Interpersonal Deception Theory

Judee K. Burgoon

University of Arizona

David B. Buller

AMC Cancer Research Center

To appear in J. Seiter & R. Gass (Eds.), *Readings in Persuasion, Social Influence, and Compliance Gaining*, Allyn & Bacon.

Not for quotation without permission

Introduction

Newspapers and television daily call our attention to all manner of deceptions: spies creating false identities and spinning false tales, politicians lying about their private relationships, business executives covering up fraudulent deals, foreign governments creating disinformation campaigns. But deceit need not be the stuff of sensational headlines. It is all around us, every day and in every relationship. In fact, even the most publicized of deceits is comprised of endless interpersonal encounters in which lies, exaggerations, misrepresentations and the like are created and perpetuated. An understanding of deception, then, is best realized when grounded in the interpersonal interactions that give deceit its sustenance.

Interpersonal deception theory (IDT) arose out of just this concern that deception be examined within the nexus of interpersonal encounters. It was formulated to contextualize an explanation of deceptive communication in what we know about conversation. This approach stands in contrast to more psychological explanations for deceptive communication. It also draws attention to the dynamic nature of deception displays and to the mutual influence between sender and receiver that occurs in all conversations.

In this chapter, we outline the assumptions on which IDT is built, then present several key propositions of the theory. In formulating IDT, we synthesized a broad range of evidence and conceptual perspectives on conversational behavior, interpersonal influence, nonverbal communication, normative expectations and source credibility. The most notable progenitors for IDT are the first author's research into conversational expectations and behavioral adaptation (Burgoon, 1978, 1993; Burgoon, Stern & Dillman, 1995), the second author's research on verbal and nonverbal social influence (e.g., Buller, 1986, 1987; Buller & Aune, 1988, 1992; Buller & Burgoon, 1986), our combined functional approach to nonverbal communication (Burgoon, Buller & Woodall, 1996), and decades of research on verbal and

nonverbal factors in source credibility (see, e.g., Buller & Burgoon, 1986; Burgoon, 1976; Burgoon & Hoobler, in press). Given the broad net we cast, IDT qualifies as a mid-range theory that has multiple explanatory mechanisms within its propositions.

The remainder of the chapter is devoted to summarizing the results of our experimental tests of IDT. We present these in a largely chronological order so as to give readers a sense of how the thinking about, and testing of, IDT evolved.

Assumptions About Interpersonal Communication

The mutual influence in normal social interaction arises from the active participation of all parties to the conversation. Communicators are not involved in conversation only when encoding messages; they are dynamically engaged in reception of messages, as well. In fact, it is a misnomer in interpersonal interaction to separate senders from receivers, except in an abstract sense (which we do henceforth). In normal conversations, speakers encoding messages are simultaneously monitoring and decoding the conversational behavior of listeners (e.g., observing feedback, turn-taking cues and overt reactions to the message including emotional reactions). Likewise, listeners usually are not passive messages recipients. While listening, they provide verbal and nonverbal feedback and turn-taking cues and manage their demeanors and formulate their own turn at talk. All parties to deceptive episodes are likewise concerned with such multiple goals as preserving good interpersonal relationships, masking inappropriate emotions, keeping conversations running smoothly, and appearing credible. In achieving these multiple conversational functions, they must manage a host of verbal and nonverbal behaviors.

Thus, conversations are dynamic, multifunctional, multidimensional, and multimodal events in which participants must perform numerous communication tasks simultaneously in real time. Such juggling requires considerable skill to accomplish effectively. Communicators are also responding to a host of cognitive and behavioral factors that

influence deliberate communication acts and produce some unintended and unwitting behaviors too. Although conducting social interaction is arguably a cognitively demanding activity, it appears that people are generally good at it because much of normal conversation is fairly routinized. Too, social interaction is made easier by the fact that we have learned to follow culturally-prescribed rules and expectations. Some of the most important features of IDT are expectations for truthfulness, for conversational involvement, and reciprocal, or matching, conversation styles. How one reacts to, and interprets, the fulfillment or violation of expectations goes a long way toward determining the outcome of conversations containing deception. These features of interpersonal communication are the context in which we formulated IDT.

Assumptions About Deception

In IDT, deception is defined as an intentional act in which senders knowingly transmit messages intended to foster a false belief or interpretation by the receiver (Buller & Burgoon, 1996; Ekman, 1985; Knapp & Comadena, 1979). To accomplish this, senders engage in three classes of strategic, or deliberate, activity--information, behavior, and image management. The term "management" implies that deception is a motivated behavior, undertaken for a purpose. Usually that purpose is one that benefits the sender, although senders frequently claim that they deceive to benefit the receiver or a third party to the conversation. Information management refers to efforts to control the contents of a message and usually concerns verbal features of the message. Behavior management refers to efforts to control accompanying nonverbal behaviors that might be telltale signs that one is deceiving. It derives from the assumption that verbal and nonverbal messages are constructed as a unified whole and that nonverbal behaviors are often intended to augment and extend the meanings conveyed by verbal content. Image management refers to more general efforts to maintain credibility and to protect one's face, even if caught. It derives from the assumption

that individuals are motivated to protect their self-image and public image. These three classes of strategic activity work hand in hand to create an overall believable message and demeanor. By way of example, a student suspected of cheating might tell her professor, "I did not look at my neighbor's exam" (information management) while crossing her arms to avoid nervous gestures or body movements (behavior management) and smiling to appear honest (image management).

This assumption that senders are active agents whose behavior reflects planning, rehearsal, editing, and other conscious or semi-conscious efforts to successfully pull off deceit does not preclude deceivers also engaging in what we refer to as nonstrategic actions–classes of behavior that may be involuntary and uncontrolled. Nonstrategic activity may result in poor, unnatural, or embarrassing communication performances. A case in point is blushing when a child gives a nontruthful answer to a parent's inquiry. The complexity of deceptive messages, and the knowledge that deception violates conversational rules and social prescriptions against deceit, can alter the mental state of senders. It can increase the cognitive effort needed to formulate this multifaceted conversational behavior. It also may increase arousal and provoke negative affect. All of these processes may result in inadvertent signals that something is not quite normal in the conversation, i.e., nonstrategic activity, although IDT does not assume that such signals are necessarily or universally present.

Finally, because we situate deception in conversation, the actions of recipients of deceit are an object of study. As such, the most important counterparts to sender deceit are receivers' perceptions of deceit and their suspicion (a belief held without sufficient evidence or proof to warrant certainty that a communicator may be deceptive).

<div align="center">The IDT Model Summarized</div>

With these assumptions about interpersonal communication and deception as a backdrop, we formulated a theoretical model of deception containing 18 propositions (Table

1). They describe an iterative process of mutual influence in which the enactment of deception by one conversational participant provokes a cascade of moves and countermoves by both parties to the conversation. These moves are aimed on the one hand at adapting the deceptive message in order to maintain its apparent truthfulness (i.e., achieving deception success) and on the other at discerning the credibility of the message and the sender and ultimately reaching an interpretation of the meaning (i.e., achieving detection success). Because most people know how to carry on a conversation, these actions may be "run off" with relative ease and at a low level of consciousness rather than requiring significant cognitive or physical effort. The subtlety of deceptive processes is one reason that detection is such a challenge, as we shall see. This process and its outcomes are determined by several factors discussed throughout this chapter. These include contextual factors, such as the degree of interactivity possible, senders' and receivers' pre-interaction characteristics such as social skills, pre-existing knowledge (called information and behavioral familiarity), the positive or negative valence of the relationship between conversational partners, and initial expectations for honesty within the exchange (see Figure 1 for a simplified depiction of the interactive process of interpersonal deception). All of these factors should influence whether senders or receivers hold a relative advantage during deceptive episodes.

Insert Table 1 and Figure 1 about here

IDT has been tested in a program of experiments that address the nature of deception displays under interactive circumstances (i.e., ones in which perpetrators of deceit interact in real time with the same receivers who render judgments of sender truthfulness). To properly test IDT, the experiments had to meet a number of other criteria. They needed to be of sufficient length to capture the dynamics of interaction, including the potential for a broad range of possible strategic and nonstrategic actions to emerge. Our commitment to an interactive research design and to achieving generalizability to a broader range of discourse

also led us to employ common forms of discourse, such as interviews or discussions of a particular topic, that not only situated the deception within normal conversational routines but also required far more extended talk than typical deception experiments utilizing very brief, sometimes single-sentence, utterances. Additionally, instead of the usual practice of relying on college student samples, many studies enrolled non-student participants who were recruited from the jury assembly room at the county court house, from civic organizations, from employment centers (with training offered in exchange for participation), and from nonprofit groups (who earned money for their organization by participating). In all cases, we sought equal numbers of males and females in our sample so that our results would be applicable to both sexes. In some cases, we also included both friends and strangers so as to further increase generalizability and to uncover any relationship differences. Finally, to compare participants' perceptions with one another and with objective behavioral data, we asked participants themselves to report on their own and their partner's communication and then subjected videotaped interactions to extensive coding by trained raters. Some studies also included third-party observers to test for differences due to perspective (participant versus observer).

