

INTERPERSONAL COGNITION AND THE RELATIONAL SELF: PAVING THE EMPIRICAL ROAD FOR DIALOGICAL SCIENCE

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ABSTRACT. Research into the dynamics of interpersonal cognition has established a number of principles governing thought processes before, during, and after a social interaction. We begin this article by reviewing these principles, including the representation of interpersonal knowledge, the activation of interpersonal knowledge in the mind through both conscious and unconscious means, and the important role attention plays in these processes. We then summarize examples of the successful modification of some of these habits of thinking about social knowledge. In this manner we hope to contribute to the development of dialogical science by providing an overview of potentially useful research findings and methodological strategies from which dialogical scientists may draw.

The human mind is an acutely interpersonal organ. The interpersonal nature of the mind can be, and has been, studied from a wide range of different perspectives. One psychological approach is social cognition, which, broadly defined, concerns the scientific study of the cognitive, motivational, and affective processes involved in social interaction (Kunda, 1999). Although the past thirty years have witnessed the blossoming of the study of social cognition as a whole, it is especially in the last decade that social cognitive researchers have focused particularly intensely on the topic of interpersonal cognition. This concentration arose from an increasing awareness that humans tend not to deliberate over independent social objects, such as self and other, in isolation from each other as much as they think about such entities in interaction with each other. Indeed, one might say that the field of social cognition has become dialogical.

Research into interpersonal cognition has resulted in an impressive list of established principles shown to be fundamental to the psychology of interpersonal experience before, during, and long after an interaction has actually occurred (Baldwin, 2005). This research is clearly relevant to work on the dialogical self and related topics (e.g., Hermans & Kempen, 1993), although while these perspectives often emphasize

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the way people can spontaneously adopt a host of positions and generate novel dialogues with others and the self, we think it is important to take into consideration the fact that the interpersonal mind is not entirely created anew in every interaction. Rather, we begin with the assumption that over time individuals acquire a repertoire of social knowledge, and tacitly learn habits of thinking about their social knowledge. Once having learned a script of interaction, they can draw on this script to understand and guide interaction with others, or interaction with the self in an internal dialogue. Although we believe and have found evidence suggesting that individuals may employ a particular interpersonal script with many different social interaction partners, it is also true that individuals learn and subsequently employ different interpersonal scripts with different social interaction partners, indicating a plurality of the self. We will therefore commence this article by outlining the chief principles of interpersonal cognition, which suggest that habits of interpersonal experience are indeed learned, and will then examine some of the ways in which these habits may be modified. In so doing, we hope to provide an informative overview of research findings and methodological strategies that might prove useful as dialogical science continues to develop.

Interpersonal Knowledge Representation

A primary issue examined by social cognition researchers is the way in which social information is represented in the mind. Decades of research have supported the hypothesis that people possess *schemas*, or organized knowledge structures, about themselves (i.e., a self-schema) and others (i.e., other-schemas). These self and other schemas consist of declarative knowledge structures about the self or other, including specific facts, memories, and abstract beliefs organized, according to many theories, in an *associative network*. For example, in the case of a very securely attached individual, *self* may be represented as a lovable, devoted husband, a representation that is associated to a view of *other* as a sensitive, caring wife.

Researchers studying interpersonal cognition are not interested merely in isolated (or “Cartesian”; see Hermans & Kempen, 1993) views of self and other, but rather in the cognitive associations and interactions between these structures. Accordingly, we and other researchers have proposed the self-schema to be connected to the other-schema by way of an *interpersonal script*, and have described these three structures as a whole to give rise to the relational schema (Baldwin, 1992). Interpersonal scripts are viewed as if-then contingency expectations that are learned over time and comprise not only expected behaviors of self and other, but also thoughts, goals, and feelings. These largely implicit if-then contingency expectations give rise to specific feelings about and experiences of the self. For example, Jacob, an avid jogger, might learn the interpersonal script that “If I subtly salute other joggers, then they will smile at me and see me as part of their troop,” which in turn would give rise to positive feelings about himself, such as belongingness and efficacy. As a further example, a securely attached individual might learn the interpersonal script “If I feel distressed,

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then I can turn to my husband for support,” while an insecurely attached individual might learn a very different interpersonal script, such as “If I express distress, then my husband may withdraw from me.” Thus, the securely attached individual’s constructive support-seeking strategy will likely result in her feeling better as well as even more confident about her relationship, while the insecurely attached individual’s negative expectation might produce a defensive strategy of denial, likely resulting in her feeling temporarily superficially better, but no more confident in nor likely to rely on her relationship partner for support. Hermans (1996) rightly pointed out that these if-then scripts typically reflect patterns of *dialogue* (perhaps of *statement-and-response* or *question-and-answer* or *feedback-and-clarification*) rather than arbitrary sequences of events.

