

# Chapter 2

## An Integrated Spiral Model of Trust



Judee K. Burgoon, Norah E. Dunbar, and Matthew L. Jensen

When humans are gathered together for work or play, the first decision they must make is whether others are friend or foe. Our emotional antennae immediately gauge whether others are equal in power or not, whether they appear to be likeable or to be feared, whether they are like one another or different. And most importantly, whether they can be trusted or not. These judgments drive the first communication exchanges humans have, and most occur implicitly, through nonverbal rather than verbal means (Burgoon and Hale 1984).

When people come together in groups, these decisions become multiplicative. They must make multiple judgments at once, and one of the most critically important ones to render is trust. When we trust one another, we can develop bonds with our colleagues, friends, family members, relationship partners, and strangers. We feel emotionally secure and confident, resolve conflicts equitably, and work collaboratively to solve problems. When we do not trust others, we feel suspicious that they want to hurt us, we are reluctant to take risks, and we feel unsupported and alone. Although much of the literature on trust has focused either on romantic relationships (e.g. Kim et al. 2015) or business negotiations (e.g. Koeszegi 2004), we believe that trust, as Kim et al. eloquently stated, is a “central component of nearly all good, well-functioning relationships because it allows individuals to pursue their loftiest hopes without being impeded by their deepest anxieties” (p. 522).

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J. K. Burgoon (✉)  
University of Arizona, Tucson, AZ, USA  
e-mail: [judee@email.arizona.edu](mailto:judee@email.arizona.edu)

N. E. Dunbar  
University of California, Santa Barbara, Santa Barbara, CA, USA

M. L. Jensen  
University of Oklahoma, Norman, OK, USA

## Definitions of the Nature of Trust

Regardless of discipline, most scholars conceptualize trust as entailing some level of risk, uncertainty, or willingness to be vulnerable, and that it creates an *expectancy* about future behavior since one must assume that a person, group, or organization will behave in a particular way (Lewicki et al. 1998; Rousseau et al. 1998). Typically, trust is built slowly over time as judgments about past behavior are evaluated and the costs and benefits (or risks and rewards) of such future behavior are cognitively assessed (Robert et al. 2009). In long-term relationships, theorists have investigated trust in the initial phases of relationship building (Taylor and Altman 1987), in its maintenance (Rempel et al. 2001), and in its dissolution (Sagarin et al. 1998). Thus, the traditional or developmental view of trust would predict low levels of initial trust because team members have little past history, may not share common cultures, and have few personal observations on which to assess risk (Robert et al. 2009). However, even when relationships are relatively brief and temporary, interactants rely on contextual cues and initial expectations to create expectancies about trust (called “swift trust;” Adler 2007). Often, swift trust is created based on characteristics prior to any knowledge of the others’ actual behavior. Robert et al. (2009) argue that swift trust is based on factors other than past behavior such as one’s role, disposition, sociological category like gender and culture, and third-party recommendations. Zero-history teams (such as cockpit crews or investigative task forces) consist of members with diverse skills, have a limited history of working together, and often have little prospect of working together again in the future, which make it difficult to build trust. The tight deadlines under which these teams work leave little time for relationship building, but trust must still be developed in order to be an effective team (Jarvenpaa et al. 1998), especially among teams that are geographically dispersed and must accomplish their tasks rapidly (Iacono and Weisband 1997; Meyerson et al. 1996). Because the very concept of social organization relies on reciprocal trust, good will, and cooperation (Gouldner 1960; Grice 1989), people are usually inclined to give one another the benefit of the doubt, to view each other as truthful and trustworthy. This “truth bias” is bolstered by the human tendency to regard all incoming information as truthful and, only after digesting and reflecting upon it, to entertain the possibility that it may be false (Gilbert et al. 1990). Thus, the default orientation in most “cooperative” situations should be toward mutual trust.

Nevertheless, trust is not a given. It depends fundamentally on the interpersonal relationships among individuals. People are predisposed to trust others whom they know well because they have a basis for assessing each other’s expertise, sound judgment, honesty, reliability, poise, and so forth. Early in relationships and among previously unacquainted team members, trust is provisional and probationary, and it is inextricably linked to the communication that ensues (Hinsz et al. 1997). Moreover, if relationships are thought to be adversarial, or when group members come from diverse backgrounds, the truth bias is attenuated and trust must be built (Foddy et al. 2009; Grice 1989; Lewicki et al. 1998). This is particularly true when an ingroup-outgroup divide exists, as may be the case between people of different

cultural backgrounds, clans, organizations, or even genders (Yuki et al. 2005). In such cases, a communication perspective argues that the dynamics of the interactions among team members will determine the trajectory of trust. Critically important is the extent to which participants are able to adapt to one another's communication patterns and to achieve a coordinated, synchronized interaction style that creates perceptions of common ground and understanding (Burgoon et al. 1995b; Tickle-Degnen and Rosenthal 1990). Although the content of what is spoken obviously is relevant, as team members appraise one another's claims and proffers, how the discourse is transacted may be far more important in creating perceptions of rapport, genuineness, positive motives, and trustworthiness (Duggan and Parrott 2001; Fiksdal 1988; Heintzman et al. 1993).

## Psychological and Sociological Perspectives of Trust

Psychologists and sociologists often implicitly assume that communication is involved in the trust-development process but often overlook the critical mediating role of the interaction itself (Jung and Avolio 2000; see Peters and Kashima 2007; Silvester et al. 2007; Van Overwalle and Heylighen 2006; Buchan et al. 2006). Researchers often disregard the joint and emergent social processes that are critically important to determining the trajectory of trust. For example, in many studies of trust like Ho and Weigelt's (2005) study of trust building among strangers, pre- and post-interactive factors such as social uncertainty and exchange outcomes, are posited to have an effect on the process of trust building. Participants play a trust game in which points are earned based on decisions made during the game and the outcomes are analyzed. Ho and Weigelt argue that their trust game allows subjects to reveal their trustworthiness by choosing to share their social gains with others. The authors examine the monetary payoffs as their primary measure of trust. In contrast, communication scholars posit a direct relationship between interactive communication processes and relationship development as well as interaction outcome evaluations (Burgoon et al. 1995a; Dunbar et al. 2014; Manusov et al. 1997). In our view, the verbal and nonverbal messages exchanged, the subtle cues that partners give off as they coordinate their interaction, and the interpersonal relationship that develops (even in temporary teams) are crucial to understanding the nature of trust. Although trust games (e.g. Cook et al. 2009) offer objective, easily measured outcomes, they offer little to examine whether expectation fulfillment leads to trust and often ignore the interaction where those expectations are formed.

