Group Support Systems and Deceptive Communication

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Abstract

Electronic communication is becoming more pervasive worldwide with the spread of the Internet, especially through the World Wide Web and electronic mail. Yet, as with all human communication, electronic communication is vulnerable to deceit on the part of senders, and to the less than stellar performance of most people at detecting deceit aimed at them. Despite considerable research over the years into both computer-mediated communication and into deception, there has been little if any research at the intersection of these two research streams. In this paper, we review these two streams and suggest a research model for investigating their intersection, focusing on group support systems as an electronic medium. We focus specifically on research questions concerning how successful people are at deceiving others through computer-mediated communication, and how successful people are at detecting such deception. We also suggest three propositions for guiding research in this area.

1. Introduction

The academic interest in group support systems (GSS) has grown dramatically since the beginnings of GSS research in the mid-1980s. The variety of topics investigated in GSS studies has grown as well, from the first direct comparisons of GSS to traditional manual methods for supporting meetings, through studies of brainstorming, to studies of groups over time. With few exceptions, the assumptions about work groups that underlie these studies have been relatively uniform: groups want to work together, individual members are eager to participate and share their ideas, the group's goals and tasks supersede the goals and tasks of any given individual member ([20],[25],[31]).

Yet we know, both from personal experience and from the small group literature, that these assumptions about groups do not always hold true. Sometimes group members do not want to work together ([36]); sometimes group members do not want to participate and share their ideas ([9],[19]); sometimes individual goals are more important to a group member than are the group's goals ([25]). As Kling says, the c-words used to describe group behavior include collaboration, cooperation and coordination, but they also include competition, conflict and combat ([23]). The realities of how individuals behave as members of groups, whether the behaviors support the group or work against it, must be taken into consideration in any study of groups, whether the groups are supported by electronic media or not.

Current theories about groups include the idea of bona fide groups ([32]). The idea of bona fide groups recognizes that groups do not exist in isolation from other groups and from the rest of the organization. Instead, groups have permeable and fluid boundaries and are interdependent with their organizational contexts. The idea of fluid group boundaries recognizes that individual group members are simultaneously part of many, sometimes overlapping, groups. Each group membership has its own role demands, and these demands may conflict with each other. Individual behavior in a group, then, is more complicated than would be indicated by simple conflict between group goals and individual goals. Instead, the conflict is between individual goals, the goals of the group the individual is currently engaged with, and the goals of all the other groups to which the individual belongs.

Individuals cope with role conflicts in many different ways, depending on their own personalities and the peculiarities of the situation at hand. According to Grover ([18]), role conflict leads to distress which leads in turn to a choice of coping mechanisms. One of the chief coping mechanisms people choose to deal with role conflict is lying. For example, Dr. Smith, a department chair, is simultaneously a member of both the faculty of her own department and the executive committee of her college, which consists of the department heads and deans. If Dr. Jones, a faculty member in another
department in the college, is actively lobbying Dr. Smith to transfer to Dr. Smith's department, and Dr. Jones' department chair actively opposes the idea, Dr. Smith is caught in a dilemma. She realizes that having another faculty member would help her cover all of the courses assigned to her department, but she also realizes that a transfer of Dr. Jones to her department would undermine her relationship with Dr. Jones' chair, making it more difficult for Dr. Smith to work with the executive committee. During executive committee meetings, Dr. Smith makes it clear that she does not support transferring faculty from one department to another within the college. During department meetings, however, she may state how much another faculty member would help the department but that the executive committee was preventing the successful transfer of Dr. Jones. In this way, Dr. Smith is seen as supporting the positions of both the executive committee and her own department. Given the potential for such role conflict as outlined in bona fide group theory, and given the propensity of people to deal with such conflict through deceit, we should expect deceit to be common in group work. Yet in general, deceit as a normal part of groups working together is a neglected topic.

