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Social Cognition in Close Relationships

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Close relationships are a source of much joy and of perceived meaning in life, and likewise can also be fraught with painful emotions. Given that people accord so much time and energy to relationships and their maintenance, it is surprising in some respects that the processes and phenomena defining close relationships often occur not with deliberate forethought and intent, but rather, quite automatically based on whatever interpersonal knowledge happens to be active at the moment. Social-cognitive research in this area has thus focused quite centrally on such relational knowledge, how and when it is evoked, and with what consequences.

In this chapter, we present the main theories and the documented phenomena in the social cognition of close relationships. Beginning with the extant theoretical approaches in the literature that take a distinctly social-cognitive approach to close relationships, we proceed to a review of the evidence in the area that speaks to the basic social-cognitive processes and phenomena arising in close relationships. We then conclude by highlighting common themes in the literature – reflecting how cognitive processes involving relational knowledge influence social life, for example, as relationships from the past are perpetuated in the present.

DEFINITIONS

Social cognition in close relationships

For the present purposes, we define social-cognitive research relatively narrowly, focusing on research that tests cognitive assumptions and makes use of social-cognitive paradigms to experimentally manipulate relational representations (by cueing or otherwise activating these structures). The latter work tracks cognitive processes in relationships in fairly fine-grained terms and relatively directly, for example, often by moving beyond simple self-reports and tapping what is automatic or implicit (Baldwin, Lydon, McClure, & Etchison, 2010).

There is of course a far wider literature on close relationships that is important and influential in the field, but not especially focused on cognition or relational representations. For the sake of space, this literature falls largely outside the present scope, even though we do hope to contribute to whatever extent possible to this wider literature. We also do not address many fruitful areas of investigation on the outskirts of close relationships research, such as that on dyadic interaction, unless it explicitly examines close relationships. Likewise, we do not review work in clinical psychology on close relationships, even when cognitively focused, and give little attention to research on cross-cultural differences or to still more relevant work on social neuroscience pertaining to close relationships, even though both hold much promise for future research.

As has been noted, "investigation of automatic processes operating in close relationships is just beginning" (Reis & Downey, 1999, p. 109). Over a decade later, there have been many conceptual and empirical advances and yet the potential of social cognition to contribute to close

relationships is as yet not fully realized. In this chapter we aim to underline this potential.

Significant others and close relationships

We form close relationships with individuals who become significant others, whom we care deeply about and in whom we are emotionally invested. We form knowledge representations in memory that designate these especially significant individuals, and these can take the form of n-of-1 exemplars (Smith & Zarate, 1992; e.g., Hinkley & Andersen, 1996) or of more generalized knowledge encompassing more than one relationship (e.g., Klohnen, Weller, Luo, & Choe, 2005).

Significant others are represented richly in memory both because they are repeatedly encountered and provoke inferences about the other's thoughts and intentions in order to effectively navigate these relations (e.g., Chen, 2003). They also have motivational and emotional relevance for satisfying fundamental human needs (or failing to do so). Thus, fundamental needs, such as for human connection or belonging (Baumeister & Leary, 1995; see also Andersen, Reznik, & Chen, 1997; Deci, 1995), autonomy or freedom, competence or control, comprehension or meaning, and a sense of felt security (Andersen & Chen, 2002; Baumeister, 1991; Fiske, 2003) circumscribe how people interact with and conceive close others.

Some significant others who are present early in life may have a particularly profound role (e.g., Ogilvie & Ashmore, 1991). For instance, rudimentary significant-other and self representations are grounded in early experiences with caregivers (e.g., Bowlby, 1969), which then serve as working models for later relationships (Thompson, 1998). Nevertheless, additional representations continue to form throughout life, as people form new relationships in adulthood.

Whether they arise in childhood or adulthood, significant-other representations do not stand alone in memory, but are connected with the self through *linkages* that embody the experiences and the typical relational dynamics with the other. Although exact models of these elements vary (see, e.g., Andersen & Chen, 2002; Aron, Aron, Tudor, & Nelson, 1991; Baldwin, 1992), the relevance of significant others to the self is well understood. Hence, significant-other representations are infused with emotion and motivation, as noted, and the social-cognitive mechanisms that propel forward a variety of interpersonal effects when activated – even if the significant other is

not present – often evoke affect and motivation as well.

Construct activation and automaticity

Representations of significant others are called to the fore or activated (e.g., Bargh, Bond, Lombardi, & Tota, 1986) when a cue is encountered that is sufficiently similar (often minimally so) to the representation, including simply thinking about the close other. When activated, such representations typically exert an assimilative influence on how we think about (attend to, evaluate, remember) and act toward others. Research in the area tends to adopt, implicitly or explicitly, a spreading activation model in which activation of a significant-other or relationship representation facilitates activation of associated aspects of the self, and also provokes relevant inferences, evaluations, and expectancies concerning the other. Both chronic and transient accessibility play a role in whether or not a representation is used (see Bargh et al., 1986; Förster & Liberman, 2007; Higgins, 1996), and accounts for activation of significant-other representations.

Transient activation can occur, for example, based on a match between cues encountered about a new person (e.g., how the new person acts, thinks, speaks, or listens, and his/her preferences, attitudes, and indeed facial features) and a significant-other representation (Chen, Andersen, & Hinkley, 1999). In addition, significant-other representations are accessible even without priming before encountering an applicable person (i.e., they are chronically accessible; Andersen, Glassman, Chen, & Cole, 1995, Study 1) and when triggering cues in a new person are extremely minimal (Chen et al., 1999) or even absent (Andersen et al., 1995, Study 2). Transient cues have been shown to combine additively with chronicity in activating significant-other representations (Andersen et al., 1995; Baldwin, 1997), as with trait concepts (Bargh et al., 1986). Regardless of the temporary or chronic nature of this activation, the use of relational structures often occurs automatically (e.g., Andersen & Glassman, 1996; Andersen, Moskowitz, Blair, & Nosek, 2007).

A process can be considered automatic if it takes place efficiently (i.e., uses minimal cognitive resources), with little or no awareness, intention, or control (Bargh, 1989, 1994). Rather than an all-or-none definition, any one of these indicators is considered sufficient, and moreover, no task or response is likely to be process-pure (entirely automatic or entirely controlled/deliberative) (Jacoby, 1991). Therefore, even when automaticity can be said to occur, it is more matter of degree than of kind. Automatic processes are often triggered by

minimal cueing conditions (Bargh, 1989). Hence, conditional automaticity (Bargh, 1994) can either be preconscious (based on subliminal cueing or chronic accessibility with no cueing), postconscious (when cueing stimuli are consciously perceived), or goal-dependent (based on intent, such as to form an impression).

Finally, although these varieties of automaticity are implicated in processes observed in close relationships, the criteria themselves are not commonly delineated or even necessarily measured. Still, our focus where possible is on evidence that taps or implicates automatic relational processes of one variety or another, or potentially contrasts such evidence with that which suggests more deliberative and strategic processes.

SOCIAL-COGNITIVE APPROACHES TO CLOSE RELATIONSHIPS

In the pages that follow, we present some of the most influential social-cognitive models of close relationships, the processes these propose, and the phenomena they predict. In so doing, we describe the methods typically used in each, highlighting automaticity where relevant. Because each model has been presented at length elsewhere, along with evidence supporting it, we aim simply to provide an overview.

Transference and the relational self

The social-cognitive model of transference (Andersen & Glassman, 1996) assumes that cues relevant to a significant other, such as those in a new person that remind one in some way of this other, will activate the representation of the significant other, which is then applied to the new person. In the process, the perceiver infers that the new person has more in common with the significant other than is actually the case, and remembers him or her accordingly (Andersen & Cole, 1990; Chen et al., 1999). Additionally, the relational self model (Andersen & Chen, 2002; Chen, Boucher, & Tapias, 2006) maintains that each significant-other representation is linked in memory to the self by means of linkages to the relationship with this significant other. Activation of the significant other then spreads across the linkage to the relationship and then to the relevant relational self, causing the individual to view the self in these terms.

