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Beyond the Perception-Behavior Link: The Ubiquitous Utility and Motivational Moderators of Nonconscious Mimicry

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We live in a social world, which necessitates interacting with a wide variety of people on a regular basis. Our contact with loved ones, friends, colleagues, neighbors, and strangers often influences what we say, feel, think, and do. This is neither surprising nor controversial; one can easily visualize ways in which we emotionally, cognitively, and behaviorally respond to the presence of others in social environments. While many of these influences are obvious, less obvious is the notion that the mere act of perceiving another person can have direct, unmediated effects on our behavior. Perception and behavior are inextricably intertwined such that people automatically behave as they perceive. This "perception-behavior link" refers to the unintentional, nonconscious effects of social perception on social behavior.

Several consequences arise from the close link between perception and behavior. When we perceive the behaviors of others, we may proceed to unconsciously copy or mimic those behaviors. That is, perceiving observable aspects of others (e.g., their expressions, postures, behaviors) activates the associated representations in memory, which in turn makes us more likely to do the same. In addition to activating behavioral representations, perceiving these "observables" (Dijksterhuis & Bargh, 2001) may also lead to spontaneous trait inferences (e.g., Carlston & Skowronski, 1994; Uleman, Newman, & Moskowitz, 1996; Winter & Uleman, 1984) and the immediate activation of stereotypes (e.g., Devine, 1989). This in turn can lead to behavior in line with the activated trait constructs (Bargh, Chen, & Burrows, 1996; Carver, Ganellen, Froming, & Chambers, 1983; Epley & Gilovich, 1999; Macrae & Johnston, 1998) or stereotypes (Bargh et al., 1996; Chen & Bargh, 1997; Dijksterhuis, Bargh, & Miedema, 2000; Dijksterhuis & van Knippenberg, 1998, 2000; Levy, 1996).

Thus, the perception of observables may activate specific behavioral representations, trait

constructs, or stereotypes. Once activated, these behaviors or concepts are likely to influence the subsequent behavior of the perceiver. However, an important difference exists between the mimicry of observables on the one hand, and automatic behavior resulting from spontaneous trait inferences and stereotype activation on the other. The latter involve intermediary steps between perception and behavior—people spontaneously encode abstract traits or stereotypes upon perceiving someone and then nonconsciously translate them into appropriate, concrete behavioral manifestations of these traits or stereotypes.

Mimicry, however, requires no translation of traits into behaviors, no familiarity with culturally specific stereotypes. Mimicry is a manifestation of the perception-behavior link at its most fundamental level. It is no more than copying another's observables and requires only the ability to perceive the behavior in the other person and the ability to form the behavior oneself. You smile, I smile. You rub your chin—darned if my hand doesn't gravitate toward my chin as well. There is now considerable empirical evidence that people mimic a variety of observables, including speech, facial expressions, physical mannerisms, moods, and emotions. Automatic imitation, which appears to be a result of the perception-behavior link, is the focus of this chapter.

We start by reviewing the evidence for nonconscious mimicry in the first section. We then turn our attention to the origins and utility of behavioral mimicry. In the second section, we review the arguments that the passive perception-behavior link mediates these effects (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001). In the third section, we explore the adaptive functions that mimicry serves and how these functions may have changed over time. Although mimicry may not be as necessary for physical survival as it was in our evolutionary past, we argue that it serves a "social survival" function today. As a result, there are factors that facilitate and inhibit mimicry, which we review in the fourth section. As part of this discussion, we also present preliminary evidence that people use mimicry to further their own goals, although they may not be cognizant of doing this. We argue that nonconscious mimicry may be an unidentified strategy in the repertoire of behaviors that help people get along with others.

Evidence for Behavioral Mimicry

Speech and Verbal Mimicry

Hermits notwithstanding, humans are social, communicative beings. Language and verbal communication are an integral part of who we are and how we are able to function in complex societies. It should come as no surprise, then, that we mimic the speech patterns, expressions, grammar, and verbal mechanisms of others. To the extent that infants are able to mimic vocally, they indeed do so. Simner (1971) has shown that 2- to 4-day-old newborns will begin crying if they hear crying from another newborn. Surprisingly, infants are able to distinguish between real cries and synthetic cries; they will not mimic the synthetic cries.

There is empirical evidence that people mimic specific words, clauses, and grammar of entire sentences (Bock, 1986, 1989; Levelt & Kelter, 1982). They also mimic the accents (Giles & Powesland, 1975), rates of speech (Webb, 1969, 1972), tones of voice (Neumann & Strack, 2000), and speech rhythms (Cappella & Panalp, 1981) of interaction partners. For instance, in a study of syntactic mimicry (Levelt & Kelter, 1982), participants were shown various drawings (e.g., of a person playing the piano). Participants were then asked one of two versions of the same question. The syntax the participants used when answering the

question was primed by the phrasing of the question itself. For example, if participants were asked, "On which instrument does Paul play?" they tended to answer, "On the piano," while participants who were asked "Which instrument is Paul playing?" tended to answer "The piano." Thus, the participants mimicked the syntax used by the questioner.

People mimic other conversational variables as well. For example, Cappella and Panalp (1981) studied several dyadic conversations and found that over the course of a 20-minute conversation, partners came to match each other's conversational tendencies in a variety of ways. Partners spoke roughly the same amount, and also came to match each other's rhythm of speech, durations of pauses, and probability of breaking silences. Similarly, Webb (1969) found that the rate of speech used by interviewers elicited similar rates of speech by their interviewees.

Laughter is also contagious. If we see or hear others laugh, we tend to laugh more ourselves. In a simple and compelling demonstration, Young and Frye (1966) had participants listen to jokes and rate their level of humor. In one condition, participants performed this task alone, while in a second condition participants performed the task in groups. While the jokes were rated as equally funny in both conditions, the amount of laughter exhibited in the group condition was greater than in the alone condition. Similarly, techniques like employing canned laughter or showing visual shots of people in an audience laughing do in fact induce more laughing (Bush, Barr, McHugo, & Lanzetta, 1989; Provine, 1992). Interestingly, however, gender differences may moderate this effect, such that it is driven primarily by women (Leventhal & Mace, 1970).