As our examples indicate, one domain in which interpersonal scripts show powerful effects on affect and self-experience is close relationships. Drawing on Bowlby’s seminal work on infant attachment (e.g., Bowlby, 1969), adult attachment theorists typically differentiate between a *secure* attachment style in which individuals are confident that their partner will support them in times of need and are at ease with closeness, and an *insecure* attachment style in which individuals lack confidence in their partner’s availability and have either a fervent, exaggerated desire for closeness coupled with a significant fear of being rejected (i.e., the *anxious-ambivalent* style), or a firm preference for emotional distance (i.e., the *avoidant* style). One study that examined the interpersonal scripts involved in attachment (Baldwin, Fehr, Keedian, Seidel, & Thomson, 1993) found that people’s attachment styles (secure vs. avoidant vs. anxious-ambivalent) predicted their endorsement of different interpersonal scripts. For example, avoidantly attached individuals, who prefer to be emotionally distant from their partner, were more likely to endorse a belief that by trusting their partner they would be hurt. Thus, avoidantly attached individuals appear to have a script running through their mind that serves as a constant warning of the danger of confiding in others: being hurt.

A second domain in which the influence of the interpersonal mind is particularly evident is in people’s views of themselves. For example, one study in our lab (Baldwin & Keelan, 1999) examined the expectancies associated with being high, as compared to low, in self-esteem through a series of self-report measures. Two very different patterns of expectations were endorsed by individuals high in self-esteem versus those suffering from lower self-esteem. While those high in self-esteem anticipated that they would be able to elicit friendly, accepting reactions in others, individuals low in self-esteem doubted their ability to produce such positive social reactions. These findings are in line with the interpersonal view of self-esteem proposed in *sociometer theory* (e.g., Leary, Tambor, Terdal, & Downs, 1995), which holds that positive feelings about the self result from feeling that one is accepted and valued by others. According to this theory, an individual who feels generally accepted by others would be more likely to have high

self-esteem than an individual who feels generally rejected by others. The results of the previously described study (Baldwin & Keelan, 1999) take this theory one step further by shedding light on the expectations accompanying high versus low levels of self-esteem. Individuals lacking in self worth appear to find themselves endorsing a relatively pessimistic, maladaptive interpersonal script in which their attempts at generating positive social feedback are futile and destined to fail. Holding such an interpersonal script likely helps to perpetuate a vicious, self-prophetic cycle that individuals low in self-esteem are caught in whereby feeling incapable of generating positive social reactions, such individuals act awkwardly and defensively in social situations, which results in these individuals being disliked or rejected by others, which serves, in turn, to lower or at least maintain their already low level of self-esteem (see, for example, Curtis & Miller, 1986). Thus, relational schemas are heavily implicated in self-views and in the dialogical processes that maintain them.

It is important to note that while self-esteem is generally viewed as a fairly stable, global construct, it is also theoretically possible to consider an individual's self-esteem in relation to particular I-positions. Sociometer theory might predict, for example, that if Jacob feels generally accepted by his mother, his I position in relation to his mother (i.e., self-with-mother) would evidence high self-esteem, whereas if he feels generally snubbed by his older brother, his I position in relation to his brother (i.e., self-with-brother) would evidence low self-esteem. This proposition of different relational selves or I positions giving rise to different self-evaluations is supported both by research (e.g., Lakey & Scoboria, 2005) and by everyday lay experiences of feeling somewhat better when interacting with or thinking about particular companions as opposed to others.

Interpersonal Knowledge Activation

Given that most people engage in a plethora of interpersonal experiences over their lifetime, ranging from the more mundane (e.g., with bank tellers and postal workers) to the more intimate (e.g., with spouses and parents), it seems logical to assume that most people have a large repertoire of self-in-relation-to-other knowledge which they can draw on at any given time. Indeed, flexibility as a dialogical partner is predicated on knowing a range of possible scripts from which to select. One of the basic principles of interpersonal cognition states that to have an impact on the way in which information is being processed, the relevant interpersonal knowledge structure must be *activated* or brought to mind in some way. Generally, this occurs as a result of an interaction between a host of factors, including the saliency of the information in the present situation (e.g., being at a museum exhibition might activate a courteous, unobtrusive relational self in order not to distract or diminish other people's enjoyment of the art, while being at a FIFA World Cup match might activate an unrestrained, vivacious relational self to further the enjoyment of the match) and the chronic tendencies of the individual involved (e.g., being anxiously attached might increase the

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baseline activation of an insecure, rejection-wary relational self that desires dependence but, at the same time, is fearful of being rejected). Discussions of dialogical processes have often alluded to this notion that people have multiple selves, and specific voices can take on increased prominence in specific circumstances, whether because of symbolic cues (e.g., a Hopi ring activating a deeply spiritual inner voice; Josephs, 2002), social context (e.g., one's "German" voice coming to the fore when one is a lone German surrounded by Americans; Josephs, 2002), or the relative power or dominance of one voice over another (e.g., a "perfectionist" self dominating a "dreamer" self; Hermans, 2005).