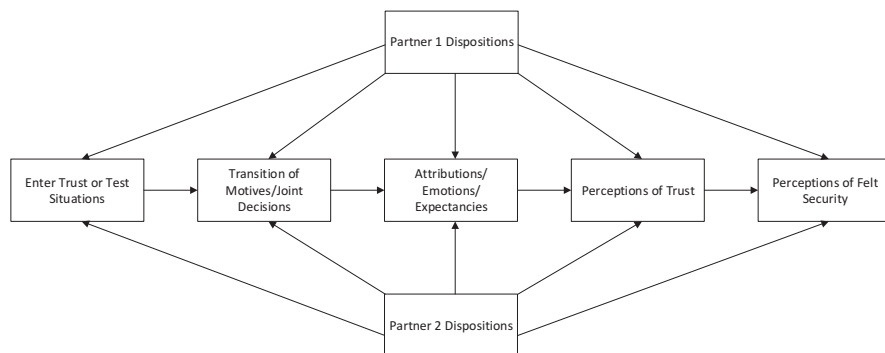
In addition, many current research paradigms suggest that trust changes in character over time, and that there is likely a feedback loop whereby the forms of trust are linked and build on each other as a relationship develops. One frequently-cited trust model (Mayer et al. 1995) suggests that outcomes serve as a catalyst for further trust growth or decline. Yet this explanation may be overly simplistic. First, it is not always the case that information about a partner's trustworthiness is fully available or unambiguous. Second, regardless of whether such outcomes are clear or

ambiguous, their impact on the future development or decay of trust is likely far from direct. Third, there are likely to be multiple feedback triggers occurring at multiple time scales during and after an interaction to influence the growth or decay of trust. From psychology and sociology we know that the level of social identity between parties is a fundamental factor in the development of trust (Kramer et al. 1996; Lewicki and Bunker 1995).

One notable social-psychological approach to trust is Simpson's (2007) "dyadic model of trust" which determines whether or not trust will result from an interaction between two interdependent parties (see Fig. 2.1). The model assumes that individuals who have certain dispositions, such as secure attachments and positive self-esteem, should be more likely to enter, transform, or occasionally create trust-diagnostic situations in their relationships. The partners must be willing to take a risk and make themselves vulnerable for the sake of a mutually-beneficial outcome. Each partner makes an independent assessment of whether their partner displays proper "transformation of motivation" in trust-diagnostic situations. In other words, does the partner make decisions that go against their own interest in favor of the best interests of the partner or the relationship? If both partners make mutually-beneficial decisions, this should generate positive patterns of attributions, emotions, and future expectancies, which in turn should enhance perceptions of trust and felt security, even if it is only temporary. Although the Simpson model does not depict any feedback loops, it is presumed that each partner's perceived degree of felt security affects future decisions about whether or not to enter, transform, or create the next trust-relevant situation.

## A Communication Perspective on Trust

This brings us to our communication perspective on trust. Building on Simpson's (2007) model, we assume that trust is an *interactive* and *iterative* process of evaluations of motives that is affected by past interactions and dispositions. Within the



**Fig. 2.1** Adapted from Simpson's (2007) dyadic model of trust

communication literature, trust is one component of credibility, a construct itself that has a venerable heritage tracing back to Aristotle's treatise on ethos (Hovland et al. 1953). Credibility is a judgment that others make about an actor. It usually includes, at minimum, the dimensions of competence (knowledge, intelligence, experience, and authoritativeness) and character (trustworthiness, reliability, and honesty) but may also include components of sociability, composure, dynamism, extroversion, empathy, and good will toward the other (Burgoon 1976; McCroskey and Young 1981; Teven and McCroskey 1997). Recent research has demonstrated that in the context of task-oriented interactions, many of these components can be fruitfully combined with each other and with other social judgments. For example, judgments related to credibility, attraction, and utility are sufficiently correlated that they can be combined into a smaller number of composite measures, all with possible relevance to trust (Burgoon et al. 1999). Through factor analysis, Burgoon et al. identified the following dimensions: (1) *trust* (perceptions of honesty, truthfulness, sincerity, and character), (2) *dependability* (perceptions of being reliable, helpful, useful, and responsible), (3) *expertise* (perceptions of competence, knowledge, and experience), (4) *sociability* (perceptions of friendliness and good will), and (5) *attraction* (desirability of another as a task partner and that person's likely contributions to task performance). One can "trust" others because they are thought to be honest, forthright individuals, or because they are dependable and helpful, or because they have the necessary knowledge and judgment to contribute to task performance, or because they are thought to be a person with others' interests at heart, or because they have performed ably on a given task and contributed to one's satisfaction with the work. In other words, all of these facets of credibility have relevance to trust.

Another way trust-distrust is conceptualized in the communication literature is as one of the fundamental dimensions along which people define and understand their interpersonal relationships (Burgoon and Hale 1984). Like power or status, trust is one of the central relational communication themes by which people express and calculate, verbally and nonverbally, the current status of their relationship with another. Like other relational messages, trust creates a frame for interpreting other messages that are exchanged. For example, in organizations, it is often the way messages are sent, especially their clarity, and a leadership style that engenders *trust*, that is of the highest importance when influencing employees' commitment to the organization (Bambacas and Patrickson 2008). When team members trust one another, messages are interpreted at face value and small disagreements or grievances may be excused or overlooked. When team members distrust one another, motives may become suspect, information may be misinterpreted, and even innocuous statements can trigger hostile reactions or noncompliance. Expressions and interpretations of trust and credibility are thus essential to the effective functioning of work groups and skillful leadership (Iacono and Weisband 1997).