While the above research was not concerned with automatic mimicking per se, the automatic nature of these effects seems likely for several reasons. First, people are much more likely to notice a lack of synchrony in conversation rather than its presence (Hatfield, Cacioppo, & Rapon, 1992). Second, in studies specifically designed to test automatic mimicking, we are unaware of a single participant ever detecting the true nature of the studies or the fact that they may have been mimicking (e.g., Chartrand & Bargh, 1999; van Baaren, Maddux, Chartrand, de Bouter, & van Knippenberg, 2003; Lakin & Chartrand, 2003; Neumann & Strack, 2000). In fact, when told the true purpose of such experiments, participants are often stunned that they may have been mimicking (e.g., Chartrand & Bargh, 1999). And because of the temporary and impersonal nature of most mimicking experiments, there seems to be little incentive to mimic others. Rather, mimicking seems to be a natural behavior that is carried out without awareness or effort.

There is, however, direct evidence that verbal mimicking is in fact automatic. A provocative set of findings from Neumann and Strack (2000, Study 2) provides evidence that individuals mimic the tone of voice of another person, even if that person is not present in the room. These researchers had participants listen to an audiotape of a person reading a philosophical text. They asked participants to shadow the text and repeat the speech out loud as they were listening to it, ostensibly to examine the way in which speech reproduction influences speech comprehension. In one condition, an actor had recorded the excerpt in a slightly happy voice, while in another condition an actor had recorded the excerpt in a slightly sad voice. Later, a separate group of judges listened to the tapes of the participants repeating the speech and rated how happy or sad each participant sounded. The results indicated that participants tended to use the same tone of voice as the person on the tape—participants who listened to the happy tone of voice repeated the speech in a happy tone, while those who listened to the sad tone of voice repeated it in a sad tone. The automatic nature of this effect is apparent in that the goal of speech comprehension prevented

participants from ever becoming aware of the affective state of the speaker.

Facial Expressions

Our faces are the most noticeable parts of our bodies. As the home of most of our sensory organs, our faces are rarely covered and are usually busy perceiving the world and waiting to be perceived by others. Given the high-profile location of our faces, facial expressions should be particularly susceptible to mimicking. Indeed, we start to mimic others' facial expressions from the time we are born (Field, Woodson, Greenberg, & Cohen, 1982; Meltzoff & Moore, 1977, 1979, 1983). One-month-old infants have been shown to smile, stick out their tongues, and open their mouths when they see someone else doing the same (Meltzoff & Moore, 1977). In addition, infants as young as 9 months are able to mimic their mothers' facial expressions of joy, sadness, and anger (Termine & Izard, 1988). However, the fact that infants will mimic non mood-relevant expressions (sticking out the tongue, opening the mouth) suggests that facial mimicking is not mediated by mood. Infants can also elicit mimicking from their mothers. O'Toole and Dubin (1968) demonstrated that when feeding their babies, mothers often open their mouths as well, but not necessarily as a method of getting the babies to eat. Mothers usually open their mouths after the babies have already done so. Interestingly, the mothers in this study were completely unaware of having mimicked their babies.

Certain short-lived expressions that communicate specific feelings or physical states are also mimicked. The cultural myth that yawning is contagious has turned out not to be a myth at all. Empirical evidence shows that yawning does in fact elicit yawns from others (Provine, 1986). In addition, when we observe a painful injury, we may mimic the wince of the injured individual (Bavelas, Black, Lemery, & Mullett, 1986, 1987). Although this may be due in part to our imagining the same injury happening to us, the visibility of another's wince moderates the degree to which we do the same—the more visible the wince of the suffering other, the more we ourselves wince (Bavelas et al., 1986, 1987). Since intentionally mimicking laughs or wincing seems to have little utility (why yawn if you're not sleepy or bored?), such effects' are likely occurring automatically.

Although Bavelas and her colleagues argue that facial mimicking functions as a communication tool, there is also evidence that we mimic facial expressions even when we have no need to communicate. For example, researchers have shown that viewers mimic the facial expressions of people on television. Hsee, Hatfield, Carlson, and Chemtob (1990) had participants watch interviews in which a person described a very happy experience (i.e., a surprise birthday party thrown for him by friends) or a very sad experience (i.e., attending his grandfather's funeral at age 6). The facial expressions of these participants were surreptitiously videotaped and later coded. The results indicated that people's facial expressions matched whichever experience was being described—happy expressions were elicited when participants were watching the happy segment, while the sad segment elicited more sad expressions. Although participants may have been reliving their own similar memories, which may in turn have caused them to smile or frown, Hsee et al. also posit that nonconscious mimicry of the facial expressions may also have played a role in the congruence of expressions.

What would happen if two individuals mimicked each other's facial expressions on a regular basis, for an extended period of time? One can imagine this being the case for long-married couples. Would these shared expressions result in the couple developing similar

facial features and perhaps an overall convergence in appearance? Zajonc, Adelman, Murphy, and Niedenthal (1987) investigated just such a possibility by having participants rate the physical similarity of persons in several pairs of photographs. The pairs included couples married for 25 years, a random man and woman of similar age, and newlywed couples. Interestingly, the long-married couples were indeed rated as being more physically similar than the newlywed couples or the random couples. Thus, the couples married 25 years had actually grown to look more alike. This study is open to several causal interpretations. While Zajonc et al. focused on the possibility that shared emotions led to the increased resemblance, it is also quite plausible that long-married couples have had more chances to mimic each other and thus have developed the same facial lines and expressions.

Based on this evidence, facial mimicry seems to be quite common. Yet it may be even more common than we think. Unobservable to the naked eye, facial mimicry also occurs at a micro level, involving tiny facial muscles that are used for smiling and frowning. For example, Ulf Dimberg (1982) had participants look at pictures of people displaying happy or angry facial expressions. He then measured their subtle facial movements with electromyograph (EMG) technology. The results showed that participants moved the muscles involved in smiling upon seeing the happy expressions, and moved the muscles involved in frowning upon seeing the angry expressions. This "micromimicry" is strong evidence that we are indeed unaware of our mimicking tendencies. Moreover, the fact that the micromimicry occurs when looking at photographs—that is, in the absence of real social interaction or even the presence of another person—suggests that mimicry need not function as a communicative tool that relays the message "I like you" to others. Even when no such function can be served, and even when no person is present, it still occurs.

Behavioral Matching

Mimicking is not exclusively an "above the neck" phenomenon, limited to speech and facial expressions. We also mimic others' postures, gestures, and specific physical movements (and not just on the dance floor). As one might expect, mother-child interactions tend to be physically "in sync" with each other. Bernieri (1988) demonstrated this by recording several mother-child interactions with separate cameras. He created several versions of the interactions, all with the mother on the right side of the screen and the child on the left. One version showed the true, real-time mother-child interaction, while other versions varied the mothers and children paired together, as well as the exact timing of the interactions. As a result, participant judges were unable to tell whether mothers were interacting with their own children or different children. However, analyses indicated that even under these carefully controlled conditions, judges rated mothers as more physically in sync with their own children than with other children.