Priming of Interpersonal Knowledge via Lexical Tasks

Researchers have examined the principle of activation by employing various *priming* techniques. Some research has examined the process whereby one aspect of an interpersonal script activates another, related, aspect. For example, the *lexical decision task*, originally developed by cognitive psychologists to assess the rapid identification of words, has been adapted by social psychologists to assess the spreading activation of interpersonal knowledge. In this task, the research participant is shown a target letter-string (e.g., *dialogical* or *liadocigal*) and is asked to indicate as rapidly as possible whether the target letter-string represents a "word" or a "non-word." The identification of a "word" lexical decision target (e.g., *dialogical*) tends to be faster if it is preceded by a context that is related to the target (e.g., briefly displaying the name *Hermans* immediately before the lexical decision target *dialogical* is presented might facilitate some participants' judgment of *dialogical* to indeed be a word).

By adapting this task to the study of the interpersonal mind, researchers can try to prime an individual's interpersonal script by carefully choosing a context word or phrase that is related to it. For example, in one study (Baldwin et al., 1993), individuals began each lexical decision trial by reading a sentence fragment intended to prime a particular attachment vulnerability (e.g., the fragment *If I try to get closer to my partner, then my partner will* was expected to prime an anxious attachment vulnerability). They were then presented with a lexical decision target (e.g., *reject*). Results of this study demonstrated that activation had indeed spread from the *if* part of the interpersonal script to the *then* part, as the fastest reaction times were observed when individuals' attachment expectancies were congruent with the context-target pairs. For example, avoidantly attached individuals, who eschew emotional closeness, were found to be the fastest at correctly identifying *hurt* to be a word when it had been preceded by the fragment suggesting *trusting a partner*. Thus, the prospect of trusting their partner served to activate these individuals' avoidant interpersonal selves, leading them to quickly make the connection between trusting and hurting. Such priming techniques as lexical decision tasks therefore provide a window on the interpersonal mind by exposing individuals' habitual ways of thinking.

Related work has been carried out in many labs other than our own. Downey and colleagues, for example, have examined the kinds of interpersonal scripts people possess representing interaction patterns involving social rejection. More specifically, they examined the defensive scripts held by individuals high in rejection sensitivity, who tend to be anxiously insecure when interacting with others because of being overly wary of and receptive to signals of rejection. In one study, for example, Ayduk, Downey, Testa, Yen, and Shoda (1999) used a primed word pronunciation task to activate the intense defensive reactions of such individuals. Women high in rejection sensitivity were shown to be quicker at pronouncing hostility-related words when they had just been shown a rejection prime, thus illustrating the automatic association such individuals hold between rejection and hostility. A highly rejection-sensitive woman, then, exposed to a word like *abandon* was faster at pronouncing words like *hit* than was a woman low in rejection-sensitivity. As in the lexical decision research, a simple brief exposure to a word sufficed to elicit these individuals' insecure experience of themselves in relation to others, which in turn invoked their adverse defensive reactions.

Priming of Interpersonal Knowledge via Transference

Other researchers have taken a different approach to interpersonal knowledge activation by priming either a construct as a whole, such as a particular interpersonal self (e.g., self-in-relation-to-one's-wife), or a general characteristic that is interpersonal in nature (e.g., empathy), rather than activating a particular sequence in an interpersonal script. Andersen and colleagues, for example, have examined the psychoanalytic principle of *transference* to find that when a particular significant-other representation is activated, such knowledge can factor in to the perception of a new acquaintance (e.g., Andersen & Cole, 1990). For instance, the interpersonal self one experiences when in the presence of Jacob, who in addition to being an avid jogger is also a devoted husband, a philosophy professor, and a fan of Elvis Presley, would be the same interpersonal self one would be likely to experience upon learning that a *new* acquaintance also happens to be a married philosopher who jogs and is fond of Elvis. Andersen and colleagues have therefore demonstrated the variability of the interpersonal self by showing that it can be experienced not only with a specific significant other, but also with novel acquaintances onto whom specific others' characteristics have been projected.

The theory behind transference of the relational self suggests that individuals accumulate a collection of interpersonal selves in their memory, each of which is linked with a specific significant other, but that it is possible to summon a particular relational self merely by suggesting that certain aspects of a significant other are present. In one study, for example (Andersen, Reznik, & Manzella, 1996), participants first provided phrases to describe either a liked or disliked significant other. Weeks later they were given descriptions of a novel person, supposedly in the next room. Some of these descriptions were derived from the phrases the participant had provided earlier.

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Participants were surreptitiously videotaped while reading these descriptors, and later analysis of these tapes showed that the descriptor statements had immediate effects on participants' facial expressions: Descriptions characterizing a liked other produced positive expressions and descriptions characterizing a disliked other produced negative expressions – even though the participant believed the phrases were describing a new acquaintance. To return to Jacob for a moment, if one happens to be keen on Jacob because of fond memories of riding on his shoulders, then learning that a new acquaintance happens to share certain characteristics, such as his being an Elvis-loving, jogging philosopher would likely result in one's self-with-Jacob shining through, along with one's positive affective appraisal of him. It is easy to see how the transference of affect, and the activation of specific interpersonal selves, can shape dialogical processes even with a novel acquaintance. The novel acquaintance is, in some sense, assimilated to a familiar dialogical position already within the self's established domains of experience (Hermans, 2005).