Research shows that the transference process often arises automatically. The process is evoked relatively implicitly when features presented about a new person happen to be similar to a significant other (a small set embedded among several) and activate the significant-other representation. This occurs even when these features are presented subliminally rather than supraliminally (Glassman & Andersen, 1999a). Because such representations are so chronically accessible, it also can arise preconsciously, based on extremely minimal transient cueing (Andersen et al., 1995; Chen et al., 1999). Furthermore, although participants in the supraliminal cueing paradigm usually have the conscious goal of remembering what they learn about the new person and are sometimes anticipating an upcoming interaction as well (Andersen, Reznik, & Manzella, 1996), they rarely report awareness of the significant-other resemblance, and are thus unlikely to be aware of the activation and use of the significant-other representation and its relevance to their responses. Effects are assessed by means ranging from self-reports to facial affect and overt behavior.

Relational schemas

The relational-schema approach maintains that the cognitive representation of close relationships is schematic, such that self and significant-other knowledge is linked in memory by an interpersonal script consisting of generalizations about how others have tended to respond to the self (Baldwin, 1992, 1997). The temporary or chronic activation of any one of the three components of the schema is thought to elicit the relational schema as a whole (Baldwin, 1992) and thus to elicit generalizations about the self, relationships, and others. Relational schemas typically cut across specific relationships, and are conceived as IF–THEN contingencies (e.g., "If I seek support, then my spouse will provide it"). A contingency, such as "If I make a mistake, then others will reject me," may give rise to pertinent self-generalizations based on repeated experience, as in "If I make a mistake, then I am unworthy" (Baldwin, 1997, p. 329).

Relational schemas are often activated by asking participants to consciously visualize interacting with a significant other (e.g., Baldwin & Holmes, 1987), with effects assessed by ostensibly unrelated tasks – e.g., lexical decision response latencies (e.g., Baldwin & Sinclair, 1996, Study 3). Thus, activation is assumed to be automatic. Subliminal priming (Baldwin, Carrell, & Lopez, 1990) has also been used to show preconscious automatic activation of relational schemas, and effects arising from this, in combination with chronically accessible relational schemas, such as

those held by low self-esteem persons (Baldwin & Sinclair, 1996, Study 1).

Inclusion of other in the self

In contrast to the models above, the inclusion-of-other-in-the-self model views close relationships as entailing the incorporation of relationship partners (e.g., their characteristics and perspectives) into the self-concept (Aron et al., 1991) in a merging of self and other representations. The extent to which another person is included in the self is assessed by means of the endorsement of highly overlapping circles designating the self and other, versus more minimally overlapping circles, to reflect the phenomenological experience of as a sense of "we-ness" with the other (Aron et al., 1991; see also Agnew, Van Lange, Rusbult, & Langston, 1998).

Evidence for the model has focused on differential response latencies to endorse self descriptors that are and are not also descriptive of the close other (e.g., Aron et al., 1991). Shorter response latencies to judge the descriptiveness of traits previously endorsed as descriptive of both the self and the other (and vice versa) than to judge traits of self or other that are not shared are taken as evidence that the other is included in the self and thus difficult to distinguish. Because participants are unaware that their response times are being recorded or that they have responded differentially quickly to these traits, such judgments are arguably made relatively automatically.

Relational-interdependent self-construal

The relational-interdependent self-construal model (Cross, Bacon, & Morris, 2000) is based on individual differences in the degree to which the self is defined and evaluated in terms of close relationships. Individuals who see themselves in this way chronically attend to relationally relevant information and process and organize information in terms of relationships (e.g., Cross, Morris, & Gore, 2002), which then serves to maintain a relational self-construal. Although this individual difference is assessed by means of self-report (Cross et al., 2000), research using unobtrusive, implicit measures has documented automatic information processing tendencies predicted by the model. For example, individuals scoring high on relational self-construal are better able to recall relationship-related information about others in a surprise recall task (Cross et al., 2002), presumably because, unknowingly, they selectively attend to such information. Hence, such effects appear to occur without awareness or intention.

Attachment working models

According to attachment theory, individuals form internal, complementary working models of the self and other (Collins & Read, 1994; Griffin & Bartholomew, 1994; Pietromonaco & Barrett, 2000) based on individual experiences in early interactions with attachment figures. Having responsive and loving attachment figures leads to a sense of the self as competent and worthy of love, and a view of others as available and responsive – i.e., to a *secure* attachment model. Lack of responsiveness in attachment figures often leads to a sense that the self is incompetent and unworthy and/or to a sense that others are unavailable or unresponsive – an *insecure* model – varying along dimensions of attachment anxiety and attachment avoidance. A basic assumption of the theory is that these early working models are stored in memory and can be re-experienced as general templates for later relationships, guiding expectations and behavior (e.g., Bowlby, 1969). Attachment models are considered to be chronically accessible, and thus preconsciously activated as individual differences.

Such models are usually assessed through self-report measures, although usually in a pre-test session separated in time from any experiment activating such models, thus distinguishing temporary activation based simply on completing explicit self-report measures of attachment style. Unobtrusive or implicit measures have also been used, such as response latency measures that tap self-evaluative responses associated with attachment working models (Mikulincer, 1995). Temporary activation of working models has also been shown, and there is growing evidence suggesting that individuals maintain more than one working model in memory (e.g., Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; see also Overall, Fletcher, & Friesen, 2003). Subliminal priming with attachment-relevant stimuli can also lead to preconscious automatic influences (e.g., Mikulincer, Hirschberger, Nachmias, & Gillath, 2001), just as explicitly visualizing a secure (vs insecure) attachment figure can transiently but postconsciously activate working models and their effects (e.g., Mikulincer, 1995).

Rejection sensitivity

Rejection sensitivity is considered to be a cognitive-affective processing disposition to "anxiously

expect, readily perceive, and overreact" to rejection (Downey & Feldman, 1996) that is learned from exposure to rejection early in life. While making no claims about how prior rejection or rejection expectancies are represented in memory, the theory has motivated considerable research showing the ready activation of such response tendencies in situations in which rejection is possible among individuals scoring higher (vs lower) on an individual difference measure assessing such tendencies.

These tendencies are assumed to be chronically activated, reflecting a form of preconscious automaticity. As with attachment style and relational self-construal, however, rejection sensitivity is an individual difference variable assessed using self-report, typically in a prior setting in advance of any experiment. In one longitudinal study, for example, rejection sensitivity assessed before the study predicted a greater inclination to report several months later that a romantic partner's insensitive behavior was grounded in hurtful intentions (Downey & Feldman, 1996). Response latencies have also been used, for example, in a sequential-priming pronunciation task in which rejection-sensitive individuals pronounced hostility-related words more quickly when preceded by rejection primes, demonstrating their automatic linking of rejection with hostility (Ayduk, Downey, Testa, Yen, & Shoda, 1999).

Other approaches

Other social-cognitive approaches delineate unique relationship categories associated with distinct relational norms. For example, close relationships are often categorized as communal (vs exchange) relations, with partners providing for each other's needs without expecting specific or immediate remuneration (Clark & Mills, 1979). Likewise, in the relational models theory, close relationships are deemed communal sharing relations in which partners treat each other as equivalent and emphasize what is shared rather than distinct (Fiske, 1992). These models have done much to illuminate the nature of relationships, though they do not focus exclusively on close relationships or particularly on social-cognitive processes (with some exceptions; Fiske, Haslam, & Fiske, 1991); they are thus addressed only when especially relevant.

PROCESSES AND PHENOMENA

What follows is a brief review of the relatively automatic relationship processes and phenomena

that stem from one or more of the theoretical perspectives presented above. Instead of presenting existing research findings primarily by model, we focus on broad classes of processes or phenomena, and, within each class, highlight the most illuminating evidence stemming from each theoretical approach, as feasible.