In addition, people also mimic a wide variety of commonplace and idiosyncratic movements. An experiment demonstrating the latter was carried out by Bavelas, Black, Chovil, Lemery, and Mullett (1988). An experimenter told a story to a class about attending a crowded Christmas party, and described ducking to avoid being run into by another person. As she was telling the story, she ducked to her right, demonstrating the exact movement she used. A videotape of the listeners later revealed that as this event was being described, the listeners tended to duck to their left, mirroring the exact movement of the storyteller.

Mimicking the specific posture or mannerisms of others has also received investigative attention, particularly with regard to rapport and liking (Bernieri, 1988; Charney, 1966;

Dabbs, 1969; LaFrance, 1982; LaFrance & Broadbent, 1976; Maurer & Tindall, 1983; Schefflen, 1964). For example, LaFrance (1982) found that students tend to mimic their teachers' posture, and that the degree of posture mimicking was positively correlated with ratings of rapport between students and teacher. Similarly, Maurer and Tindall (1983) found that counselors who mimicked their clients were better liked than counselors who did not do so.

Thus, we mimic the behaviors of those we care about. What about strangers? Indeed, behavioral matching occurs even when strangers interact. Bernieri (1988) had dyads teach each other words and definitions for 10 minutes. When the videotapes of these interactions were analyzed, it was found that the couples whose movements were most in sync with each other also felt the most rapport. In addition, mimicry has been found to lead to more favorable evaluations on dimensions other than rapport. Dabbs (1969) found that participants rated confederates who mimicked them as having good ideas and as being well-informed. He also obtained evidence that "antimimicking," or doing the opposite of what someone else does, can have a detrimental effect on interactions. Confederates were liked less if they slouched when the participants sat erect or sat rigidly still if participants were fidgety. Interestingly, he found that participants liked confederates least when they thought they were going to be interacting with a similar other, but then were antimimicked by this person.

Most of the research thus far has focused on how rapport and behavioral matching are linked; however, could it be possible that people mimic the mannerisms of complete strangers, in situations where existing rapport or goals for future rapport are greatly minimized? In a test of this idea, Chartrand and Bargh (1999) had participants interact with two unfamiliar confederates. Several steps were taken to ensure that rapport would not develop between the participant and confederates. First, the confederates were told not to make eye contact with or smile at the participant at any point during the session. The brief sessions (approximately 5 minutes) and mundane task (describing photographs) made this fairly easy to do. Second, one of the two confederates was told to not smile at all during the experiment, and to instead have a rather negative, bored, and sullen expression throughout. It was assumed that if the default tendency was to try to affiliate with the confederate and create a sense of rapport, this tendency would be overridden or cut off by the presence of the nasty confederate. Thus, particularly with this confederate, there was little chance that rapport would develop, or that the goal to develop rapport would be present. The question then became, would mimicry occur in spite of this situation?

For half the participants, the first confederate rubbed her face and the second confederate shook her foot throughout their respective sessions. For the other half, the first confederate shook her foot and the second confederate rubbed her face. Results revealed that participants mimicked the mannerisms of the confederates—they shook their foot more when they were with the foot shaker than the face rubber, and rubbed their own face more when they were with the face rubber than the foot shaker. At the conclusion of the experiment, participants were asked about the mannerisms of the confederate, and about their own mannerisms, and none noticed either. This speaks to the nonconscious nature of the behavioral mimicry.

The fact that participants changed their own behavior to match their environment speaks to the chameleonlike nature of nonconscious mimicry. Like a chameleon that changes its colors to blend or fit in with its environment, people unwittingly change their mannerisms and behaviors to blend and fit in with their social environments. Importantly, participants even mimicked the unlikable confederates, indicating that even under minimal conditions in

which there is no rapport, affiliation, or liking between interactants, nonconscious behavioral mimicry will occur.

Like facial mimicry, behavioral action tendencies may be initiated on a micro level. When watching others perform certain activities, or when listening to conversations, perceivers mimic the ongoing action so subtly that it is not noticeable to the naked eye. For example, Berger and Hadley (1975) placed a set of electrodes on participants' faces and arms, and then had them watch two videotapes. One videotape showed a person reading a list of words and constantly stuttering, while the second videotape showed an armwrestling match. When the participants watched the stuttering person, they exhibited tiny muscle movements around their own lips, detectable only via facial EMG. When they watched the arm-wrestling match, participants exhibited very subtle muscle activity in their own forearms and wrists. Thus, the subtle nature of this mimicking suggests that it is an unintended phenomenon of which the perceiver is unlikely to be aware.

Emotion and Mood

Up to this point, we have focused specifically on overt behavioral mimicry. Yet mimicry has implications for more internal states as well. Emotions and moods are infectious. Humans can spontaneously read how other people are feeling and naturally take on the emotional and affective states of others. In their book *Emotional Contagion*, Hatfield et al. (1994) compellingly synthesize a variety of evidence in support of this idea. In essence, emotional contagion is mimicking what others do and, subsequently, converging emotionally. Thus, happy people tend to infuse us with color and life, while sullen people can add more than a touch of gray to our days. Note that we do not intentionally pick up others' moods; otherwise a bad mood could be cut short just by desiring to be in a good mood. We pick up moods effortlessly and efficiently (and thus automatically) from our environment and the people around us. So, when heading out to social gatherings, it may be advisable to leave that melancholy mood at home.

If we define emotional mimicry as the automatic tendency to "catch" others' emotions, then two classic studies in social psychology can be reinterpreted as evidence for this phenomenon. The first is the study on cognitive labeling of emotions conducted by Schacter and Singer (1962). These researchers induced arousal in participants by injecting them with adrenalin, then had them interact with a confederate who acted either giddy and silly or angry and resentful. Following this interaction, participants were asked to describe the emotions they were feeling. Despite the fact that all participants were experiencing the same physiological arousal, they described their emotions quite differently, depending on how the confederate had acted. If he had been giddy, participants reported feeling giddy. If he had behaved angrily, participants felt angry themselves. Thus, although their physical arousal told them they were experiencing an emotion, participants looked to their environment and labeled their emotion in a way that was consistent with it. In so doing, the individuals mimicked their interaction partner, and this mimicking may have in turn actually caused the specific emotions.