We turn our attention in the rest of this chapter to reviewing evidence from this program of research in support of the propositions of IDT.

Input Factors

Context Factors

A major premise of IDT that sets it apart from other models of deception is that holds that deception displays and processes differ according to whether the sender of deceptive messages interacts in real-time with the intended recipients of those messages or not. This is the concept of interactivity. If, for example, a videotaped interview is observed at a later time by a third party, that third party will not have the same responses to, or assessments of, any

deception by the interviewee compared to the interviewer who asked the questions. The observer is not "interactive" with the sender. Similarly, if two friends carry on an email conversation, doing so via instant messaging is more "interactive" than exchanging messages over the course of a week.

Interactivity is thought to make a difference in how deception plays out. One reason is that people in interpersonal interactions usually expect others to be truthful (often referred to in the deception literature as a "truth bias'), and these expectations are proposed to become more pronounced as interactivity increases. Three of our studies that examined this premise by comparing judgments of receivers who participated in the conversation (high interactivity) and those who merely observed it (low interactivity). In each case, participants rated senders as more honest and trustworthy than did observers (Buller, Strzyzewski, & Hunsaker, 1991; Buller & Hunsaker, 1995; Dunbar, Ramirez, & Burgoon, in press). Participant-receivers also judged sender communication more favorably (i.e., rating it as more involved, pleasant, and expected) and evaluated sender credibility more leniently (i.e., judging senders as more competent, dominant, and higher in character than did observers. Together, these studies clearly show that interactivity confers an expectation for honesty, and a bias toward lenient judgments, in receivers.

IDT suggests that interactivity also should affect senders' deception displays. Senders should increase strategic activity (e.g., briefer utterances) and decrease nonstrategic behavior (e.g., fewer pauses) in highly interactive circumstances because (a) senders have the opportunity to repair and adapt their communication as they obtain feedback from receivers on their apparent believability and (b) the rapport and trust engendered by conversational participation produces a more coordinated, smooth interaction that helps senders behave naturally in conversation (Buller & Burgoon, 1986; Burgoon, Buller, Floyd, & Grandpre, 1996). The experiments to be reviewed shortly attest to the impact that interactivity has on

senders' strategic and nonstrategic activity.

Finally, interactivity should affect receivers' ability to distinguish deceit from truth. Compared to observers, receivers embedded in conversations face a complex set of conversational and cognitive demands. They must interpret messages in real time while simultaneously formulating their own conversational turns at talk, providing feedback to senders, and engaging in turn management. These tasks can distract them from cues to deception. At the same time, receivers are enmeshed in relationships with senders. As such, they may commit to their expectations for honesty at the outset of the conversations and not adjust them later. These expectations can be further reinforced by the patterns of reciprocity and the maintenance of self and others' face needs during conversations (Burgoon, Buller, Floyd, & Grandpre, 1996).

Four out of five studies we have conducted have supported the impact of interactivity on detection accuracy (the exception being Buller & Hunsaker, 1995). Buller, Strzyzewski, and Hunsaker (1991) showed that participants did not differentiate between truthful and deceptive messages but observers did. Burgoon, Buller, Floyd, et al. (1996), in which sender, receiver, and observer perspectives were compared, found that observers were more attuned to behavioral differences between truthful and deceptive communications than were participant-receivers but neither set of receivers labeled deceptive performances as deceit. In a study comparing receivers under dialogue (two-way communication) and monologue (one-way communication), receivers early on were less accurate at detecting deception under dialogue than monologue; as conversations wore on, receivers under both dialogue and monologue were less accurate at detecting deception (Burgoon, Buller, & Floyd, 2001). Finally, a recent companion study that collected observer data to compare to that of dialoguing receivers found that participant-receivers were less accurate in detecting deception (Dunbar, Ramirez, & Burgoon, in press). These studies demonstrate that interactivity reduces receivers' ability

to detect deception. Two questions that arise are (1) whether losses in detection accuracy are only short-term and (2) whether any gains receivers might make in their detection acuity are offset by senders' own gains from adapting to receiver feedback. Studies summarized below partially speak to these issues.

Relationship Factors

In IDT, the nature of the relationship between sender and receiver is another input factor that influences the process and outcomes of deception (Buller & Burgoon, 1996; see also McCornack & Parks, 1986; Stiff, Kim, & Ramesh, 1989). The most important relationship features are relational familiarity and relational valence.

Relational familiarity. Relational familiarity can be both informational and behavioral. Compared to strangers, people in relationships have more knowledge about one another and are more familiar with each other's behavior. Such familiarity (i.e., informational and behavioral) could improve receivers' ability to detect deception. Military intelligence specialists and law enforcement personnel routinely judge the likely validity of responses from prisoners of war or criminal suspects by asking questions for which the truthful answer is already known, as a way of determining how truthful the respondent is being. The same process could be used by relational partners, either deliberately when their suspicions are aroused or inadvertently when information in a deceptive message does not square with their shared history. A shared history also may make relational partners more cognizant of how each other usually behaves in conversation, thus helping them better recognize deviations from normal conversational patterns. In one of our studies, novice interviewers improved their detection accuracy when asking acquaintances an unexpected question but not when asking it of a stranger (Burgoon, Buller, Ebesu, & Rockwell, 1994). Their familiarity with the source's behavior probably improved their ability to detect abnormal responses.

Another reason detection accuracy may improve is because senders interacting with

acquaintances, friends, and family may become worried that their deceit will be detected, precisely because of the information and behavioral familiarity these receivers possess. But this is a complex issue. On the one hand, any such concerns could be revealed by the presence of nonstrategic anxiety cues and negative affect. These telltale indicators of deception should make detection of deception easier for the receiver. On the other hand, anxiety also could motivate senders to engage in more strategic moves to hide their deceit, making detection more difficult because there would be fewer cues for receivers to rely on. Such adjustments, in turn, could lead to overcontrol, reducing senders' conversational involvement and producing other performance decrements such as nonfluent speech. These additional nonstrategic behaviors should make detection easier. Thus, arousal and anxiety can have a mixed set of effects, many offsetting, on deception displays and their detectability when interactants know one another.

Our research findings reflect just such a mixed bag of results. By way of illustration, in a study conducted prior to formulating IDT (Buller & Aune, 1987), intimates and friends differed from strangers in their use of eye contact, forward lean, nervous touches to the face and head, vocal nervousness, vocal pleasantness, and gestural expressivity. A recent study revealed that friends may benefit from high interactivity (dialogue) but not low interactivity (monologue). Senders dialoguing with friends were judged as managing their behavior and image better than senders dialoguing with strangers, but friends did more poorly than strangers when delivering a monologue (Burgoon, Buller, & Floyd, 2001). Other studies reviewed below further confirm that the nature of the interpersonal relationship between interactants influences the deception process.

Relational valence. The degree of positivity and trust associated with a relationship may be a powerful cause of truth bias, leading receivers to overlook, discount, or misinterpret signals that the communication is not what it seems. For example, in a recent study

(Burgoon, Buller, & Floyd, 2001), receivers felt that interactions with friends produced more rapport, trust, and similarity than interactions with strangers. In another study (Burgoon, Buller, Ebesu, & Rockwell, 1994), receivers also consistently overestimated the honesty of acquaintances. Conversely, when led to be suspicious (i.e., when receivers were induced to place a negative valence on the relationship), novice receivers (as opposed to military intelligence specialists) greatly underestimated strangers' truthfulness.

In sum, features of communication contexts and of interpersonal relationships frame deceptive encounters and must be taken into account to achieve any precision in predicting and explaining deception. Associated beliefs and expectations influence the initial judgments of sender credibility and early actions by deceptive senders within the conversation. This is just the beginning of the story of interpersonal deception. Quickly, sender and receiver begin to exert mutual influence on each other's cognitions, feelings, and behavior so that conversational patterns change over successive conversational turns. With those adjustments come changes in sender credibility and deception success. In the next section, we consider the propositions in IDT that describe the interaction processes in interpersonal deception.