Information processing, inference, and memory

Relational knowledge often influences the manner in which we attend to, interpret, organize, and store information as a function of both chronic and transient activation. Transference, relational schema, and attachment approaches all presume that close relationships involve mental representations stored in memory that, once activated, make it more likely that stimuli encountered will be encoded, quite automatically, in accordance with the content of the representation. When a significant-other representation is activated based on learning about a new person bearing even a minimal descriptive resemblance to this significant other, individuals will come to use the representation to infer that this new person possesses a still wider array of features comparable to the significant other's (Andersen & Cole, 1990; Andersen et al., 1995; Chen et al., 1999; Glassman & Andersen, 1999b; for reviews, see Andersen, Reznik, & Glassman, 2005; Andersen & Saribay, 2005). Such inferences are evoked even based on mere facial resemblance to the significant other (Kraus & Chen, 2010), and can arise when triggering cues are presented subliminally (Glassman & Andersen, 1999a). Moreover, individuals also falsely remember having learned significant-other-consistent information that they did not in fact learn about a new person who minimally resembles a significant other (e.g., Andersen & Cole, 1990; Andersen et al., 1995, Baum & Andersen, 1999; Berenson & Andersen, 2006; Hinkley & Andersen, 1996). Indeed, such memory effects are more likely under cognitive load, such as when participants are experiencing a circadian rhythm mismatch (Kruglanski & Pierro, 2008). They are also more likely among individuals who score high on need for closure (Pierro & Kruglanski, 2008) or low on assessment orientation (Pierro, Orehek, & Kruglanski, 2009).

Both relational-interdependent self-construal and rejection sensitivity reflect forms of selective encoding. For instance, individuals high in relational interdependence, are, by definition, likely to attend to and interpret stimuli in terms of relationships (Cross et al., 2002), while rejection-sensitive individuals are more likely to attend to rejection-relevant stimuli and to encode ambiguous situations

as instances of rejection (Downey & Feldman, 1996). Indeed, rejection-sensitive individuals show marked attentional disruption in an emotional Stroop task when social threat words (e.g., unwanted, shunned) are encountered, but not unrelated words (Study 1), and attentional avoidance of threatening faces once they are detected (Study 2) (Berenson, Gyurak, Ayduk, Downey, Garner, Mogg, Bradley, & Pine, 2009). Such effects also hold when adjusting for attachment style and self-esteem.

As might be anticipated, avoidant individuals reveal the opposite pattern in an emotional Stroop task, in that they show less interference based on attachment-related (but not unrelated) words (e.g., intimate, loss) (Edelstein & Gillath, 2008). This effect is strongest among those in a romantic relationship when avoidance strategies are particularly engaged. When under cognitive load, however, attachment-related interference returns, suggesting that these avoidance strategies require cognitive effort. Avoidant individuals appear to be especially skillful in rapidly switching attention from one type of decision to another and in resisting distracters (Gillath, Giesbrecht, & Shaver, 2009), even with stimuli and tasks that are not attachment-related. This ability to resist distractors is, however, eliminated when they are led to think in detail about a past experience of insecurity. Thus, when they can exert the effort, avoidant individuals are skilled at intentionally regulating attention to prevent the encoding of distressing cues.

In terms of attachment, the way in which relational inferences are processed also varies, based on secure relative to insecure attachment: i.e., secure (vs insecure) individuals have less need for cognitive closure, are inclined to engage in a wider information search process about others, and are less susceptible to the primacy effect (Mikulincer, 1997). Moreover, both chronic and transiently activated secure models predict greater responsiveness to expectancy-incongruent information about a relationship partner, as shown in greater change in partner perceptions after exposure to such information, especially when the information is positively valenced. Avoidant individuals show the opposite pattern of alerting to potential threats (Mikulincer & Arad, 1999). Likewise, both chronic and experimentally manipulated social avoidance motivation are associated with greater memory for negative information and negatively biased interpretations of ambiguous social cues (Strachman & Gable, 2006).

Attachment orientation can also influence memory for one's own behavior in a dyadic interaction with a partner, with avoidant individuals remembering themselves 1 week after a distressing discussion as having been less supportive than they initially indicated (to avoid dependency), whereas less avoidant persons remember themselves as having been more supportive (fostering a sense of closeness) (Simpson, Rholes, & Winterheld, 2010). Anxiously attached individuals, by contrast, later remember having been less emotionally distant than they initially indicated (in line with their desire to be close). Interestingly, attachment orientation may also interact with communal- and exchange-oriented behaviors (Clark & Mills, 1979), producing benefits in encoding. That is, securely attached participants who experience a novel interaction partner behaving communally toward them not only demonstrate increased accessibility of proximity-seeking (in a lexical decision task) but also better performance on a mental concentration task associated with this accessibility. Anxiously attached participants in the same condition also show increased accessibility of proximity-seeking, although with poorer performance (Bartz & Lydon, 2006, Study 4).

Finally, well-known findings indicate that people are more likely to unintentionally confuse one social actor with another when their own relationship to each actor is characterized by the same relational role (Fiske et al., 1991), as indicated by clustering in recall by relationship type (e.g., in communal-sharing relationships). Indeed, among people who define themselves in terms of their own relationships, memory about others particularly depends on what the individual knows about the relationships these others are in (Cross et al., 2002).

Evaluation and facial affect

Activation of relational knowledge can also elicit a positive or negative evaluation in accord with relational knowledge and can do so quite automatically. Evidence addressing this issue is reviewed here along with that on the elicitation of emotion (e.g., in facial affect). Central to the transference approach, for example, is the notion that the overall positive or negative response one has to the significant other is stored in memory with the representation and is thus evoked when the representation is activated in relation to a new person that resembles the significant other. People report liking a new person more who implicitly resembled a liked vs disliked significant other, an effect not observed in a control condition in which the new person resembled another participant's liked or disliked significant other (e.g., Andersen et al., 1996; Andersen & Baum, 1994; Baum & Andersen, 1999; Berk & Andersen, 2000). Positive evaluation arises even when the loved other is a parent whose standards the individual falls short of and who thus evokes a negative mood in the individual (Reznik & Andersen, 2007).

Automatic affective reactions in transference have been captured more directly in participants' facial affect during exposure to descriptors about an upcoming interaction partner (Andersen et al., 1996). That is, when the partner was made to resemble and thus activate the representation of a positive compared to negative significant other, participants expressed more pleasant affect in their facial expressions – an effect not seen when the partner resembled a yoked participant's significant other. Positive facial affect even occurred when the loved other was a parent who had physically abused the individual while he or she was growing up (Berenson & Andersen, 2006).

Conversely, positive affect does not necessarily always arise from a positive transference (as indicated by positive evaluation of the new person). Emergence of this overall tone in more diffuse mood states at the moment can be disrupted (see Andersen & Saribay, 2005). For example, when a new person resembles a loved significant other but contextual factors suggest that this person cannot fulfill the interpersonal role typically occupied by the significant other (e.g., being an authority figure), this anticipated role violation, even if only implicit, disrupts the positive mood otherwise emerging when the role is not violated. Hostile mood is instead evoked (Baum & Andersen, 1999).

Overall evaluation also arises quite automatically based on significant-other priming. For example, when a significant other's (vs one's own) face/name is subliminally presented prior to encountering a neutral stimulus, the stimulus is then evaluated more favorably (Banse, 1999). Moreover, automatic positive evaluations of a relationship partner with whom one is securely attached are particularly strong and arise automatically, as indexed by the Implicit Association Test (IAT; Zayas & Shoda, 2005). Likewise, activating a secure-base schema through subliminal priming (vs priming a neutral cue or no prime) also leads participants to evaluate neutral stimuli more positively, and this effect occurred both under stressful and under neutral conditions (Mikulincer et al., 2001).

Differences in the actual structure of a significant-other representation are also related to differences in how experiences with a partner are encoded (Graham & Clark, 2006; Showers & Kevlyn, 1999), and thus evaluated. Indeed, using attributes of only one valence to describe a partner, or "compartmentalizing," is associated with more polarized partner perceptions (Showers & Kevlyn, 1999). Such compartmentalization may also underlie the variability over time in spousal evaluations shown by anxiously attached individuals (Graham & Clark, 2006; Study 5). Moreover, individuals with low self-esteem are more likely to functionally segregate positive and negative partner information in memory, such that valenced thoughts about the partner activate thoughts of the same valence, whereas those with high self-esteem are more integrative (Graham & Clark, 2006; Studies 1–4). Indeed, when judging whether positive and negative traits, presented in alternating or non-alternating order, apply to a relationship partner or an inanimate object (Studies 1 and 2), people with low (vs high) self-esteem judge their relationship partners more slowly in the alternating-valence order (but not the inanimate objects). Together, these lines of research suggest that structural differences in how partner information is represented in memory can systematically bias partner evaluations.