A classic "self-fulfilling prophecy" study can also be understood as emotional mimicking. Snyder, Tanke, and Berscheid (1977) had male participants make telephone calls to female participants who were believed to be either attractive or unattractive. Men who had been led to believe that their telephone partners were attractive women talked in a friendly, warm manner, which in turn elicited warm reactions on the part of the women. This reaction from

the women may have been at least partially due to nonconscious mimicry of the warm response from men. The opposite happened if the men believed their partners to be homely—they were more negative, and the women responded in kind, being more quiet and awkward. Again, the women seemed to catch the emotion of the men. In a similar demonstration, Siegman and Reynolds (1984) found that interviewers who behaved in a warm manner toward interviewees elicited more reciprocal warmth than interviewers who did not. Although the above studies were not specifically testing automatic mimicry, there is little reason for participants to purposely adopt angry or withdrawn moods, suggesting the moods infect us automatically.

Several experiments have shown that moods spread between people easily, quickly, and subtly. The aforementioned Neumann and Strack (2000) studies found that simply listening to happy or sad speakers went on to affect mood in a congruent manner, even though participants were not aware that the tapes had influenced their moods, nor were they aware of the affective states of the speakers. Thus, people who repeated audiotaped speeches originally spoken with a happy voice not only repeated them in the same tone of voice but also felt happier themselves. Participants who repeated a speech originally spoken with a sad voice mimicked that tone and then reported feeling more sad themselves. Notably, cognitive load exacerbated this effect, suggesting the effortlessness of this process. Similarly, Hsee et al. (1990) found that people who watched a person on television describing a happy experience later felt happy, while people who watched a person describing a sad experience later felt sad.

Just sitting quietly in a room with others can be enough to cause people to catch their mood. Friedman and Riggio (1981) asked trios of participants to sit quietly in a room together without talking, ostensibly to see how people's moods randomly fluctuate over the course of a couple of minutes. In each trio, one participant had pretested to be a highly expressive person, while the other two participants were relatively inexpressive. The results indicated that the two inexpressive participants easily picked up the mood of the expressive participant, even in the absence of any verbal communication. Similarly, Sullins (1991) found that highly expressive people are more easily able to pass along their negative moods to others than less expressive people. However, both groups are equally able to infect others with their happy moods.

Finally, there is evidence that emotional contagion has limits. We do not just indiscriminately pick up the emotions of anyone we come across; certain circumstances may inhibit their transfer. For example, when shown a videotape of then-President Ronald Reagan clearly expressing happiness and anger at different points during a news conference, Republicans reported feeling happy or angry at the same times that Reagan was expressing these emotions. However, Democrats reported feeling negative during the entire news conference (McHugo, Lanzetta, Sullivan, Masters, & Englis, 1985). Thus, although we may pick up emotions from friends, family, or even strangers, our opponents may not have such an easy time infecting us—the tendency to mimic may be overridden by general negative emotions.

Taken together, the evidence reviewed in this section suggests that mimicry is a common, multifaceted set of behaviors that we perform in a number of circumstances and in a variety of ways. We mimic people's overt, observable behaviors, including their speech patterns and syntax, facial expressions, postures, gestures, and mannerisms, as well as their internal, emotional states and moods. We engage in this mimicry with just about everybody, including strangers, family, friends, teachers, and romantic partners. Doing as others do, saying as others say, and feeling as others feel seems to be a natural part of who we are.

Why Do Humans Automatically Mimic?

Why do humans have such a robust tendency to nonconsciously mimic others? What are the causes and mediators of this process? We make four arguments in the remainder of this chapter. First, nonconscious mimicry is an automatic, default process that occurs when a person attends to and perceives another person's behavior. When this occurs, so too will nonconscious mimicry. One mechanism that attempts to account for this is the perception-behavior link, which is reviewed in detail below. Second, we also argue that automatic mimicry is quite functional and adaptive, in that it binds and bonds people together and fosters empathy, liking, and smooth interactions. Third, we present evidence that nonconscious mimicry can be facilitated and inhibited by various contextual and motivational factors. Finally, as part of the discussion of motivational facilitators of mimicry, we argue that individuals mimic others more when it has the potential to benefit them the most. Thus, individuals may use the implicit knowledge of the benefits of mimicry strategically, to their own advantage.

The Perception-Behavior Link: Minimal Conditions for Automatic Mimicry

Thinking Is for Doing

The mechanism for nonconscious mimicry that has been favored in recent years is a direct link between perception and behavior. This idea has garnered support from considerable evidence in the cognitive, social, comparative, and neuroscience literatures. It is impressive (although not surprising) that almost a century before most of this evidence accumulated, William James (1890) claimed that "thinking is for doing." He expanded upon Carpenter's (1874) principle of ideomotor action, the notion that merely thinking about doing something automatically makes one more likely to actually do it. James argued for the unintentional and unconscious nature of this effect, and further posited a passive, cognitive mechanism—the representation of an action activating or making more accessible the corresponding behavior.

Supporting James's claim of a link between thinking and doing, neurological evidence shows that thinking about doing something activates the same regions in the brain that are activated by actually doing it. For instance, Pans, Petrides, Evans, and Meyer (1993) discovered that thinking about a word or gesture activates the same area in the anterior cingulate cortex that is activated by saying the word or making that gesture. Jeannerod (1994, 1997) similarly demonstrated that the same neurons in the premotor cortex are activated by mentally simulating a behavior as by performing the same behavior. In addition, evidence exists that what goes on at the neurological level is very similar when one is imagining complex actions or actually engaging in those same actions (Decety, Jeannerod, Germain, & Pastene, 1991; Jeannerod, 1994, 1997). This supports the notion that thinking about something and doing it are neurologically similar. The two activities activate the same regions of the brain, suggesting that the two share representational systems.

Perceiving Is for Doing

Of course, thinking about engaging in a given behavior is not the only way to make that behavioral representation more accessible-perceiving another person engaging in that behavior is another way to activate the corresponding representation in memory. And once activated, it should have the same effect, leading to a tendency to engage in that behavior oneself.

As in the case of thinking, neurological data have also accumulated for a link between the perception of others' behavior and one's own behavior (see Dijksterhuis & Bargh, 2001, for a review). Specifically, there is now evidence that perceiving someone else engaging in a behavior is neurologically similar to performing that behavior. In studies with monkeys, the same area of the premotor cortex that becomes activated when a monkey perceives an experimenter performing an action also becomes activated when the monkey itself performs that same action (Di Pellegrino, Fadiga, Fogassi, Gallese, & Rizzolatti, 1992; Rizzolatti & Arbib, 1998). Studies with humans further suggest that perceiving a behavior (such as seeing an experimenter grasp an object) leads to muscular responses that are the same as those displayed while performing that same behavior.