The purpose of this paper is to conceptually investigate deception in group work, specifically group work as supported by GSS. To do this, we bring together relevant research from the large body of work on deceptive communication and the relevant research on electronic media and GSS. In any study of deception, there are two possible perspectives from which to view the study: that of the deceiver, and that of the person being deceived. As this paper lays out an initial program of study focusing on deceptive communication and electronic media, we present a model integrating both perspectives, although much of our focus here is on the perspective of the people being deceived and their potential for successfully detecting deception perpetrated through a GSS.

The rest of this paper is organized as follows: We review the literatures on computer-mediated communication, especially the relevant writings on GSS, and on deceptive communication, and introduce a research model that relates the two literatures. We then derive several research propositions from the model. We end with implications for GSS groups and their managers, as the recognition that group members may be less than honest in their dealings with others has impacts on groups and how they view GSS.

2. Literature Review

2.1. Computer-Mediated Communication

Cross-media communication studies have been a part of the communication discipline for many years. Excellent reviews are contained in [13],[14],[20] and [21]. In general, these studies compare face-to-face (FTF) communication to one or more other communication media, including audio, video, and computer-mediated communication media. At first, these studies were conducted because of what was envisioned as a large-scale substitution of other media for FTF ([37]). In general, it was found that for decision-making or problem-solving situations, the medium used for communication made a difference. The differences were found to be heavily dependent on the task the group or individuals were asked to perform ([33]).

Two major theories have been developed to explain cross-media differences, social presence theory and media richness theory. In the first, social presence is defined as a subjective, cognitive synthesis of all of the many factors that reflect the social immediacy or intimacy of a communication medium. 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 ([37]). There are many measurable factors that determine a medium's social presence, including the ability of a medium to convey nonverbal cues, the social or organizational role of users, and the potential for interactivity ([35]).

Based on the experiments of Short and his colleagues ([37]), 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. In general, the greatest distinctions were drawn between visual and non-visual media. Short and his colleagues hypothesize, then, that the suitability of any particular communication medium for a specified task, and the consequences of performing that task, depend on the social presence of the medium. They also hypothesize that the suitability of the communication medium depends on the social presence of the task. If a medium with low social presence is chosen for a task requiring high social presence, then the consequences of the communication interaction will be very different from what would have occurred had a more suitable medium been chosen for that particular task.

Media richness theory was developed by Daft and colleagues ([10],[11]). They attempted to explain why managers overwhelmingly prefer oral communication, even when other channels are available. They suggest that communication media can be characterized in terms
of their "richness." Media richness, defined as the ability of information communicated on the medium to reduce equivocality, is based on four criteria: speed of feedback, cue multiplicity, language variety, and personal focus. Media possessing higher degrees of each of these attributes are considered richer. Daft, et al. ([11]) found that effective managers are "media sensitive" in that they prefer richer media for communication that is high in equivocality, and leaner media for communication that is less equivocal. They considered face-to-face communication to be the richest medium, followed in descending order by the telephone, addressed written communication, and unaddressed written communication. The overall ratings of communication media, then, are quite similar for both social presence and media richness theories.

The clear implication from both theories of cross-media differences is that some media are more successful at conveying more information than others, a capability often thought of as greater or lesser bandwidth ([37]). As a result, research into the media selection process has generally relied on relating message requirements to media capabilities, in terms of both richness and social presence, positing that the most successful communication will occur when there is "fit" between these two aspects (e.g., [11]). More recent researchers have pursued a variety of additional variables which may influence the selection process, including social influences ([15]), participant experiences ([6],[7]), situational factors ([41]), and time pressure ([2]); for a partial synthesis of these approaches, see Webster and Trevino ([43]). However, no studies have examined the role of deception as a unique communication task and its potential influence on media selection and use.

