Straight Talk: Delivering Bad News through Electronic Communication

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Delivering bad news can be an unpleasant task, therefore people often either postpone it or mitigate its effect through positive distortion. However, delivering (and receiving) timely and accurate negative information can be critical for performance improvement and organizational learning. This paper investigates the possibility that computer-mediated communication can increase honesty and accuracy in delivering negative information that has personal consequences for the recipient. In a laboratory experiment, 117 participants delivered positive or negative personally-consequential information to a "student" (confederate) using one of three types of media: computer-mediated communication, telephone, or face-to-face conversation. Participants distorted negative information less, i.e., were more accurate and honest, when they used computer-mediated communication than face-to-face or telephone communication. There was no difference in distortion of positive information across media conditions. Participants also reported higher levels of satisfaction and comfort in the computer-mediated communication situation. The perceived quality of the relationship mediated the impact of medium on satisfaction, but not on distortion.
(*Computer-Mediated Communication; Information Distortion; Dyadic; Laboratory Experiment*)

Your project has been cancelled . . . you didn't get the promotion . . . you have to rewrite the report. No one likes to hear bad news; few people like to deliver it, either. However, in organizations, receiving bad news or negative information can be a first step toward improvement. Delivering and receiving timely and accurate information are crucial for performance improvement and organizational learning. But when the information is likely to be perceived as negative by the recipient, the process of delivering it can become problematic (Fulk and Mani 1986).

This paper explores the implications of using different communication media for delivering negative information that has personal consequences for the receiver. It begins by framing the problem within a generalized model of an asymmetrical communication process. It then presents several avenues of relevant prior research that, taken together, suggest that media might play a significant role in this type of communication task. Specifically, people should be more likely to communicate bad news honestly through computer-mediated communication than face-to-face. As an illustration of this research arena, a laboratory experiment is described that begins to explore the phenomenon. Avenues for further research are suggested, as are potential implications for behavior in organizational contexts involving the delivery of bad news.

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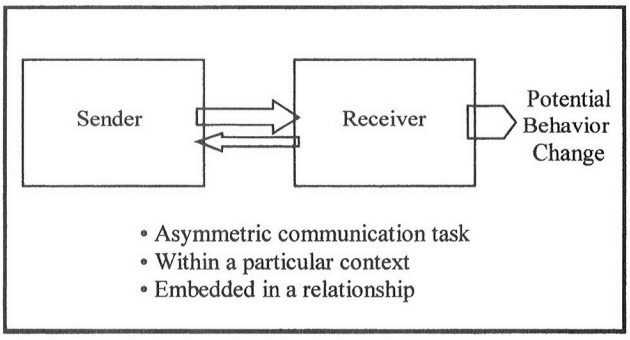
Theoretical Background

People in organizations are presented with asymmetrical communications tasks whenever they possess information that is of significance to others but not possessed by them. Figure 1 presents a generalized model of this process at the dyadic level in which a sender presents a receiver with new and relevant information. The receiver is an active interactant in the communication process, and the space between the sender and receiver is conditioned by the particular context of the interaction and by the history of the relationship (Lave 1993). Information is not merely "sent" in a social vacuum. During information delivery, both sender and receiver shape the information to appropriately fit the particular context and the nature of the interaction (Giddens 1979, Lave and Wenger 1991). During and after the interaction, the receiver may or may not incorporate the new information into his or her cognitive schemas and understandings, and he or she may or may not act on it. But apprehending and comprehending the information are necessary preconditions to cognitive and behavioral change. And they, in turn, depend upon communication with a sender.

Several streams of research have investigated asymmetrical communication tasks when the information content has potentially negative consequences for the recipient. While such interactions are clearly reciprocal, the literature separates the experience of the sender from that of the receiver for theoretical clarity. We focus on the experience of the sender of negative information because information senders are in the more dominant position in such interactions and may have

Figure 1 An Asymmetric Communication Risk



media choice options. The literatures below are presented from this vantage point.

The Mum Effect

The reluctance to communicate undesirable information is a widely documented phenomenon first labeled the "Mum Effect" by Rosen and Tesser in 1970. Differences in transmission of bad news as opposed to good news have been demonstrated across a wide variety of cultures, settings, and relationships (O'Neal et al. 1979, Tesser and Rosen 1975). Example domains include a social work agency (Tesser et al. 1971), organizational hierarchies (Lee 1993, Fulk and Mani 1986), the performance feedback context (Larson 1986), psychiatry and psychotherapy practice (Rice and Warner 1994, Kivlighan 1985), personnel hiring (Rosen et al. 1974), doctor-patient relationships (Seale 1991, Waitzkin 1984), and test failure (Bond and Anderson 1987). The reluctance to communicate negative information has been measured in several ways. People distort negative information in a positive direction in order to reduce its negative tone (Fisher 1979, Ilgen and Knowlton 1980). They delay or delegate the delivery of bad news (Rosen et al. 1974, Bond and Anderson 1987), and are more likely to pass on good news than bad news (Tesser and Rosen 1975).

The Mum Effect has been explained by hypothesizing that the process of communicating bad news can be psychologically unpleasant for the person who delivers it as well as for the person who receives it (Bond and Anderson 1987, Maynard 1996, Tesser and Rosen 1975). Before the communication begins, the deliverer may anticipate that the receiver will react with defensiveness, disbelief, and emotional distress. If so, the deliverer will have to work harder just to get the message heard and understood. If the deliverer anticipates that the receiver will be distressed, he or she can anticipate having to deal with the receiver's emotional state. If the deliverer suspects that the receiver might be hostile, he or she may anticipate a blame-the-messenger reaction. These anticipated negative reactions can increase stress, uncertainty, and anxiety on the part of the deliverer even before the first word is spoken (Lazarus 1966, Ch. 2). As the communication actually occurs, the receiver's expression and demeanor are likely to convey the anticipated negative

reactions in a vivid way, thereby reinforcing the deliverer's discomfort. If the deliverer likes the receiver, she or he will be unhappy to see the distress and may fear damage to a positive relationship. Given all of these negative consequences for the deliverer, it is no wonder that deliverers tend to mitigate negative information that has personal consequences for the recipient.