When thinking about issues of trust and credibility, it is commonplace to think of trust as the desired state. However, there may be times when trust is not the goal, times when one needs to be vigilant, suspicious, or cautious toward others whose motives are not known, times when dealing with conflicting instructions requires

thoughtful processing rather than blind obedience or reciprocation. Thus it becomes important to consider trust in terms of what is the desired state relative to what is actually achieved. If we cross goal states with achieved states, and for the sake of simplicity dichotomize them as trust or distrust, four kinds of situations merit attention (see Fig. 2.2): those in which trust is both desired and achieved (the prototypical case of goal achievement); those in which “distrust” (e.g., skepticism, wariness, vigilance) is desired and achieved (also a case of goal achievement); those in which trust is desired but distrust results (goal failure); and those in which distrust is desired but trust results (also goal failure). These latter circumstances seem especially worthy of focused research to understand why trust fails to develop or be sustained, or what causes undue trust.

Communicatively, trust can be revealed in a number of ways. One way is by the rapport and coordination exhibited by both parties. As the interaction begins, interactants display both intentional and unintentional nonverbal behaviors in order to express particular emotions and build rapport, liking, and trust (or divergence and distrust as required). Perceptions of intentionality appear to play a mediating role where senders who are perceived as being overly intentional in their expressivity, synchrony, and adaptations are seen as manipulative and untrustworthy. Alternatively, a degree of intentionality is required for both the successful expression of emotions and for synchronizing behaviors with an interlocutor in order to inspire attraction, rapport, and trust (Bernieri 1988; Dunbar et al. 2014; Manusov 1992).

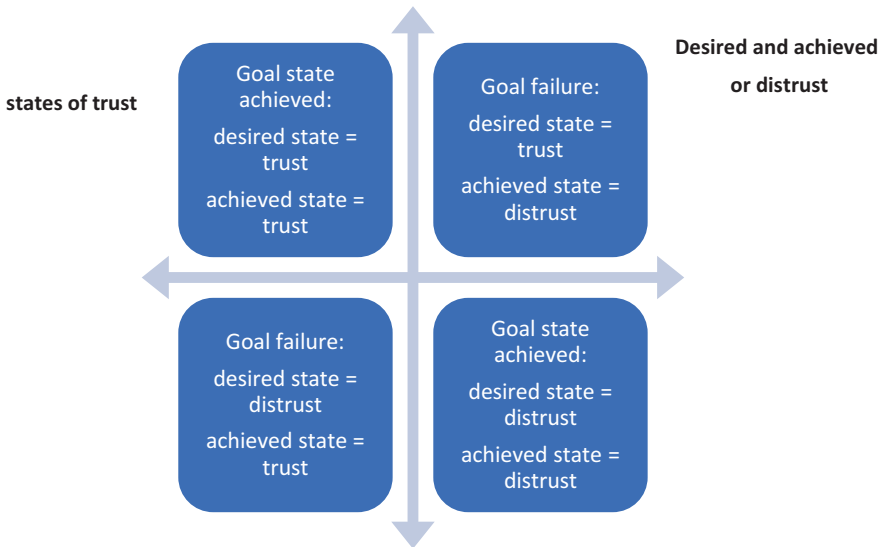


Fig. 2.2 Desired and achieved states of trust or distrust

## Assumptions

Conceptualizations of trust come with implicit assumptions. We first elucidate several assumptions, describe the integration of past theories that explain trust-distrust, and then describe in detail the spiral model of trust, found in Fig. 2.3. Assumptions are beliefs accepted (or presumed) as common ground upon which the theoretical arguments are founded. Assumptions are not tested; they are taken as givens. They are the “glue” that holds testable propositions together. We articulate these assumptions before proceeding to our integration of two theoretical approaches as they pertain to trust.

1. *Trust is multidimensional.* Multiple indicators can signal the presence of trust by Other (O) toward Self (S) and vice versa.
2. *Trust derives from multiple factors.* No single, elegant model can capture all of them.
3. *Trust flows from, is sustained by, and is modified through interaction patterns.* The interaction patterns that transpire between two or more parties are among the most central factors in a communication theory of trust.
4. *Trust is best understood as a relational phenomenon.* Because interaction is jointly defined by the parties to the interaction, this requires researchers’ commitment to the dyad or group as the unit of analysis.
5. *Communication is causally the most proximal variable to account for trust-distrust.* Other variables are more distal and exert their influence through the communication that transpires.

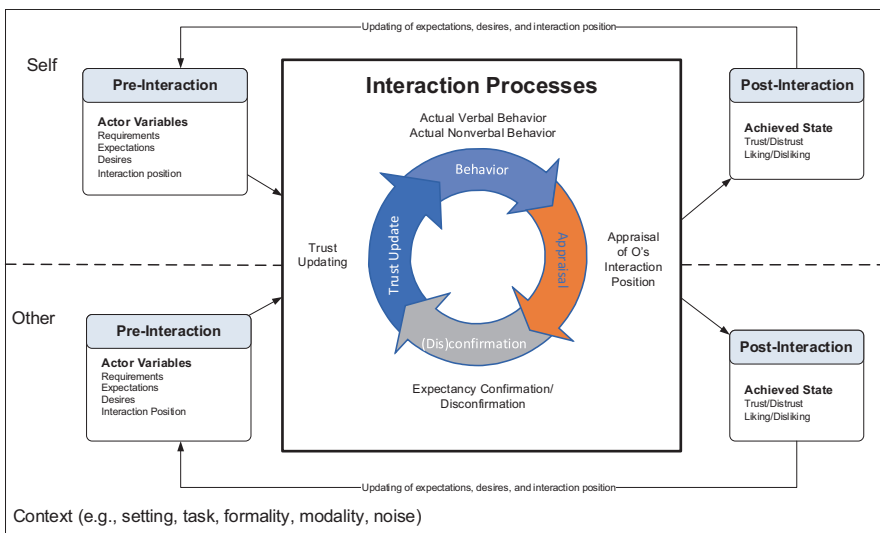


Fig. 2.3 Pre-interaction, interaction, and post-interaction stages of the spiral model of trust

6. *Because trust derives from interaction patterns, trust, like the interaction itself, is dynamic.* The implication of this assumption is that trust is not a static phenomenon. Research into trust must incorporate a temporal component into a theoretical model.