Interaction Processes

Deception Displays

The prevailing wisdom, prior to IDT, was that the act of deception is accompanied by a number of involuntary reactions that are telltale signs that a person is lying. Deceivers were expected to experience anxiety and negative emotions such as guilt or fear of detection, to find their cognitive workload increasing as they tried to concoct plausible lies, and to make (usually unsuccessful) efforts to suppress the signs of nervousness, discomfort, and cognitive effort--all of which would result in behavioral cues that the savvy observer could use to detect deception. Ekman and Friesen (1969) called this the leakage hypothesis. Like Sigmund Freud, they thought that people would inadvertently reveal or 'leak' their deceptive intent and

that these leakage cues were uncontrollable, so they would appear unbidden. All that an astute observer need do is tune in to the right ones to have some surefire clues that deception was occurring.

Decades of research were dedicated to discovering the anticipated verbal and nonverbal signs of deception (see, e.g., Ekman, 1985; deTurck & Miller, 1985; Zuckerman & Driver, 1985). Yet research failed to yield many consistently reliable indicators. Pinocchio's nose was not evident in real life. Coupled with the persistent evidence that people's accuracy in detecting deception hovers around chance at best, this raised the question of whether a profile of valid indicators could be identified. An equally important question lurking in the background was whether any of the research findings would generalize to conditions in which deceivers actually interact with the intended recipients of their deceit.

This is where IDT entered the scene. Our fundamental premise that interactive deception differs from noninteractive led us to expect that deception displays are transitory. We also predicted that deceivers (or at least, skilled ones) would make use of the communication interplay between sender and receiver to repair their performances over time, thus making detection even more difficult as time passed. We further reasoned that if deceptive performances comprise both strategic and nonstrategic elements, researchers needed to examine a broader range of associated verbal and nonverbal behaviors to see if the presence of intentional (strategic) behaviors would make deceit even less detectable. Our conviction that deceit is an active, goal-oriented activity also raised the prospect of senders employing multiple strategies for enacting deceit, each strategy replete with its own profile of verbal and nonverbal behaviors needing investigation. Too, our conviction that receivers are themselves active agents raised the prospect that their own communication, including overt indications of suspicion, might alter deceivers' displays.

We summarize next, in chronological order, those IDT studies that explicitly

examined deception displays. In all, eight original experiments, plus secondary analyses of several of Bavelas and colleagues' experiments and follow-up analyses on our own videotaped interactions, were undertaken explicitly to test IDT propositions and hypotheses. Because Experiment 1 focused on receiver suspicion and is discussed later, we begin with Experiment 2, which was the first to address deception displays.

Experiment 2. This experiment was the first to assess a wide range of perceived and coded nonverbal (Burgoon & Buller, 1994) and language behaviors (see Buller, Burgoon, Buslig, & Roiger, 1996). It built upon earlier investigations by Buller and colleagues (Buller & Aune, 1987; Buller, Comstock, Aune, & Strzyzewski,1989) showing that deceptive performances included a mix of nonstrategic cues related to arousal and negative affect, and strategic activity related to information, behavior, and image management. We hypothesized that compared to truth tellers, deceivers would manage information by obfuscating their verbal responses with vagueness, uncertainty, reticence, and nonimmediacy (avoidance language) and that this information management would be accompanied by nonverbal nonimmediacy (e.g., less gaze, greater distance) and inexpressiveness. We also hypothesized that initially, deceivers would be more nervous, negative, and nonfluent than truth tellers but that the dynamics of interactive deception would allow them to improve behavior management and image protection over time.

Our experimental methods were intended to elicit natural interactions and self-presentational concerns that would be common among friends and strangers alike, since our sample included both. Adapting procedures used by Toris and DePaulo (1985) and Buller and Aune (1987), we couched the study as related to how people present themselves to others during an interview and how well interviewers can detect misrepresentations of true feelings and actions. Half of the participants were asked to lie after the first five questions. The first five questions thus provided a truthful baseline during which participants could acclimate to

the task and familiarize themselves with the interviewees' communication style. It also approximated real-world circumstances in which deception and truth are intermixed. Afterward, both participants rated interviewee behavior, and trained coders rated assorted nonverbal behaviors from the videotaped sessions.

As hypothesized, deceivers and truth tellers behaved differently. Consistent with our contention that deceivers strategically manage what information they reveal, deceivers' statements were characterized by brevity, vagueness, uncertainty, nonimmediacy, and nonspecificity (e.g., "everybody went drinking" versus "I went drinking"). This had the effect of minimizing the amount of concrete and verifiable detail that deceivers supplied and of disassociating deceivers from what they were saying. Other linguistic patterns were contrary to predictions but also had the effect of making deceptive answers more pallid and less personal than truthful ones. Nonverbally, deceivers' initial behavioral patterns were as predicted. They displayed some strategic moves--less nonverbal immediacy, less dominance, and more formality than truth tellers--that collectively should have curtailed conversation and/or made deceivers seem passive, polite, composed, and nonmanipulative. But their behavior also included some nonstrategic ingredients--nervousness, unpleasantness, and gaze avoidance--that together with the overall reduction in conversational involvement created an unexpected and undesirable impression. Contrary to IDT, then, deceivers did not project a more favorable image.

Had these patterns persisted throughout the course of the interaction, we might have concluded that regardless of any deliberate efforts to the contrary, deceptive performances lack credibility. However, in support of our position that deceivers actively attempt to control and repair their performances, deceivers' body language became increasingly relaxed and pleasant over the course of these brief five-minute interactions. With more time, we might have seen even more strategic repairs. And, even without major repairs, it was likely that

deceivers' subdued demeanors were effective in evading detection because, as we shall see in later investigations, deficiencies in deceptive performances need not give the deceiver away. Additionally, other results discussed shortly supported IDT's premise that deception varies by such factors as relational familiarity, partner's communication style, and suspicion.

Experiment 3. The next experiment lengthened the interview time and replaced novice interviewers with trained interviewers who maintained a consistent interaction style across interviewers. Unacquainted participants first completed a truthful interview with a same-sex interviewer then completed a deceptive interview with a second same-sex interviewer. To learn whether there might be multiple deception profiles, deceivers were instructed to use one of three types of deception--fabrication (outright lying), equivocation (being vague and ambiguous), or concealment (withholding relevant information)--or, in a "general" condition, to utilize whatever forms of deception they wished.

As predicted, deceptive responses were seen as less conversationally complete (i.e., failed to meet usual conversational obligations), direct, relevant, clear, personalized, and veridical (honest) than truthful responses (Burgoon, Buller, Guerrero, Afifi, & Feldman, 1996). These results related to information management confirmed that deceivers have a number of features at their disposal to effectuate deception. Senders also reported being far less truthful when fabricating answers than when concealing or equivocating, but observers failed to see differences among the three types. Linguistically, deceivers again used fewer self-references and tended to use fewer group-references than truth tellers (Buller, Burgoon, Buslig & Roiger, 1994). This stripped deceptive responses of some of their concreteness and personalization. However, as other linguistic analyses proved problematic, we made several methodological changes before the next test of deception types.

Experiment 4. Reported in Buller, Burgoon, White, and Ebesu (1994), this next experiment again employed interviews and compared three types of deception--fabrication,

equivocation, and concealment. To see how suspicion alters both sender and receiver behavior, we reverted to novice rather than trained interviewers, half of whom were made suspicious. Participants were civilians and military personnel from two locations and included strangers and acquaintances.

The resultant complex findings confirmed our conjecture that deception displays are highly responsive to such factors as the type of deception, degree of relational familiarity, and partner's suspicion. Information management went largely as predicted. Truthful responses were seen as more complete, honest (veridical), direct/relevant, clear, and personalized than deceptive ones. Of the three deceptive types, falsifiers were the least truthful but also the least reticent (i.e., their answers were less vague, hesitant, and brief than those of equivocators or concealers). Equivocators were the least clear, direct, and relevant. Additionally, deception tended to include distancing and ambiguous language (e.g., levelers, modifiers, and group references), which was as predicted, but they also used present-tense verbs and fewer past-tense verbs, contrary to predictions. (After the fact, we conjectured that past-tense verbs are more likely to sound definitive and therefore deceivers might have been expected to use present-tense rather than past-tense verbs.) As for nonverbal patterns, they failed to support a clean strategic/nonstrategic distinction, as many behaviors were opposite predictions. For example, deceivers were expected to be less expressive than truth tellers; instead, they were more so (and yet less involved). Deceivers were hypothesized to be more formal; instead, they were less so. And, only strangers showed the expected pattern of nondominance when deceiving; acquaintances instead became more dominant than their truth-telling counterparts.