The basis of many studies examining media use and media choice is the comparison of electronic media to face-to-face communication. One of the key reasons for this comparison is the belief that electronic media are not capable of transmitting many of the cues that are available in other media, in effect, "filtering out" cues which would have been present in face-to-face communication (e.g., [34],[38]). A variety of cues can be filtered out by an electronic medium that doesn't support an audio or visual channel, including cues about status, position, social context, and situational norms. In addition, in text-only electronic media (e.g., e-mail, fax) nonverbal cues to meaning in informational exchanges, such as tone and pitch of voice and facial expression, are not included. Therefore, non-visual electronic media (e.g., e-mail, fax, voice mail) could be placed between the telephone and written messages in the spectra of social presence and richness in communication media. Electronic media that also employ video images, such as videoconferencing, should appear somewhere between face-to-face and telephone (near where Short and colleagues place television).

Among other things, this reduction in cues is thought to create an environment in which social and communicative norms are relatively less salient to users of electronic media (e.g., [38]). One result of this environment is the practice of "flaming" (responding out of all proportion to the intent or seriousness of the message received) in electronic media. However, this environment could also encourage other norm-breaking behaviors, such as deception. Whether this possibility encourages or discourages individuals from selecting electronic media for deceptive communication is an empirical question for researchers to pursue.

The use of face-to-face communication as a benchmark against which to judge electronic media does, however, have limits. While face-to-face is indeed the most immediate and cue-rich medium, electronic media can offer a variety of advantages that no other single traditional medium, including face-to-face, can offer. These advantages can include: high-speed asynchronous communication, virtually unlimited range, rapid message storage and retrieval capabilities, and sophisticated message filtering and routing functions. In addition to these capabilities, electronic media may be able to convey more richness and social presence than would normally be thought the case, especially if other characteristics, such as the familiarity of users with the topic they are discussing or their familiarity with their communication partners, is taken into account. In a recent detailed study of electronic mail usage, Carlson ([6]) found that, although e-mail is generally predicted to be a relatively lean medium (e.g., [40]), users who develop certain types of experiences come to view the medium as possessing increasing amounts of richness. The four experiences identified (experience with communication partner, medium, organizational context, and messaging topic) are seen as central to the ability of a user to exploit the capabilities of a medium to communicate rich information ([6]). In addition, it is likely that these experiences will play an important role in the ability of an individual to both successfully carry out and successfully detect a deception using a given medium.

In addition to electronic mail, these experiential drivers may allow other electronic media to convey richer information than traditionally expected ([6]). One clear example of this potential is group support systems (GSS). If used in a FTF setting, GSS provide an additional channel, the electronic one, to traditional FTF communication. In a meta-analysis of 13 studies that compared GSS support to no GSS support for face-to-face groups, McLeod ([29]) found that GSS
groups experienced increased task focus, increased participation equality, increased time to task completion, improved task performance, lower levels of consensus, and decreased satisfaction with their task process, compared to their non-GSS counterparts. The increased task focus, more equal participation, and increased task performance could be attributed to the use of the added electronic channel. Valacich, et al. ([42]) made it possible to explicitly determine the advantages or disadvantages of the added electronic channel when they compared FTF GSS groups with distributed GSS groups, with FTF groups with no computer support, with distributed groups that communicated by telephone conference call. They found that groups using GSS, whether FTF or distributed, generated more and higher quality ideas than groups that did not use GSS, whether meeting FTF or via telephone, implying that use of the added electronic channel did contribute to the productivity of GSS groups.

2.2. Deceptive Communication

According to Burgoon and Buller, deception is "a deliberate act perpetrated by a sender to engender in a receiver beliefs contrary to what the sender believes is true to put the receiver at a disadvantage ([3]:156-7)." There is a large and extensive communication literature on deception, made up of hundreds of studies. Some of the main areas of research include defining deceptive communication (the Burgoon and Buller definition above is not universally accepted), categorizing different types of deception, examining and cataloging behaviors that accompany deception, deception and its detection among relational partners, strategies deceivers use to successfully deceive, and strategies receivers use to successfully detect deception. For our purposes, we are most interested in the strategies behind successful deception and deception-detection.