The Mum Effect does not distinguish between the phenomenon of suppressing portions of content (keeping "mum") from that of sugar-coating the "negativeness" of information (positive distortion of negative information) during bad news delivery. Thus the Mum Effect confounds these phenomena. Politeness theory clarifies this distinction (Brown and Levinson 1987).

In anticipating face-threatening situations, a communicator can relate negative information "baldly," stating it completely and straightforwardly. Alternatively, he or she may choose to use one of two categories of politeness strategies. Positive politeness strategies are typically those in which the deliverer acknowledges the listener's needs, claims common ground with the listener, and/or attempts to comfort and encourage the listener. Alternately, the deliverer can use negative politeness strategies in which the importance or relevance of the bad news to the listener is minimized and its apparent "negativeness" mitigated (Brown and Levinson 1987).

From these two streams of literature we can identify three options for deliverers of bad news. First, she can "sugar-coat" the negative information through the use of negative politeness strategies to reduce its apparent negativeness to the receiver. Second, she can simply omit some or all of the negative feedback. Third, she can use positive politeness strategies to provide a more supportive environment for the recipient of the bad news. This study focuses on the first of these options—the tendency for deliverers of negative information to distort that information in order to mitigate its apparent negativeness (e.g. to "sugar-coat" it). This is not to suggest that the second and third strategies are not important. Clearly these tactics take place in organizations and affect outcomes of bad news delivery. We leave investigation of these strategies for future research and define the distortion of negative information as *negative politeness strategies that aim to decrease the importance and relevance of the bad news to the receiver.* This does not entail eliminating important content, but rather manipulating the tone of delivery such that the content appears less negative to the recipient than it would otherwise. In response to such strategies, recipients are less likely to comprehend the magnitude of the negative information and are more likely to discount its importance and relevance to them, despite the fact that the actual content has been delivered. When this distortion does not occur and the bad news is presented in a way that does not seek to mitigate its impact, we have "straight talk."

Computer-Mediated Communication and the Distortion of Negative Information

Computer-mediated communication (CMC) may afford opportunities to increase straight talk. Compared to face-to-face communication, CMC provides the deliverer of bad news with relatively fewer cues regarding the social context and the recipient of the communication (Sproull and Kiesler 1986). Where these cues are attenuated, the social presence of the recipient—the feeling that the other person is involved in the communication exchange—is less salient (Short et al. 1976). By buffering the deliverer from the receiver, CMC may decrease the deliverer's psychological discomfort throughout the delivery process. If discomfort is reduced, the tendency to distort negative information via negative politeness strategies may also be reduced.

Although the role of CMC in increasing straight talk has not been investigated directly, results from previous research offer indirect support for our argument. Sproull and Kiesler (1986) asked organizational employees if they would prefer to use face-to-face communication or electronic communication to deliver different kinds of news with personal consequences for the recipient such as a salary raise or personnel recommendation. Employees reported a greater preference for electronic communication when the news was bad (no raise or a half-hearted recommendation) than when it was good (raise or enthusiastic recommendation). These results represented responses to hypothetical situations; the researchers did not measure behaviors in real good news or bad news communication situations. In experimental studies measuring actual behavior, participants communicating electronically

behave as though their communication partners are less salient to them in comparison with participants communicating face-to-face. They are less inhibited in their language (Kiesler and Sproull 1992) and pay less attention to their partners' opinions in decision-making tasks (Weisband 1992). They report feeling less evaluation apprehension (Gallupe et al. 1992) and less personal regard for their partner (Bailey and Pearson 1983). Taken together, the results of these studies suggest that people may find it less stressful to deliver bad news electronically than to do so face-to-face because they are socially buffered from their communication partners.

Most of the previous experimental research on CMC, including the studies cited above, has used tasks characterized by neutral information rather than information with positive or negative consequences for the recipient. These tasks are also characterized by information symmetry, that is, all participants have equal information resources to contribute to the interaction and resulting performance. Such tasks include getting to know someone (Kiesler et al. 1985), brainstorming (e.g., Connolly et al. 1990, Dennis and Valacich 1993, Gallupe et al. 1992, Valacich et al. 1994), planning (Applegate et al. 1986), and decision making (Hiltz et al. 1986, Kiesler and Sproull 1992, Weisband et al. 1995). Bad news delivery, by contrast, is an asymmetric information task in which one person is the primary source and the other is the primary recipient. The task is embedded in a two-way conversation, but the delivery process is relatively asymmetric in comparison with other kinds of tasks studied.

Studies comparing how people report their own behavior or attitudes across different communication media can also be interpreted as relevant to the bad news delivery context. (See Richman et al. (in press) for a review of this research.) Their focus is not on information that will have consequences for the recipients, which is the focus of this paper, but rather on information that will have consequences for the deliverer. When participants report on their own feelings and behavior, they tend to be more negative when they report electronically then when they report face-to-face or even when they report using paper and pencil. Psychiatric patients reported more undesirable behaviors and health habits when responding to a computerized clinical history program than to a therapist asking the same questions face-to-face (Greist et al. 1973). Job applicants reported lower GPAs and SAT scores when interviewed via computer than when interviewed face-to-face (Martin and Nagao 1989). Survey respondents reported more negative behaviors (such as illegal drug use) when filling out an electronic survey than when filling out a comparable paper and pencil one (Kiesler and Sproull, 1986). The explanation for these results is analogous to that for the studies of symmetric information tasks; namely, people find the social context and recipient less salient in electronic communication, are less concerned about presenting themselves in a positive light or "looking good" to the recipient, and so are more honest. If this argument also holds when people deliver bad news of personal consequence to the receiver, they would be less concerned about social niceties and so would be more honest and direct during the delivery process.