The overall conclusion we drew from these data is that in interactive contexts, very few uniform deception displays are likely due to deceivers adapting to audience and context and to employing an array of discourse forms, each with different accompanying nonverbal

cues. Still, some suggestive patterns emerged. Deceivers often seemed to opt for greater verbal reticence, withdrawal and vagueness, which has the advantage of reducing chances of making contradictory or implausible statements; to adopt an informal, nondominant demeanor, which may discourage others from probing too deeply and which disassociates them from responsibility for their statements; to offset verbal nonimmediacy and depersonalization by being more expressive through body language; and to hide arousal by suppressing some (but not all) other physical activity. The net result of all these behaviors was an apparent general reduction in involvement, something that was emerging as a strong telltale sign of deception, at least at the outset of conversations.

Secondary analysis of the equivocation experiments. The next move in our research program (Buller, Burgoon, Buslig & Roiger, 1994) took us not to yet another experiment but rather to further analysis of research conducted by Bavelas, Chovil, Black, and Mullett (1990), who had been conducting numerous experiments on equivocation. Janet Bavelas graciously made available the audiotapes and videotapes from six studies so that we could code the utterances on the same verbal and nonverbal behaviors we had measured previously. (It should be noted that Bavelas does not consider equivocation a form of deception, but her characterization of it is still quite similar to ours, as a form of discourse that includes truthful but indirect, irrelevant, ambiguous, or evasive information to create an impression that deviates from "the truth, the whole truth, and nothing but the truth.") Her program of research offered an excellent complement to ours because, unlike our direct instructions to subjects to be equivocal, her experiments induced equivocation by placing people in avoid-avoid conflicts (i.e., situations in which both options of telling the truth and lying would have negative consequences) that naturally encouraged them to equivocate. For example, in one study, people were asked to imagine that a friend had performed poorly on a task and was asking for feedback on how he or she did. Telling the truth would hurt the friend's feelings,

yet people are often loathe to lie outright; hence the likelihood of resorting to equivocation. Most of the experiments contrasted a conflict condition with a no-conflict condition.

Results showed that equivocators were nondominant, which would equate with a withdrawal response, but they were also linguistically immediate, which is an approach response. They were less expressive vocally but more expressive kinesically. They also "leaked" some tension and unpleasantness when equivocating. These combined patterns point to equivocation including channel discrepancies, which would make sense, given that equivocation is a likely response when people are feeling ambivalent.

Further vocal analyses from Experiment 4. Our own and others' research had repeatedly established that vocal behavior can be a major discriminator between deceptive and truthful speakers. The next investigations (Rockwell, Buller & Burgoon, 1997a, 1997b) therefore sought to identify reliable indicators of deceit using acoustic and perceptual measures. Vocal features generally fall into one of three kinds of measures--ones related to duration or speed of utterance, ones related to frequency or pitch, and ones related to intensity. Based on the expectation that relative to truth tellers, deceivers would be more reticent, withdrawn, and uncertain, and would exercise greater control over nonverbal behaviors, we hypothesized that deceivers would exhibit shorter overall message duration, slower tempos, less fluency, and longer response latencies. At the same time, the voice is not as easily controlled as the body, and previous findings have shown that arousal can be leaked through higher pitch. We therefore also predicted that deceptive voices would be higher pitched. Finally, on the supposition that in trying to "shrink" from discovery with a submissive demeanor, we thought deceivers would speak more softly than truth tellers.

Trained coders rated such features as fluency, response latencies, internal pauses, pitch, vocal quality, articulatory precision, and pleasantness. The recordings of the interviews were then analyzed by acoustic software that measured such features as number of sound and

silence segments, response latency, fundamental frequency mean and variance, and intensity mean and variance. Results revealed that deceivers constructed shorter messages, spoke more slowly, were less fluent, and had longer response latencies. Unlike many other deception studies, deceivers did not show elevated pitch, but the acoustic analysis revealed that they displayed more pitch variety and a wider intensity (loudness) range than truth tellers. Additionally, deceivers' voices were rated as less pleasant than that of truth tellers.

Among the plausible explanations for these findings are that deceivers may have adopted these patterns strategically so as to restrict the amount of information conveyed, to reduce their responsibility for the receiver's interpretation of what is said by being vague and uncertain, and to cover any verbal insufficiencies with an expressive voice. Alternatively, behavior patterns may have been unintended. Deception may have required greater cognitive effort that prevented rapid responses and long messages. It may have heightened arousal in a manner that impaired efficient functioning of the articulators and prevented deceivers from controlling fluctuations in intensity. The indeterminacy of whether these vocal patterns best fit a strategic or nonstrategic interpretation would lead to the design of Experiment 6.

Experiment 5. Meantime, this next study, reported in Burgoon, Buller, White, Afifi and Buslig (1999), was undertaken to examine further the extent to which senders adapt their deceptive displays over time and to different receiver communication styles. Several hypotheses were tested: (a) interactive deception displays differ from truthful ones only at the outset of interactions and approximate truthful displays over time; (b) deceivers adapt to receiver communication, (c) receiver involvement affects sender displays, (d) receiver judgments of truthfulness are directly correlated with sender displays, and (e) sender social skills affect their deceptive performance. (We discuss the last hypothesis later in the chapter.)

We again recruited a highly representative community sample to conduct interviews. Interviewees were instructed to alternate between telling the truth and deceiving across four

blocks of three questions. Half of the interviewees started with truth, so their truth (T) and deception (D) sequence was TTTDDDTTTDDD. The other half followed a deception-first order (i.e., DDDTTTDDDTTT). Subsequently, trained coders rated the recorded sessions on verbal and nonverbal involvement.

Results were supportive of IDT generally and the hypotheses specifically. Truth tellers were initially more talkative than deceivers but deceivers became more verbose over time and were equivalent in their amount of time talking by the close of the interview. Involvement followed a similar pattern. Deceivers were less involved initially than truth tellers but achieved comparable levels of involvement by the end of the interview. They also showed increases in involvement each time they shifted from truthful responses to deceptive ones, demonstrating that they were able to adjust their level of involvement upward despite the normal inclination to become subdued when deceiving. Moreover, interviewee involvement closely followed interviewer involvement levels, indicating a strong tendency for truth tellers and deceivers to adapt in a reciprocal fashion to the interviewer's communication style. The exceptions were that, as predicted, deceivers and truth tellers compensated for the interviewer's low involvement by becoming more involved, as predicted. But unexpectedly, interviewees who began the interviews by deceiving also compensated for the interviewer's high involvement by also becoming less involved, possibly because they thought the high involvement conveyed suspicion and made the interview seem more like an interrogation. By contrast, interviewees who began with truthful answers reciprocated the interviewer's high involvement, probably because the interviewer's behavior remained constant when the interviewee shifted to deception, thereby making it evident that the interviewer's communication was not tied to the interviewee's behavior. These results demonstrated that both verbal and nonverbal behaviors followed IDT predictions.

Experiment 6. Up to this time, we had been making assumptions that deception

includes many strategic features, and indeed, had classified entire clusters of behavioral cues as strategic. Yet we had not attempted to verify directly that deceivers intend to manage their presentations in the manner we had been hypothesizing. This next small-scale study was therefore intended to learn directly from deceivers what they thought they did to create more successful performances and to use this knowledge to refine our next experiments.

Business students were recruited to participate in or observe social conversations between friends or strangers about such topics as "responsibility" and "the most unpleasant job" they had ever had to do. Participants designated as "senders" were asked to be truthful on some topics and to deceive on others. Participants designated as "receivers" were merely asked to keep the conversation flowing. Observers watched the conversations through a one-way mirror and rated senders after two target topics. Senders and receivers subsequently rated the videotaped interaction on the same target topics, and senders were personally interviewed about what they did to appear truthful.