## The Spiral Model of Trust: Integrating IAT and EVT

Based in part on research reviewed above from both the social-psychological and communication research literatures, we offer a process model of trust that attempts to integrate psychological factors, sociological and contextual demands, and the communicative acts that occur within dyads to predict when trust forms in human relationships. Drawing on two communication theories, *expectancy violations theory* and *interaction adaptation theory*, this process model, shown in Fig. 2.3, depicts what happens between self (S) and other (O). The process is modeled according to what precedes the interaction, the interaction itself, and where things stand after interaction. *Pre-interaction* factors include such things as a priori attitudes, personality, and social skills that guide the interaction. *Interactional* factors include how internal states relate to behavioral patterns and the extent to which behavioral patterns confirm or violate expectations. Negative violations prompt suspicion and distrust that shape the trajectory of the interaction. Positive violations promote interaction coordination and rapport. *Post-interaction* factors are task-relevant outcomes (performance, satisfaction) and social judgments (credibility, liking, and in the case of the current model, trust). The theories we describe next relate directly to these variables, offering predictions and explanations of their interrelationships.

## Expectancy Violations Theory

*Expectancy Violations Theory* (EVT) originated as a theory about how interactants relate to one another proxemically and was subsequently expanded to include non-verbal behaviors and then verbal behavior as well (Burgoon and Hale 1988). Its key variables include expectations, arousal, appraisal, and behavioral confirmations and violations. *Expectations* (E) refer to norms and individuated anticipations of how an interlocutor will behave and communicate. Norms are group-wide socially inculcated patterns of conduct. For example, the norm of reciprocity states that “people should help those who have helped them, and people should not injure those who have helped them” (Gouldner 1960, p. 171). This norm is thought to be a fundamental and universal principle for preserving social order and underpins an expectation that others can be trusted to reciprocate kindness with kindness and to eschew harming others if unprovoked. Where people are familiar with one another, expectations are individuated; they will be tailored according to that prior knowledge.



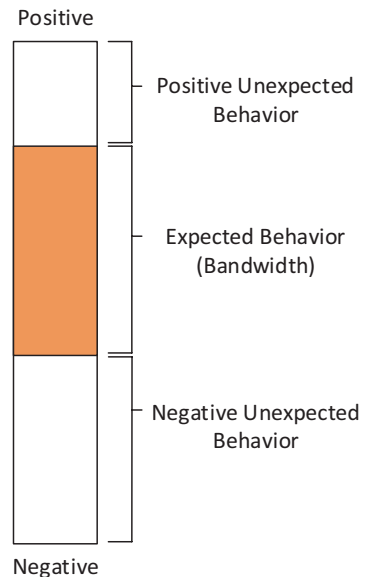
S’s behavior might conform to the expectancies held by O and vice versa, creating a stable interaction pattern. When O’s behavior falls outside the range of expected behavior, it is classified as a violation. Communication expectations are not exact; instead, an individual has a range or tolerance level for a communication expectation. Figure 2.4 illustrates this range. The violations are valenced as positive or negative. How they are valenced partly depends on who is committing the violation. If the violator is someone who is regarded favorably—with what is called high communicator reward valence—the violation may also be regarded as a positive act. If the violator is someone held in low regard, the violation may be regarded as a negative one. For example, if a positively regarded O moves very close to S, this invasion of personal space may be interpreted by S as a show of affection or affiliation, making it a positive violation. If a negatively regarded O commits the same personal space invasion, it may be interpreted as a threat, making it a negative violation.

The valencing of violations is actually preceded by the degree to which the violation triggers arousal and an appraisal process. Violations are thought to be *arousing* and *uncertainty-provoking*, resulting in heightened attention to the meaning of the violation and its desirability. This is the basis for the first propositions of the spiral model of trust, derived from EVT, that are testable:

*P1: Behavioral violations of expectations elicit increased arousal compared to behavioral expectancy confirmation.*

**Fig. 2.4** Valencing of expectancy confirmations and violations

**Continuum of Expectancies**



*P2: Violations of expectations elicit increased uncertainty compared to behavioral confirmation.*

This arousal is thought to elicit a bipartite *appraisal* process such that S draws implicit interpretations of the violative act and evaluates it as welcome or not. The appraisal process leads to a valencing of the violation (or confirmation) as positive or negative. These appraisals can occur instantaneously and simultaneously, and as an overlearned process need not be cognitively burdensome. Different types of violations have consensually-understood meanings within a language community, and the likelihood of them being judged as desirable or not is also normative within a language community. For example, a male O putting an arm around a woman coworker S's shoulder can be variously interpreted as signaling condescension, congratulations, or flirtation. Whether it is welcome or not may be dictated by whether S views O as someone of higher status or someone held in high regard. A condescending touch will be unwelcome, a congratulatory touch will be welcome, and a flirtatious touch will be only welcome from a highly regarded O.

*P3: Verbal and nonverbal violations have unique and identifiable meanings associated with them.*

*P4: Violations can be evaluated on a continuum from not at all welcome to completely welcome.*

A novel aspect of EVT is that it introduces the concept of positive violations and distinguishes positive and negative violations from confirmations that have a positive or negative valence. Confirmations are behaviors that fall within the expected range. EVT predicts that positive violations produce more desirable results than positive confirmations, so trust should be highest when a positive violation has occurred. Conversely, trust should be lowest when a negative violation has occurred (although a negative confirmation could also occur). In this regard, trust is an integral concern that emerges as a consequence of expectancies being met or disconfirmed:

*P5: Trust is positively related to positive expectancy violations and inversely related to negative expectancy violations.*

*P6: Positive verbal and nonverbal violations by O engender more trust by S than positive confirmations.*

*P7: Negative verbal and nonverbal violations by O engender more suspicion by S than negative confirmations.*

One caveat to negative violations is that first instances with a highly regarded O may be uncertainty-provoking and require multiple instances before being registered as a negative violation (Afifi and Burgoon 2000). Put differently, negative violations are not as predictable as positive violations. Single instances of violations may produce a range of reactions, the impact of which depends on the reward value of the perpetrator of the violation. Single negative violations may be disregarded, misinterpreted, or misattributed. The same is not true if the perpetrator is poorly regarded. In that case, a violation may have an amplified effect. In other words, the

perpetrator's reward value multiplies the effect of a violation. We revisit this issue shortly, as it relates to the concept of a spiral.