Acceptance or rejection expectancies

Expectations that one will be accepted or rejected are central to how people regard others, particularly those who are most significant. Such expectancies can be elicited automatically, and even when the significant other is not present. In the transference and relational self models, these expectations are part of the linkages binding significant others to the self in memory (Andersen & Chen, 2002; Chen et al., 2006) and should thus be activated when the representation of a significant other is activated. Hence, when a newly encountered person is minimally similar to a loved (vs disliked) significant other, and implicitly activates the representation of this other, the individual should expect to be accepted (or rejected) by this new person – as he or she is by the significant other. And people do indeed report expectations of acceptance (rather than rejection) under such conditions, while no such effect occurs in pertinent control conditions (e.g., Andersen et al., 1996). Individuals even expect acceptance when the triggered significant other is a loved parent whom the individual believes holds exacting standards that he or she has failed to meet (Reznik & Andersen, 2007). The positive regard for the relationship is thus what is predictive. That said, such expectancies can be reversed, such as when the individual's sense of trust has been severely violated through physical abuse by a loved parent in childhood. Reported love aside, activation of the parental representation by minimal cues about a new person leads the individual to expect to be rejected by the new person (as compared with a control condition; Berenson & Andersen, 2006).

As noted, interpersonal expectations play a crucial role in the interpersonal scripts examined within relational schemas (Baldwin, 1992), and these should be automatically activated when a

relational schema is activated. In a classic study, Roman Catholic women who were subliminally primed with the frowning face of the Pope (vs a frowning stranger), and then read a sexually explicit passage, reported higher levels of tension and anxiety, presumably because they expected to be judged less favorably by this personally significant figure (Baldwin et al., 1990). Research has also examined the degree to which people expect contingent (vs non-contingent) acceptance by significant others. Individuals with chronically low (vs high) self-esteem tend to expect contingent acceptance based on success or failure, and moreover, in spite of these chronic differences, being prompted to visualize a relationship partner who expresses acceptance only contingently (vs without contingency) can activate these same associations (e.g., failure–rejection) across the board (Baldwin & Sinclair, 1996; see also Baldwin & Meunier, 1999). Likewise, work on attachment styles has shown that when securely attached individuals are primed with sentence stems like, "If I depend on my partner, then my partner will…," followed by lexical decision trials involving interpersonal outcomes (e.g., support, reject), they show faster response latencies to positive-outcome words, whereas insecurely attached individuals show faster latencies to negative outcome words (Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993).

Rejection sensitivity, as indicated, is also characterized by automatic expectancies for rejection, hypervigilance to threat cues, and a tendency to perceive rejection in ambiguous responses (Downey & Feldman, 1996; Downey, Mougios, Ayduk, London, & Shoda, 2004). Rejection-sensitive individuals overestimate a relationship partner's dissatisfaction and lack of commitment to the relationship and also interpret ambiguous situations involving strangers in terms of personal rejection (Downey & Feldman, 1996). Likewise, as noted, they tend to be so vigilant to detecting potential rejection that this can interfere with other goals they have, draining attention away from other processing goals when social threat cues are present (Berenson et al., 2009). Equally important, their rejection expectations can lead to negative behaviors that actually elicit rejecting responses (Downey, Freitas, Michaelis, & Khouri, 1998). That is, when discussing unresolved relationship issues with their partner (in a videotaped encounter), they make more demeaning comments about their partner, and accordingly, elicit more anger from him or her (relative to pre-test anger) – with the latter partially accounted for by their own negative behavior. In a related vein, correlational research suggests that people who are insecure about a relationship partner's acceptance, and express their insecurities, ultimately come to doubt the authenticity of the partner's attempts to reassure them. Moreover, when reflected appraisals of vulnerability are experimentally manipulated with an acquaintance, this also leads to increased doubts about the other's authenticity in expressing positive regard (Lemay & Clark, 2008). Expectancies of rejection and unresponsiveness are thus perpetuated quite readily in dyadic encounters.

Self-definition and self-evaluation

As noted, nearly all social-cognitive approaches reviewed here address the ways in which the self is implicated in close relationships. Both the relational-self (transference) and relational-schema frameworks assume linkages between the self and significant others and memory via relationship knowledge. Hence, activating any of these components can evoke the other components. In the transference literature, the focus has been on the ways in which cueing a significant-other representation while learning about a new person activates the relational self with this other, leading these aspects of the self to infuse into the working self-concept (e.g., Hinkley & Andersen, 1996; see also Andersen & Chen, 2002). When a stranger who is a potential interaction partner is presented so as to subtly resemble (or not) a loved or disliked significant other, participants come to freely describe themselves in a manner consistent with how they tend to view themselves when with the significant other (Hinkley & Andersen, 1996). And not only does the content of the self-concept shift in this way, but the valence of that content also shifts as well (with implications for self-worth), with no such effects in control conditions. Furthermore, this process can evoke self-verification processes in that it leads people to seek to verify the relevant relational self with this significant other (Kraus & Chen, 2009). Indeed, whether the significant other was cued in a transference paradigm (Study 2), or simply primed (Studies 1 and 3), participants desired to be viewed in more self-verifying ways (vis-à-vis the relational self) rather than self-enhancing ways.

The relational self has also been examined in terms of standards by which the self may be judged. That is, activating the representation of a parent in such a context will evoke the standards that the parent holds for the individual; hence, if the individual falls short of those standards, the relevant self-discrepancy (see Higgins, 1987) will be activated as well (Reznik & Andersen, 2007). This sense of self, when called to the fore in this relational context, then evokes the specific emotional responses predicted by self-discrepancy theory, depending on the nature of the self-discrepancy: depressed mood from an ideal discrepancy and

resentful/hostile mood and lack of calmness from an ought discrepancy. Similarly, in research in which an individual's father is simply primed (vs not), the standards held from the father's standpoint (ideal or ought) are activated, such that actual performance on an anagram task – which pertains to achievement standards – predicts dejection-related affect (from ideal standards) or agitation-related affect (from ought standards) (Shah, 2003b, Study 3).

In terms of self-evaluation, even the earliest work on relational schemas focused on the ways in which relational schemas may influence self-evaluation. For example, when a contingently (vs non-contingently) accepting significant other was primed using a visualization task, individuals evaluated themselves more negatively after they were led to believe they had failed at a task (Baldwin & Holmes, 1987, Study 2). Moreover, graduate-student participants also offered self-evaluations of their own research ideas that were more negative after they were subliminally primed (vs not) with the disapproving face of their department chair (Baldwin et al., 1990, Study 1). While the latter does not address evaluation of the self writ large (but of one's own ideas), it is suggestive of broader effects on self-evaluation.

More recently, research has focused on domain-specific contingencies of self-worth (see Crocker & Wolfe, 2001) in particular relationships, which can then be activated when the mental representation of this significant other is activated (Horberg & Chen, 2010). That is, when a significant other with whom the individual seeks closeness is primed, people report being more invested in the domains that the other values (Study 1), show increases in self-worth if they learn that they have succeeded in such a domain (Study 2), and show decreases in self-worth if they learn they have failed (Study 3), with the latter leading them to feel less close to this other (and to expect less acceptance). Related evidence also suggests that individuals with domain-contingent self-worth linked to experiences with significant others (vanDellen, Hoy, & Hoyle, 2009) automatically assume that these domains are important to various others, as well, and associate outcomes in these domains with thoughts about their relationships. For example, individuals with appearance-contingent self-worth associate negative appearance words with social exclusion, a tendency that does not occur for domains in which self-worth is not contingent.

By definition, attachment working models of the self are composed of positive or negative conceptions of the self that develop in relation to primary attachment figures. Research tapping self-representations implicitly provides compel-ling evidence for the automatic association between self-evaluation and activated attachment models. In a Stroop task, for example, securely attached individuals show slower color-naming latencies (greater interference) for both positive and negative trait terms that are self-descriptive (vs not), reflecting a "balanced" self-view, whereas those who are anxious-ambivalent are slowest for negative, self-relevant traits, and avoidants are slowest for positive, self-relevant traits (Mikulincer, 1995). Furthermore, the securely attached engage in negative self-synchronization – they modify internal aspects of the self to make them congruent with others, even when this may have negative consequences for the self (Gabriel, Kawakami, Bartak, Kang, & Mann, 2010). This pattern is diminished by priming insecure attachment. Automatic shifts in self-perceptions have also been shown with relational-interdependent self-concepts, in that individuals who see themselves in terms of their relationships are especially likely to define themselves (in unobtrusive measures) in terms of similarities with others to whom they are close (but not with a generalized other) (Cross et al., 2002).