Results provided clear evidence that deceivers intentionally manage their communication. Senders reported giving less complete information when deceiving than when telling the truth and said their deceptive answers were less clear, direct and relevant than their truthful ones. They reported trying to achieve a normal appearance and to shift conversational responsibilities to the receiver. They thought they were as pleasant under deception as under truth. But they also thought their conversational style was less expressive and attentive, less smooth, more anxious, and less dominant when deceiving. Participant-receivers and observers failed to detect many of these apparent changes. Receivers were particularly oblivious, seeing virtually no differences between truthful and deceptive performances. Observers were more tuned into sender differences, seeing deceptive messages as less complete, expressive, and other-centered and more awkward than truthful ones. But discerning these differences made them no less willing to rate senders as believable. Thus,

senders were able to escape negative judgments through their strategic machinations.

Experiment 7. A quick perusal of the IDT propositions reveals that interactivity is a central feature, yet no experiment had tackled its role directly. This next investigation (Burgoon, Buller, & Floyd, 2001) did. One form of interactivity follows a dialogue to monologue continuum. Under dialogue (i.e., high interactivity), senders and receivers exchange turns frequently and have relatively equal turns at talk. Under monologue (i.e., low interactivity), one person holds forth for lengthy periods while the other listens. This experiment tested the effects of interactivity by having undergraduate men and women conduct social conversations while either engaged in a dialogue or a monologue. Half of the participants again became instant accomplices who deceived their partner on two of the four topics using either a truth-truth-deception-deception order or a deception-deception-truth-truth order across the four topics. Afterward, participants and trained coders rated sender communication and credibility.

Results were quite telling. Senders reported better information and speech management under dialogue than monologue, both initially and over time (although these perceptions were altered somewhat by the relationship with the receiver). Behaviorally, senders felt that they appeared more dominant, involved and pleasant when dialoging rather than monologuing, especially with friends. Coder ratings of behavior and image management behaviors showed that senders displayed more involvement, dominance, pleasantness, and adaptation when dialoguing rather than monologuing. Finally, receivers were less accurate in detecting deceit when the interaction was dialogic than when it was monologic.

Overall, these data support the IDT proposition that interactivity in the form of senders engaging in a dialog with receivers enables better strategic management of senders' message content, nonverbal behavior, and overall image.

Experiment 8 . This next investigation entailed two studies intended to continue

examination of the dynamics of senders' strategic adjustments to receiver involvement levels (White & Burgoon, 2001). The first study established participants' expectations, motivations, and typical behavior patterns under truth or deception. The second study paired students to engage in conversations similar to Experiment 7 during which senders were either truthful or deceptive throughout and receivers increased or decreased their involvement level halfway through the conversation.

One research question we posed was whether pre-interactional states differ between deceivers and truthtellers. They did. Deceivers felt more anxious and more concerned about their self-presentations beforehand. All five hypotheses were also supported. When beginning to deceive, senders showed less involvement than their truthful counterparts, but they increased their involvement over time up to a level comparable to truth tellers. These involvement patterns are consistent with a strategic behavior management interpretation in that senders may have initially attempted to mask their deceptiveness by suppressing behavior but eventually were able to adjust to a more normal pattern of interaction, thus satisfying competing goals of evading detection through withdrawal and creating an impression of normalcy through approach behavior. Interaction patterns were also responsive to those of the partner. If the receiver increased or decreased involvement, so did truthful senders, thus displaying the kind of reciprocal interaction patterns that characterize normal conversations. Deceivers also matched partner increases but to a lesser extent than truthtellers. Deceivers were expected to initially compensate for partners' reduced involvement, that is, to show an offsetting increase in involvement, then to reciprocate. Results showed that they did compensate, but not immediately, and they generally showed reciprocal decreases in involvement.

Finally, as predicted, deceivers interpreted receivers' behavior as feedback to them about their own performance. Low involvement was interpreted as possible skepticism or

suspicion, something that probably motivated deceivers to try harder and consequently to be less inclined to become as uninvolved as the receiver was. High involvement was interpreted as a sign of deception success and probably reinforced deceivers' existing communication patterns, thus again leading to less adaptation by deceptive than truthful senders. We had expected deceivers to show more adjustments over time than senders, and there was definitely evidence of more variability in deceivers' responses when faced with low involvement from the partner. But, in retrospect, it makes sense that only those deceivers facing "negative feedback" might need to make adjustments. It is also possible that the demands of crafting a credible deceptive performance, combined with monitoring partner feedback and handling all the other usual conversational responsibilities, may have taxed deceivers' cognitive resources and hampered their ability to adapt. These alternative explanations warrant further investigation because the former implies that senders had greater capacity to manage their presentations in intentional and deliberate ways, i.e., to behave strategically, than does the latter interpretation.

In sum, the experiments conducted to date support many of the IDT propositions regarding the dynamic and adaptive properties of interpersonal deception, their responsivity to partner behavior, and the nature of strategic and nonstrategic deceptive displays. At the same time, they have produced enough curious findings, and raised enough unresolved questions, to invite further experimentation before firm conclusions are drawn.

Suspicion Cues

A key tenet of IDT is that both sender and receiver are active participants in deceptive episodes and that senders are responsive to receiver suspicion. If this is the case, then we should be able to document that receivers exhibit overt behaviors that correlate with their suspicions. What follows is a brief review of the findings related specifically to receivers' suspicion displays.

Experiment 1. This first test of IDT, reported in Buller, Strzyzewski, and Comstock (1991), came upon the heels of studies by Buller, Comstock, Aune, and Strzyzewski (1989) and Stiff and Miller (1986) that had been investigating whether use of probing questions, which suspicious receivers might be inclined to use, elicits more detectable deception by senders. Contrary to expectations, previous studies had found that probing led receivers to judge senders as more, not less, truthful. Buller and colleagues reasoned that probing might tip senders off to receiver skepticism, leading senders to repair their performances by suppressing arousal cues and increasing immediacy and pleasantness. The result would be an honest-appearing demeanor that would defy detection as deceptive.

The current study utilized an interview format during which senders either lied or told the truth to friends or strangers. To induce suspicion, half the receivers were told that interviewers are often less than completely candid and truthful when interviewed face-to-face and that the research assistant would signal them surreptitiously if the sender's responses were not matching a previously completed version of the questionnaire. This would be their cue to ask follow-up questions about the senders' reasons for their answers to the questions, which were taken from a social desirability questionnaire. Afterward, trained coders rated the recorded interviews on a wide array of verbal and nonverbal behaviors.

Results showed that probing did elicit behavioral changes, though not all in the hypothesized direction. Senders who were subjected to probing questions gave longer answers, had more pauses and speech errors, used more illustrator gestures and body adaptor gestures, increased head nodding and shaking late in the interview, and displayed less pleasant facial expressions. The bulk of these cues suggest increased arousal accompanied by efforts to elaborate verbal answers and support them with gestures. However, when senders thought receivers were suspicious, they used fewer gestures, reduced bodily activity, laughed less, and gave shorter answers--behaviors in keeping with greater reticence and efforts to

mask arousal. Overall, then, these results showed that deceptive displays are not governed solely by sender intent to be truthful or deceptive but also by how the receiver behaves and whether the receiver is thought to be suspicious.

Experiment 2. This next experiment (described earlier) tested suspicion effects directly by creating three levels of suspicion (low, moderate, or high) suspicion, based on the stated likelihood that senders misrepresent the truth. We also created separate measures of (a) receiver belief that the sender is untruthful, (b) motivation to detect sender's deceit, and (c) degree of vigilance in observing sender behavior so as to assess suspicion more thoroughly.

As reported in Burgoon, Buller, Dillman and Walther (1995), different levels of suspicion created different behavioral profiles for both senders and deceivers. As a sampling of this very mixed set of findings, senders were vocally unpleasant and the most physically active when facing moderate suspicion but pleasant and inactive when facing high suspicion. Conversely, receivers were more fluent and had smoother turn-switches under moderate than high suspicion. So, deceivers seemed flustered under moderate suspicion but receivers seemed so when they were highly suspicious. These perplexing results led us to speculate that moderate suspicion creates the highest level of uncertainty and that uncertainty accounts for part of the difference in behavioral patterns.

As for what behaviors provoked suspicion among receivers, there were quite a few. Receivers were more suspicious, the more that senders were vague and uncertain, unpleasant vocally and kinesically, nervous and tense vocally and kinesically, nonimmediate (less eye contact, greater physical distance), and generally engaging in behaviors deemed undesirable. Senders who rid their demeanor allayed receiver suspicions. These findings clearly signal the importance of actual verbal and nonverbal communicative practice in perceptions of deceit.