Theories of Overlapping Representations

Although the neurological data present impressive evidence that there is in fact a link between perception and behavior, they do not offer a theoretical framework within which to understand how and why perception and behavior are mentally linked. Such theories have been put forth, however, by cognitive and social psychologists. In short, researchers positing these theories claim that perception and behavior may depend on the same representational systems.

For instance, researchers in the language acquisition domain have noted the rapid speed with which young children learn languages. Lashley (1951) attempted to account for this speed by positing that language comprehension and language production depend on the same mechanism. This became known as the common coding principle. Prinz (1990) has also argued for the common coding hypothesis in the language domain and further posited a shared representational system for perception and action more generally. That is, he argued that the coding system for perceiving behaviors in others is the same system that is used when performing those behaviors.

Similar ideas have been invoked in the social psychological domain. Berkowitz's (1984) social-cognitive account of modeling effects posits that perceiving violent acts in the media activates a representation of perceived violent acts in memory. This, then, automatically spreads to other aggressive ideas of the viewer, including aggressive behavioral representations. This makes the viewer of violence more likely to behave violently. Carver, Ganellen, Froming, and Chambers (1983) elaborated on these ideas by proposing the existence of interpretive schemas, used for perceiving and interpreting others' actions, and behavioral schemas, used for producing actions. The two types of schemas overlap with one another semantically and therefore should tend to become active at the same time. Thus, individuals perceiving an aggressive act will have their interpretive schemas for hostility activated, which will spread to increase the accessibility of their behavioral schemas for hostility, which will then make them more likely to behave aggressively.

Bidirectionality of the Perception-Behavior Link

One implication of the theory that interpretive and behavioral schemas overlap is that not only should perception lead to action, but action should lead to differential interpretation as well. That is, engaging in a certain behavior should automatically activate the corresponding behavioral representation or schema in memory, which should then spread to the overlapping interpretational schema (Berkowitz, 1984; Carver et al., 1983). This should increase the accessibility of the corresponding trait category, which should then lead the individual to use that trait when perceiving and judging others. Importantly, this would imply that one's own behavior can serve as a priming stimulus, temporarily activating the appropriate trait category, which then affects subsequent judgments of others. Chartrand, Kawada, and Bargh (2002) provided a test of this hypothesis. In a first study, they demonstrated that the process of engaging in a certain behavior (i.e., helping to pick up pens) led to heightened accessibility (as assessed through a lexical decision task) of the corresponding trait category ("helpfulness").

In a second study, half the participants were induced to volunteer to engage in a helpful behavior (i.e., moving some heavy boxes for the experimenter). All participants then read a story that presumably another participant had written about a recent interaction with a friend. In the course of this story, the "friend" performed several ambiguously helpful acts, for which both altruistic and selfish motives could apply. The participants then rated this character on various traits, including helpfulness. If there is a bidirectional link between perception and behavior, then the participants engaging in a helpful act themselves should be more likely to rate the target, person as being more helpful than participants who were not earlier helpful. This is precisely what was found. Note the passive nature of this effect, for if it were intentional, participants might be motivated to believe that others are not as helpful as they are. They might use their own helpful behavior as a standard of comparison against which they would contrast the target's ambiguously helpful behaviors.

This effect was replicated with a negative behavior prime. Participants were either induced to behave in a nosy manner (i.e., the experimenter "accidentally" left a very personal piece of paper on the participant's desk) or not. In an ostensibly separate study on body language, participants then watched a videotape of two graduate students interacting and getting to know one another. During the course of the video, one of the two people asked the other an ambiguously nosy question ("Do you believe in God?"). This could be interpreted as nosy or as being friendly and trying to succeed at the task of getting to know each other. Participants who had been nosy themselves were more likely to rate the ambiguous target as being nosy than participants who were not nosy earlier (Chartrand et al., 2002). When debriefed at the conclusion of the study, participants indicated no awareness of their own nosy behavior, or of the effect that their own behavior had on their judgment of the target.

Thus, there is substantial evidence that perception and behavior are inextricably linked; the mental activation of one automatically activates the other. This implies that attending to and perceiving another's actions are enough to activate and lead to corresponding behavior (given that one's interpretive and behavioral schema are intact). While previous work has focused on mimicry as an automatic, default tendency (Chartrand & Bargh, 1999; Dijksterhuis & Bargh, 2001), in this chapter we focus on the adaptive nature of mimicry and the ways in which it can be influenced by various contextual and motivational variables.

The Adaptive Functionality of Mimicry

That mimicry occurs nonconsciously does not preclude it from serving some higher purpose. It is not difficult to imagine how automatic mimicry might be adaptive. From an evolutionary perspective, perception is for doing: perceiving others helps us to navigate our environment and guide our own behavior accordingly. A direct link between perception and action would ensure that we are able to do this automatically, without expending unnecessary mental resources. If everyone is running away from a grizzly bear, it is not in one's best interest to find the bear, analyze the situation and determine that it is dangerous, and then run. Rather, upon seeing others run, running should come first-automatically and immediately-and analyzing the situation should come later. Natural selection ensured that it was the people with this automatic mimicking tendency who survived. While such a strategy may have caused considerable embarrassment when foolish or unimportant behaviors were mimicked, from an evolutionary and hedonic perspective, embarrassment is far preferable to a "grizzly" death. Thus, it seems likely that we inherited this nonconscious mimicry from our ancestors. And mimicry is not limited to humans; lower animals have inherited a perception-behavior link as well (see Dijksterhuis & Bargh, 2001).

Thus, automatic mimicry has its roots in the functional purpose it served in our evolutionary past. It may be, in essence, a by-product from an earlier time. Mimicry developed as an automatic, nonconscious phenomenon, and it remains that way today.

Changing Functionality: From Survival to "Social Glue"

It is usually not necessary to mimic others for survival anymore. Individuals living in modern societies do not regularly have lions or bears chasing them, or stampedes of buffalo threatening their homes (Survivor contestants notwithstanding). That being said, we would like to argue that mimicry still serves an adaptive function for human beings. Although physical survival may not often be at stake, social survival often is. This has probably always been true, although earlier in human history it may have been somewhat eclipsed by the importance of physical survival. The importance of social survival in modern society is quite apparent when visiting or moving to a new country with a different culture. Individuals try to fit into their new environment with different people who have different standards, norms, values, and ideals. In order to fit in and "survive" in the new social community, individuals must modify their own behaviors to acclimate to the new society. Fitting in is often crucial to gaining acceptance. If mimicking others' behaviors helps an individual to become more similar to those others, and thus more accepted by them, then this mimicry is clearly adaptive.

