

The effect of e-mail on attitudes towards performance feedback

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Abstract

Purpose – The purpose of this research is to argue that people's inherent attitudes towards the various communication media (e-mail, paper-form, face-to-face) will change their reactions to identical performance feedback.

Design/methodology/approach – Using an empirical scenario study with 171 business school students as participants, peoples' attitudes were explored about the use of e-mail for feedback by having participants enact the role of an organizational employee receiving (identical) feedback via e-mail, paper-form, or a face-to-face conversation.

Findings – It was found that people responded most positively to the feedback when they believed it was delivered via paper-form, and most negatively when they believed it was delivered via e-mail. Thus it is theoretically challenged that the notion that all text-based media (i.e. paper-form and e-mail) should be considered identical, and empirically document differences. Further, the negative reaction to the concept of feedback delivered via e-mail was magnified by a performance-goal orientation as opposed to a learning goal-orientation.

Practical implications – It is argued that the norms and expectations about each medium should play a significant role in determining appropriate feedback communication tools.

Originality/value – This research can help individuals and organizations decide the mode of communication they use to deliver feedback.

Keywords Electronic mail, Feedback, Information media, Attitudes

Paper type Research paper

In modern organizational life, we have a wealth of communication opportunities available to us. Indeed, any one message could potentially be conveyed in a face-to-face conversation, a voicemail or telephone conversation, a written memo or letter, or sent via an e-mail. Each of us may carry internal guidelines, whether consciously or not, for deciding what messages belong with which delivery vehicles. Part of our sense is likely to be shaped by the reaction that we feel others might have to our choice. Anecdotally, imagine the wrath that could follow the decision to terminate an employee via an e-mail message (Poe, 2001; Siddle, 2003). In this paper, we explore people's attitudes about three different communication vehicles for delivering feedback:

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- (1) e-mail delivery;
- (2) paper delivery; and
- (3) face-to-face delivery.

We expect these three vehicles to produce different reactions in people based primarily on the different perceptions that individuals generally hold about what is appropriate for delivery of this type of message. More specifically, we argue that in the context of feedback communication, people may be less satisfied with the idea of e-mail as a delivery vehicle. Our argument is based on the fact that individuals perceive computer communication (e-mail) to be less formal and satisfying than traditional communication media (face-to-face and written documents) in this context. Though e-mail is fast becoming a staple for organizational communication purposes, many employees still do not perceive it as an adequate media for conveying important (especially personal) information (King and Xia, 1997). Following this reasoning, we argue that normative assumptions about the various media should guide our selections as an important addition to the actual technical capabilities alone.

Recognizing that many employees at this point spend a good deal of their time communicating online (Markus, 1994; Nadler and Shestowsky, 2004) whether through necessity or convenience, it comes as no surprise that practitioners and scholars alike have sought to explore the ramifications of using electronic communication media (such as e-mail) when conducting business transactions (e.g., Landry, 2000; Moore *et al.*, 1999). We aim to add to our knowledge in this area by exploring the norms and attitudes that people hold about e-mail as a tool for feedback delivery specifically, and uncover the *a priori* lens that they adopt for messages being delivered this way.

Feedback delivery and acceptance

Performance appraisals and feedback are widely considered to be a staple in the effective management of a high performing work system (e.g. Druskat and Wolff, 1999; Ouchi, 1981; Staw, 1980), and can enhance each the development, the communication, and the implementation of the company's strategy (Butler *et al.*, 1991), as well as influence individual performance. Research has shown that even negative feedback can be a motivating tool for employees by effectively communicating expectations (Pritchard *et al.*, 1988), as well as improving performance by demonstrating weaknesses in previously-used strategies (Hazucha *et al.*, 1993; Walker and Smith, 1999).

However, these positive benefits of critical feedback must be balanced by the potential negative consequences. Some research suggests that negative feedback can at times create more problems than it solves (Lawler *et al.*, 1984). In particular, negative feedback can de-motivate employees (Kluger and DeNisi, 1996; Thomas and Bretz, 1994), as the emotional by-products of receiving negative feedback, such as frustration and dissatisfaction, take their toll (Podsakoff and Farh, 1989). These effects can be so damaging that people may go to extreme lengths to shield themselves psychologically from this type of bad news. Research has shown that recipients perceive negative feedback to be less accurate than positive feedback (Brett and Atwater, 2001), and thus tend to disregard it as not useful (Faction *et al.*, 1998).

To ensure that the value is realized, feedback (positive or negative) needs to be not only successfully delivered, but also accepted (i.e. internalized) by the recipient (Ilgen *et al.*, 1979; Bannister, 1986), which is not always an easy feat. Thus, while most studies

focus on how to effectively measure and reward performance, it is also important to understand how feedback delivery affects the recipient's understanding of the intended message. After all, the feedback effectiveness is determined more by the recipient's information processing than by the rating instrument itself (Feldman, 1981). Consequently, the procedure itself becomes critical for understanding the entire system. In this research, we explore different delivery vehicles to assess peoples' attitudes toward feedback as a function of communication medium. As described above, we examine the effects of people's inherent attitudes towards feedback delivered by:

- e-mail;
- paper-form; and
- face-to-face conversations.