Priming of Interpersonal Knowledge via Images

Related to emotional reactions is the ability to experience empathy for another's distress. Attachment researchers have argued that empathy is largely based on feeling securely attached, an interpersonal state known to be associated with a sense of control and mastery in dealing with another's distress, as well as with decreased self-related worries and increased inner resources to concentrate on another's needs (Mikulincer, Gillath, Halevy, Avihou, Avidan, & Eshkoli, 2001). Consequently, researchers wondered whether it might be possible to facilitate empathic responses by momentarily augmenting a sense of security. Mikulincer and colleagues (2001) primed attachment security through simple pictorial representations, to examine how feeling securely attached might be related to positive emotions and empathic responses. Once seated in front of a computer, participants taking part in the study were asked to read sentences describing specific instances when they had witnessed and reacted to another person's difficulties (e.g., *Recall a personal episode in which you witnessed another person's plight and reacted with compassion toward this person*). Participants were directed to recall as quickly as possible a personal instance that fit the displayed sentence, and to press a key to indicate the retrieval of such an episode. The experimental manipulation in this study was a subtle attachment-security picture (e.g., a man and woman interacting warmly with each other) on the computer's desktop visible to participants prior to and during the course of the presentation of the sentence describing the episode. The speed of memory retrieval served as the measure of the accessibility of empathic responses since the faster the key was pressed, the more closely accessible the empathic episode was in the participant's mind. Results indicated that the security prime indeed facilitated the retrieval of participants' past empathic episodes, suggesting that a strong connection exists between a securely attached self and behaving empathically. It therefore seems that holding a positive view of both oneself and the other allows

individuals to readily identify and comprehend another person's feelings and difficulties. Certain forms of interaction between self and other, then, are more likely to the extent that relevant interpersonal scripts are activated.

As these research examples indicate, there is clearly a great deal of variability in the interpersonal mind. Indeed, as William James (1890) noted in his classic chapter on the self, "a man has as many social selves as there are individuals who recognize him and carry an image of him in their mind" (p. 294). Exactly which of multiple interpersonal states or voices an individual experiences at any given time is dependent upon any number of variables, however priming techniques provide a convenient and controlled way in which to experimentally manipulate and measure these various positions.

The Role of Attention in Activation

A key player in determining activation is the attention system. Different people show very different patterns of attention (e.g., a salesperson's attention would likely be drawn to very different things than a clergyperson's attention), producing chronic activation in specific types of interpersonal knowledge. Being especially attentive to a particular form of information, for example, can result in an individual's perceiving that type of information with an exaggerated frequency or to an exaggerated degree, which can in some cases have debilitating effects. One group of individuals evidencing a particular pattern of exaggerated attention are those low in self-esteem, who tend to show a vigilance for rejection information. A low self-esteem individual who enters a crowded bus, for example, might instantly notice the one grimacing person in the sea of neutral and smiling people. Low self-esteem individuals are therefore caught in a vicious cycle in which, due to their low level of self-esteem and negative expectancies, they are especially attentive to signs of rejection; which, when perceived, serve to further lower their feelings of self worth by fostering feelings of being excluded and unwanted.

In one recent study in our lab (Dandeneau & Baldwin, 2004), an emotional Stroop task was used to measure attentional biases in individuals low versus high in self-esteem. In the emotional Stroop task, individuals are asked to name, as quickly as they can, the ink colour in which emotion-laden words are presented. Individuals for whom the word is especially meaningful or threatening tend to take longer to name the ink colour of such words than do individuals for whom the word is less meaningful since interference arises from automatically attending to two stimuli (i.e., the word itself and the ink colour) at once. The study showed that individuals with low self-esteem had significantly greater difficulty in naming the ink colour of rejection-related words (e.g., *rejected*, *unwanted*) in the emotional Stroop task than the ink colour of acceptance-related words (e.g., *accepted*, *wanted*), whereas individuals with high self-esteem did not vary significantly in their ability to name the ink colour of rejection versus

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acceptance words. The results of this study therefore support the notion that individuals suffering in their feelings of self worth are acutely watchful of signals of rejection because such information is particularly meaningful and menacing for them. This attentional filter then distorts the individual's view of interpersonal relations, emphasizing any elements of rejection that might be present.