Mimicry is functional not only when moving to another country. Individuals within their own culture have an enormously strong need to belong and affiliate (Baumeister & Leary, 1995; Brewer, 1991). Belonging to groups and being accepted by group members is a fundamental and primary need of human beings. Individuals without this sense of belonging often have problems not only attaining happiness, but also maintaining mental, emotional, and physical health (Boer, Elving, & Seydel, 1998; Bowling, Edelman, Leaver, & Hoekel, 1989; Heller, Thompson, Trueba, & Hogg, 1991; Kraut et al., 1998). Given the ubiquitous need to belong and be accepted, and the consequences that arise if this need is not met, mimicry is important in routine, everyday life. If I look, talk, and act similarly to someone else, that probably means we have something in common, and this will lead to greater liking, empathy, and smoother interactions. There is now substantial evidence that mimicry and affiliation are indeed related, and this evidence is reviewed below. Thus, the functionality of mimicry may have shifted from physical survival to a relatively stronger emphasis on social

survival. Mimicry binds and bonds people together, and although that has been true since the beginning of our human origins (and probably before), it may be even more important now, since physical survival is less often at stake.

Facilitators and Inhibitors of Nonconscious Mimicry

The adoption of another person's speech, facial expressions, mannerisms, and emotions occurs unintentionally and effortlessly. However, that mimicry is the default tendency driven by an automatic link between perception and behavior does not preclude the possibility that contextual and motivational variables serve as facilitators and inhibitors to this tendency. In fact, the functional and adaptive nature of mimicry suggests that factors other than merely perceiving a person's behaviors will influence the degree to which mimicry occurs.

Facilitators

Rapport. The review of the evidence for mimicry in the first section suggests that mimicry is linked with rapport between interaction partners. The presence of such rapport increases the likelihood of adopting the facial expressions, behaviors, and emotional states of other people. Thus, feelings of rapport and liking seem to be one class of facilitators that increase the likelihood of mimicry.

The Causal Relationship Between Mimicry and Rapport. Early research on behavioral mimicry focused on posture sharing as a potential nonverbal indicator of group rapport. In 1964, Schefflen noted that body positioning in an ongoing interaction was an indicator of liking, understanding, and the relationships between group members. This foreshadowed Bavelas's later argument (e.g., Bavelas et al., 1986) that mimicry is a tool used to communicate liking for and rapport with another. Subsequent research also demonstrated that posture sharing was indicative of involvement and interest in an interaction, and feelings of togetherness. In a typical study, students were asked to report the level of rapport in their classes, and those classes were then coded for amount of posture sharing. As predicted, classes rated by students as having high rapport also manifested the greatest amount of posture sharing (LaFrance & Broadbent, 1976).

Because these researchers suggest that posture sharing is an indicator of rapport, they seem to be arguing that the causal path proceeds from rapport to mimicry: as rapport between interaction partners increases, people are more likely to adopt the postures and mannerisms of their interaction partners. Research examining the most extreme cases of rapport-relationships between mother and child, and between married couples-may at first glance seem consistent with this. After all, the research on the mimicry of facial expressions and behaviors between mothers and children (Bernieri, 1988; Meltzoff & Moore, 1977; O'Toole & Dubin, 1968; Termine & Izard, 1988) can be interpreted as implying that mothers and children are bound through their feelings of love and liking for one another, which leads to greater mimicry. Along these same lines, married couples are "wed" together through their ability to mimic each other. This may explain why couples who have been married for long periods of time (and who presumably have high levels of rapport) begin to eventually look alike (Zajonc et al., 1987). However, the correlational nature of these studies

makes the causal direction unclear, for the posture sharing and behavioral mimicry could just as easily have led to the increased rapport in these cases, as well as in the work by LaFrance and Broadbent (1976).

Later research attempted to determine the direction of causality between posture sharing and rapport through statistical techniques. In a study using a cross-lag panel technique (LaFrance, 1979), posture sharing and rapport were each measured at two points in time. Not surprisingly, a positive correlation was found between posture sharing and rapport during each of the observational sessions. Moreover, the correlation between posture sharing at Time 1 and rapport at Time 2 ($r=.77$) was greater than the correlation between rapport at Time 1 and posture sharing at Time 2 ($r = .58$). These correlations suggest that causal priority can be given to posture sharing; however, the difference between the two correlations is not statistically significant, indicating that the causal path between posture sharing and rapport is bidirectional. Posture sharing increases rapport (LaFrance, 1979), but rapport also increases posture sharing, as earlier work suggested (LaFrance & Broadbent, 1976; Schefflen, 1964).

Although the cross-lag panel technique hints at a bidirectional causal relationship between rapport and mimicry, to truly know whether one can cause the other, one factor needs to be manipulated directly. Researchers can then see how this manipulation affects the other factor. This is precisely what Chartrand and Bargh (1999, Study 2) did. These researchers wanted to test one particular direction, from mimicry to rapport and liking. They argued that perception of another's behavior automatically causes nonconscious mimicry, which in turn creates shared feelings of empathy and rapport. In their study, participants engaged in a photo description task with a confederate. Throughout the interaction, the confederate either mimicked the behavior of the participant or had neutral, nondescript posture and mannerisms. It was expected that when the confederate mimicked the behavior of the participant, the participant would report liking the confederate more and also report that the interaction had been more smooth and harmonious. Results were as predicted, suggesting that one function that behavioral mimicry serves is to increase liking between interactants. This study also provides the first experimental demonstration that behavioral mimicry causes an increase in rapport between two interactants.

Thus, mimicry serves the adaptive function of increasing liking and rapport between the people involved in an interaction, as well as making the interaction smoother and more harmonious. One causal direction—from mimicry to rapport—has been tested and verified. The other direction—from rapport to behavioral mimicry—remains to be experimentally tested, but LaFrance's (1979) work suggests that it would be borne out as well.

Goal to Affiliate. Recent work has focused on goal states as another set of contextual factors that increase the likelihood of behavioral mimicry. In fact, we would like to make an argument that may be somewhat controversial: on a nonconscious level, individuals use mimicry to their own advantage. Although individuals are usually not aware of mimicking others, they seem capable of using the implicit knowledge that mimicry and affiliation are related to further their own goals. People use mimicry to get others to like them, although they are not consciously aware of doing this or even of the adaptive function that mimicry serves. Thus, when an individual has a goal to affiliate with someone or be liked by that person, he or she will nonconsciously start to mimic the person more than usual. Thus, it is a strategy in the repertoire of behaviors that help individuals affiliate with other people. The key is that they are not aware that this is a strategy they use at all.