As noted, research on inclusion of the other in the self has long shown the relative automaticity with which people judge the self-concept relevance of features that their significant other happens to share (relative to those he/she does not), as tapped by shorter response latencies (Aron et al., 1991). Consistent with this, forming a new relationship by falling in love predicts greater changes and more diversity in open-ended self-descriptions (Aron, Paris, & Aron, 1995; see also Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). While such changes are expansive and potentially facilitate growth, they also leave individuals particularly vulnerable if the relationship ends (Slotter, Gardner, & Finkel, 2010). Because close relationship dissolution implicates the self as it has come to be defined by this relationship, the content of the post break-up self-concept is vulnerable to reduced clarity. This reduced clarity predicts emotional distress following the break-up.

Beyond self-definition and self-evaluation, one may ask whether or not individuals can regulate their own self-views, for example, to protect themselves from problematic relational experiences. The risk of rejection, in particular, may elicit different motivations and strategies in individuals with low (vs high) self-esteem. Individuals low in self-esteem are especially motivated to avoid rejection, and thus self-protectively underestimate acceptance from potential romantic partners, whereas high self-esteem individuals are motivated to promote new relationships and overestimate acceptance (Cameron, Stinson,

Gaetz, & Balchen, 2010), a difference not present when social risk is not salient. Indeed, social risk activates avoidance and approach goals for low and high self-esteem individuals, respectively, as tapped by a word-recall task and by approach behaviors.

Furthermore, relational selves can be used as a self-affirmation resource. Individuals who view relationships as core to their identity spontaneously refer to relational self-aspects following threat (i.e., a below-average score on a social aptitude test), and this has the impact of repairing self-esteem (Chen & Boucher, 2008). Likewise, high self-esteem people may repair esteem after encountering threat by increasing reported confidence in a romantic partner's love and affection (Murray, Holmes, MacDonald, & Ellsworth, 1998; see also DeHart, Pelham, & Murray, 2004) or by viewing relationship qualities more positively (Lockwood, Dolderman, Sadler, & Gerchak, 2004). Visualizing a positive significant other (vs not) after receiving negative feedback can also enable people to be more receptive to that threatening feedback (Kumashiro & Sedikides, 2005).

Although these studies indicate that self-esteem threats in one domain can be compensated for by indirect self-affirmation in unrelated domains, threats to the need for belonging may not be so flexibly repaired. Based on self-esteem threats involving social rejection (rather than, e.g., intelligence), self-affirmation in other domains may not be as restorative. Belonging regulation may thus be distinct from self-esteem regulation (Knowles, Lucas, Molden, Gardner, & Dean, 2010). We consider other related findings below in addressing self-protective and other-protective processes.

Goal activation and self-regulation

Goals have considerable influence on interpersonal life. The degree to which goals held by or in relation to specific significant others can be automatically activated and pursued is reviewed below along with self-regulatory processes pertaining to the activation and pursuit of such goals, including efforts to protect the self or one's relationships in the face of threat.

Goal activation and pursuit

It is well known that goals can be activated automatically by situational cues. Individuals pursue goals to which they are committed when such goals are activated and they regulate their behavior accordingly (e.g., Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001). Both the goals that people hold in a given relationship and the goals that the significant other holds for them are stored in memory and can be activated when the significant other is activated (Andersen & Chen, 2002; Fitzsimons & Bargh, 2003; Shah, 2003a, 2003b).

People are particularly likely to pursue fundamental needs for connection and belonging with significant others, and pursuit of such goals can thus be evoked in transference. Specifically, when a loved (vs disliked) significant other is activated in transference, this indirectly activates the goal to be close (e.g., to be open and disclosing rather than emotionally distant) with the new person, as reflected in self-reports (Andersen et al., 1996; Berk & Andersen, 2000), and this effect is distinct from simple evaluation effects reviewed earlier.

Indeed, although people who report loving a parent who in fact physically abused them while growing up may express relatively immediate positive facial affect upon learning about a parent-resembling new person (just as non-abused individuals do), as noted, they report a wish to avoid closeness with this new person, i.e., an unwillingness to evince any vulnerability (Berenson & Andersen, 2006). In a similar vein, individuals whose goals for affection with a loved significant other have chronically gone unsatisfied may report more hostility when the representation of this other is activated in transference (vs not), and yet as this hostility increases, so does their paradoxical pursuit of the frustrated goal behaviorally (Berk & Andersen, 2008). That is, this increases their affection-soliciting behavior toward the new person, which is presumably a counter-productive paring of hostility and affection-seeking.

Indeed, such motivations, when activated by a new person's minimal resemblance to a loved (vs disliked) significant other, can also influence behavior (Berk & Andersen, 2000), eliciting behavioral confirmation from a naïve stranger. The new person's actual conversational behavior in an unstructured telephone encounter ultimately comes to express more positive affect and responsiveness in return, as assessed by blind judges exposed only to the new person's side of the conversation. Additionally, construing the self in terms of one's relationship may itself make confirmation effects more likely, in that these individuals not only evaluate new relationship partners more positively (Cross et al., 2000) but also believe new relationship partners view the relationship more positively (Cross & Gore, 2003) and they are in fact perceived as more responsive and self-disclosing (Cross et al., 2000).

Relatedly, subliminally priming a secure attachment figure increases self-reported willingness to self-disclose (Study 1) and to seek emotional

support (Study 2), and priming an insecurity-inducing figure implicitly activates insecure goal words, as assessed by a lexical decision task (Study 3; Gillath, Mikulincer, Fitzsimons, Shaver, Schachner, & Bargh, 2006). Moreover, avoidant individuals are unwilling to seek support even when primed with a security-inducing figure (Study 2), and both attachment anxiety and avoidance moderate goal accessibility following such a prime, interfering with fast responding to secure goals and instead activating anxious or avoidance goals, respectively (Study 3).

More broadly, merely thinking about a significant other or being subliminally exposed to this person's name can activate goals with this other as well as behavioral goal pursuit. That is, individuals perform better and persist longer on an anagram task after having been primed with their mother when they have the goal to make her proud (rather than not) (Fitzsimons & Bargh, 2003, Study 4a), even though they showed no conscious awareness of this or of intending it. Simply thinking about a friend (vs a coworker) appears also to activate the goal of being helpful, as it makes people more likely to subsequently volunteer to help another person when asked to do so by the experimenter (Study 1).

Likewise, the automatic influence of goals that significant others have for the self also occurs based on priming a specific significant other. For example, subliminally priming a significant other increases commitment to one's significant other's goals (Study 1), and increases the accessibility of these goals (assessed in a lexical decision task) and behavioral goal pursuit (in anagram-task performance and persistence), and this is mediated by goal accessibility (Studies 2–5; Shah, 2003a). Moreover, this tendency increases as closeness to the significant other increases, but is less strong if the significant other holds multiple (potentially diverse) goals. Likewise, subliminally priming a significant other who has high expectations for the individual, and regards a task as difficult, leads to believing one can do well on the task and to performing better and persisting longer (again on an anagram task) (Shah, 2003b, Study 1). When the primed significant other highly values attaining a particular goal, this also influences the individual's own goal valuation as well as task performance and persistence (Study 2). Priming a significant other, however, does not always increase the likelihood that a specific goal will be activated and pursued. When a primed significant other is controlling, people may resist by engaging in behavior that directly opposes that person's wishes, without awareness or apparent intent, even when this results in a suboptimal outcome (Chartrand, Dalton, & Fitzsimons, 2007).