Subliminal Activation of Interpersonal Knowledge

Issues of rejection and acceptance underlie many human emotions, due to our highly social nature. Such negative emotions as guilt and shame, for example, appear to arise as a warning of impending social disapproval following even minor transgressions (e.g., Gilbert, 1989). Indeed, while self-criticism appears on the surface to represent a "relationship of the mind with itself" (Hermans, 2005), a straightforward hypothesis from the dialogical approach is that it also reflects the sense of relating to other minds, a simulation of what it might be like to interact with another who – based on an activated interpersonal script – is anticipated to be critical or rejecting. Research in interpersonal cognition has demonstrated that feelings of guilt and shame can occur even at the margins of individuals' awareness, due to automatic and unconscious information processing in the interpersonal mind. In examining the powerful unconscious effects of relational schemas, Baldwin, Carrell, and Lopez (1990) flashed a subliminal image of a disapproving Pope John Paul II to practicing Catholic female undergraduates, moments after they had read a sexually-provocative passage. Results of the study showed that Catholic women who had been flashed with the image of the disapproving Pope reported significantly lower self-evaluations than other Catholic women who had been flashed with an image of a disapproving stranger, or those who had been shown no image at all. Presumably, the Catholic women's unconscious exposure to the Pope served to activate an ingrained relational schema of disapproval by an authority figure, in this case, for their improper act of reading sexually-charged passages. In other words, the subliminal flash of the Pope caused these Catholic women to suddenly experience their sense of self in relation to a powerful and authoritarian audience whose strong disapproval of their latest reading choice they could easily imagine, causing a cascade of negative emotions to descend upon them. Extrapolating these findings to everyday life is straightforward and permits an appreciation for how a subtle cue such as a bumper sticker bearing the slogan "God is watching" might quickly serve to inhibit an agitated, religious driver from succumbing to road rage.

Given the ease with which the transference of a particular interpersonal self occurs, such as self-with-Jacob when in the presence of a stranger who just happens to be interested in philosophy, jogging, and Elvis, it is perhaps of little surprise that transference can likewise be unconsciously activated through subliminal means. In one study by Glassman and Andersen (1999), for example, individuals in the study were subliminally flashed significant-other features (e.g., *Likes to watch baseball, Uses hand gestures a lot*) while playing what they had been led to believe was a computer game

with another person. Later, during an inference task about their computer game partner, individuals who had had features of their significant other subliminally activated tended to infer that their game partner also possessed significant-other features not previously subliminally presented. Thus, a particular interpersonal self can be summoned in a split second through entirely unconscious means.

One context for studying interpersonal processes, and disturbances to them, is in intergroup interactions. *Intergroup bias* refers to the tendency to perceive individuals belonging to *out-groups* as different from oneself and as less favorable than one's compatriots. For example, while Jacob might happily move his briefcase to liberate a seat in a crowded coffee shop for a stranger dressed in jogging attire (i.e., an apparent member of his jogging in-group), he might choose not to do so for a stranger donning an "Elvis is dead" t-shirt (i.e., a most likely Elvis out-group member). Thus, by creating an in-group and out-group in a laboratory, social psychologists are able to examine the customary defensive reaction of evaluating members of one's in-group positively and members of one's out-group negatively.

In an attempt to attenuate the negative aspects of intergroup bias, Mikulincer and Shaver (2001) subliminally activated attachment security. Attachment security was chosen because of previous findings showing it to be associated with mechanisms often implicated in positive reactions to out-groups, including high self-esteem, optimistic appraisals of threatening events, and constructive ways of coping with threats (e.g., Mikulincer, 1998; Mikulincer & Florian, 1998). Given that all individuals participating in the study had indicated they were heterosexual, the researchers examined reactions to a heterosexual in-group, and a homosexual out-group. Individuals participating in the study began by completing a computerized word-relation test important for the study only in that it provided a way in which to subliminally flash a security word prime (e.g., *love, support*). Individuals then completed a cognitive task, for which half of the individuals received bogus failure feedback, in order to threaten their self-esteem, while the other half received no feedback. Finally to assess intergroup bias, individuals' willingness to interact with a hypothetical same-sex person was assessed, with half of the participants led to believe that the person was homosexual, while the other half led to believe that the person was heterosexual. Results of the study indicated that the subliminal activation of attachment security indeed succeeded in making individuals more willing to interact with an out-group member (i.e., the homosexual interaction partner) regardless of whether they had been subjected to the self-esteem threat or not. These results therefore suggest that a securely attached self can be temporarily, at least, unconsciously activated, and that doing so results in the activation of a secure interpersonal script in which open-mindedness towards and acceptance of different others is promoted.

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Current Directions in Interpersonal Cognition Research

We turn now to a current topic in interpersonal cognition known as *shared reality*. Shared reality is defined as a feeling that one's conception of reality corresponds well with that of others. Given that reality is highly subjective, having others corroborate it manages to raise it to the status of objective reality. Meaning, in other words, is created through social interactions (Berger & Luckmann, 1966). In the process of trying to negotiate reality, however, it is important to keep in mind the "inevitability of dialogical misunderstanding" (Hermans, 2001), and that "no two speakers or actors can ever completely agree in their interpretations of each other's activities" (Barresi, 2002). That is, given that individuals can never occupy exactly identical positions, in trying to understand another person's reality an individual has no choice but to engage in dialogue and imagine information about the other person that is perceived only by that person him or herself. Because an individual can never be certain as to the accuracy of his or her imagined information about the person, dialogical misunderstandings are bound to occur. Thus, although a sense of reality and meaning can occur as a result of interacting with others, their degree of precision generally remains open to question.