Early explications of EVT (e.g., Burgoon 1983, 1993; Burgoon and Burgoon 2001; Burgoon and Le Poire 1993; Burgoon and Walther 1990; Le Poire and Burgoon 1994) drew attention to normative and individuated expectations, and the consequences associated with those violations. But those expositions did not address the interaction process that emerges. Burgoon et al. (1995a) extended EVT to the communication process by predicting the circumstances under which a violation by O would cause S to reciprocate or compensate for O's level of nonverbal involvement and pleasantness. Burgoon et al. (2016) attempted to further elaborate on the constituent elements of the communication process by incorporating three key nonverbal aspects: perceived involvement, perceived mutuality, and ease of coordination between S and O. Conversational involvement refers to the degree to which participants in a communicative exchange are cognitively and behaviorally engaged in the topic, relationship and/or situation (Coker and Burgoon 1987). Perceived mutuality encompasses feelings of connectedness, receptivity, and mutual understanding that contribute to a sense of "relationship" or "groupness" among participants (Burgoon et al. 2010). Ease of coordination refers to the ease, naturalness and fluidity of the interaction process (Burgoon et al. 2002). These cognitive-emotive judgments of O made by S in turn affect task and social consequences of the interaction, one of which is trust. We predict that these three perceptions related to the interaction process should all promote trust because they reinforce a sense of connectedness and common ground.

*P8: Trust is positively related, and distrust inversely related, to perceived conversational involvement.*

*P9: Trust is positively related, and distrust inversely related, to perceived mutuality.*

*P10: Trust is positively related, and distrust inversely related, to ease of coordination.*

Additionally, repeated experience of a positive or negative violation should contribute to a spiral of trust growing, in the case of positive actions by the perpetrator, and erosion of trust by repeated negative actions. Although both positive confirmations and positive violations should have beneficial effects on trust, positive violations should have a greater impact on trust because of the arousal and appraisal processes described above. Whether the opposite is true for negative violations is less clear because confirming a negative expectation in itself should damage trust, and a spiral of such actions may quickly reach the floor for distrust.

Notwithstanding the maturing of EVT over the course of four decades, gaps remain. EVT is silent on how one's preferences and pressing needs affect the trust process. EVT also focuses more on nonverbal than verbal behaviors, and it does not handle moment-to-moment changes in interaction behavior. These factors were among the impetus for the development of *Interaction Adaptation Theory* (IAT; Burgoon et al. 1993; Burgoon et al. 1995a). IAT was also a response to the inadequacies of previous models (such as affiliative conflict theory and norm of reciprocity) to account for what factors lead communicators to adapt (or not) to one another's

verbal and nonverbal behavior and with what consequences. For example, dyadic interaction models emphasize an overly simplistic, single causal mechanism and cannot account for the broad array of behavior patterns that are observed in routine discourse or repeated interactions.

IAT derived its principles from a synthesis of biological, psychological, sociological, and communicational models of human interpersonal interaction, with an eye toward producing not only greater definitional clarity but also testable predictions and explanations of the observed communication patterns in human interchanges. Although its progenitors were models predicting patterns of reciprocal and compensatory dyadic interaction, IAT went a step farther in linking those patterns to outcomes, thus making it a strong candidate for predicting and explaining the development, maintenance, and erosion of trust.

The primary concepts in IAT are the actor variables of *requirements*, *expectations*, and *desires*; an *interactional position (IP)*; and *actual performed behavior (AP)*. The three interrelated actor variables that IAT postulates influence interaction behavior significantly are requirements, expectations, and desires. *Requirements (R)* refer to biological drive states and deeply ingrained psychological needs such as safety, nourishment, and respite. Humans who are fearful, stressed, hungry, fatigued, and so on will be motivated to alleviate these needs above all else. If basic needs are not satisfied, their fulfillment will drive behavior, leading to instinctive fight, freeze, or flight responses. For instance, a captive fearing for his or her life and dependent on a captor for survival may say or do whatever is perceived to improve chances of survival and may, ironically, come to place trust in the captor (the Stockholm syndrome).

Some requirements are universal. For example, all humans seek protection from harm, and when physical security is at stake, determining others' trustworthiness may be of paramount concern. Other needs are linked to culture, socio-demographics, or personality. For example, people with collectivist cultural orientations may seek more identification and inclusion in their cultural group than people with individualistic orientations, whereas the latter may be more driven to seek autonomy and independence of action (Triandis 1972, 1994). Men need more personal space and less crowding than women. Introverts need more solitude than extroverts, and so on (Burgoon 1983). Some of these needs are static during the course of a single encounter. Others are changeable. For example, fatigue may grow over a lengthy, boring meeting; fear may grow across the course of an interrogation.

The conceptualization of *expectations (E)* is taken from EVT. E may be norm-based or person-specific. Inasmuch as culture-linked and gender-linked expectations are potent influences on interaction patterns, meeting these expectations can foster trust; deviating from them can prompt distrust. Members of collectivist cultures expect more indirect speech and less self-promotion than do members of individualist cultures (Gudykunst and Kim 1992). Examples of this phenomenon abound. As compared to Asian cultures, women in western cultures are expected to interact at closer distances than are men. Middle-eastern men who approach western men in close proximity may be distrusted, while simultaneously any distancing moves by western men may trigger suspicion that they are hiding something from

their Middle-eastern interlocutors (Neuliep 2017). In hierarchically-oriented cultures with large power distances, high-status in-group members expect low-status outgroup members to show them respect and deference in interactions; failure to do so is also a basis for distrust (see, e.g., Beatty 2001; Gudykunst et al. 1996; Kupperbusch et al. 1999; Wolfgang 1984).

Norms, customs, and rules for a given communication context should be particularly relevant to setting expectations. Established protocols, self-presentation demands, requirements for conversation management for the type of episode in force, emotional regulation, and the like should be widely understood and adhered to. Whereas compliance with norms does not necessarily earn trust, negative violations of prevailing norms may create suspicion and distrust because, in part, norm violations identify the violator as an out-group member or someone whose behavior is unpredictable or unexpected. For example, the loud and expansive gesturing of an Arab roundtable guest compared to the quiet reserve of a Japanese one may deflate trust among Japanese audience members but inflate it among Arab ones. It may reinforce the sense that trusting people whose behavior is nonnormative is more risky than trusting people whose behavior is predictable.