Finally, spontaneous, dyadic behaviors among relationship partners may also reflect automatic goal activation and pursuit. Women who are securely attached, for example, spontaneously seek more help from their romantic partner in a stressful situation, as a function of their own anxiety, whereas women with avoidant working models do the opposite (Simpson, Rholes, & Nelligan, 1992). Moreover, secure men in these relationships offer more support as a function of their partners' exhibited anxiety, whereas avoidant men offer less. Subliminal priming of attachment security has also been linked to compassion and altruism (Mikulincer, Shaver, Gillath, & Nitzberg, 2005) – with primed participants reported higher levels of compassion and agreeing to do aversive tasks for the sake of another alleged participant.

Self- and relationship-protective regulation

Two particularly important motives that are pursued within close relationships are self-protection and relationship-protection, especially in response to respective threats. Evidence suggests that such motives may arise automatically and serve self-regulatory functions when significant others are activated and a threat is encountered.

The relational self model, for example, argues that both of these motives can readily be evoked when a significant-other representation is activated (Andersen & Chen, 2002; Chen et al., 2006). In the transference paradigm, for example, implicit activation of a negative significant-other representation leads individuals to experience, as part of the working self-concept, negative self-qualities typically experienced in the relationship, while also simultaneously calling to mind *self-enhancing* personal qualities that are unrelated to the relationship (Hinkley & Andersen, 1996), presumably as a self-protective regulatory response. Although assessed using free-form self-descriptions (self-reports), the relatively implicit activation of the significant other in this paradigm implies an automatic effect (Andersen et al., 2005).

In terms of other-protective motives in transference, evidence shows that upon learning about a new person who minimally resembles (via positive and negative features) a loved significant other, people respond with far more positive facial affect to the *negative* features of this loved other than to the positive features. This did not occur when the features were drawn from another participant's significant other. The effect can presumably compensate for encountering in a new person what one dislikes about a loved significant other, thus serving to protect the loved one and the relationship. Similarly, when a loved parent is

activated in transference, people also respond with far more positive facial affect, this time to learning that the person in transference is becoming increasingly irritable and annoyed while awaiting a forthcoming interaction, an effect that occurs even among individuals who were physically abused by this parent in childhood (Berenson & Andersen, 2006). The relative immediacy of these facial expressions suggests that the negative information may have been transformed into a positive response relatively automatically, in a process comparable to that observed in spousal relationships (e.g., Murray & Holmes, 1993).

Self-protective motives are also thought to regulate the behavior of people high in rejection sensitivity in response to interpersonal threat, and to do so automatically. Rejection cues automatically activate the defensive motivational system in rejection-sensitive individuals, while acceptance cues, by contrast, do not activate an appetitive motivational system (Downey et al., 2004; for a review, see Romero-Canyas, Downey, Berenson, Ayduk, & Kang, 2010). Based on exposure to paintings depicting rejection or acceptance, as well as to non-representational paintings of either negative or positive valence, people high in rejection sensitivity showed greater magnitude in startle eye-blinks upon viewing scenes of rejection, relative to negative non-representational paintings; furthermore, their startle magnitude is not attenuated upon viewing acceptance themes relative to positive non-representational paintings.

Indeed, individuals high in rejection sensitivity are particularly susceptible to using self-protective mechanisms even when they lead to negative interpersonal outcomes. For example, heightened rejection sensitivity can lead to less satisfying relationship experiences (Downey & Feldman, 1996). How this defensive motivation plays out can vary depending on context: anxious expectations of rejection predict dating violence among men who are highly invested in their romantic relationship. However, among men reporting relatively low investment in romantic relationships, anxious expectations of rejection predicted reduced involvement in relationships and increased distress in (and avoidance of) social situations (Downey, Feldman, & Ayduk, 2000).

The negative effects of rejection sensitivity on interpersonal outcomes are also moderated by general self-regulation abilities (Ayduk, Mendoza-Denton, Mischel, Downey, Peake, & Rodriguez, 2000). To the extent that they happen to be "good self-regulators" (indexed by ability to delay gratification), highly rejection-sensitive people tend to have fewer negative interpersonal experiences, and function more effectively than those low in rejection sensitivity. Indeed, experimentally inducing the ability to delay gratification leads to a decreased accessibility of hostile thoughts and feelings relevant to rejection (in a lexical decision task, Ayduk et al., 2000; Ayduk, Mischel, & Downey, 2002). Such a process may begin effortfully (see Yovetich & Rusbult, 1994), but can presumably become automatic with practice.

Other direct evidence for automatic self-protection in response to interpersonal threat, and for the way this may interact with relationship-protective motivations, comes from research on dependency regulation processes (Murray, Holmes, & Collins, 2006). In the dependency regulation model, people are assumed to pursue relationship-protective responses by default. When not facing threat, people tend to be motivated to view their partners positively and to seek increased closeness with their partners (Murray, Holmes, & Griffin, 2000; Murray, Holmes, Griffin, Bellavia, & Rose, 2001). When people feel rejected, however, self-protective strategies take over, and as a result, attachment to partners decreases while self-reliance increases. Similar processes have also been shown among low versus high self-esteem individuals – with high self-esteem persons seeking closeness when risk is activated and those low in self-esteem seeking to self-protect (Murray, Derrick, Jaye, Leder, & Holmes, 2008).

Research also shows that such self-regulatory processes can occur outside of awareness in the service of contextually activated higher-order self- and relationship-protecting needs (DeHart et al., 2004). People with chronically low self-esteem, for example, tended to implicitly evaluate their relationship partners in ways contingent on current relationship quality. People with high self-esteem, on the other hand, maintain positive implicit evaluations of their partner, even when things are not going well in the relationship.

Related processes evoked by threat are observed in parent–child relationships in which the parent feels powerless. Such parents engage in physically coercive behavior, and find perceived non-compliance in the child threatening. They also tend to activate dominance and power cognitions in such contexts – particularly when under cognitive load (Bugental, Lyon, Krantz, & Cortez, 1997). With sufficient cognitive capacity, however, even low-power parents can effortfully regulate their responses to perceived threats and respond adaptively.

In attachment processes, people also respond to threat by automatically (without awareness) activating attachment figures in compensatory fashion (Mikulincer, Gillath, & Shaver, 2002). When threat cues are presented subliminally to both secure and anxious individuals, attachment figures are activated, perhaps because they are comforting. Additionally, when threatened, securely attached individuals show heightened

accessibility of self-attributes developed in security-enhancing interactions with attachment figures (Mikulincer, 1998). However, those high in attachment avoidance actually show diminished accessibility of their attachment figures (Mikulincer et al., 2002). Indeed, individuals who are anxiously attached respond to threat cues by pursuing closeness, derogating the self, and accentuating agreement with the other, while those who are avoidantly attached accentuate self-reliance, emotional distance, and self-enhancement (Mikulincer, 1998; Mikulincer, Orbach, & Iavnieli, 1998). Avoidant individuals suppress distressing feelings about potentially threatening interpersonal outcomes, such as when they are prompted to imagine abandonment (Fraley & Shaver, 1997) and encode less about attachment-relevant experiences in the moment (Fraley, Garner, & Shaver, 2000).

Self-regulatory strategies also influence perceptions of the self and others in adult attachment relationships. For example, anxiously attached individuals tend to overestimate their similarity to attachment figures (Mikulincer et al., 1998), and also hold a negative view of themselves (Mikulincer, 1998), a tendency that increases when these individuals are experiencing negative affect and are particularly motivated to win others' approval. By contrast, avoidant individuals underestimate their similarity to attachment figures and hold an unusually positive view of themselves. This effect is also exasperated under conditions of distress, and is related to a desire to validate a sense of self-reliance. Furthermore, in a diary study, avoidant individuals reported the benefits received in their relationship to be less voluntarily given, which arguably perpetuates independence and justifies not depending upon the partner (Beck & Clark, 2010). Avoidance priming also leads to similar perceptions. Given that these effects stem from chronically accessible constructs, they are likely to function at a preconscious level. Ultimately, chronically activated self-protection goals can override ideal patterns of mutual non-contingent responsiveness in relationships, even in the absence of threat. This can lead to a neglect of the partner's needs or even attending to a partner's needs to the neglect of the self to ensure he or she will not leave (Clark, Graham, Williams, & Lemay, 2008).