"One of the most fundamental objectives of message senders, be they truthful or deceitful, is to create messages that are believable ([3]:159)." One way for a truth-teller or a liar to create believable messages is to manage the communication exchange process. Managing the process can involve different strategies, from managing verbal content and style ([1],[5],[26]), to managing nonverbal and paralinguistic content ([45]), to some combination of management strategies. Successfully detecting deception, then, involves recognizing that it can occur through message, nonverbal, and paralinguistic manipulation and being able to find instances of manipulation when they do occur.

In a meta-analysis of 45 studies, Zuckerman and Driver ([45]) examined 24 different verbal, nonverbal, and paralinguistic behaviors commonly associated with deception. They found 14 of these 24 to distinguish reliably between truth-telling and lying (see Table 1). Across studies, deception was associated with the following visual behaviors: more pupil dilation, more blinking, less facial segmentation (number of segments in a stream of behavior as identified by naive judges), more adaptors (self-grooming activities, like scratching and rubbing), and more bodily segmentation. For paralinguistic behaviors, deception was associated with shorter responses, more speech errors, more speech hesitations (e.g., "er", "uh"), and higher voice pitch. Verbal behaviors associated with deception were more negative statements, more irrelevant information, less immediacy, and more leveling (hyperbole). The sole general behavior associated with deception was more discrepancy between the text of the message and other information conveyed by the sender. The Zuckerman and Driver findings are echoed by Feeley and deTurck ([12]), who found subjects to rely on reliable nonverbal cues for detecting deception about one-third of the time. These behaviors included adaptors, speech errors, and response length. However, their subjects also relied on eye gaze, an unreliable indicator, for detecting deception, more than any other nonverbal cue.

Table 1. Behaviors significantly associated with deception ([45])

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<th>Visual</th>
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<td>Blinking</td>
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The presence or absence of cues helps people successfully detect deception, but this may not be enough. Miller and Stiff ([30]) propose a model that includes other factors that underscore the view that deception and its detection take place as part of a communication transaction between sender and receiver (Figure 1). The deceptive message itself is at the center of the
Miller and Stiff include both verbal and nonverbal behaviors as part of the message. On the part of the sender, it is necessary to consider his or her motivation to deceive, as well as his or her perceptions of the consequences of getting caught. It is also necessary to consider the motivation of the receiver to detect deception, so that suspicion becomes a factor, and the consequences to the receiver of detecting deceit (sometimes receivers would rather not know for sure they are being lied to). Finally, the deceptive transaction, like all communication transactions, takes place in a social context.

**Figure 1. Adapted from Miller & Stiff model of deceptive communication transactions**

In general, whatever their motivations and whatever the social context, people are able to detect deception only a little better than chance, with rates of successful detection rarely departing from a range of 45% to 65% ([12], [30]). One possible explanation for the relatively poor ability to detect deception is truth-bias, a bias toward judging a sender's messages as truthful ([28]). McCormack and Levine ([27]) first identified truth-bias in their studies of relational partners, where increased relational development was associated with increased truth-bias, but there is some evidence we also extend the truth-bias to strangers ([12]).

If we in general do expect people to be truthful when we communicate with them, then it seems reasonable to expect we fail to detect deception on a regular basis. But what if we are motivated to suspect deception? What if we have reason to be suspicious? It seems intuitive that higher levels of suspicion on the part of receivers would result in higher rates of successful deception detection. The research evidence about the role of suspicion, however, is mixed. McCormack and Levine ([24],[27]) found that relational partners who had their suspicions aroused were able to successfully detect deception 65-70% of the time. Stiff, et al. ([39]) found that aroused suspicion in relational partners was negatively related to truth bias, which resulted in one partner being less likely to judge the other partner as truthful. However, suspicion had very little overall effect on being able to successfully detect deception in specific communication transactions. Burgoon, et al. ([4]) also found that suspicion had little effect on detection accuracy, except for expert subjects (military human intelligence school instructors), whose detection accuracy actually decreased when they were suspicious. In addition, Burgoon and colleagues found suspicion caused subjects to judge strangers to be less honest and to judge acquaintances to be more honest than did subjects who were not suspicious.