Other expectations are person-specific and relate to the known typical interaction patterns of the individual. If Self (S) is familiar with Other (O) and has a prior history with O, S will hold individuated expectations of O. Lacking such familiarity or experience, S's expectations will devolve to the social norms for O's personal characteristics, the relationship between S and O, and the context. Thus, in routine social interaction, much of the variance in behavior should be predictable from expectations, and both group-wide and personalized expectations should be empirically verifiable.

*Desires (D)* refer to individual goals, motives, preferences, and such (although desires may be shaped partially by culture, socio-demographics, and personality). People who are motivated for self-gain, for example, will communicate differently than those who are motivated altruistically for others' benefit. Humans are assumed to be goal-oriented and motivated to behave in ways that maximize their chances of achieving their goals. For example, in cultures that value harmonious interaction, members will be motivated to adopt communication patterns that minimize face threats. Motivations are necessarily linked to incentives and anticipated consequences. In general, people are motivated to avoid aversive consequences and to seek beneficial consequences. In adversarial relationships between the military and local citizenry in an occupied country, for instance, the risks of retaliation against those who cooperate with military personnel must be juxtaposed against the potential jeopardy for failure to cooperate. The relative weighting of those costs and benefits will motivate the person's communication.

*RED* are hierarchical in their influence on interaction, with requirements taking precedence over expectations and desires, and expectations taking precedence over desires. *All propositions related to expectations and motivations assume that requirements have been met; if requirements are not met, they supersede other factors in governing behavior.*

Although not specified in the original explication of IAT, the jointly-defined *relationship* between S and O is a further, multifaceted class of characteristics related to the actors. One way to characterize the relationship is by standard sociodemographic and relational categories such as same- versus mixed-sex, friend or foe, stranger versus familiar, status-equal or -unequal, superior-subordinate, and so forth. Burgoon and Hale's (1984) relational topoi are another way to characterize relationships along continua of dominant-submissive, affectionate-hostile (liked versus disliked, cooperative versus antagonistic), deep-superficial (familiar versus unfamiliar), inclusive-exclusive, similar-dissimilar, composed-tense, and so forth.

One of the topoi that defines relationships is trust-distrust. Trust is one of the enduring characteristics that define interpersonal relationships; trust becomes both cause and effect as it cycles through a relationship. The nature of the relationship, especially its valence, power equality, and inclusiveness, is a significant driver of the initial interaction position, described next, and resultant behavior patterns by virtue of influencing what the respective actors need, expect, and desire.

*Interaction Position, IP*, is a concept from IAT that expresses the net combination of all the exogenous variables (*RED*). It originally described a person's starting place at the outset of any given interaction; i.e., it was meant to describe behavioral predispositions and concomitant physiology, psychological states, and cognitive states at the start of the interaction, known as Time-zero ( $T_0$ ). However, the *IP* can also refer to the beginning point of any episode that is within an interaction comprised of multiple episodes, phases, or topics. Because the spiral model of trust emphasizes communication patterns, the model shows these internal states separately from the behavioral states, but they are assumed to accompany the changing communication landscape.

The *IP* is the net quotient of combining the various *RED* factors. For example, if S expects a cooperative social chat with another liked ingroup member, O, who is of higher status, S should enter the interaction with the intention to exhibit approach behaviors and a customary demeanor of respect. S should also be in a non-agitated physiological state, with minimal cognitive load, hold favorable attitudes toward O, and be truth biased. If S instead expects O to be an adversarial outgroup authority figure with ability to apply punishment, S may begin the interaction in an agitated, fearful state that is accompanied by freeze or flight rather than fight behavior. In these latter cases, the relationship already predisposes S to be distrustful, but the interaction patterns that transpire could still alter that dynamic.

*P11: S's evaluation of O's IP at  $T_0$  affects S's verbal and nonverbal behavior at  $T_1$ .*

Because the *IP* must be viewed as the "on balance" quotient of all the preceding factors, it might seem difficult to compute computationally. However, oftentimes the most salient factors will be self-evident. Prior knowledge of the relationship's state may make clear that S and O have a trusting relationship as they begin any communication episode, and the absence of any observable indicators of stress should reinforce assumptions about the degree of trust at  $T_0$ . Conversely, if two people are engaged in a conflict, one might assume that the adversaries will enter

interactions with a low degree of trust, and building trust may be one of the first objectives.

*Actual Performance, AP*, refers to what the actors actually say and do. It includes nonverbal behaviors, verbal content, the juxtapositions of nonverbal and verbal elements vis a vis each other (e.g., whether statements show consistency or inconsistencies), and the degree of behavioral coordination and adaptation between S and O. Behavioral coordination includes whether S and O show other patterns of reciprocity or compensation and whether their interaction is coordinated and synchronous or not. These patterns are the most proximal, and potentially potent, determinants of trust.

IAT posits that S's RED values will produce S's *IP*, which will be compared to O's *AP*. Whichever is more favorably valenced will dictate approach or avoidance behaviors. Suppose S requires, expects, and desires a formal interaction. Her *IP* will be one of formal demeanor. Suppose that O's *AP* is an informal one that includes very relaxed posture, familiar forms of address, profane language, and the like. IAT predicts that S will negatively evaluate O's *AP* relative to S's *IP*, leading S to engage in avoidant behavior, such as displeased facial and vocal expressions, large conversational distance, hyper-formal language, and moves to end the conversation altogether. If O, by contrast, negatively evaluates S's *AP* relative to O's *IP*, he may respond by becoming even more informal to try to model the behavior he desires from S in the hopes of bringing their behavior patterns into alignment. Both are likely to come away from such a poorly coordinated interaction with distrust and dislike for the other.