Consider the following scenario: two strangers meet for the first time. There is no existing

rapport between them, but there is a goal to affiliate and attain rapport. Does merely having the goal to affiliate lead to more mimicry? We predicted the answer to be yes (Lakin & Chartrand, 2003). Evidence suggests that higher order goals automatically activate the respective plans of action and behavioral strategies used to achieve that goal (Aarts & Dijksterhuis, 2000). Perhaps some of these plans of action are not available to conscious awareness. We hypothesized that individuals may have an affiliation goal temporarily or chronically, and both were predicted to lead to greater nonconscious mimicry. Individuals may also have affiliation goals consciously or nonconsciously (e.g., Chartrand & Bargh, 1996), and both types of goals were also predicted to lead to greater mimicry. Thus, a first study tested whether conscious and nonconscious temporary affiliation goals increase mimicry, and a subsequent study tested whether chronic affiliation goals increase mimicry.

In a first study (Lakin & Chartrand, 2003, Experiment 1), participants performed a two-part experiment, the first part of which was a "parafoveal vigilance task" (actually a subliminal priming task; see Bargh & Chartrand, 2000). In the implicit affiliation goal condition, participants were subliminally exposed to words related to a goal to affiliate (e.g., *friend, together, affiliate*), and in the explicit goal and control conditions, participants were exposed to neutral words. In the second phase of the experiment, participants were told that they would be performing a memory task. They were instructed to watch a videotape of a person (ostensibly another participant currently in the next room, but actually a confederate videotaped earlier) performing a variety of mundane clerical tasks (e.g., filing papers, answering the phone). Participants were instructed to remember the behaviors and the order in which they were completed. This was a fairly easy task that did not put participants under a cognitive load.

For participants in the explicit goal condition, the experimenter then added that they would soon be interacting with this person next door on a cooperative task for which it was very important to get along and work together well. All participants then watched the "live feed" of the confederate, who was touching her face throughout the videotape, during and between the clerical tasks. While watching the tape, participants were surreptitiously videotaped, and the amount of face rubbing they engaged in was later measured by independent coders. The results revealed that participants with an implicit or explicit affiliation goal rubbed their face more than did participants in the control condition, but no differences were observed between the implicit and explicit goal conditions. Thus, regardless of whether the affiliation goal is consciously held and pursued or implicitly primed, individuals mimic more than those without such a temporary goal to affiliate.

In another study testing the notion that people implicitly use nonconscious mimicry as a strategy to get others to like them, we explored the effects of succeeding and failing at a nonconscious affiliation goal for mimicry (Lakin & Chartrand, 2003, Experiment 2). We predicted that failure at a nonconscious affiliation goal would increase subsequent affiliation goal-directed behaviors, including unintentional mimicry of another's mannerisms. In this study, participants who had or had not been subliminally primed earlier with an affiliation goal conducted two interviews with other students (actually confederates). The first interview was conducted online, and the confederate (who was actually in the next room typing out scripted answers to the questions) responded in either a friendly or unfriendly way, thereby manipulating success and failure at the affiliation goal (if one existed). Participants then completed a second live interview with a confederate who gave neutral answers and shook her foot throughout the interaction.

Our main hypothesis was that participants who had an affiliation goal and experienced failure in the online interaction would be most likely to mimic the behavior of the

confederate in the face-to-face interaction. Upon completion of the experiment, all participants were extensively debriefed by the experimenter, who probed for suspicions about the cover story, awareness of the affiliation goal, and awareness of the confederate's mannerisms; very few participants' reported any awareness of the confederate's mannerisms, and the results are the same whether these people are included in the analysis or not. Videotapes were coded for the amount of time participants spent shaking their feet while interacting with the second confederate. A composite measure of liking for the second confederate was also created. Both measures revealed significant interactions: In the no-goal condition, percentage of time spent mimicking and liking for the confederate did not differ by success/failure condition, but in the affiliation goal condition, percentage of time spent mimicking and liking for the confederate were greater in the failure condition than in the success condition. The efforts of the participants in this condition seemed to pay off as well. Analyses of the confederate's ratings of the participants reveal a marginally significant interaction, suggesting that she liked participants in the affiliation goal/failure condition the most. Thus, the results of the current study suggest that initially failing at an affiliation goal leads to increased efforts to affiliate with a second, new interaction partner; mimicry of that person's mannerisms increases, as well as overall liking for that person. This provides further evidence that we are able to use nonconscious mimicry to our advantage.

Interdependent Self-Construals. Self-construals are essentially the way in which people mentally represent the self. Extant research has identified at least two primary modes of self-representation: independent and interdependent. Those individuals who have independent self-construals tend to think of themselves as autonomous individuals separate from others, and tend to define themselves in terms of their unique personal traits. On the other hand, individuals with interdependent self-construals are more likely to think of themselves in the context of the larger social world, tending to define themselves in terms of their group memberships and relationships with others (Brewer & Gardner, 1996; Cross & Madson, 1997; Markus & Kitayama, 1991). One important consequence of an interdependent self-construal is a special concern with fostering harmonious relationships and getting along well with others; interdependent people place more importance on relationships with others and belonging to certain kinds of groups than independent people. Thus, given that mimicry seems to be facilitated when people want to facilitate positive relationships, we hypothesized that people with interdependent self-construals (chronic or temporary) would mimic the mannerisms of others more than people with independent self-construals, and we tested this prediction across several studies (van Baaren et al., 2003).

A variety of research has demonstrated that people from East Asian societies (e.g., Japan, China, Korea) tend to have chronic interdependent self-construals, while Westerners (e.g., Americans, Canadians, Western Europeans) have chronic independent self-construals. Thus, we predicted that Japanese would tend to mimic others more than Americans. To test this hypothesis, we recruited Japanese (born and lived in Japan through high school) and native-born American individuals to participate. Each participant then engaged in two separate photo-describing interactions, one with an American confederate and one with a Japanese confederate (the order was counterbalanced). The confederates engaged in constant but subtle face rubbing throughout the interactions, and the amount of face rubbing exhibited by participants was later judged by coders who watched videotapes of the interaction. The results supported our hypothesis: Japanese participants exhibited more face rubbing than American participants, even when we controlled for face rubbing that participants exhibited before the task began. Interestingly, the ethnicity of the confederates had no effect on how

much mimicking Japanese people exhibited—Japanese participants mimicked the face rubbing of both the in-group member and the out-group member equally.