The research on elicitation of negative or undesirable information is based on a self-presentation task, not on a task entailing delivery of negative information that has consequences for another person. Moreover, most studies of self-presentation confound "negativeness" with "honesty." They measure the negativeness of self-reports (e.g., reports of greater illegal drug are defined as more negative reports) and assume that more negative reports are also more honest. They typically do not collect objective, behavioral measures to corroborate the self-report data. (See Waterton and Duffy (1984) and Martin and Nagao (1989) for exceptions.) An alternative explanation for such studies, when they do not include objective measures of honesty, is that electronic communication induces a negative emotional state, independent of the content of the communication. People may react more negatively to a "dehumanized" communication situation, they may feel anxious and uncertain about the technology. If this were true, then computer-mediated communication should lead generally to more negativeness in all communication rather than to greater honesty. Because accurate delivery of bad news requires honesty, not negativeness per se, it is necessary to separate these two alternatives in any investigation of it.

If computer-mediated communication leads to more accurate communication of negative information

rather than merely to more negativeness, we would expect to see less distortion in delivering negative information (more straight talk) but no difference in delivering positive information. Thus,

HYPOTHESIS 1. *Participants interacting via computer-mediated communication will distort negative information less than will participants interacting face-to-face, but there will be no difference in the distortion of positive information.*

Independently of how much (or little) deliverers distort bad news, we suspect that they will find the delivery process to be stressful and embarrassing. Because the recipient is less socially salient in electronic communication than in face-to-face communication, we think people will find it less stressful and embarrassing to deliver bad news via computer than face-to-face. All other things being equal, they should therefore find the interaction to be more satisfying. Hence

HYPOTHESIS 2a. *Participants delivering bad news via computer-mediated communication will report higher levels of satisfaction with the communication interaction than will participants delivering bad news face-to-face.*

Unlike delivering bad news, delivering good news is psychologically pleasant and satisfying (Tesser et al. 1972). People with positive information to convey can anticipate that the recipient will accept it without defensiveness or hostility, reacting pleasantly and with positive emotion. During the communication process, the receiver's demeanor is likely to convey the positive reaction to the good news, making the delivery job a pleasant one. If the deliverer likes the receiver, he or she will be happy to see the positive reaction to the information. Thus we can expect that communicators will enjoy the process of passing on good news more than bad news (O'Reilly and Roberts 1974, Tesser and Rosen 1975).

Since delivering positive information is a psychologically pleasant task resulting from both anticipated and actual positive receiver response, and this response tends be more socially salient during face-to-face rather than computer-mediated communication, it follows that:

HYPOTHESIS 2b. *Participants delivering good news via face-to-face communication will report higher levels of satisfaction with the communication interaction than will participants delivering good news via computer-mediated communication.*

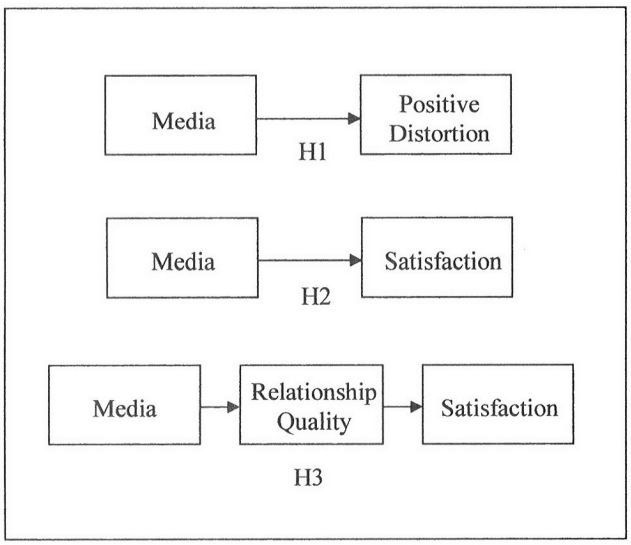
If satisfaction with the interaction does differ between media conditions, we are interested in the cause of such differences. One possibility is that partner relationships develop differently in different media, and that it is these relationship differences which engender different levels of satisfaction. For example, the development of interpersonal relationships among previously unacquainted individuals is likely to take more time in CMC than in face-to-face interactions (Walther 1992). Thus for new-forming relationships, media may affect impression development such that feelings of goodwill towards a communication partner develop sooner in face-to-face than in CMC contexts. If it is this goodwill rather than the media type that creates a satisfying experience, then communicators' perceptions of their partners will intervene between media type and its relationship to communicator satisfaction. If so, then during acquaintanceship processes, media type will affect communication satisfaction only indirectly through the mediating effect of perceived relationship quality.

It is important to identify where media have direct effects on outcomes versus where these effects occur through intervening relationship variables. To this end, relationship quality has been found to be associated with perceived satisfaction but not with performance in a number of experimental contexts (Weisband et al. 1995, Graen and Schiemann 1978, Vechhio and Gobdel 1984). Distortion is an indicator of performance to the extent that it can cause incorrect information to be passed on in organizations (Fulk and Mani 1986). Thus, unlike the case for satisfaction, relationship quality is not likely to mediate between media type and distortion.

HYPOTHESIS 3: *During the acquaintanceship process, partner relationship quality mediates the relation between media type and satisfaction, but not the relation between media type and information distortion.*

Figure 2 below depicts hypothesized effects during delivery of negative information:

Figure 2 **Hypothesized Relationships During Delivery of Negative Information**



The foregoing argument contrasts text-based CMC with face-to-face communication. In the experiment described below we include telephone as an additional communication condition for exploratory purposes. We do not offer specific hypotheses about its effect on distortion and satisfaction, however, because the literature suggests conflicting outcomes depending on the theoretical stance taken.

A growing body of research investigates factors affecting media choice by organizational members, and both rational and social theories have been identified as contributors to this area (Webster and Trevino 1995, Markus 1994). One of the many factors contributing to choice is the experience one has of the particular media, in terms of both richness and salience. From the rational perspective, media richness arguments place the telephone between face-to-face and CMC on a continuum of information richness or social presence (Chapanis 1972, Trevino et al. 1990). Voice provides some information missing in text communication through tone, intonation, and paravocalizations. But it cannot convey any of the visual information present in face-to-face communication. Because telephone communication increases the social salience of the recipient relative to text communication and decreases it relative to face-to-face communication, information distortion and communication satisfaction for people delivering consequential information by telephone should fall between those for face-to-face delivery and CMC delivery.