### 3. Research Propositions

As we have seen, the computer-mediated communication literature tells us that different communication media can be judged, and chosen for use, based on certain characteristics of the media that make them appear more or less rich, have more or less social presence, have more or less bandwidth. What makes a medium rich or have social presence or have wide bandwidth is its capability for conveying more information, through nonverbal, paralinguistic, personal, and social cues, than is simply contained in the words of the message itself. Electronic media are thought to be particularly lean, lacking appreciable bandwidth because so many of these nonverbal, paralinguistic, personal, and social cues are missing.

On the other hand, people seem to rely primarily on nonverbal (or visual) and paralinguistic and personal and social (as in the case of relational partners) cues to detect deception. Of the 14 cues identified by Zuckerman and Driver ([45]) as being associated with deception detection, only six (two paralinguistic behaviors: response length and speech errors, and four verbal behaviors: negative statements, irrelevant information, immediacy, and leveling) would be available for analysis in a text-only message delivered over electronic media. The implication is that communication via electronic media would be especially difficult to analyze for deception.

However, work by Carlson ([6]) and others (e.g., [43]) has found evidence of the role social context plays in determining users' perceptions of the richness of a particular medium. Other factors, including the experience a user has with his or her communication partners, the topic they are discussing, with the medium they are using to communicate, and with the context of their work, all have the potential to affect how the user perceives the richness of a particular communication medium. Richness, then, is not a fixed
characteristic of media but can expand, depending on user experience and other elements of the social context of use. These factors must also be taken into consideration when investigating deception and its detection. On one hand, given the generally perceived leaness of electronic media and the importance of cues in detecting deception, it should be more difficult to detect deception using electronic media than otherwise. On the other hand, experienced users should have a better chance to detect deception, compared to inexperienced users, given that experience should better enable users to make use of what cues are available to detect deception if it is present.

Based on this premise, we have modified Miller and Stiff's 1993 model to illustrate the roles we posit electronic media and experience could play in deceiving and in deception detection (Figure 2). We posit that medium directly affects the ability of a deceivee to successfully detect deception, and it also mediates the relationship between the deceiver and the message he or she is sending. We also suggest that experience mediates the relationship between deceiver and message, directly affects the ability of the deceiver to detect deception, and directly affects the perceived characteristics of the communication medium. Modifying the Miller and Stiff framework, we have combined motivation to detect deception with the consequences of successful detection, such that consequences are now listed as one of a set of motivations to detect that also includes suspicion, truth-bias, and trust. Social context encompasses all, the participants in the communication exchange, their experiences, the message, and the media.

The intersection of research streams on computer-mediated communication and deception is a fertile area for research, but as this intersection is but recently defined, there is little explicit theoretical or empirical information from which to derive specific research hypotheses. One noteworthy exception is a study of deception in videoconferencing ([16]). Subjects were not able to detect deception in either face-to-face or videoconferencing interviews. However, videoconferencing was found to increase subjects' mental workload and decrease the amount of eye contact made during the interviews, both of which limited subjects' ability to successfully detect deception under videoconferencing conditions.

There has been only one empirical study that we are aware of that explicitly studied deception among GSS users ([17]). In that study, groups of three MBA students took part in two idea generation tasks, one using a GSS and the other using manual, face-to-face methods. Both processes were recorded on audio tape. One MBA student was actually a confederate, who added five different deceptive statements from a script into each idea generation process. After the first task was completed, the group was asked to reread the GSS

![Figure 2. Adapted model of deceptive communication](image)
transcript or to listen to the audio tape and identify dishonest statements. Asking groups to look for dishonest statements after one exercise had been completed served to arouse group member suspicions about honesty during the second exercise. Groups were again asked to look for dishonest statements at the completion of the second task.

