachment style and group-related representations, goals, memories, and functioning. *Journal of Personality and Social Psychology*, 84(6), 1220–1235.
- Rosenthal, S. A., & Pittinsky, T. L. (2006). Narcissistic leadership. Leadership Quarterly, 17(6), 617-633.
- Rubin, D. C., Wallace, W. T., & Houston, B. C. (1993). The beginnings of expertise for ballads. *Cognitive Science: A Multidisciplinary Journal*, 17, 435–462.
- Rudman, L. A., Dohn, M. C., & Fairchild, K. (2007). Implicit self-esteem compensation: Automatic threat defense. Journal of Personality and Social Psychology, 93, 798–813.
- Rudman, L. A., & Kilianski, S. E. (2000). Implicit and explicit attitudes toward female authority. *Personality and Social Psychology Bulletin*, 26, 1315–1328.
- Rumelhart, D. E., & McClelland, J. L. (1986). Parallel distributed processing: Explorations in the microstructure of cognition. Cambridge, MA: MIT Press.
- Russ, E., Bradley, R., Shedler, J., & Westen, D. (2008). Refining the narcissistic diagnosis: Defining criteria, subtypes, and endophenotypes. *American Journal of Psychiatry*, 165, 1473–1481.

Russell, J. A. (1980). A circumplex model of affect. Journal of Personality and Social Psychology, 39(6), 1161–1178.

Ruys, K. I., & Stapel, D. A. (2008a). The secret life of emotions. Psychological Science, 19, 385-391.

Ruys, K. I., & Stapel, D. A. (2008b). How to heat up from the cold: Examining the preconditions for (unconscious) mood effects. *Journal of Personality and Social Psychology*, 94, 777–791.

- Schacter, D. L. (1992). Understanding implicit memory: A cognitive neuroscience approach. American Psychologist, 47(4), 559-569.
- Schimel, J., Greenberg, J., & Martens, A. (2003). Evidence that projection of a feared trait can serve a defensive function. *Personality and Social Psychology Bulletin*, 29, 969–979.
- Schirmer, L. L., & Lopez, F. G. (2001). Probing the social support and work strain relationship among adult workers: Contributions of adult attachment orientations. *Journal of Vocational Behavior*, 59, 17–33.
- Schoenewolf, G. (1990). Emotional contagion: Behavioral induction in individuals and groups. Modern Psychoanalysis, 15, 49-61.
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45, 513–523.
- Shaver, P. R., & Mikulincer, M. (2007). Attachment theory and research: Core concepts, basic principles conceptual bridges. In A. W. Kruglanski & E. T. Higgins (Eds.), Social psychology: Handbook of basic principles (pp. 650–677). New York: Guilford Press.

Simpson, J. A. (1990). The Influence of attachment styles on romantic relationships. Journal of Personality and Social Psychology, 59, 971–980.

- Son Hing, L. S., Chung-Yan, G. A., Hamilton, L. K., & Zanna, M. P. (2008). A two-dimensional model that employs explicit and implicit attitudes to characterize prejudice. *Journal of Personality and Social Psychology*, 94(6), 971–987.
- Spielman, L. A., Pratto, F., & Bargh, J. A. (1988). Automatic affect: Are one's moods, attitudes, evaluations, and emotions out of control? American Behavior Scientist Special Issue: Communication and Affect, 31, 296–311.
- Squire, L. R. (1986). Mechanisms of memory. Science, 232, 1612-1619.
- Squire, L. R. (1987). Memory and brain. New York: Oxford University Press.
- Stapel, D. A., & Koomen, W. (2005). When less is more: The consequences of affective primacy for subliminal priming effects. *Personality and Social Psychology Bulletin*, 31, 1286–1295.
- Staub, E. (1989). The roots of evil: The psychological and cultural origins of genocide and other forms of group violence. New York: Cambridge University Press.
- Staw, B. M. (1997). The escalation of commitment: An update and appraisal. In Z. Shapira (Ed.), Organizational decision making. Cambridge series on judgment and decision making (pp. 191–215). New York: Cambridge University Press.
- Steele, C. M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. American Psychologist, 52(6), 613–629.
- Stepper, S., & Strack, F. (1993). Proprioceptive determinants of emotional and nonemotional feelings. *Journal of Personality and Social Psychology*, 64, 211–220.
- Strack, F., Martin, L. L., & Stepper, S. (1988). Inhibiting and facilitating conditions of the human smile: A nonobtrusive test of the facial feedback hypothesis. *Journal of Personality and Social Psychology*, 54, 768–777.
- Staw, B. M. (1976). Knee-deep in the Big Muddy: A study of escalating commitment to a chosen course of action. Organizational Behavior & Human Performance, 16(1), 27–44.
- Sumer, H. C., & Knight, P. A. (2001). How do people with different attachment styles balance work and family? A personality perspective on workfamily linkage. *Journal of Applied Psychology*, 86, 653–663.
- Sy, T., Coté, S., & Saavedra, R. (2005). The contagious leader: Impact of the leader's mood on the mood of group members, group affective tone, and group processes. *Journal of Applied Psychology*, 90, 295–305.