In a related vein, communal and exchange relationship orientations (Clark & Mills, 1979) differentially influence the perception of self and others based on motives. Specifically, communal orientation encourages relationship-promotion behaviors and the perception that partners are equally caring and supportive (Lemay & Clark, 2008). These projected perceptions elicit more communal behavior from the partner, leading to increased relationship satisfaction as well as willingness to invest in the relationship and depend on the partner: activating communal responsiveness positively affects perceptions of the partner's responsiveness, evaluations of the partner, and attraction, warmth, and disclosure in romantic relationships and close friendships.

Lastly, in order to monitor their goal progress, individuals can look to their social relationships for information about their own relative success or failure. Contrary to the typical upward comparison effect, comparisons with successful romantic partners can lead to greater motivation, even in self-relevant domains (Pinkus, Lockwood, Schimmack, & Fournier, 2008). Individuals with romantic partners who support their goal pursuit (Brunstein, Dangelmayer, & Schultheiss, 1996), or who are willing to be dependent upon a romantic partner (Feeney, 2007), tend to be more successful in their goal pursuit, across various domains.

Some evidence shows as well that goal activation based on significant others can be used strategically. Thinking of a significant other with good self-control leads to increases in state self-control, whereas thinking of others with poor self-control leads to the opposite (vanDellen & Hoyle, 2010). Additionally, activated goals can automatically bring to mind significant others who are instrumental for those goals, heightening their accessibility relative to non-instrumental others (Fitzsimons & Shah, 2009). Categorizing others as such may enable people to approach goal-instrumental others and avoid goal-obstructing others, promoting successful goal pursuit (Fitzsimons & Shah, 2008). For example, when college students primed with academic-achievement goal draw closer to instrumental others, they end up studying longer and performing better on a midterm weeks later. Once the goal is attained, however, they draw away from these others, making way for others instrumental for new goals (Fitzsimons & Fishbach, 2010).

Group and intergroup processes

A particularly exciting area of research has aimed to examine links between relational and group or intergroup processes. On the one hand, researchers have commonly applied social-cognitive concepts in close relationships to the study of group/intergroup issues. For example, research has examined attachment to groups (Smith, Murphy, & Coats, 1999), has conceived of rejection sensitivity in terms of race-based rejection sensitivity (Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002), and has considered social identity as inclusion of the in-group in the self (Smith &

Henry, 1996). The latter research has established the *extended contact effect* by showing that intergroup bias is reduced as a function of observing a member of one's in-group (who, by definition, one includes in the self) engaging in friendly interactions with an out-group member (Wright et al., 1997). This presumably leads the out-group member to be included in the self, as well. Recent evidence suggests that forming cross-group friendships can buffer the negative consequences of race-based rejection sensitivity, e.g., by lessening intergroup anxiety (Page-Gould, Mendoza-Denton, & Tropp, 2008).

On the other hand, processes in close relationships have also been examined in the context of group (social category membership) differences. Recent research, for example, has demonstrated that transference occurs across group boundaries, i.e., when the new person does not share the significant other's political or ethnic group membership, though resembling him or her in other ways (Kraus, Chen, Lee, & Straus, 2010). If the activated significant other is liked or loved, participants in transference may transfer this positive evaluation to the new person despite his or her ethnic out-group status (Kraus et al., 2010, Study 2).

Meanwhile, research has examined how intergroup processes may arise from activation of relationship knowledge. Building on research suggesting that categorical knowledge (and related norms) are activated based on significant-other activation in transference (e.g., social roles, Baum & Andersen, 1999; standards, Reznik & Andersen, 2007), evidence has shown that activating a significant other can also lead this other's ethnic category to be activated and used to categorize the new person (Saribay & Andersen, 2007). Indeed, when the self is also of this same ethnicity, such indirect activation of this ethnic category can also activate the participant's own ethnic identity, and as theory would suggest, can increase intergroup bias in judging unrelated others. That is, if the broader social network of the significant other is ethnically homogenous, this outcome occurs. When, by contrast, the significant other's social network is more expansive and ethnically heterogeneous, the effect is dampened.

Returning to the contact hypothesis, both theory and research have highlighted the role of intergroup friendships (e.g., Brown & Hewstone, 2005; Page-Gould et al., 2008) in the reduction of prejudice. The research just noted addressing social networks of significant others (Saribay & Andersen, 2007) has much in common with this theme and with the extended contact effect in particular (Wright et al., 1997). In that case, the social network of the significant other serves as a record of cross-group affiliations, which can then attenuate or exacerbate bias when the perceivers' ethnic identity is evoked based on activation of a significant other. Of course, actually forming cross-group friendships oneself or directly observing them can also be influential in important ways (Page-Gould, Mendoza-Denton, Alegre, & Siy, 2010), in part by enabling the individual to revise expectations about and response tendencies toward both in-group and out-group others.

Similarly, attachment researchers (Mikulincer & Shaver, 2001) also assume that priming attachment security (i.e., a secure base) should lead to less derogation of out-group members, stemming from personal or collective self-esteem protection. Unsurprisingly, perhaps, dispositional attachment security clearly is negatively correlated with hostility toward out-groups. More importantly, however, priming attachment security (vs positive affect or a neutral prime) does lead to less negative responses toward out-group members, both when it is an attachment figure (a significant other) that is primed and when it is generic attachment knowledge (and whether via subliminal priming or visualization). Indeed, a lower threat appraisal of intergroup encounters appears to mediate the effect of security priming on reduced intergroup bias.

Meaning systems

Close relationships are also crucial in establishing and maintaining a sense of meaning in life, as relationship partners validate people's views of the world in which they live (Baumeister, 1991) and bestow a sense of security. Research on the role of close others in meaning-making and the joint construction of social reality has also begun to address the underlying processes involved.

Shared reality

Shared reality theory suggests that people are motivated to achieve shared perceptions of reality with others to establish, maintain, and regulate social bonds. In so doing, people can come to view their environments (and the self) as predictable and stable. A central assumption of the model is that mutual understanding is critical for establishing and maintaining relationships (Hardin & Conley, 2001; Hardin & Higgins, 1996), and that people cannot interpret stimuli in meaningful ways in the absence of a socially shared basis for interpretation, as such mutual understanding imbues experience with perceived validity (see also Heine, Proulx, & Vohs, 2006; Swann, 1990).

Although little research has directly examined these processes in close relationships, some have

examined factors of considerable relevance to such. For example, people are more likely to "socially tune" (Hardin & Higgins, 1996) toward individuals they like and are motivated to approach (Sinclair, Huntsinger, Skorinko, & Hardin, 2005b; Sinclair, Lowery, Hardin, & Colangelo, 2005c) and to tune away from those they dislike and wish to avoid. They also shift their attitudes toward those of close-relationship partners (Davis & Rusbult, 2001), align their self-concepts and self-evaluations with the views of significant persons and even strangers under some circumstances (Sinclair, Dunn, & Lowery, 2005a; Sinclair et al., 2005c), and mimic the characteristics and behaviors of salient individuals (Chartrand & Bargh, 1999). Moreover, evidence has shown that implicit activation of a loved significant other in transference indirectly activates the shared belief system held in common with a significant other – over and above one's own distinct or other's distinct belief systems (Przybylinski & Andersen, 2011). In this case, the individual also socially tunes toward such shared meanings.

Attempts to establish shared reality with others may begin early in life, as infants seek to convert their sensations into meaningful experience. Accordingly, shared reality is most beneficial when trust and dependability are givens, and openness and exploration possible (e.g., Mikulincer & Shaver, 2004). People who report high levels of attachment security and shared reality with family members also report finding their lives as more meaningful (Sakellaropoulo & Baldwin, 2007). Similarly, evidence suggests that religiosity and also prejudice against atheists may be rooted in shared reality within close relationships (Magee & Hardin, 2010), in that securely attached people who believe that their fathers share their religious beliefs (rather than not) are less threatened by exposure to ideas on evolution. The functions of shared meaning in close relationships may thus depend to some extent on the quality of the relationship and the content of the shared beliefs.

Terror management

The meaning-making functions of personal relationships have also been much emphasized in terror management theory (see Greenberg, Solomon, & Pyszczynski, 1997), which assumes that humans are uniquely cognizant of the inevitability of their own death and that this often induces feelings of helplessness or terror. Such feelings can then be reduced by processes that buffer or remove death awareness.