Experiment 4. In this next suspicion experiment, we reverted to two suspicion levels (low or high) because of the number of other factors (three kinds of deceit, expertise,

familiarity, deception, and deception order) in the design. It will be recalled that senders alternated between blocks of truthful and deceptive answers, which allowed us to look for changes across the interview and between truthful and deceptive responding.

The results, reported in Burgoon, Buller, Ebesu, Rockwell, and White (1996), produced a number of very interesting findings. In brief, senders' and receivers' behavior differed significantly depending on whether suspicion was present or not. For senders, if the partner was not suspicious, senders' involvement levels decreased when shifting from truth to deception, showing the typical patterns of deceit initially depressing involvement levels. If, however, the partner was suspicious, senders were able to maintain a high level of involvement when shifting from truth to deception, consistent with IDT's contention that deceivers are capable of strategically adjusting involvement toward the level typical of truth tellers. An exception was concealers, who likely came across as uninvolved because they say little. Additionally, senders seemed more submissive when the interviewer was suspicious, consistent with our contention that senders will adopt avoidance and reticence strategies to reduce their conversational obligations and hence, their likelihood of being detected. The exception was when they were telling outright lies; then they took a more dominant tack. It seems plausible that when trying to "sell" someone on a lie, deceivers would become more assertive. This came at a price, however. Senders fabricating a lie in the face of suspicion were rated as less fluent than those committing other kinds of deceit. There were other behavioral changes that varied according to type of deception and relational familiarity.

As for receivers, suspicion caused them to remain more involved during deception, to be more expressive vocally but less expressive kinesically, and more informal. Other receiver behaviors varied depending on relational familiarity, expertise, and type of deception. These behavioral patterns reveal that suspicion creates potentially noticeable changes in receivers' nonverbal behavior, changes that can be used to tip off senders that they need to make

adjustments, even when receivers' verbal behavior does not give away their suspicion. IDT posits that receivers often telegraph their suspicions to senders and it is this cycling between deceivers' and receivers' moves and countermoves that ultimately results in deceivers gaining the upper hand through strategic adaptation of their behavior.

Experiments 5 through 8. The remaining experiments examined suspicion indirectly, by manipulating receiver interviewing behavior. As noted previously, senders were responsive to receiver communication styles and read those styles as feedback about their own performance. Thus, whether suspicion was induced directly, or "created" by having receivers act the way suspicious receivers act, deceivers altered their behavior in response to those suspicions. Ironically, because the predominant pattern was one of reciprocity–senders matching receivers' communication styles–interviewers who attempted to become more assertive in their questioning often elicited higher levels of involvement from senders, which in turn made senders look more truthful. In short, adopting an assertive interviewing style backfired because it made it easier for senders to craft a believable presentation. This may be why interviewers are often taught to create an outward appearance of neutrality so that their own style isn't "catching." Because communication is inherently a mutually influential process, when it does become "catching," it is not the sender's own internal states that govern his or her behavior but rather the receiver's external behavior. This is an important caveat in interpreting deception displays and one that only becomes evident when experiments permit sender and receiver to interact.

Outcomes of Interpersonal Deception

Initial and On-going Credibility Judgments

We have already discussed receivers' judgments during interpersonal deception as it relates to context and relational factors. However, in IDT, judgments of senders' credibility (i.e., honesty) are considered to be dynamic. Context and relational factors have their greatest

impact on initial credibility judgments. As conversations unfold, receivers judgments of the honesty of senders and their messages become increasingly influenced by sender performance. To the extent that senders' behavior departs from what is expected, receivers should alter their judgments accordingly. However, because senders are monitoring receivers for feedback on their success at deception in order to adjust and repair their communication, detection ability is likely to decline over time in conversations (Buller & Burgoon, 1996; Buller, Burgoon, Afifi, White, & Buslig, 2002).

Our research has shown consistently that receivers recognize deception when it is present. However, they usually tend to judge deceptive messages as less truthful but not actually deceptive (i.e., judgments of both deceptive and truthful messages fall within the truthful portion of the continuum) (Burgoon, Buller, Ebesu, et al., 1994). In one study, as deceivers shifted from truth to deception, receivers' judgments of honesty also shifted upward and downward, correspondingly (Buller et al., 2002), indicating receivers' awareness of the shifting truth value of senders' responses. Among the factors influencing accuracy that we have confirmed are type of deception (falsification, equivocation, concealment), suspicion, and expertise between (Burgoon, Buller, Ebesu, et al., 1994). Receivers judge equivocal answers as least honest, concealments as most honest, and outright falsifications somewhere in. Suspicion not only often fails to improve accuracy, it often hinders it. In one study, expert detectors (i.e., military intelligence specialists) were least accurate when suspicious. Receivers were especially harsh on equivocal answers when suspicious, but suspicion undermined their ability to detect concealments. Finally, suspicion led receivers to consider acquaintances to be more honest and strangers, less honest.

Effects of Skill and Motivation on Credibility Judgments and Detection Accuracy

Given the number and complexity of tasks facing communicators in conversation, IDT holds that the ability to persuade others of one's truthfulness or to make accurate

evaluations of sender credibility are skilled behaviors. Our research has bolstered others' findings that skilled senders are better able to craft an honest-appearing demeanor and so to escape detection (Burgoon, Buller & Guerrero, 1995; Burgoon, Buller, Guerrero & Feldman, 1994). We have been unable to find, however, that receivers who have better social skills are better able to recognize and interpret deceit, leaving open the question of whether native abilities affect detection accuracy. Research by others has documented that with the right kinds of training, receivers can improve their accuracy, which suggests that receiver skills may need to be acquired through experience and training.

Sender motivation to deceive successfully is another factor that can influence receivers' abilities to make accurate assessments of sender credibility. An early conception of the motivation-accuracy relationship held that motivated senders actually were less successful at deception. This motivation impairment hypothesis held that motivation impaired the nonverbal performance during deception (i.e., produced more nonstrategic behavior), even though it improved verbal performance (DePaulo & Kirkendol, 1989). This is similar to the proverbial "choking under pressure" notion (Baumeister, 1984) but applied only to nonverbal behaviors and to deception (Burgoon & Floyd, 2000).

By contrast, IDT provides a different view on motivation: It is predicted to facilitate deception success (Buller & Burgoon, 1996; Burgoon, 1998; Burgoon & Floyd, 2000). As we have reviewed, many nonverbal behaviors are controllable and can be strategically deployed to improve deception success. Generally speaking, then, motivation should increase strategic behavior and improve communicators' conversational performance both when telling the truth and deceiving. (This is not to deny that extreme levels of motivation may interfere with effective production of not just some nonverbal behaviors but also some verbal ones.) Evidence from our research program bears out these IDT predictions. In one study, deceivers who reported being more motivated were also judged as more successful by

observers (Burgoon, Buller, & Guerrero, 1995). Another study found that motivation, measured with multiple indicators, enhanced senders' management of their behavior and image irrespective of whether they were deceiving or telling the truth. There was no evidence that any form of motivation harmed any facet of senders' verbal and nonverbal performance, and the only adverse impact on credibility occurred among truthful and deceptive senders who were overly concerned with keeping their arousal in check (Burgoon & Floyd, 2000). This evidence better fits the IDT claim that motivation facilitates strategic displays in conversations rather than the motivation impairment hypothesis.

<div align="center">Summary and Future Directions</div>

In taking a communication perspective on deception, we have built a far richer and more complicated view of this all-too-common form of information management. It forced us to reconsider some of the fundamental issues in communication, like what makes communication interactive, what multiplicity of communicator goals and responsibilities shape interpersonal interaction, and how mutual influence in conversation is enacted. These questions have complex answers, making it necessary that we build several explanatory mechanisms into IDT such as the distinction between strategic (goal-driven, planned) and nonstrategic (involuntary, unintended) activity, pre-existing knowledge and expectations, mental shortcuts in processing deceptive messages, and conversational adaptation. Obviously, no single study can test all the propositions in IDT. It has required obtaining confirming evidence from a multi-study research program.

To date, this research program has demonstrated that deceptive displays are highly dynamic and variable, depending, among other things, on who the deceiver is interacting with, the type of deceit being enacted, whether the receiver is suspicious or not, and the communication style of the receiver. Deceivers deliberately manage some aspects of their verbal and nonverbal behavior so as to evade detection, and those who are the most skillful

communicators are very successful at appearing truthful. At the same time, receivers do recognize when something is amiss, and they often reveal their suspicions through their own communication, something that deceivers in turn recognize and use to further modify their own behavior. The net result is that accuracy in detecting deception more often than not is poor–testament, perhaps, to humans' general adeptness at creating believable deceits.