Rafaeli, A., & Vilnai-Yavetz, I. (2004). Emotion as a connection of physical artifacts and organizations. Organization Science, 15, 671-686.

- Tan, H. H., Foo, M. D., & Kwek, M. H. (2004). The effects of customer personality traits on the display of positive emotions. Academy of Management Journal, 47, 287–296.
- Tetlock, P. E., & Mitchell, G. (in press). What must organizations do to check implicit bias? In B. Staw, & A. Brief (Eds.), *Research in Organizational Behavior*, doi:10.1016/j.riob.2009.06.006.
- Thagard, P. (2006). Evaluating explanations in law, science, and everyday life. Current Directions in Psychological Science, 15, 141-145.
- Thompson, R. F. (2000). Memory: Brain systems. In Kazdin, A. E. (Ed.). Encyclopedia of Psychology. Vol. 5 (pp.175–178). New York: Oxford University Press.
- Totterdell, P. (2000). Catching moods and hitting runs: Mood linkage and subjective performance in professional sport teams. *Journal of Applied Psychology*, 85, 848–859.
- Totterdell, P., Kellett, S., Teuchmann, K., & Briner, R. B. (1998). Evidence of mood linkage in work groups. *Journal of Personality and Social Psychology*, 74, 1504–1515.
- Tsai, W., & Huang, Y. (2002). Mechanisms linking employee affective delivery and customer behavioral intentions. *Journal of Applied Psychology*, 87, 1001–1008.
- Tucker, D. M. (1993). Emotional experience and the problem of vertical integration: Discussion of the special section on emotion. *Neuropsychology*, 7, 500–509.
- Tuckman, B. W. (1965). Developmental sequence in small groups. Psychological Bulletin, 63, 384-399.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. Science, 185, 1124–1131.
- Vaillant, G. E. (1977). Adaptation to life. Boston: Little Brown.
- Verbeke, W. (1997). Individual differences in emotional contagion of salespersons: Its effect on performance and burnout. *Psychology & Marketing*, 14, 617–636.
- Weinberger, J., & Hardaway, R. (1990). Separating myth from reality in subliminal psychodynamic activation. *Clinical Psychology Review*, 10, 727–756.
- Weinberger, J., & Westen, D. (2008). Rats, we should have used Clinton: Subliminal priming in political campaigns. *Political Psychology*, 29(5), 631–651.
- Westen, D. (1985). Self and society: Narcissism, collectivism and the development of morals. Cambridge: Cambridge University Press.
- Westen, D. (1994). Toward an integrative model of affect regulation: Applications to social-psychological research. *Journal of Personality*, 62, 641–667.
- Westen, D. (1998a). Unconscious thought, feeling and motivation: The end of a century-long debate. In Bornstein, R. F., & Masling, J. M. Eds. Empirical perspectives on the psychoanalytic unconscious. Vol. 7 (pp.1–43). Washington, DC: American Psychological Association.
- Westen, D. (1998b). The scientific legacy of Sigmund Freud: Toward a psychodynamically informed psychological science. *Psychological Bulletin*, *124*, 333–371.
- Westen, D. (2007). The political brain: The role of emotion in deciding the fate of the nation. New York: Public Affairs Books.
- Westen, D., & Blagov, P. S. (2007). A clinical-empirical model of emotion-regulation: From defense and motivated reasoning to emotional constraint satisfaction. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 373–392). New York: Guilford Press.