As Hardin and Higgins (1996) have described in their analysis of shared reality, an experience that is acknowledged by and shared with others attains *reliability*, in the sense of acknowledging that it is not random or erratic since others are capable of replicating it; *validity*, in the sense of others verifying its existence; *generality*, in the sense of realizing that others can relate to the experience; and *predictability* as a direct consequence of the experience gaining reliability, validity, and generality due to its being shared. Thus, simply engaging in dialogue about an experience serves to confirm or disconfirm the felt reality of that experience both at the moment and for the future. Indeed, it could be postulated that when an individual is confronted by an experience that seems unbelievable or is difficult to accept for various other reasons, but that has been substantiated by another person in the past, the individual may revisit and resume the past dialogue on the matter. As a result, the experience attains both reality and meaning.

Research on the activation of interpersonal knowledge has shown that both conscious and non-conscious cues can successfully trigger a particular relational schema. We believe that a feeling of shared reality can likewise be activated through both conscious and non-conscious means. An Elvis patch on one of his student's backpack, for example, might instantly give Jacob the sense that his outlook on life is more in line with this student's outlook than with other students'. Similarly, expanding on the transference work of Andersen and colleagues, the combination of a crooked smile with a distinctive, high-pitched laugh might tacitly prompt an individual to feel that he shares a strong sense of reality with his newly acquainted blind date, simply

because of having had his self-in-relation-to-his-beloved-sister summoned by the smile and laugh.

Attachment theorists point out that initial attempts at shared reality likely begin early in infancy, and their success may hold significant consequences for the future. Fonagy (2001), drawing on the work of Wilfred Bion, underscores the important role shared reality plays in an individual's earliest years of existence. Infants by themselves are not able to deal with the vast and varied phenomena in the world and so require another human mind to receive, understand, and convert these overwhelming phenomena into meaning. Failing to contain these distressing feelings is believed to result in the infant's development of a massive protective structure. Conversely, reflecting the infant's distress in a way that signals that the phenomena are under control is believed to result in the infant's being able not only to accept and deal with the distressing feelings, but also to eventually internalize the transformation of the unmanageable feelings that took place, allowing the infant to deal more effectively with his or her own negative emotions in the future. In this way, by reassuring the infant that the phenomena do exist and can be handled, the caregiver succeeds at validating the infant's construal of reality. External dialogue lays the foundation for internal dialogue, facilitating effective emotional coping and secure attachment. Indeed, it seems reasonable to postulate that when the infant later faces similarly upsetting phenomena as an adolescent or adult, he or she engages in an internal dialogue with the caregiver who initially helped to quell his or her distressing emotions.

Many researchers have focused on emotional disclosure, which may be one primary method of gaining a sense of shared reality and promoting well being. Pennebaker and colleagues, for example, have examined the relationship between disclosure and physical and psychological health. Their research has repeatedly shown the beneficial effects of disclosing upsetting events, whether by talking about them to another person or by writing about them. In one study (Pennebaker, Kiecolt-Glaser, & Glaser, 1988), for example, undergraduates who wrote about personally traumatic experiences for ten minutes per day for four days evidenced better immune-system functioning, fewer health center visits, and less subjective distress than undergraduates who wrote about superficial topics. In another study (Richards, Beal, Seagal, & Pennebaker, 2000), maximum-security, psychiatric prison inmates who wrote about personally traumatic experiences for twenty minutes per day for three consecutive days visited the infirmary fewer times following their writing sessions than they had prior to writing about their upsetting experiences. Interestingly, this result was most pronounced for inmates convicted of sexual crimes. Although Richards et al. (2000) admit their inability to provide a conclusive explanation for this finding, it may be that by writing about their traumatic experiences, sex offenders were finally granted the means to attempt to have their reality acknowledged and understood by others. Sex offenders are notoriously marginalized in prisons because of being viewed more negatively than other

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inmates by inmates convicted of non-sexual crimes and correction officers alike, and as a result suffer from few or no others in whom to confide. By having these stigmatized inmates write about their experiences, these researchers seem to have managed to introduce the possibility of having their experiences understood by others, which improved their well being inasmuch as reducing their infirmary visits.

Although shared reality, then, appears to promote well being in a number of different ways, perhaps the greatest benefit of shared reality is its role in establishing life as meaningful. Indeed, it has been suggested that one of the fundamental threats to meaning is the impossibility of having others partake fully in one's experiences (Yalom, 1980), which suggests that the "inevitability of dialogical misunderstandings" (Hermans, 2001) mentioned earlier is very grave indeed. Consequently, it might be expected that the more individuals feel that others share their perspective on reality, the more likely it is that such individuals will feel that life is meaningful. Beyond that, and given the intersubjective nature of shared reality, attachment theorists might specify that the greatest benefits from sharing reality, including a sense that life is meaningful, would be reaped by those in a secure context; a context wherein trust, dependability, and availability are givens, and where cognitive openness and toleration of different others and opinions is possible (e.g., Mikulincer & Shaver, 2001).