A central focus of the theory is on validating cultural worldviews and on self-esteem enhancement (Greenberg et al., 1997) for reducing existential anxiety. Recently, however, the relevance of close relationships has been increasingly examined (Mikulincer, Florian, & Hirschberger, 2003). For example, among securely attached individuals, imagining separation from or an argument with a romantic partner increases the accessibility of death-related thoughts and instigates worldview defense (Mikulincer, Florian, Birnbaum, & Malishkevich, 2002). Conversely, when these individuals think about one of their parents, it helps buffer the negative effects of reminders of death (Cox, Arndt, Pyszczynski, Greenberg, Abdollahi, & Solomon, 2008, Studies 1–3). Indeed, when these individual are reminded of death, it increases the accessibility of attachment constructs (Mikulincer et al., 2002), heightens their motivation to form and maintain close relationships and to increase intimacy (Florian, Mikulincer, & Hirschberger, 2002; Taubman-Ben-Ari, Findler, & Mikulincer, 2002), and reduces fear of rejection (Taubman-Ben-Ari et al., 2002). More generally, reminders of death may ease the recall of positive maternal interactions (vs negative ones), and increase attraction to a stranger who is similar to one's parent (Cox et al., 2008, Studies 4–5).

OVERARCHING THEMES AND OUTSTANDING ISSUES

An overarching theme arising from this review is that prior and current significant-other knowledge is often perpetuated in present-day encounters. Thus, tendencies learned in prior relationships continue to exert influences beyond the initial relationships themselves, even when the relationship partners are not physically present, or after a given relationship ends. This notion is an essential consequence of many of the social-cognitive mechanisms reviewed here. The social-cognitive model of transference, in particular, documents the ways in which activation of a specific significant-other representation causes prior relational knowledge to resurface with new others. While the transference model focuses both theoretically and empirically on representations of specific significant others and on cues that activate such representations, most other models focus on more generalized knowledge representations. The relational schemas model, for example, tends to emphasize generalized, schematic knowledge and evokes such schemas using generic cues or primes of a specific significant other. Likewise, attachment theory maintains that secure or insecure attachment styles are generic, having been generalized based on early experiences with attachment figures. The attachment system is typically activated generically, or by priming a

significant other, who, for example, serves as a secure base.

The representation of specific significant others in memory and their activation can thus be the starting point for research across a wider variety of theoretical perspectives on close relationships, perhaps more so than the theories themselves imply. Indeed, the automatic tendency to expect, perceive, and overreact to potential rejection, as in rejection sensitivity, is thought to develop from prior relational experiences and thus to confirm expectations learned from prior relationships. Similarly, the fact that individuals with a relational self-construal attend so intently to relationships might make them all the more likely to maintain the very relationships that define them. Moreover, even a merging of close others with the self, as in the inclusion-of-other-in-the-self model, provides a means through which a significant other remains present even when not.

It is clear that much of what happens in close relationships may to some extent happen automatically: automatic tendencies guide how people think and feel about close others and themselves, whether in expecting to be accepted or rejected, in self-regulating to attain goals, in group/intergroup perceptions or in epistemic responses. Thus, despite major differences in the exact assumptions and methods underlying research across the models we address, an assumption common to all is that relationship knowledge is readily perpetuated precisely because of the influence it can exert even without awareness, intent, effort, or control. In short, it is automaticity that may lie at the heart of such perpetuation and re-emergence of close relationship patterns.

Nonetheless, relationship processes and phenomena are not *always* automatic. People spend a good deal of conscious, intentional energy deliberating about their interactions with close others (even as they are automatically or unconsciously influenced by relational knowledge). Individuals also care about how their responses to others may be "contaminated" by biases, even if their lay theories about such biases are inaccurate (Wilson & Brekke, 1994) and may experience only the end product of automatic processes, which may at times be undesired. Hence, diverting the automatic processes that give rise to problematic responding is often the focus of clinical work, and further integration of the approaches reviewed here with systematic research in the clinical domain may thus be fruitful. Indeed, the transference concept first arose as a clinical one.

Recent work in fact speaks to the possibility of regulating the influence of relational knowledge, such as that indicating instances when transference is more likely to occur (when experiencing circadian mismatch, Kruglanski & Pierro, 2008; or based on individual differences in motivation, Pierro & Kruglanski, 2008; Pierro et al., 2009). While such work suggests that deficits in attention may be what give rise to the process, this implies that attention or awareness per se should enable the transference process to be overturned. Recent evidence has suggested that this may not be the case, even when motivation to prevent the effect is also high (Liviatan & Andersen, 2010). Of course, to override the automatic influences, one may need an appropriate regulation strategy and sufficient cognitive resources to execute it, if it requires effort. Nonetheless, preliminary evidence suggesting that awareness and motivation may not be sufficient remains of interest. Given the limited cognitive resources, time, and motivation available in daily social life, and how relatively uncommon effective strategies for short-circuiting automatic relational responses may be, gaining further understanding when and why such responses can be regulated and by whom is warranted.

Indeed, even when relationships are maladaptive and/or particularly painful, it may be that the predictability and meaning the relationship affords can make anything other than the maintenance and continual use of relational representations unappealing. Thus, some individuals may tend toward engaging in suboptimal or harmful relationship patterns, perpetuating them over time rather than facing the unknown, uncharted territory of doing otherwise, just as people often seek self-verification even of negative self-views (Swann, 1990). At the same time, people often do know they are suffering from repeating old patterns in new contexts and want to change, and the task that remains is to clearly specify the conditions under which they can be enabled to do so.

Furthermore, the evidence reviewed here suggests that, despite the automatic nature of relational processes, they are by no means simplistic. Indeed, the fact that effective goal pursuit is promoted by the activation of those significant others who are instrumental to the goal (Fitzsimons & Shah, 2008, 2009; vanDellen & Hoyle, 2010), and that once the goal is attained the individual moves away from these others to draw closer to those who are instrumental for new goals (Fitzsimons & Fishbach, 2010), suggests a far more dynamic regulatory process in close relationships than previously understood. This evidence also implies that relatively communal relationships are guided not only by social motives and communal goals but also by instrumental motives and personal goals, and that dual motives can operate in tandem or trade-off rather than showing exclusivity as a function of relationship type. Evidently, individuals adopt different strategic orientations at different times, and perhaps it is the case that some

people are more flexible in doing so than others. If properly understood and harnessed, perhaps such strategic flexibility may offer new avenues for the regulation of particularly maladaptive relational processes.

Accordingly, evidence has also demonstrated the complex interplay and tension between self-protective and other-protective regulatory processes in the context of close relationships (Murray et al., 2000, 2001; see also, e.g., Andersen et al., 1996; Andersen & Chen, 2002; Berenson & Andersen, 2006). By default, individuals appear to exhibit relationship-protective responses, and yet the perception of threat can lead to a shift into more self-protective responses, with the perception of threat itself varying across individuals, contexts, and experiences. Given that these processes may function relatively automatically and, thus in some cases, outside of conscious awareness or intention, understanding when and why individuals may choose to protect the other over protecting the self, even at great cost, is important.

New evidence on the self-concept reviewed here also highlights the potential reach of relational knowledge in influencing people's responses, suggesting that much remains to be discovered about both variability and consistency in the relational self. For example, the fact that people seek to validate their relational selves when significant-other representations have been activated (Kraus & Chen, 2009) makes it clear that the spread of activation along self–other linkages not only activates those aspects of the self typically experienced with this other but also consistency motives that underlying self-verification processes. Finally, the broader influence of relational knowledge on social identity and intergroup perception, as well as on epistemic concerns, suggests that these literatures, too, are likely to continue to grow in the coming years.

CONCLUSION

We began by noting the tremendous importance of close others in people's lives, even while the processes known to guide interpersonal life are frequently known quite automatic. To fully understand relationship processes, it is of value to ask how and when these processes are relatively automatic and when they are relatively more mindful and deliberate. To facilitate healthy relationship dynamics, it is also important to understand when automatic processes can interfere with conscious intentions. As of now, many questions remain about exactly how people are best able to consciously shape their own relationships and

interpersonal lives. Perhaps answers are just around the corner and will reveal themselves as methods and theory advance.

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