Still, much work remains to be done tilling this fertile research ground to test unresolved or untested issues. Additionally, IDT has piqued new lines of inquiry that have applicability beyond face-to-face deception. For example, the rise of new communications technologies has moved to the foreground issues of how interactivity in various modalities (e.g., email, audio- and video-conferencing) affects users' ability to discern truthful from deceptive messages due to the availability or lack of feedback and to opportunities for editing and personalization of content that facilitate greater evasion of deception detection. The number of questions deserving investigation seems endless as we peer into the cyberfuture that is close upon us. Taking a communication perspective on these and related issues should yield unique insights beyond those obtained from models that reduce deception to intrapersonal phenomena. It is hoped that by centering attention on communication practices themselves, as well as the psychological and social factors that are their antecedents, our understanding of interpersonal deceit will be enriched and clarified.

References

Bavelas, J. B., Black, A., Chovil, N., & Mullett, J. (1990). Equivocal communication.

Newbury Park, CA: Sage.

Buller, D. B. (1986). The effects of distraction during persuasion: A meta-analytic review.

Communication Monographs, 53, 91-114.

Buller, D. B. (1987). Communication apprehension and reactions to proxemic violations.

Journal of Nonverbal Behavior, 11, 13-25.

Buller, D. B. (1987, Nov.). Detecting deception by strangers, friends, and intimates:

Attributional biases due to relationship development. Presented at the annual meeting of

the Speech Communication Association, Boston.

Buller, D. B., & Aune, R. K. (1987). Nonverbal cues to deception among intimates, friends,

and strangers. Journal of Nonverbal Behavior, 11, 269-290.

Buller, D. B., & Aune, R. K. (1988). The effects of vocalics and nonverbal sensitivity on

compliance: A speech accommodation theory explanation. Human Communication

Research, 14, 301-332.

Buller, D. B., & Aune, R. K. (1992). The effects of speech rate similarity on compliance:

Application of communication accommodation theory. Western Journal of

Communication, 1, 37-53.

Buller, D. B., & Burgoon, J. K (1986). The effects of vocalics and nonverbal sensitivity on

compliance: A replication and extension. Human Communication Research, 13, 126-

144.

Buller, D. B., & Burgoon, J. K. (1994). Deception: Strategic and nonstrategic

communication. In J. A. Daly & J. M. Wiemann (Eds.), Strategic interpersonal

communication (pp. 191-223). Hillsdale, NJ: Erlbaum.

Buller, D. B., & Burgoon, J. K. (1996). Another look at information management: A

rejoinder to McCornack, Levine, Morrison, and Lapinski. Communication Monographs, 63, 92-98.

Buller, D. B., & Burgoon, J. K. (1996). Interpersonal deception theory. Communication Theory, 6, 203-242.

Buller, D. B., & Burgoon, J. K. (1997). Emotional expression in the deception process. In P. A. Andersen & L. K. Guerrero (Eds.), Communication and emotion (pp. 381-402). Orlando, FL: Academic Press.

Buller, Burgoon, Afifi, White, & Buslig, 2002

Buller, D. B., Burgoon, J. K., Buslig, A. L. S., & Roiger, J. F. (1994). Interpersonal deception VIII. Further analysis of nonverbal and verbal correlates of equivocation from the Bavelas et al. (1990) research. Journal of Language and Social Psychology, 13, 396-417.

Buller, D. B., Burgoon, J. K., Buslig, A., & Roiger, J. (1996). Testing interpersonal deception theory: The language of interpersonal deception. Communication Theory, 6, 268-289.

Buller, D. B., Burgoon, J. K., White, C., & Ebesu, A. S. (1994). Interpersonal deception: VII. Behavioral profiles of falsification, equivocation, and concealment. Journal of Language and Social Psychology, 13, 366-396.

Buller, D. B., Comstock, J., Aune, R. K., & Strzyzewski, K. D. (1989). The effect of probing on deceivers and truthtellers. Journal of Nonverbal Behavior, 13, 155-169.

Buller, D. B., & Hunsaker, F. (1995). Interpersonal deception: XIII. Suspicion and the truth-bias of conversational participants. In J. Aitken (Ed.), Intrapersonal communication processes reader (pp. 237-249). Westland, MI: McNeil.

Buller, D. B., Strzyzewski, K. D., & Comstock, J. (1991). Interpersonal deception: I. Deceivers' reactions to receivers' suspicions and probing. Communication Monographs, 58, 1-24.

Buller, D. B., Strzyzewski, K. D., & Hunsaker, F. G. (1991). Interpersonal deception: II.

The inferiority of conversational participants as deception detectors. <u>Communication</u>

<u>Monographs</u>, <u>58</u>, 25-40.

Buller, D. B., Stiff, J. B., & Burgoon, J. K. (1996). Behavioral adaptation in deceptive

transactions: Fact or fiction? <u>Human Communication Research</u>, <u>22</u>, 589-603.

Burgoon, J. K. (1989, May). <u>Toward a processual view of interpersonal deception</u>. Paper

presented at the annual convention of the International Communication Association, San

Francisco, CA.

Burgoon, J. K. (1976). The ideal source: A reexamination of source credibility

measurement. <u>Central States Speech Journal</u>, <u>27</u>, 200-206.

Burgoon, J. K., & Buller, D. B. (1994). Interpersonal deception: III. Effects of deceit on

perceived communication and nonverbal behavior dynamics. <u>Journal of Nonverbal</u>

<u>Behavior</u>, <u>18</u>, 155-184.

Burgoon, J. K., & Buller, D. B. (1996). Reflections on the nature of theory building and the

theoretical status of interpersonal deception theory. <u>Communication Theory</u>, <u>6</u>, 311-328.

Burgoon, J. K., Buller, D. B., Dillman, L., & Walther, J. (1995). Interpersonal deception: IV.

Effects of suspicion on perceived communication and nonverbal behavior dynamics.

<u>Human Communication Research</u>, <u>22</u>, 163-196.

Burgoon, J. K., Buller, D. B., Ebesu, A., & Rockwell, P. (1994). Interpersonal deception: V.

Accuracy in deception detection. <u>Communication Monographs</u>, <u>61</u>, 303-325.

Burgoon, J. K., Buller, D. B., Ebesu, A., Rockwell, P., & White, C. (1996). Testing

interpersonal deception theory: Effects of suspicion on nonverbal behavior and relational

messages. <u>Communication Theory</u>, <u>6</u>, 243-267.

Burgoon, J. K., Buller, D. B., & Floyd, K. (2001). Does participation affect deception

success? A test of the interactivity principle. <u>Human Communication Research</u>, <u>27</u>, 503-

534.

Burgoon, J. K., Buller, D. B., Floyd, K., & Grandpre, J. (1996). Deceptive realities: Sender,

receiver, and observer perspectives in deceptive conversations. Communication

Research, 23, 724-748.

Burgoon, J. K., Buller, D. B., Grandpre, J., & Kalbfleisch, P. (1998). Sex differences in

presenting and detecting deceptive messages. In D. Canary & K. Dindia (Eds.), Sex

differences and similiarities in communication (pp. 351-372). Mahwah, NJ: LEA.

Burgoon, J. K. , Buller, D. B., & Guerrero, L. K. (1995). Interpersonal deception: IX. Effects

of social skill and nonverbal communication on deception success and detection

accuracy. Journal of Language and Social Psychology (special issue), 14, 289-311.

Burgoon, J. K., Buller, D. B., Guerrero, L. K., Afifi, W., & Feldman, C. (1996).

Interpersonal deception: XII. Information management dimensions underlying deceptive

and truthful messages. Communication Monographs, 63, 50-69.

Burgoon, J. K., Buller, D. B., Guerrero, L. K., & Feldman, C. M. (1994). Interpersonal

deception: VI. Viewing deception success from deceiver and observer perspectives:

Effects of preinteractional and interactional factors. Communication Studies, 45, 263-

280.

Burgoon, J. K., Buller, D. B., White, C. H., Afifi, W. A., & Buslig, A. L. S. (1999). The role

of conversational involvement in deceptive interpersonal communication. Personality and

Social Psychology Bulletin, 25, 669-685.

Burgoon, J. K., & Floyd, K. (2000). Testing for the motivation impairment effect during

deceptive and truthful interaction. Western Journal of Communication, 64, 243-267.

