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Organizational life presents many situations where organizational members must determine how to manage information they possess; dilemmas related to truth and deception are not unusual events. Researchers have found that deceptive communication is part of many types of interaction, yet few researchers have explicitly addressed the issue of lying in the context of organizational life (c.f., Burgoon & Buller, 1994). Meanwhile, information technology (IT) has become pervasive in modern organizations. As the convergence between computing and communication continues at a rapid pace, more and more organizational communication takes place electronically. There is every reason to believe the deception that exists in everyday work life can be communicated just as easily, if not more so, using new computer-mediated communication channels as using traditional channels such as face-to-face communication (George & Carlson, 1999).

Despite decades of work investigating computer-mediated communication and, separately, of investigating deceptive communication, there has been little work specifically targeting the intersection of these two research streams. This paper provides a brief review of both literatures, proposes a research model to guide future study, and outlines the design of and preliminary results from two studies that investigated media choice for deception and deception detection in electronic communication.

Literature Review and Research Model

Cross-media communication studies have been a part of the communication discipline for many years (c.f., Fulk & Boyd, 1991). Two major theories have been developed to explain cross-media differences, social presence theory and media richness theory. Social presence depends on the visual nonverbal cues transmitted, the apparent distance of the person or people that are being communicated with, and the "realness" of those being communicated with (Short et al., 1976). Based on the experiments of Short and his colleagues (Short et al., 1976), media could be ordered in terms of their social presence as follows, from least to most: business letter, telephone/ speakerphone, multispeaker audio, television, face-to-face.

Media richness theory was developed by Daft and colleagues (e.g., Daft, Lengel & Trevino, 1987). They suggest that media can be characterized in terms of four criteria: feedback speed, cue multiplicity, language variety, and personal focus (together composing "media richness"). The more there are of these attributes, the richer the medium. Accordingly, face-to-face communication is considered to be the richest, followed in descending order by telephone, addressed written communication, and unaddressed written communication.

The clear implication from both theories of cross-media differences is that some media are more successful at conveying information than others. Electronic media are through to be incapable of transmitting many cues that are available in other media, in effect, "filtering out" cues which would have been present in face-to-face communication (e.g., Sproull & Kiesler, 1991). As a result, research into media selection has generally relied on relating message requirements to media capabilities, positing that the most successful communication will occur when there is "fit" between these two aspects (e.g., Daft, et al., 1987). More recent researchers have pursued a variety of additional variables which may influence the selection process, including social influences (Fulk & Boyd, 1991), participant experiences (Carlson & Zmud, 1999), situational factors (Trevino, Lengel, & Daft, 1987), and time pressure (Bozeman, 1996). Each of these constructs could also be expected to play a role in the study of deceptive communication in computer-based media.

One general finding from the deceptive communication literature is that both truth-tellers and liars create believable messages through *managing* the communication process. This can involve different strategies, from managing verbal content and style (Buller & Burgoon, 1994), to managing nonverbal and paralinguistic content (Zuckerman & Driver, 1985). Successfully detecting deception involves recognizing that it can occur through message, nonverbal, and paralinguistic manipulation, and being able to uncover cues that point to such manipulation. Although the presence or absence of cues helps people successfully detect deception, cues alone may not be enough. Miller and Stiff (1993) propose that deception and detection take place as part of a larger communication transaction between sender and receiver.

In combining the study of deceptive communication with that of computer-mediated communication, we have expanded Miller & Stiff's original ideas of deceptive communication transactions

(Figure 1). While preserving their original constructs of deceiver, message, and deceivee, we have added new constructs for communication medium characteristics and participant experiences. While we have included motivation to deceive and to detect as part of the model, we have expanded the constructs of deceiver and deceivee to include the ability to encode a deceptive message, and deception detection performance, respectively. Message has been divided into deceptive message potential and cues to deception. These changes reflect emphases in the deception literature on detection and the cues used in detection attempts (Zuckerman & Driver, 1985), as well as the importance of cues and medium characteristics in the computer-mediated communication literature (Sproull & Kiesler, 1991). The inclusion of participant experiences captures how media bandwidth can be expanded through experience with medium, topic,

context, and partner (Carlson & Zmud, 1999). From our model, we derive two simple propositions:

Proposition 1: People will take into account their motivations to deceive, media characteristics, and their communication experiences when choosing a medium for a communication task involving deception.

Proposition 2: People will take into account their motivation to detect deception, cues to deception, and their communication experiences when engaging in a deception detection task.

Two survey studies based on these propositions were conducted during the summer of 1998. Study design and preliminary findings are presented next.