*P12: If the IP for O is favorable at  $T_0$ , S's nonverbal behavior will be to approach O's AP at  $T_1$ .*

*P13: If the IP for O is negative at  $T_0$ , S's nonverbal behavior will be avoidance of O's AP at  $T_1$ .*

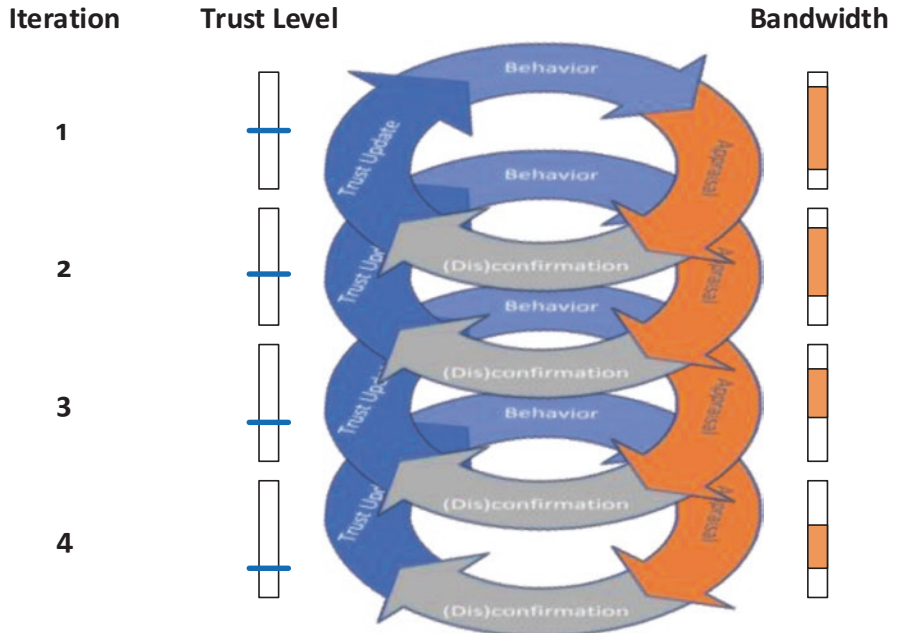
*P14: S's approach toward/avoidance of O at  $T_1$  will be correlated with trust/distrust for O at  $T_2$ .*

*P15: Repeated approach strengthens trust; repeated avoidance weakens trust.*

Put in EVT terms, when the cycles of interaction exhibited by O repeatedly violate S's expectations negatively, this should produce negative outcomes such as distrust and dislike, as shown in Fig. 2.5. The same is true for O. If O's expectations are also violated negatively, this may lead not only to an asynchronous interaction pattern but also distrust of S's disengagement and stand-offish style.

If over the course of many conversational turns S and O are unable to adapt to one another's interaction styles, their failure to achieve interactional coordination and synchrony may become a source of interpersonal distrust. This is the spiral of trust and distrust that develops over multiple interaction episodes.

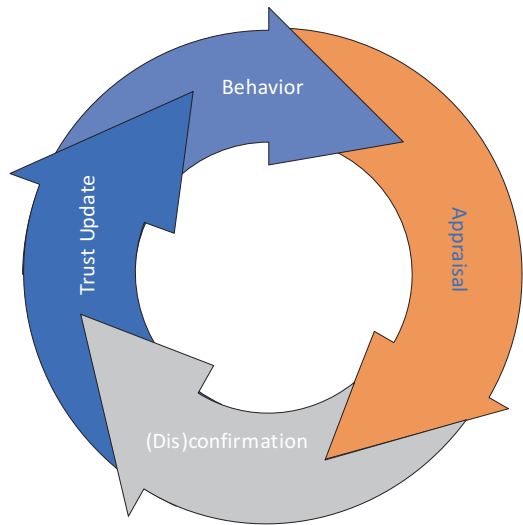
*Suspicion* refers to a state of uncertainty about another's character and behavioral intentions. It can spring forth from a variety of pre-interactional (e.g., interaction position, previous trust level) and interactional (e.g., verbal message content, ancillary nonverbal behavior) sources. Suspicion's relationship to trust is curvilinear in that it is associated with the highest degree of uncertainty (Burgoon et al. 1996). As



**Fig. 2.5** Downward iterations of distrust formation based on behavior, attribution, and expectancy confirmations and disconfirmations

**Fig. 2.6** Increasing scrutiny during appraisal

**Increasing Appraisal**





uncertainty is reduced, suspicion either morphs into distrust (greater certainty about the other's untrustworthiness) or trust (greater certainty about the other's trustworthiness). To reduce uncertainty, S may invest more cognitive effort to size up O's behavior during the appraisal stage, as shown in Fig. 2.6. With additional scrutiny (and perhaps further information-gathering), S may alleviate the uncertainty and transform suspicion into distrust or trust.

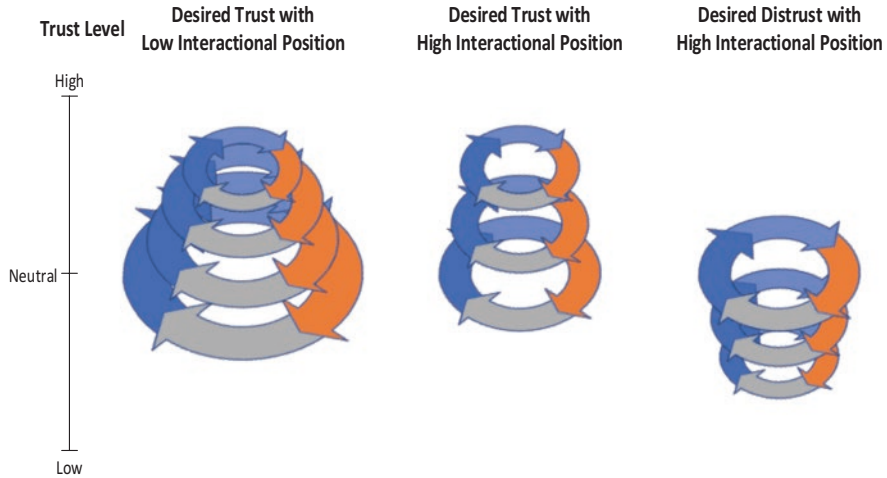
Within an interaction, suspicion is most likely to be low when O and S are synchronized in their exchanges. Burgoon et al. (2017) describe how interactants achieve coordination and adaptation in their interactions. Interactional synchrony is achieved when S and O use language and exhibit behavior that converges toward, rather than diverges away from, one another. When both S and O adopt a converging interaction pattern, they are exhibiting an approachable stance and signaling to each other that they desire to be trusted. In other words, through interactional synchrony, S (or O) may send trusting overtures that are then returned to O (or S) by way of behavioral adaptation and accommodation. In contrast, diverging interaction patterns are likely to engender uncertainty and lead to suspicion (Dunbar et al. 2014).