- Westen, D., Blagov, P. S., Harenski, K., Kilts, C., & Hamann, S. (2006). Neutral bases of motivated reasoning: An fMRI study of emotional constraints on partisan political judgment in the 2004 U.S. presidential election. *Journal of Cognitive Neuroscience*, 18, 1947–1958.
- Westen, D., Muderrisoglu, S., Fowler, C., Shedler, J., & Koren, D. (1997). Affect regulation and affective experience: Individual differences, group differences, and measurement using a Q-sort procedure. *Journal of Consulting & Clinical Psychology*, 65, 429–439.
- Westen, D., Weinberger, J., & Bradley, R. (2007). Motivation, decision making and consciousness: From psychodynamics to subliminal priming and emotional constraint satisfaction. In P. D. Zelazo, M. Moscovitch, & E. Thompson (Eds.), *The Cambridge handbook of consciousness* (pp. 673– 702). New York: Cambridge University Press.
- Wild, B., Erb, M., & Bartels, M. (2001). Are emotions contagious? Evoked emotions while viewing emotionally expressive faces: Quality, quantity, time course and gender differences. *Psychiatry Research*, 102, 109–124.
- Wilson, R. D., & Brekke, N. (1994). Mental contamination and mental correction: Unwanted influences on judgments and evaluations. *Psychological Bulletin*, 116, 117–142.
- Wilson, T. D., Lindsey, S., & Schooler, T. Y. (2000). A model of dual attitudes. Psychological Review, 107, 101-126.
- Winkielman, P., & Berridge, K. C. (2004). Unconscious emotion. Current Directions in Psychological Science, 13, 120-123.
- Winkielman, P., Berridge, K. C., & Wilbarger, J. L. (2005). Emotion, behavior and conscious experience: Once more without feeling. In L. F. Barrett, P. M. Niedenthal, & P. Winkielman (Eds.), *Emotion and Consciousness* (pp. 335–362). New York: Guilford Press.
- Wong, K. F. E., & Kwong, J. Y. Y. (2007). The role of anticipated regret in escalation of commitment. Journal of Applied Psychology, 92, 545-554.
- Wong, K. F. E., Yik, M., & Kwong, J. Y. Y. (2006). Understanding the emotional aspects of escalation of commitment: The role of negative affect. *Journal of Applied Psychology*, 91, 282–297.
- Word, C. O., Zanna, M. P., & Cooper, J. (1974). The nonverbal mediation of self-fulfilling prophecies in interactal interaction. *Journal of Experimental Social Psychology*, 10, 109–120.
- Zajonc, R. B. (1968). The attitudinal effects of mere exposure. Journal of Personality and Social Psychology, 9, 1-27.
- Zajonc, R. B. (1985). Emotional and facial efference: A theory reclaimed. Science, 228, 15-21.
- Zajonc, R. B., Murphy, S., & Inglehart, M. (1989). Feeling and facial efference: Implications of the vascular theory of emotion. *Psychological Review*, *96*, 395–416.
- Zelazo, P. D., Moscovitch, M., & Thompson, E. (2007). *The Cambridge handbook of consciousness*. New York: Cambridge University Press.
- Zhong, C., & Liljenquist, K. (2006). Washing away your sins: Threatened morality and physical cleansing. Science, 313, 1451-1452.
- Ziegert, J. C., & Hanges, P. J. (2005). Employment discrimination: The role of implicit attitudes, motivation, and a climate for racial bias. *Journal of Applied Psychology*, 90, 553–562.