Figure 1: Model of deceptive communication transactions.
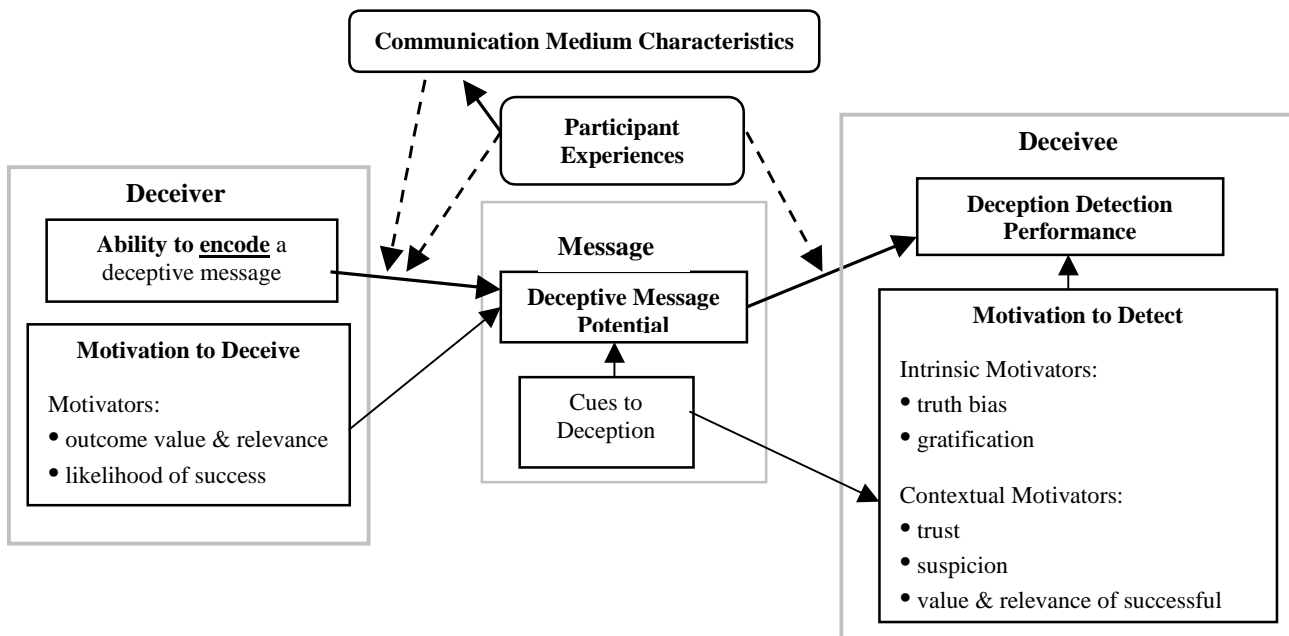
Surveys and Preliminary Findings

I. Media Choice Survey

Independent Variables: There were three perceptual variables manipulated by differing versions of the survey instrument: 1) personal focus, 2) severity of impact, and 3) time pressure. These are three different aspects of the participant's communication experiences.

Dependent Variables: There were two dependent variables: 1) media appropriateness (to the deceptive task), and 2) medium selection -- the medium chosen to carry out the deception. Both are related to the deceiver's ability to encode a deceptive message.

Procedure and Task: The survey was administered to 1000 randomly selected faculty and staff at Florida State University. Each respondent was presented with a business scenario in which a deceptive communication act was required (eight scenarios were possible but only two were used in this study). Based on the information in the scenario, subjects rated the available media (face-to-face, e-mail, telephone, voice mail, video conferencing, memo and letter) as to their appropriateness and selected the single medium that they would prefer to use.

Preliminary Results: The two most extreme scenarios were chosen for the pilot: the all high scenario (close friend, severe impact, high time pressure), and the

all low scenario (business acquaintance, little impact, no time pressure). A total of 90 usable questionnaires were returned for the all high scenario, with 65 returned for the all low. Although there were differences between scenarios for media choice, the differences were not statistically significant. For the all high scenario, 30% of respondents chose the telephone, 11% memo, 15% e-mail, 39% face-to-face, 2.5% letter, and 2.5% voice mail. For the all low scenario, 31% chose the telephone, 27% memo, 6% e-mail, 28% face-to-face, 6% letter, and 2% voice mail. Subjects indicated they had little or no experience with video conferencing, so no one chose it for either scenario.

II. Deception Detection Survey

Independent Variables: There were four independent variables. Communication medium was manipulated across versions of the questionnaire. There were nine different versions, one for each medium: telephone, memo, e-mail, small group, face-to-face, letter, facsimile, handwritten note, and voice mail. Respondents who indicated they had experience with video conferencing and webpages were sent follow up questionnaires. Within each questionnaire, three other independent variables were manipulated: 1) sender (business colleague, personal friend, or salesperson); 2) experience with the sender (manipulated for colleague and salesperson -- either low or high); and 3) context/topic (work-related or non-work related). All three reflect different aspects of participant communication experiences.

Dependent Variable: There were two dependent variables: 1) perceptions about the likelihood of deception occurring in a given communication episode, and 2) confidence in the subject's ability to detect deception given the medium. Both reflect the deceivee's ability to successfully detect deception.

Procedure and Task: The survey was administered to 1494 randomly selected faculty and staff at the University of Utah (allowing for an equal number of respondents for each medium studied). The survey asked first for the subject's assessment of the medium on which it was focused. Subjects were then presented with nine short scenarios (varying sender, experience with sender, and context), responding to items tapping the two dependent variables after each.

Preliminary Results from the Pilot Study: A total of 402 questionnaires were returned, including 15 returned from the follow up mailing. Preliminary analysis has focused on three of the nine scenarios: 1) well-known business associate, dealing with work information; 2) a personal friend dealing with non-work information; and 3) an unknown salesperson dealing with non-work

information. Across all media, respondents felt the salesperson's communication would be more likely to be deceptive than that from the business associate or the friend. For most media, respondents felt they would be least able to detect deception from the salesperson. For letters and video conferencing, respondents were equivocal about their abilities to detect deception from one of the three senders vs. others. These findings are all statistically significant at the .05 level.

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