Burgoon, J. K., & Hoobler, G. (in press). Nonverbal signals. In M. L. Knapp & J. Daly (Ed.),

Handbook of interpersonal communication (pp. 344-390). Thousand Oaks, CA: Sage.

DePaulo, B. M., Ansfield, M. E., & Bell, K. L. (1996). Theories about deception and

paradigms for studying it: A critical appraisal of Buller and Burgoon's Interpersonal

Deception Theory and research. <u>Communication Theory, 6</u>, 297-310.

Dunbar, N. E., Ramirez, A., Jr., & Burgoon, J. K. (in press). The effects of participation on the ability to judge deceit. <u>Communication Reports.</u>

Miller, G. R., & Burgoon, J. K. (1982). Factors influencing judgments of witness credibility and truthfulness. In N. L. Kerr & R. M. Bray (Eds.), <u>The psychology of the courtroom</u> (pp. 169-194). New York: Academic Press. Reprinted in DeVito, J.A. & Hecht, M. L. (Eds.), <u>The nonverbal communication reader</u>. Prospect Heights, IL: Waveland.

Rockwell, P., Buller, D. B., & Burgoon, J. K. (1997a). The voice of deceit: Refining and expanding vocal cues to deception. <u>Communication Research Reports, 14 (4),</u> 451-459.

Rockwell, P., Buller, D. B., & Burgoon, J. K. (1997b). Measurement of deceptive voices: Comparing acoustic and perceptual data. <u>Applied Psycholinguistics, 18,</u> 471-484.

White, C. H., & Burgoon, J. K. (2001). Adaptation and communicative design: Patterns of interaction in truthful and deceptive conversations. <u>Human Communication Research</u>, <u>27</u>, 9-37.

Table 1. Propositions in Interpersonal Deception Theory[1]

_____

1. Sender and receiver cognitions and behaviors vary systematically as deceptive

    communication contexts vary in (a) access to social cues, (b) immediacy, (c) relational

    engagement, (d) conversational demands, and (e) spontaneity.

2. During deceptive interchanges, sender and receiver cognitions and behaviors vary

    systematically as relationships vary in (a) relational familiarity (including information and

    behavioral familiarity) and (b) relational valence.

3. Compared with truth tellers, deceivers (a) engage in greater strategic activity designed to

    manage information, behavior, and image and (b) display more nonstrategic arousal cues,

    negative and dampened affect, noninvolvement, and performance decrements.

4. Context interactivity moderates initial deception displays such that deception in

    increasingly interactive contexts results in (a) greater strategic activity (information,

    behavior, and image management) and (b) reduced nonstrategic activity (arousal, negative

    or dampened affect, and performance decrements) over time relative to noninteractive

    contexts.

5. Sender and receiver initial expectations for honesty are positively related to degree of

    context interactivity and positivity of relationship between sender and receiver.

6. Deceivers' initial detection apprehension and associated strategic activity are inversely

    related to expectations for honesty (which are themselves a function of context

    interactivity and relationships positivity).

7. Goals and motivations moderate strategic and nonstrategic behavior displays such that (a)

    senders deceiving for self-gain exhibit more strategic activity and nonstrategic leakage

_____

[1] From Buller, D. B., & Burgoon, J. K. Interpersonal deception theory. Communication
Theory, 6, 203-242.

than senders deceiving for other benefits and (b) receivers' initial behavior patterns are a function of (1) their priorities among instrumental, relational and identity objectives and (2) their initial intent to uncover deceit.

8. As receivers' informational, behavioral, and relational familiarity increases, deceivers not only (a) experience more detection apprehension and (b) exhibit more strategic information, behavior, and image management but also (c) more nonstrategic leakage behavior.

9. Skilled senders better convey a truthful demeanor by engaging in more strategic behavior and less nonstrategic leakage than unskilled ones.

10. Initial and ongoing receiver judgments of sender credibility are positively related to (a) receiver truth biases, (b) context interactivity, (c) and sender encoding skills; they are inversely related to (d) deviations of sender communication from expected patterns.

11. Initial and ongoing receiver detection accuracy are inversely related to (a) receiver truth biases, (b) context interactivity, and (c) sender encoding skills; they are positively related to (d) informational and behavioral familiarity, (e) receiver decoding skills, and (f) deviations of sender communication from expected patterns.

12. Receiver suspicion is manifested through a combination of strategic and nonstrategic behavior.

13. Senders perceive suspicion when it is present. (a) Deviations from expected receiver behavior increase perceptions of suspicion. (b) Receiver behavior signaling disbelief, uncertainty, or the need for additional information increase sender perceptions of suspicion.

14. Suspicion (perceived or actual) increases senders' (a) strategic and (b) nonstrategic behavior.

15. Deception and suspicion displays change over time.

16. Reciprocity is the predominant interaction adaptation pattern between senders and receivers during interpersonal deception.

17. Receiver detection accuracy, bias, and judgments of sender credibility following an interaction are a function of (a) terminal receiver cognitions (suspicion, truth biases), (b) receiver decoding skill, and (c) terminal sender behavioral displays.

18. Senders' perceived deception success is a function of (a) terminal sender cognitions (perceived suspicion) and (b) terminal receiver behavioral displays.

Figure 1

CONTEXT AND RELATIONSHIP

Pre-Interaction   *Interaction*   *Post-Interaction*

SENDER

Cognitions/Affect
• Expectations
• Goals
• Familiarity
• Detection Apprehension

Behavior
• Routines
• Skills

Initial Behavior Display

Cognitions/Affect
• Perceived suspicion

Behavior
• Information management
• Image management
• Behavior management
• Nonstrategic behaviors

Deception Success

RECEIVER

Cognitions/Affect
• Expectations
• Goals
• Familiarity
• Prior suspicion

Behavior
• Routines
• Skills

Cognitions/Affect
• Credibility Judgments

Behavior
• **Suspicion display**
• Uncertainty management
• **Nonstrategic behaviors**

Deception Detection Accuracy

Table 2. IDT-Related Studies

_____

Experiment	Independent Variables	Dependent Variables	Citation
pre-IDT			Aune & Buller, 1987
pre-IDT			Buller, Comstock, Aune, & Strzyzewski, 1989
1	Suspicion ( ), Probing		Buller, Strzyzewski & Comstock, 1991
	Participation (participant/observer)		Buller & Hunsaker, 1991
2	Sender deception (yes/no)	Sender nonverbal behavior	Burgoon & Buller, 1994
	Receiver suspicion (high/moderate/low)		Burgoon, Buller, Dillman & Walther, 1995
	Sender & receiver nonverbal behavior		
	Sender language		Buller, Burgoon, Buslig & Roiger, 1996
	Sender social skills		
	Sender behavior		Burgoon, Buller, Guerrero & Floyd, 1994
3	Sender deception and type (truth at time 1;		
	Sender information management		Burgoon, Buller, Guerrero, Afifi, &
	Fabrication/concealment/equivocation/		Feldman, 1996

general deception at time 2)

Language   Buller & Burgoon, 1991

4   Sender deception (yes/no); deception type

(fabrication/concealment/equivocation)

Sender language   Buller, Burgoon, Buslig & Roiger, 1996

Sender social skills

Sender behavior,   Burgoon, Buller & Guerrero, 1995

Receiver accuracy

Receiver suspicion

Receiver behavior   Burgoon, Buller, Ebesu, White &

Rockwell, 1996

Receiver accuracy   Burgoon, Buller, Ebesu & Rockwell,

1994

	Description	Reference
	Reanalysis of Bavelas et al. equivocation	
	Sender information management and language	Buller, Burgoon, Buslig & Roiger, 1994
	studies'equivocation (yes/no)	
	Further analysis of acoustic and perceptual	
	Sender vocalics	Rockwell, Buller & Burgoon, 1997a, 1997b
	vocal features	
5	Sender deception (yes/no) and order (TTTDDDTTTDDD/DDDTTTDDDTTT)	
	Verbal and nonverbal involvement	Burgoon, Buller, White, Afifi & Buslig, 1999
	Receiver involvement	Same Same

	Sender social skills	Same	Same

6   Deception

  Sender verbal and nonverbal behavior; sender intentions   Burgoon, Buller, Floyd & Grandpre, 1996

7   Sender deception and order (TTDD/DDTT)Verbal and nonverbal behavior   Burgoon, Buller & Floyd, 2001

  Sender participation (dialogue/monologue)   same   Same

8   Deception (yes/no) and order   White & Burgoon, 2001