How REDs between S and O relate to one another follows the hierarchical priorities. If Rs are active, they will dictate response patterns. If group members are hungry, for example, and O chooses to talk at length, S may compensate by making very short responses, cutting off turns at talk for O, and giving negative or dismissive nonverbal feedback. Under this kind of interaction pattern, trust is unlikely to grow. If Rs are not in play, S and O may follow EVT predictions such that positive violations elicit more trust than positive confirmations, whereas negative violations erode trust. Finally, where behavioral patterns are not constrained by expectations and Ss are free to act upon their Ds, increases in coordination and interactional synchrony will fuel more trust. Deceivers may capitalize upon these communication patterns by attempting to mirror O's nonverbal demeanor and adopt their verbal communication style. However, engaging in what communication accommodation theory calls hyper-accommodation by overdoing convergence may reach a point of sycophancy and appearing inauthentic.

*P16: Interactional dissynchrony contributes to uncertainty and reduces the level of trust.*

*P17: The development of interactional synchrony through reciprocity and accommodation of positively valued communication patterns engenders trust.*

Garland et al. (2010) argue that self-perpetuating and damaging cycles triggered by negative emotions are like *downward spirals*, whereas self-perpetuating cycles that capitalize on positive emotions and lead to optimal functioning and enhanced social openness are referred to as *upward spirals* (see Fig. 2.7). Using the logic of EVT and IAT, we believe that trust development can also be best viewed as a spiral that expands and contracts based on a number of factors. For example, if S has an existing positive and trusting relationship with O, then she will not need a lengthy appraisal process and will likely evaluate many of O's deviations from expectations favorably, leading to a reinforcement of trust. If S has reason to be suspicious of O based on previous interactions, she may scrutinize O's behavior more closely,



**Fig. 2.7** Examples of upward and downward spirals

evaluate O's behavior deliberately, and extend the length of the trust spiral. Trust assessments are constantly being updated over the course of an interaction and relationship, leading to a repetitive spiral that modifies trust over time.

*P18: Trust spirals expand and contract based on actual behaviors, expectancies based on norms or previous interactions, and appraisals of the IP and AP.*

One aspect of interactions that can affect trust-distrust is interactional coordination and synchrony. Coordinated, meshed interaction and synchrony are positively related to trust. For example, scholars have developed data mining tools that uncover hidden behavioral patterns which reveal the extent to which interaction is organized between two people or lacks interdependence. A program called Theme that uncovers hidden behavioral patterns reveals the extent to which interaction is organized between two people or lacks interdependence (Burgoon et al. 2015). In deceptive interactions, even though at the conscious level S and O may be unaware of the extent to which they are achieving interdependence, their nonverbal coordination may signify the growth of trust over time. There is, however, a point beyond which hyper-accommodation appears forced and inauthentic, which backfires. Put differently, interaction synchrony is a positive force as long as it is fluent, rhythmic, and nonconscious. Once it reaches an upper limit, it draws attention to itself and loses its naturalness. Deceptive interchanges that overstep this limit may betray their lack of verisimilitude.

*P19: The relationship between interactional coordination and trust is nonlinear such that at its upper reaches, trust reverses into distrust.*

*P20: Increases in trust reinforce perceived truthfulness.*

## Summary

Trust is an integral part of interpersonal relationships. Achieving trust is typically an assumption and a goal in most relationships, although there are occasions when wariness and distrust are instead the goal. Problematic are the cases when trust is desired but distrust prevails or distrust is wanted and undue trust instead transpires. These cases of how achieving or failing to achieve end desired states of trust or distrust are the objective of our integration of expectancy violations theory and interaction adaptation theory into a spiral model of trust. These theories seem most apropos because they recognize that humans are goal-oriented, they evaluate the actions of others, their communication is multimodal in the sense that there are multiple nonverbal and verbal signals from which to fashion messages, communication patterns may conform to or violate expectations, and patterns evolve over the course of single episodes or multiple episodes.

In relationships, expectations are founded on social norms and individuated projections for another's behavior based on prior experience and personalized knowledge. Repeated confirmations of positive expectations should build trust, whereas positive expectancy violations should speed up the trust-building process. Conversely, negative violations should erode trust.

The likelihood of S and O interaction patterns becoming coordinated, rhythmic, and interdependent will be governed by each person's requirements, expectations, and desires. These are synthesized into an interaction position—a projected verbal and nonverbal behavior pattern against which the other's actual behavior pattern will be compared. When the actual behavior pattern is more favorable than the projected pattern, the person will engage in approach behaviors, which typically elicit similar behaviors and a sense of trust. When the actual behavior pattern is more negative than the projected pattern, the person will engage in avoidance behaviors that are accompanied by distrust. Repeated iterations of these of these patterns become a positive or negative spiral.

The propositions advanced here are not meant to be a comprehensive enumeration of the propositions of the theory but rather the beginnings of it. We welcome additions and modifications by others to create a more robust spiral theory of trust. Tests of this model's propositions should enlighten the extent to which trust, once established, remains fairly fixed, or spirals over time in response to the verbal and nonverbal behaviors of participants. If trust fluctuates over time, the timing of its measurement becomes critical. Like taking a child's temperature who has the flu, periodic readings are required. In the context of the SCAN project, observation of patterns of dominance and arousal by participants over time may reveal whether those patterns are significant predictors of trust and are linked to deception.

**Acknowledgement** We are grateful to the Army Research Office for funding much of the work reported in this book under Grant W911NF-16-1-0342.

**Funding Disclosure** This research was sponsored by the Army Research Office and was accomplished under Grant Number W911NF-16-1-0342. The views and conclusions contained in this

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