A recent study in our lab (Sakellaropoulo & Baldwin, 2005) employing self-report questionnaires of shared reality, attachment security, and meaning examined this possibility. Undergraduates participating in the study completed standardized measures of attachment security and meaningfulness in life. They also completed a novel shared reality measure that was inspired by the Inclusion of Other in the Self scale (IOS; Aron, Aron, & Smollan, 1992), which measures the extent to which a couple feels interconnected with each other. In the shared reality measure, participants are asked to indicate the pair of gradually overlapping circles that best represents the extent to which they feel they share their reality with each of four particular others: family, best friend, person the participant felt closest to, and average person (see Figure 1, p. 60). Results indicated that participants who reported high levels of shared reality with family members, as well as a high level of attachment security, also felt a high degree of meaning in their life. These findings therefore suggest that meaning is rooted in both attachment security and the feeling that one's construal of reality is validated by significant others.

Although further studies are necessary to better understand the relationships among security, shared reality, and meaning, it may be that the experience that life is meaningful arises from the ability to move among dialogical positions while feeling affective harmony, represented in the above study by attachment security, as well as

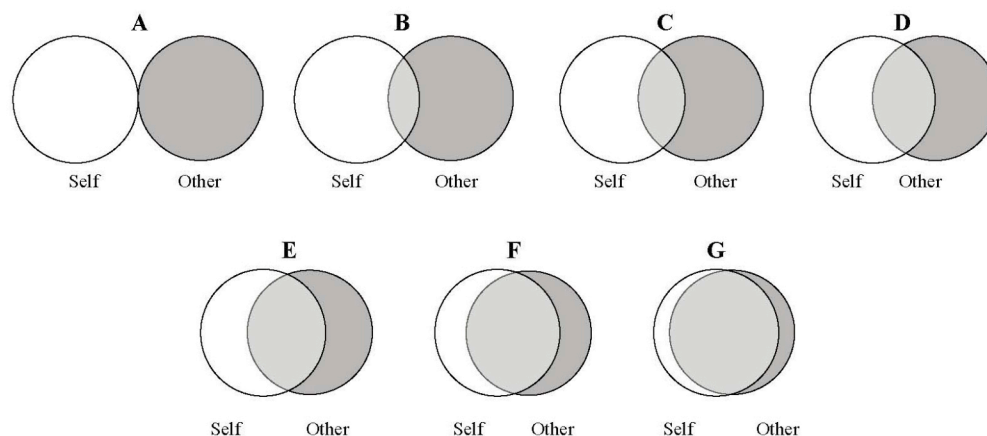


Figure 1.

cognitive coherence among perspectives, denoted by a sense of shared reality. Conversely, experiencing a lack of emotional integration (i.e., insecure attachment) and/or lack of understanding among inner voices (i.e., the absence of shared reality), might undermine the experience of life as meaningful.

Interpersonal Knowledge Learning and Modification

Thus far we have emphasized the activation of people's well ingrained social knowledge structures; those habits of thought that are often based in if-then expectancies about social contingencies. Indeed, it seems clear that humans have a propensity toward learning simple associations in order to facilitate the management and organization of the infinite sensations and situations in life. Similar to Ivan Pavlov's observation that his dogs learned to salivate at the sound of a bell that was associated with their feeding time, humans tend to accumulate a multitude of associations including cringing at the sound of a dentist's drill or feeling instantly comforted by the familiar smell of one's mother's fresh baked cookies. Neither the learning processes nor the resulting associations are necessarily explicitly conscious to the individual: Nonetheless, they carry a lasting and powerful effect.

The process of learning about the social world is always ongoing, and social psychologists have profited from the relative ease and automaticity with which humans are able to grasp associations, to further study the workings of interpersonal knowledge. In particular, the possibility of modifying individuals' interpersonal knowledge has begun to receive scientific attention, in a line of research that is particularly promising for individuals plagued by problematic relational schemas such as those with low self-esteem or insecure attachment. Similar to work being done by others, for example Gilbert's (2005) work on Compassionate Mind Training, we have begun to examine

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possibilities for increasing the chronic activation of positive, accepting dialogical positions vis-à-vis the self.

Cued Activation

The results of several recent studies suggest that through simple, repetitive tasks, individuals may be able to override their unfavourable relational schemas with more favourable ones. For example, in what are known as *cued activation* studies, a simple association is established between a conditioned stimulus, such as a novel computer tone, and an unconditioned interpersonal stimulus, such as an accepting other. Later, during the course of a supposedly unrelated task or intervention, the tone is heard in the background. This subtly triggers a variety of cognitive processes, as well as behaviours and emotions such as feeling more positive or confident about the self. Thus, analogous to Pavlov's dog whose appetite was summoned by the mere ringing of a bell, an individual's feeling of being accepted can be triggered by a conditioned computer tone, which in turn serves to boost his self-esteem.