Alternatively, other researchers suggest that any physical reminder of the other person is enough to trigger social response (Green and Gange 1977, Guerin 1986, Zajonc 1965). In this view, the recipient's voice provides a reminder of his or her physical presence that is sufficient to facilitate a social response (Perse 1993, Rice 1993). Because voice cues social response, information distortion and communication satisfaction for people delivering information by telephone should not differ from those for face-to-face delivery. To the extent that our results for voice delivery lie in between the results for face-to-face and text-based CMC, our findings will lend additional support for the media richness perspective. Alternatively, if we find that voice communication more closely resembles face-to-face communication than CMC, we will have evidence to support the social facilitation perspective.

The theory of self-monitoring (Snyder 1974, 1979) identifies persistent individual differences in the way in which people tailor their behavior in response to others during interpersonal interaction (see Snyder (1979) for a review). High self-monitors regulate their self-presentation along three dimensions—other-directedness, acting, and extroversion (Briggs et al. 1980). Highly other-directed individuals pay close attention to social comparison information (Briggs et al. 1980, Gabrenya and Arkin 1980). In an exploratory vein, we investigated the possibility that highly other-directed individuals would be less satisfied and comfortable with the computerized condition, since in this condition the social cues they attend to in order to self-monitor successfully are less salient.

Method

The study used a two (positive versus negative information) by three (communication medium) between-participants factorial design. Participants were randomly assigned to give positive or negative performance feedback to another "student" (confederate) via face-to-face conversation, telephone, or synchronous computer-mediated communication. Every

participant was paired with a same-sex confederate, a standard practice in communication research (c.f. Ickes and Barnes 1977, Miell and Le Voi 1985, Wayne and Ferris 1990) that serves to exclude additional interaction factors (such as attraction) that may be confounding, especially among young people.

Study Participants. Study participants were 73 male and 44 female undergraduates enrolled in an introductory information systems course at the Boston University School of Management. Participation was voluntary, and participants were assured of the confidentiality of their responses. Students received course credit for their participation. Demographic characteristics were reported by participants prior to the experimental treatment: Participants' mean age was 20; their mean-typing speed was 3 (where 1 is very fast, and 5 is very slow); and their mean attitude toward computers was 2.12, where 1 is a positive attitude towards computers, and 7 is a negative attitude. This last measure was based on four items from Shamp (1991), with a reliability of alpha = 0.73.

Task and Procedure. The task entailed delivering feedback to a "student" (who was actually one of three confederates) about his or her resume, which the "student" had supposedly submitted to the campus career counseling center for comments and recommendations. Students were not told the purpose of the study, but rather that the career services center (on a different floor in the same building) was short-staffed and in need of help delivering resume feedback to students.

Participants arrived individually at a designated office at a prearranged time and completed a pretreatment questionnaire consisting of demographic items, a self-monitoring scale (Briggs et al. 1980), and measures of perceptions of computers (Shamp 1991). Participants were then given three documents to read: (1) a description of the task, (2) an annotated resume, and (3) a list of feedback items to be delivered. Participants were instructed to spend a few minutes getting to know their partner initially before they initiated feedback delivery, which was to consist of communicating all the items on the feedback list, in the order listed. Participants were instructed to refer to the annotated resume during the delivery process, using it to convey the items in the feedback list, but without reading them verbatim from the list. After any questions were answered, media condition was assigned randomly. In the face-to-face condition, the "student" (confederate whose resume the participant had read) was brought in and seated across a small table from the participant. In the telephone condition, the participant was told that the student was waiting for his or her phone call. He or she was given a number to call that rang in an office where the confederate was waiting. In the computer condition, the participant was told that the student was in another building and could not leave due to a work-study commitment, requiring communication via computer link. Thus a plausible rationale was provided for using the computer to communicate feedback. The experimenter then seated the participant at a computer where a real-time computer connection had already been established to the confederate, with one window for typing comments and another for reading the confederate's comments. The experimenter told participants that they had ten minutes to complete the task, answered any additional questions, and left the room.

Participants communicating in the telephone condition used a regular push button phone. Participants communicating in the CMC condition used the TALK program available on UNIX® computer systems. TALK allows two people to interact synchronously by typing information simultaneously into a split screen. Each person has ten lines of scrollable space on his or her half of the screen for typing text. Partners see text which the other has just typed on their half of the screen with little or no apparent time delay. This program therefore supports interactive, synchronous communication. While this type of electronic communication is used less than e-mail in organizations, it was selected for its ability to support synchronous communication. This allowed us to eliminate asynchronicity as an attribute of electronic communication with potentially confounding effects.

One female and two male masters-level graduate students served as confederates, since the sample of participants was approximately two-thirds male. Confederates were trained to respond to participants' comments and inquiries using a scripted interaction sequence. During the interaction, the confederate followed the same script for both positive and negative

conditions. This consisted of prescribed questions during the initial getting-to-know-you period, such as where they were from, how old they were, what their interest and major were, etc. Confederates were told to respond in a neutral tone according to the script with utterances such as "I see," "okay," and "uh-huh." They were instructed not to read the script, but to appear as if communicating naturally. We were able to achieve participant-confederate interaction sequences that, while not precisely the same, were similar in structure and content. The three confederates (two males, one female) each worked in all three media conditions. We have no evidence to suggest that their interaction sequences varied by media.

After they had completed the experimental task, participants completed a post-treatment questionnaire that included the measures of satisfaction and relationship. They were then debriefed to learn that the information they had provided was constructed solely for experimental purposes and to ensure that they were not acquainted with the confederate prior to the experiment. In two cases, data was eliminated for this reason.

Information *valence* refers to the negative or positive tone of the content. To generate an information valence manipulation, the same one-page resume was annotated in two different ways—one with negative comments (bad news) and the other with positive comments (good news). Two lists of feedback items to deliver, each of which corresponded to an annotation on the resume, were also constructed. One list contained seven positive annotations; for example, "you have used many strong adjectives well," and "your selection of the chronological style is a good one." The other contained seven negative annotations; for example, "use more powerful adjectives," and "you should be using a functional rather than a chronological style resume." Figure 3 displays two annotated resumes, one with negative comments and the other with positive comments. Materials given to female participants had a female name on the resume; materials given to male participants had a male name on the resume.