Groups on average identified only 20% of the deceptive statements introduced into the idea generation processes, or roughly one lie out of five, regardless of communication medium used, and there was no difference between media for detection rates. A post hoc analysis, using printed transcripts of the sessions given to volunteers not involved in the original sessions, revealed that these non-interested parties found about half of the deceptive statements, in line with past deception research. The implication is that the social dynamics of the "live" situation influenced subjects' willingness to label statements as lies when the other members of their groups were sitting next to them and going through the transcripts at the same time. Although there were no differences in detection rates for the "live" groups, groups whose suspicions had been aroused were more likely to label truthful statements as deceptive than were groups whose suspicions had not been aroused. There was also an interaction effect between medium and aroused suspicion. GSS groups who were not suspicious were more trusting of fellow group members than were members of groups with any other combination of medium and suspicion.

There have been at least two other GSS studies that have used deception as a key part of their research designs, although detecting the deception was not an explicit part of what the subjects were charged to do. Connolly, Jessup and Valacich ([8]) used confederates to create either a supportive or a critical tone for anonymous work groups charged with generating ideas. The deceptive manipulation worked well, as results for groups with supportive tones differed significantly from those for groups with critical tones. The deception served to put some groups at a disadvantage with respect to their performance, compared to other groups. With one exception, group members suspected nothing, although one group verbally attacked the confederate when they came to feel his supportive comments were not at all helpful to the group task ([8],[20]). Weisband ([44]), in a study of groups and status effects, used groups consisting of one undergraduate and two MBA students, where the MBA students were perceived as being of higher status. One treatment used three MBA students, but one was intentionally mislabeled to the rest of the group as an undergraduate. Even though the mislabeled members in these groups actually contributed more to the electronic conversation than did the other group members, they were seen as having only moderate influence on the group and were in fact judged negatively by their peers. The deception in this case worked to lessen the value of the contributions of the mislabeled group members, putting them at a disadvantage compared to their peers.

We have some evidence, then, that group members using a GSS can be successfully deceived and that the deception can affect their work. We know very little, however, about how well GSS users might be able to detect deception and how deception might affect their work. Moreover, since the subjects used in these few prior studies had little experience in their groups, we know little about the role of participant experiences on the deception process. Based on the literature reviews and models above, then, we have devised three general research propositions:

Proposition 1: People will prefer to use GSS tools such as brainstorming for sending deceptive messages, compared to manual face-to-face methods, because such GSS tools are leaner and less socially present than manual methods.

Proposition 1a: People will prefer to use anonymous GSS tools for sending deceptive messages, compared to identified GSS tools, because anonymous GSS tools are leaner and less socially present than identified GSS tools.

As we stated earlier, to the best of our knowledge, no study has been conducted that investigated people's preferences for which media to use for deception, and no theoretical basis for what to expect in the way of preferences has been developed. However, it is reasonable to assume that if people can express general preferences for which media to use for different tasks (e.g., [11]), then they should be able to express media preferences for the task of deceiving others. If people do rely primarily on nonverbal, paralinguistic, personal, and social cues to detect deception, as implied by the Zuckerman and Driver ([45]) meta-analytical study cited above, then it follows that a deceiver would prefer to use media that contain as few cues as possible in order to facilitate successful deception. In addition, GSS tools that support anonymity (or anonymous modes) can remove any existing cues that receivers could use to detect deceptions and should therefore be preferred by deceivers over the use of identified tools.

Both parts of Proposition 1 assume both deceiver and deceivee are equal in their experiences with medium, topic, other participants, and context. A deceiver more experienced in these areas than a deceivee should have
Proposition 3

Proposition 3. Individuals with higher levels of relevant experiences, with other participants, with the topic, with the organizational context, and with the medium, will be more able to successfully both carry out and detect deceptions using the medium of interest.