In another study (van Baaren et al., 2003, Experiment 2), we further demonstrated the moderating effects of self-construals. In this study, we randomly assigned Dutch participants to one of three priming conditions. In the interdependent-priming condition, participants completed a scrambled sentence task that contained 15 words related to the interdependent self-construal (e.g., *together, group, cooperate*). In the independent-priming condition, participants completed a scrambled sentence task that contained 15 words related to the independent self-construal (e.g., *unique, alone, individual*). Participants in the control condition did not receive a scrambled sentence task. Participants were then instructed to complete a separate "music rating" task while an experimenter sat nearby and played with a pen. We were interested in the extent to which participants played with their own pens (as measured in average number of seconds per minute), which was our measure of mimicry. The results indicated that, as predicted, participants primed with the interdependent self-construal played with their pen more than participants in the control condition, while participants primed with the independent self-construal played with their pen less than control participants. Following both of these experiments, all participants completed funnel debriefings (Bargh & Chartrand, 2000) and none guessed the actual purpose of the experiments, indicating that these mimicking effects were indeed occurring automatically. Thus, these studies provide evidence for the facilitating effect of interdependent self-construals on nonconscious mimicry.

As a whole, our most recent work suggests that while affiliation goals and interdependent self-construals are not necessary for mimicry to occur, their presence reliably increases the amount of mimicry manifested in a given situation. Moreover, recent failure at an affiliation goal results in increased efforts to satisfy that goal in a subsequent interaction. It is quite possible that other goals and individual differences also serve to facilitate or inhibit mimicry effects, and these await discovery.

Perspective Taking. A study conducted by Chartrand and Bargh (1999, Study 3) suggests a final facilitating factor that could potentially increase mimicry effects: empathy. Because of the consistent relationship found between mimicry and rapport, it was hypothesized that individual differences in empathy might influence the likelihood of mimicking the behavior of an interaction partner. Perspective taking, or the ability to adopt and understand the perspective of others, is one component of empathy (Davis, 1983). Chartrand and Bargh (1999) argued that a person high in perspective taking should be more susceptible to the effects of perception on behavior because he or she spends more time perceiving the behavior of others. In line with this, they found that perspective taking reliably affected the extent of nonconscious mimicry; people who scored high on the perspective-taking subscale of Davis's (1983) empathy questionnaire were more likely than those who scored low to mimic the behavior of others. Perspective taking therefore appears to be one dispositional factor that increases the tendency to mimic. There are probably many other individual difference variables that moderate the relationship between perception and nonconscious mimicry, which introduces an additional class of variables that influence the likelihood of observing these effects.

Inhibitors

Although the research on factors that could potentially inhibit mimicry effects is quite

limited, two such factors have emerged in the literature thus far: dislike for another, and self-focus. Exemplifying the first is the study reviewed in the section "Evidence for Behavioral Mimicry" suggesting that people do **not adopt the** moods of disliked others (McHugo et al., 1985). Democrats did not pick up the mood of Ronald Reagan while watching a videotape of him at a news conference, whereas Republicans felt happy when Reagan was happy and angry when Reagan was angry. These results indicate that dislike for another person may actually inhibit the automatic response of adopting another person's moods.

Another factor that inhibits mimicry is self-construal orientation. Just as an interdependent self-construal leads to increased mimicry, we explored the possibility that an independent self-construal might actually inhibit mimicry (van Baaren et al., 2003, Study 1). In this study, participants worked on bogus translation tasks with two different confederates. With one confederate, the words to be translated were related to the self (independent self-construal prime), whereas with the other confederate, the words to be translated were not related to the self (control prime). The confederate in each condition displayed a different type of habitual behavior (e.g., face rubbing or foot shaking), and the degree to which participants exhibited these behaviors was recorded on video. The results indicated that when participants were primed with the independent self-construal, they mimicked the confederates' specific behavior significantly less than in the control condition. Thus, having a salient independent self-construal appears to actually inhibit the natural tendency to mimic an interaction partner's behaviors. These results suggest that variables related to self-focus or self-construal are another class of factors that affect the likelihood of mimicking another person's behaviors.

Conclusion

The nonconscious mimicry of others is a continuous part of everyday existence and has become seamlessly woven into our daily lives. Because it is such a fundamental feature of our interactions with other people, we are usually not aware of the large role that mimicry plays. In our evolutionary past, such automatic mimicry was probably necessary for physical survival. If this was the case, then those who developed this capacity to automatically "do as they see"-acting first and thinking later-were the ones to survive. In this way, they may have passed on the tendency to automatically mimic to their descendants, and it became the default tendency.

Today, we still carry the torch of our ancestral heritage. Merely perceiving another person saying, feeling, or doing something makes us more likely to say, feel, and do the same thing. Even in minimal circumstances, there is substantial evidence that social perception leads to automatic social behavior. For instance, we mimic the behaviors of strangers, people with whom we have had no prior contact and have little reason to affiliate (Chartrand & Bargh, 1999). We also mimic people who are not even physically present, such as those in photographs or on television or videotapes. As a result of the link between perception and behavior, we will mimic others even under these minimal conditions.

However, in this chapter we have argued that mimicry still serves an adaptive function, that of social survival. We conceptualize mimicry as the social glue that binds and bonds humans together. Having the same facial expressions, speech patterns, moods, emotions, and behaviors of others expresses similarity, which in turn builds empathy, liking, rapport,

and affiliation. Accordingly, there are variables that serve to increase or decrease the amount of mimicry engaged in at any given time, such as rapport, individual differences in perspective taking, and attentional focus.

We also have presented preliminary evidence that having a goal to affiliate with others can increase nonconscious mimicry. This occurs regardless of whether the goal is temporary or chronic, consciously pursued or nonconsciously primed. Individuals who have recently failed at an affiliative experience are also more likely to mimic a second person, presumably because the failure experience activates a goal to build rapport with someone new. In essence, then, people use nonconscious mimicry to further their own goals. This suggests that on an implicit level, individuals know of the affiliative function that mimicry serves, and that mimicking another's behaviors will help them achieve that rapport. Mimicry is an unacknowledged and unappreciated strategy in the repertoire of behaviors that people use to build rapport and increase affiliation with others. Although mimicking another person's mannerisms may be a direct result of the perception-behavior link, we believe that the existence of motivational moderators of this tendency makes this a powerful tool in a person's repertoire of affiliative behaviors.

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