Dependent Measures. *Distortion.* Distortion was measured by asking the (hypothesis-blind) confederate to count the number of items on the feedback list that were presented more positively than they were written. The interactions were not recorded and so only confederate counts were used. Confederates were trained to listen for particular words included in each item for their negative connotation. Exclusion of these words by the participant was an indication of positive distortion. For example, if the item said "you have a lot of wasted space in the upper right," and the participant said "you could use the space better in the upper right if you wanted to," that would be tallied as an instance of positive distortion, because the confederate had been instructed to listen for the words "wasted space." Confederates calculated a positive distortion score from 0 to 7 during the communication interaction, indicating the aggregate number of items (out of a possible 7) that he or she perceived the participant to positively distort.

This approach does not account for those items omitted entirely. In eight cases, participants did not deliver all seven items, however in these instances we were unable to determine whether the omissions occurred due to time constraints or the "Mum Effect." Thus the measurement strategy was designed to assess the extent of negative politeness strategies (e.g. sugar coating) rather than number of omissions.

Multiple confederates were used to minimize confederate fatigue and the chance that confederates would learn the nature of the hypotheses under study. This approach also enabled a post-hoc assessment of inter-rater consistency.

Satisfaction. Participants' satisfaction with the interaction was measured using four seven-point semantic differentials that comprise the communication quality subscale of Bailey and Pearson's (1983) computer user satisfaction instrument. Participants were asked to rate the quality of the interaction on the dimensions of harmonious/dissonant, constructive/destructive, precise/vague, and meaningful/meaningless (Cronbach's alpha = 0.90). We measured participants' comfort with the interaction with two seven-point Likert items (Schaffer et al. 1982) asking how comfortable and relaxed the communicator felt during the interaction (Cronbach's alpha = 0.87). In this way we assessed both participants' attitude toward the interaction (satisfaction as measured by perceived communication

Figure 3 Annotated Resume Used for Information Delivery Task

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use functional Style.

EDUCATION

May, 1993 — B.A. Boston University - Boston, MA
Majors in political science and economics

too much Empty Space

FIELD PRACTICUM

1992/93 — **Massachusetts Human Services Coalition**, Boston, MA
Provide research, administrative and planning skills to assist in organizing a statewide legislative campaign for positive welfare reform.

EMPLOYMENT

5/92-9/92 — **Research Assistant - The MayaTech Corporation**, Silver Spring, MD
Conducted literature reviews, assisted in designing assessment tools and field procedures, gathered data, conducted field research and prepared report on the implementation of the Family Violence Prevention and Services Act of 1988; negotiated participation of drug and alcohol treatment programs in national study of treatment services.

weak

not prioritized

5/91-9/91 — **Research Assistant - Center for Child Protection and Family Support**, Washington D.C. Assisted in constructing evaluation instruments and to evaluate three prevention projects. Created project materials and helped develop educational materials used for adolescent parenting program. Wrote and edited project reports and narratives for grant proposals.

No!

5/90-9/90 — **Intern - CommercialWare, Inc.**, Washington D.C.
Researched foundation and corporate sources of funding in support of efforts to purchase a building and raise an endowment.

5/89-9/89 — **Clerk - Federal Reserve Bank of Boston**
Maintained statistical records of machinery and worker productivity

Quantity, not quality

PUBLICATIONS

Assessment of the State and Tribal Programs Funded Under the Family Violence Prevention and Services Act. (1992) (Contract No. 105-90-8118). Washington D.C. U.S. Department of Health and Human Services, Office of Policy, Planning, and Legislation. The MayaTech Corporation.

SKILLS — Computer Skills include Wordperfect 5.1, MSWord and Harvard Graphics

good selection of chronological style.

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Nice typeface

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SKILLS — Computer Skills include Wordperfect 5.1, MSWord and Harvard Graphics.

quality) as well as any effect (reported feelings of comfort) which may have been generated as a result of the interaction. Affect has long been considered one component of attitude (McGuire 1985), with attitude and affect generally correlated (Breckler 1984), which we found to be the case (Pearson correlation coefficient = 0.39, $p < 0.01$).

Partner Relationship. We asked participants to assess how friendly and personable their communication partner was using two seven-point Likert scales taken from a validated likability scale (Schaffer et al. 1982). We reasoned that these measures would indicate the quality of the relationship that had developed during the interaction. The reliability of this scale is not high (Cronbach's alpha = 0.58), possibly due to the short interaction time. Results should be interpreted cautiously.

Self-Monitoring. The other-directedness factor of the Self-Monitoring Scale (Snyder, 1974) was measured using a validated 11-item subset of the original 25-item scale (Briggs et al., 1980). This scale addresses the extent to which individuals are concerned about the appropriateness of their behavior, to the extent that they look to others for cues in this regard. Appendix 1 lists the measures used in this study.

Analyses. Analyses of all dependent measures were conducted at the individual level using a standard statistical package. With 19 participants per cell, we have 95% power to detect a 1.5 sigma difference between the maximum and minimum values of factor level means at an alpha level of .05. We have 90% power to detect 1.35 sigma differences, and 80% power to detect 1.2 sigma differences. Overall differences in distortion were tested using one-way and two-way analysis of variance. MANOVA was used to assess media effects on satisfaction and comfort simultaneously. Mediation analysis (Baron & Kenny, 1986) was used to investigate the communication process as a mediator of the media-satisfaction relationship. An alpha level of .05 was used for all statistical tests.

Results

Background Variables and Preliminary Analyses

Preliminary analyses investigated the effect of background variables on our dependent variables of distortion, satisfaction, and relationship with communication partner. No significant effects were found for participant age, gender, grade point average, typing speed, or attitudes toward computers. ANOVA was used to test for the presence of a potential confederate effect. In a two-way ANOVA (confederate by condition) no significant differences were found between the means of distortion across the three confederates by condition, indicating confederate consistency on the distortion measure.