We base our expectations on the general picture that emerges from past GSS and deceptive communication literature, despite the lack of media differences found in [17]. In general, the fewer cues that can be conveyed using a particular medium, the fewer cues available to an individual to use for detecting deception, so GSS users should be at a disadvantage compared to groups communicating solely face-to-face. As face-to-face communication conveys the most information in a communication exchange, individuals seeking to detect deception should be more successful in a face-to-face exchange than in a computer-mediated exchange using GSS.

However, we should expect to find the distinction between face-to-face and GSS groups to be the strongest where the GSS groups are inexperienced with the medium. As these groups gain experience in communicating via GSS, we would expect them to adjust their use of the technology such that they are better able to make use of what cues are available in the medium. This adjustment effect should also follow as groups gain experience with the topic being discussed, with the other group members, and with the context of their work. For this reason, it becomes important to study GSS groups over time as they gain experience in these four areas. As longitudinal studies are often difficult and expensive to conduct, it will also be useful to conduct cross-sectional studies of GSS groups with varying degrees of experience with the medium, their peers, their topics, and their work contexts. Both research designs are reflected in Proposition 3.

Proposition 2: The leaner and less socially present the communication medium, the less successful receivers will be in detecting deceptive communication. We would expect receivers to be more successful in detecting deception in manual face-to-face communication than in computer-mediated communication like GSS.

4. Implications

If we consider the assumptions underlying the design and implementation of GSS, we can see that one of the most central assumptions is that group members want to work together in a purposeful, collaborative manner. If this assumption is valid, then the ability of GSS users to deceive others in their groups, and the ability of group members to detect deceptive messages, is immaterial, because no one in the group would ever attempt to deceive their fellow group members. If, on the other hand, we admit that individual group members can be driven by their own goals at the expense of group goals, and that some individuals do not want to work with their groups on particular tasks, then the opportunity and motive for deception exists and should be taken into consideration in group work supported by GSS. Self-interest or lack of interest may be only one reason for a group member to attempt to deceive others. As Grover ([18]) points out, lying is one of the mechanisms employees use to cope with role conflict in their jobs, so role conflict is another reason group members may attempt to deceive others. According to the theory of *bona fide* groups, every member of a group is also a member of several other groups at the same time, providing many opportunities for role conflict. And depending on the severity of the role conflict, the more likely it is to result in deception.

To members of GSS work groups, the implications are clear: the natural human tendency to believe what others are saying, which limits our ability to detect deception, needs to be set aside during GSS-supported work. A little skepticism, coupled with the realization that deceptive communication through a GSS may be harder to catch than in face-to-face situations, might not be such a bad posture to adopt. In addition, users should be actively suspicious of potential deceptions when their
experiential bases indicate the likelihood of such communication is high. There is of course a cost associated with suspicion and with taking the time and effort to attempt to detect deception --- this is time and effort each group member could be devoting to the actual task at hand. Each group member will have to decide if the expenditure is worth the possible benefit of catching deception and dealing with it appropriately.

5. Conclusions

Despite the pervasiveness of electronic communication today, we know very little about the abilities of deacers to successfully deceive using electronic media, and we know even less about how one might successfully detect deception perpetrated over these new media. There has been considerable research into cross-media comparisons for communication and into deceptive communication, but these two rich research streams have rarely converged. We propose to bring these two literatures together in an investigation into deception and electronic media.

We have provided in this paper the theoretical basis for the study of electronic and deceptive communication, along with a research model and three broad propositions. These serve as a starting point for empirical research in this area. If basic assumptions about groups and their nature that underlie GSS design and implementation are questioned, then the implications of the possibility of deceptive messages in GSS-mediated messages become clear. Group members should be aware of the possibility of deception in GSS-mediated group work and decide whether the effort expended to detect and remedy deception is worth the benefits that may result.

6. References


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