Baldwin and Main's (2001) study of social anxiety in women underscored the viability of changing, or at least easing, such hampering traits as social anxiety through the simple reconfiguration of interpersonal knowledge. Undergraduate women in the study were conditioned to form an association between one tone and social approval, and another association between a different tone and social disapproval. Subsequently, during a brief interaction with an aloof male confederate, one of the tones was heard repeatedly in the background (this was explained by the experimenter as being part of an unrelated computer task occurring in the back of the room). Consistent with the idea of cued activation, women who had heard the conditioned approval tone were found to experience more positive, relaxed feelings during the interaction than the women exposed to the conditioned disapproval tone, and these findings were evident even to the confederate. These findings were particularly evident among the chronically highly self-conscious women, who found themselves far less socially anxious if they had heard the conditioned approval tone during the interaction.

Self-Esteem Conditioning

Other studies have examined existing associations, rather than novel associations with artificial cues. Of particular interest is the general association some individuals hold between themselves and social rejection (versus acceptance) information, which as previously mentioned is argued to give rise to feelings of low self-esteem (Leary et al., 1995). In theory, then, one way in which an individual may be made to feel good about him or herself is by re-conditioning the individual's 'self' to be more strongly associated with the general concept of acceptance.

This is precisely what was done in a recent study in our lab (Baccus, Baldwin, & Packer, 2004). A computer-based self-esteem conditioning task was created to

emphasize positive, acceptance associations to the self. Participants first entered such self-relevant information as their name, birthday, and hometown. They then began a computer reaction-time game, which consisted of clicking, as fast as possible, on the word that appeared in one of the four quadrants on the screen. Each click caused the word to disappear and a picture to appear temporarily in its place. For participants in the experimental condition, every time a self-relevant word appeared (e.g., their name), it was followed by a picture of a smiling, accepting face. Results of this study showed that following approximately five minutes of this task, participants in the experimental condition experienced a greater boost in their implicit (non-conscious) self-esteem than did individuals in the control condition, who completed a task in which their self-relevant information was randomly followed by pictures of frowning, neutral, or smiling faces. Moreover, participants who started the study with low self-esteem and who completed the self-esteem conditioning task, reported lower levels of aggressive thoughts and feelings than their counterparts in the control condition. These findings demonstrate the capability that a simple reconditioning exercise holds in improving one's most basic, unconscious, automatic feelings about oneself, while at the same time lending credence to the hypothesis that self-esteem is rooted in interpersonal knowledge. If, as we proposed earlier in this article, independent I positions possess their own level of self-esteem (for example, Jacob's self-with-mother having high self-esteem whereas his self-with-brother having low self-esteem), it might prove useful to identify the particular I positions that appear to lack in self-worth and target those specific positions when employing such a self-esteem conditioning technique.

Attentional Training

It has recently become clear that the attentional system, responsible for triggering the interpersonal knowledge activation system into action, can itself be modified. Recall that individuals with low self-esteem evidence a damaging attentional bias for rejection information. To address this unfortunate form of interpersonal cognition, we embarked on the task of attempting to modify individuals' attentional bias for certain kinds of social information.

Our lab (Dandeneau & Baldwin, 2004) created a computer task that consisted of quickly locating a single smiling face in a matrix of fifteen frowning faces. In order to complete the task as rapidly and successfully as possible, individuals must quickly learn to ignore or inhibit rejection and to search for acceptance. The results of studies employing this task have demonstrated the powerful effect it has on low self-esteem individuals, as those individuals who complete the experimental matrix task evidence a significantly lower rejection bias than their low self-esteem counterparts in a control condition. Thus, such a simple, repetitive exercise as learning to ignore the frowning faces while locating the single smiling face can modify individuals' activation patterns, decreasing their attentional bias toward rejecting social information.

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In conclusion, several research techniques now exist to modify the interpersonal knowledge that becomes activated in an individual's mind. While each of the reviewed techniques is simple in design and scope, they tend to produce fairly powerful effects on self-evaluation, emotion, and interpersonal interactions.

Conclusion

We believe that to further increase the understanding of both interpersonal cognition and dialogical science, researchers should strive to incorporate each area's fundamental principles into the other. Although research into interpersonal cognition has progressed significantly in the last decade, much work remains. Despite dialogue being a core component of self and identity, a dialogical component to interpersonal cognition is essentially lacking. Indeed, the majority of the dependent variables in the studies we reviewed in this article are fundamentally non-dialogical in nature (e.g., affect, self-esteem). On the other hand, dialogical science, still a relatively recent enterprise, could benefit greatly from the methods and findings already available in the interpersonal cognition literature. For example, given that we and other interpersonal cognitive researchers have repeatedly shown the feasibility of activating or priming a particular relational self or I position, it could prove very interesting to investigate what might result if multiple, particularly conflicting, relational selves or I positions are activated.

Such an experimental design could be achieved through various approaches including transference where, for example, participants would be given a description of a novel person that includes aspects of both a liked and a disliked other. Marrying principles of interpersonal cognition with principles of dialogical science in manners such as this is bound to foster further comprehension in both fields.

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