In a postquestionnaire measure of information valence (3-item, 7-point Likert scale consisting of items such as: "In the conversation I just had, the feedback I delivered could be characterized as mostly [1] positive to [7] negative"), participants in the negative information condition scored significantly higher (M = 3.36) than did participants in the positive information condition (M = 1.59); ($F[1,116]$ = 57.38, p = 0.000), indicating that the information manipulation was successful. We note however that participants in the negative information condition did not characterize their feedback as substantially negative, an observation we return to in the discussion section. Confirmatory factor analysis with varimax rotation was performed to ensure that item indicators loaded onto their respective constructs with no overlap (see Table 1 below). Table 2 below displays correlations among the variables used in subsequent analyses.

Communication Effects on Distortion

As shown in Table 3, participants positively distorted negative information less in the CMC condition (M =

Table 1 **Rotated Factor Matrix from Factor Analysis of the Dependent Variables**

	Factor 1	Factor 2	Factor 3
Satisfaction			
Pair19	0.87078		
Pair20	0.86375		
Pair18	0.78461		
Pair17	0.64544		
Comfort			
Self2		0.93298	
Self1		0.89598	
Likability			
Oth2			0.83078
Oth1			0.81068

Table 2 **Means, Standard Deviations and Intercorrelations among Dependent and Process Measures**

		1.	2.	3.	4.
Distortion		1	−0.0214	0.0912	0.0505
M = 1.02	SD = 2.0				
Satisfaction			1	0.3893**	0.3595**
M = 5.07	SD = 1.10				
Comfort				1	0.2422**
M = 4.80	SD = 1.44				
Likability					1
M = 5.26	SD = 1.10				

**$p < 0.01$

0.63) than in the face-to-face condition ($M = 2.55$). This relationship was significant in a pairwise comparison of these two media conditions ($F(1,38) = 7.08$, $p < 0.05$). There was essentially no negative distortion of positive information in any of the communication conditions. Taken together, these two findings support our first hypothesis that participants interacting via CMC will positively distort negative information less often than will participants interacting face-to-face, but there will be no difference in the distortion of positive information.

There is no significant difference in frequency of distortion of negative information between participants communicating face-to-face ($M = 2.55$) and participants communicating via telephone ($M = 2.05$). However, those using telephone ($M = 2.05$) distort negative information significantly more than do those using CMC ($M = 0.63$) in a pair-wise comparison—$F(1,37) = 5.88$, $p < 0.05$. Figure 4 displays these results graphically.

Communication Effects on Satisfaction

We hypothesized that satisfaction should be higher for participants communicating bad news via computer than for those communicating bad news face-to-face (Hypothesis 2a). Using MANOVA to compare face-to-face with CMC for delivering negative information, both satisfaction ($F(1,67) = 12.45$, $p < 0.01$) and comfort ($F(1,67) = 3.95$, $p = 0.05$) were significantly higher in the CMC condition than in the face-to-face condition. However, these results were not replicated using ANOVA to examine effects on satisfaction and comfort independently. Table 3 shows ANOVAs for all three media conditions for positive and negative information. Higher satisfaction was reported by the CMC participants ($M = 5.38$) than by those interacting face-to-face ($M = 4.79$) for delivering negative information. Comfort levels were also higher for CMC participants ($M = 5.39$) than for face-to-face participants ($M = 4.97$). However, these differences are not statistically significant, so Hypothesis 2a is not supported.

For the telephone condition, there is no significant difference in satisfaction reported between participants communicating negative feedback face-to-face ($M = 4.79$) and participants communicating via telephone ($M = 4.76$). Nor were statistically significant differences in satisfaction found between telephone ($M = 4.76$) and CMC ($M = 5.38$) conditions for delivery of bad news—$F(1,34) = 3.08$, $p = .089$. However, significant differences in comfort were found between telephone ($M = 4.10$) and (CMC $M = 5.39$) conditions—$F(1,38) = 12.44$, $p < 0.01$ for delivery of bad news. Significant differences in comfort were also found between the telephone ($M = 4.10$) and face-to-face ($M = 4.97$) —$F(1,39) = 5.01$, $p < 0.05$ for delivery of bad news. Comfort levels for the telephone condition are closer to those of the face-to-face condition than those of the CMC condition, mirroring the findings for effect of media on distortion.

For the delivery of good news (Hypothesis 2b), and contrary to our hypothesis, participants using CMC ($M = 5.75$) reported significantly higher satisfaction—$F(1,33) = 11.50$, $p < 0.01$—than those communicating face-to-face ($M = 4.45$) in a pairwise comparison. This was not the case for the dependent measure of comfort. Participants' typing speed and attitude toward computers were eliminated as factors potentially responsible for this as a novelty or halo effect, since neither was significant as a covariate. No significant differences were found for comfort in the telephone condition. However, satisfaction is significantly lower for face-to-face ($M = 4.45$) participants than those using telephone ($M = 5.19$)—$F(1,35) = 4.3$, $p < .05$. Thus Hypothesis 2b is not significant in the direction hypothesized, but does indicate a positive significant relationship between CMC and satisfaction.

The addition of self-monitoring as a covariate did

Table 3 The Effects of Medium and Information Valence on Information Distortion and Relationship Quality

	FTF		Phone		CMC			
Measure	Pos. (n = 19)	Neg. (n = 20)	Pos. (n = 20)	Neg. (n = 19)	Pos. (n = 19)	Neg. (n = 19)	F Medium	F Valence
Distortion								
M	0.37	2.55	0.21	2.05	0.26	0.63	3.24*	19.22**
SD	1.61	2.86	0.92	2.17	1.15	1.34		
Satisfaction								
M	4.45	4.79	5.19	4.76	5.75	5.38	7.24*	0.51
SD	1.23	1.03	0.89	0.90	1.0	1.17		
Comfort								
M	4.63	4.97	4.43	4.10	5.24	5.39	5.86**	0.03
SD	1.67	1.31	1.54	1.15	1.49	1.14		
Likability								
M	5.0	5.12	5.45	4.78	5.66	5.47	2.93	1.79
SD	1.13	1.16	1.05	1.18	0.88	1.06		

*$p < .05$, **$p < .01$ Note: No interaction F was significant

not increase the impact of media type on levels of satisfaction or comfort.

Relationship with Communication Partner as Mediator of Satisfaction

We hypothesized that the nature of the relationship established between the participant and his or her communication partner might mediate the effects of media on satisfaction but not on distortion (Hypothesis 3). To investigate this possibility, communication medium was coded as a dummy variable (0 = face-to-face; 1 = cmc) and a mediation analysis was performed on the full sample (both valence conditions) minus the voice-only condition. Mediation is present if the following conditions are met in four regression equations (Baron and Kenny 1986). First, the independent variable (communication medium) must affect the dependent variable (distortion or satisfaction). Second, the mediator (relationship quality) must also affect the dependent variable. Third, the independent variable must affect the mediator. Fourth, both the mediator and the independent variable must affect the dependent variable, with the coefficient of the independent variable reduced from its value in the first regression.

Table 4 summarizes the results of these analyses. Likability (our measure of relationship quality) did partially mediate the impact of media on satisfaction, as evidenced by an increase in the adjusted r-square from 0.14 in Step 2 to 0.23 in Step 4, as well as by the decrease in the coefficient for media from 0.40 to 0.33. In this way, media affects both participants' experience of the relationship, as measured by ratings of the likability of the other, and their satisfaction with the communication interaction. In support of Hypothesis 3, likability partially mediates this relationship between media and satisfaction. Also consistent with Hypothesis 3, likability did not significantly affect distortion, thus the effect of communication medium on distortion is not mediated by relationship quality.

Discussion

This study presents evidence that people using CMC to deliver bad news distort it less than people communicating face-to-face. People are more likely to use negative politeness strategies when they are communicating face-to-face than when they are communicating via CMC or telephone. Results for information distortion in the phone condition resembled those of the face-to-face condition. Social facilitation predicts this pattern of results better than media richness does, since a voice on the telephone is apparently enough to trig-

Figure 4 Distortion Means by Condition

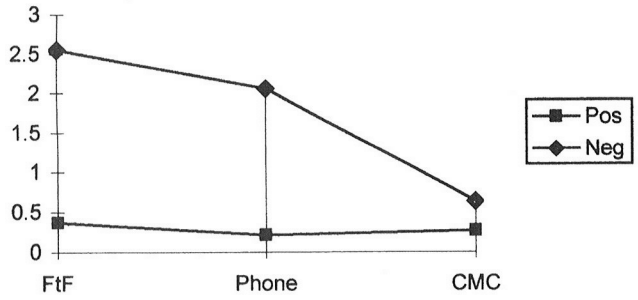

Table 4 Mediation Analysis for Satisfaction and Distortion—Face-to-face versus CMC Only

Outcome	Step[a]	Adj. r-square	F	*df*	Predictor	b	*t*
Satisfaction	1	0.14	12.45	1,67	Media	0.40	3.53**
	2	0.14	12.02	1,67	Likability	0.39	3.47**
Likability	3	0.04	4.37	1,75	Media	0.23	2.09*
Satisfaction	4	0.23	11.31	2,66	Media	0.33	3.02**
					Likability	0.32	2.96**
Distortion	2	0.0003	1.02	1,75	Likability	0.12	1.01

[a]Step 1 tests the effect of media type on outcome. Step 2 tests the effect of the mediator Likability on the outcome. Step 3 tests the effect of media type on the mediator. Step 4 tests the whole model, ie. the effect of media type and the mediator on outcome.

*$p < 0.05$ two-tailed, **$p < 0.01$ two-tailed.

ger behaviors that resemble those of face-to-face communication.

Participants in the CMC condition reported higher levels of comfort and satisfaction than those in either the face-to-face or telephone conditions. For delivery of bad news, participants were significantly more comfortable talking face-to-face than via telephone, but significantly less comfortable using the telephone than CMC. Use of the telephone made these participants particularly uncomfortable. It seems that the telephone provided the deliverer with enough cues to the recipient's reactions as to make him or her uncomfortable, but not enough to be able to assess the intensity of the negative reaction. In the CMC condition, a recipient's anxious tone of voice could not be detected, whereas in the face-to-face condition it could be both detected and assessed. Future research will examine this explanation of these findings.

The quality of the partner relationship contributes to the effects of media type on satisfaction, but not to those on distortion. We suggested one explanation for this might be that CMC relationships take longer to develop (Walther 1992), however this does not explain why CMC seems to have consistently positive effects on the relationships developed in this condition. Because this mediation is only partial, we need to understand both the positive direct effects of media on satisfaction, as well as the positive effects of media on the relationship. We do know that individual differences such as age (within the narrow range investigated here), gender, and self-monitoring propensity do not affect peoples' satisfaction and performance using the various media for this task.

We were surprised to find that while information valence affected distortion as expected, it did not affect the relationship variables (satisfaction, comfort, and likability). One explanation for this is that the entire task was uncomfortable to the participants, regardless of information valance. Participants did appear to be nervous as they undertook the task, perhaps because of their inexperience with this kind of task (participants were primarily sophomore undergraduates). A comparison of the CMC with the face-to-face condition for delivery of both positive and negative information supports this explanation: CMC participants report significantly higher satisfaction than face-to-face participants do ($F[1,67] = 12.45$, $p < 0.01$).

Initially we thought that the valence of the information delivered might interact with the delivery medium used in producing satisfaction and comfort, but we did not find this to be the case. As we suggested above, our "negative" condition was not perceived all that negatively by participants. By changing the information delivery task, future researchers should be able to elicit a main effect for valence of information and explore the possibility of interaction effects. The lack of self-monitoring effect may also be a measurement artifact. While the other-directedness subscale has been validated, it was not developed to assess sensitivity to cues suppressed by various media. Questions regarding the ability to read cues appear to be inadequately represented in this scale (Briggs et al. 1980).

Our results may help to improve our understanding of flaming. "Flaming" is defined as speaking "incessantly and/or rabidly on some relatively uninteresting

subject or with a patently ridiculous attitude" (Steele 1983:65). Flaming has been cited as evidence that computer-mediated communication may "cause" hostile communication behavior (George et al. 1990, Siegel et al. 1986). This study suggests an alternative explanation. People seem to do less "cushioning the blow" of negative information when they use computer-mediated communication. If CMC reduces the positive distortion of negative information, it may serve to increase straight talk that is suppressed during face-to-face communication. Since people use negative politeness strategies to suppress straight talk in face-to-face interaction (Brown and Levinson, 1987), communication partners may find the lack of such niceties in CMC unexpected or discomfiting. These partners may interpret straight talk as offensive and may, in turn, respond defensively. Such an interaction sequence could indeed escalate to hostility. But the opening move would have been one of straight talk rather than hostility. Rather than "causing" flaming, perhaps electronic communication "causes" straight talk in delivering negative information.

Organizational culture—the pattern of shared values and beliefs that produce behavioral norms over time (Schein 1990)—may play a role in the delivery of "straight talk" and its contribution to flaming. The norms that individuals bring with them to a communication interaction may affect their delivery of and reaction to straight talk during the interaction (Allure and Firsirotu 1984, Marcoulides and Heck 1993). In organizations where straight talk is normative, media effects are likely to be less salient, since straight talk will be manifest in all communications regardless of delivery medium. In these organizations, communication partners may be less likely to interpret mediated straight talk as offensive, and may be less likely to escalate the interaction sequence to the point of flaming.

This study suggests interesting implications for practitioners involved in unpleasant communication tasks such as delivering negative information. Cultural norms in organizations today favor delivering bad news in person. Face-to-face delivery is a signal that the news is important and that the deliverer cares about the recipient. Delivering bad news electronically in order to increase accuracy and honesty flies in the face of these norms and might cause the recipient to discount the news or take offence at the choice of delivery media. However, the increasingly widespread use of electronic media for organizational communication may alter these norms over time, especially in instances where face-to-face interaction is not possible due to geographic separation. It is for such instances that research into the effects of electronic delivery of bad news is called for, and for which this study makes some initial headway.

An additional implication for practitioners is related to upward information delivery. Subordinates are frequently the first to learn of bad news, but are often loathe to convey it to their superiors. Electronic information delivery might be particularly useful in upward communication situations, where negative information is often distorted (Fulk and Mani 1986). Again, it would be necessary to insure that the recipient did not discount the information because it had been delivered electronically.

This research has focused on the experience of the information deliver. Future research focusing on the experience of the recipient should shed light on learning in organizations. In theories of self-regulation (Campion and Lord 1982, Carver and Scheier 1981, Powers 1973), it is the *discrepancy* between internal standards and external information about achievement of these standards that causes learning, not the external information per se. When information is presented in a way that minimizes its negativeness, the receiver may be less likely to perceive a discrepancy, or perceive it as being smaller, than if it had not been presented in this way. In such cases the manner of presentation has affected the value of the information to the receiver. In general, the information value of negative information is inversely related to usage of politeness strategies (Lee 1993). To the extent that use of negative politeness strategies is associated with particular delivery media, computer-mediated communication of bad news may engender more or less comprehension, accuracy, and defensiveness on the part of the recipient.

This study exhibits the conventional strengths and weaknesses of experimental research, such as the use of undergraduates as participants. Participants had no

ongoing relationship with the recipients of their feedback, limiting generalizability to contexts of acquaintanceship. However, such contexts are found in organizations wherever initiatives span functional, geographic, and organizational boundaries, and whenever organizational newcomers are involved. We acknowledge the limitation of the distortion measure, based as it is on the assessment of three individual confederates. Finally, participants rated the negative feedback as only moderately negative; thus we cannot generalize our findings to the delivery of extremely negative information. Clearly it is difficult and even unethical to deliver extremely bad news in the laboratory.

As electronic communication becomes more pervasive in organizations, practice is outpacing research. Organizational members are using the technology for many more kinds of tasks and situations than the stylized brainstorming and decision-making tasks of laboratory research. Customer service, marketing campaigns, capital budgeting, employment interviews, and more are routinely occurring via electronic communication in at least some organizations today. We need to understand how computer-mediated communication affects the interaction dynamics and consequences of many different kinds of communication situations—including unpleasant communication tasks such as the delivery of bad news.[1]

Appendix Questionnaire Items

Satisfaction (Bailey and Pearson 1982)

Please rate the quality of the communication you just had during your feedback delivery according to the following adjectives:

Dissonant Neutral Harmonious
1.....2.....3.....4.....5.....6.....7

Destructive Neutral Constructive
1.....2.....3.....4.....5.....6.....7

Vague Neutral Precise
1.....2.....3.....4.....5.....6.....7

Meaningless Neutral Meaningful
1.....2.....3.....4.....5.....6.....7

Comfort (Schaffer et al. 1982)

Please circle a number that corresponds to how you felt, while you were delivering feedback:

How comfortable did **you** feel?

Very uncomfortable Neutral Very Comfortable
1.....2.....3.....4.....5.....6.....7

How relaxed did **you** feel?

Very Tense Neutral Very Relaxed
1.....2.....3.....4.....5.....6.....7

Relationship (Schaffer et al. 1982)

Please circle a number which corresponds to how you think the person you were delivering feedback to felt while you were delivering the feedback:

How friendly did the **other** person seem?

Very Unfriendly Neutral Very Friendly
1.....2.....3.....4.....5.....6.....7

How personable was the **other** person?

Very Unpersonable Neutral Very Personable
1.....2.....3.....4.....5.....6.....7

Other Directedness subscale (Briggs et al. 1980) of Snyder's Self-Monitoring Scale (1974): The following questions were all in Likert response format on a scale from 1 (extremely uncharacteristic) to 5 (extremely characteristic).

1. When I am uncertain how to act in social situations, I look to the behavior of others for clues.
2. My behavior is usually an expression of my true inner feelings, attitudes and beliefs (R).
3. At parties or other social gatherings, I do not attempt to do or say things that others will like (R).
4. In different situations and with different people, I often act like very different persons.
5. In order to get along and be liked, I tend to be what other people expect me to be rather than anything else.
6. I'm not always the person I appear to be.
7. I guess I put on a show to impress or entertain people.
8. Even if I'm not enjoying myself, I often pretend to be having a good time.
9. I may deceive people by being friendly when I really dislike them.
10. I would not change my opinions (or the way I do things) in order to please someone else or win their favor (R).
11. I feel a bit awkward in company and do not show up quite as well as I should.

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