Further complicating the issue, "negative feedback" and "positive feedback" are often not precisely categorized in reality. Real feedback is often mixed, containing some elements of both praise and criticism embedded in the same message. The commonly used term "constructive criticism" conveys this sense of negative feedback with a positive framing, while psychological studies of perceptual errors show that people are often selective, whether intentionally or not, in the message they choose to receive (see Fiske and Taylor, 1991). We extend the research on reactions to mixed feedback messages by exploring the conditions under which people will perceive feedback as more emotionally negative and become demoralized, and when they will perceive it as constructive, based on their attitudes about the feedback delivery mechanism used. For example, previous research has demonstrated that people may be more likely to accept negative feedback from a superior than a peer or a subordinate (Atwater *et al.*, 2002; Ilgen *et al.*, 1979), based on the power that he or she wields and the understanding that part of the job entails accepting such criticism. In the presented research we explore not the variation in who delivers the feedback, but the variation in the medium through which the mixed feedback (containing both positive and negative elements) is provided. We argue that the way in which feedback is presented to the recipient will help determine the future acceptance of the information given (Simon, 1997).

Comparing communication media

Early work comparing various communication media, called Social Presence Theory (Short *et al.*, 1976), rated the quality of a communication medium based on the degree of its intimacy (i.e. the presence or absence of verbal and nonverbal cues) and immediacy (i.e. the medium's capacity to transmit information). More recently, intimacy has been termed "social bandwidth" and includes reference to all social identity and relational cues (Barry and Fulmer, 2004), the omission of which helps to explain the psychological costs associated with computer-mediated communication (Kiesler and Sproull, 1992; Reid *et al.*, 1996). Activities ranging from relationship-building to teamwork to negotiations (e.g., Jarvenpaa and Leidner, 1999; Kurtzberg *et al.*, 2003; Morris *et al.*, 2002; Naquin and Paulson, 2003) have been shown to be more difficult to accomplish through e-mail due to these constraints.

Media Richness Theory (Daft and Lengel, 1986), which ranks communication media on a richness scale based on the ability to deal with uncertainty and equivocality, asserts that face-to-face interaction is the richest medium because of the multiple channels available for message encoding and decoding. It is followed by voice-only

communication, which strips away the visual channels and leaves only the aural ones, and then finally lists text-only media on the lean end of the scale. It is important to note that this theory does not make any distinctions among various text-only media: it would consider e-mail and paper-form communication to be identical in terms of their richness. Both the Media Richness and Social Presence theories are considered rational in perspective, where objective medium characteristics couple with message content capabilities to influence one's medium choice (Markus, 1994; Ngwenyama and Lee, 1997). Similarly, recent theoretical work (termed the Psychobiological Model) uses a Darwinian model to explain why face-to-face interaction would be the most "natural" way to communicate and other media would pale in comparison, as the ability to convey and listen to speech is lessened (Kock, 2004).

On the other hand, there is another body of literature that has demonstrated serious conceptual and empirical limitations to the categorization of media solely based on the richness of the channel (Rice, 1992; Yates and Orlikowski, 1992). To complete our understanding of media choice and use, we must take into account the individual perceptions surrounding a particular medium, as well as the norms and behaviors adopted in organizations regarding its use. More recently, the Social Influence Perspective has focused on how social factors related to the use of a particular communication medium influence attitudes and behaviors (see, e.g. Lee (1994) Social Construction of Reality; Ngwenyama and Lee (1997) Critical Social Theory; DeSanctis and Poole (1994) Adaptive Structuration Theory; Carlson and Zmud (1999) Channel Expansion Theory). Barry and Fulmer (2004, p. 276) state that media serve "not only technical, efficiency-focused functions but also instrumental symbolic purposes". For instance, Fulk *et al.* (1990) argued that social influences such as peer pressure, supervisor attitudes and behaviors, as well as organizational and group norms can affect one's attitudes towards a given medium. Indeed, sociologists and cultural anthropologists have long recognized the power of symbols in creating meaning for people (e.g., Swidler, 1986) in organizational life, and the need to appreciate the subjective nature of interpretation of even the most seemingly objective elements of the empirical world (Martin, 2003).

Empirically, people seem to select different media depending on some combination of the norms, social context, and actual capabilities of the medium itself. For example, El-Shinnawy and Markus (1997) found that participants preferred to use e-mail versus voice mail for delivering messages in both equivocal and unequivocal situations, despite the fact that voicemail is objectively a richer medium. Other research also illustrates that people may select a particular tool based on convenience (Short *et al.*, 1976; Trevino *et al.*, 2000), efficiency (Straub and Karahanna, 1998), experience (Carlson and Zmud, 1999) or based on normative assumptions about which media are most appropriate for certain types of messages (DeSanctis and Poole, 1994; Kock, 2004; Markus, 1994; Ngwenyama and Lee, 1997).

Attitudes about communication technology and feedback processes

There are few studies that empirically investigate reactions to feedback via different delivery vehicles, and those that exist provide inconsistent results. There are some arguments offered that feedback communicated via computer might be preferable to feedback offered in person. For example, research has shown that people are more likely to seek feedback from a computer than from another person (Luger and Adler,

1993; Soon *et al.*, 1993), based perhaps on fears of losing face during live feedback sessions. Also, according to Keil and Johnson (2002), students perceive an e-mail to be a “reasonably high quality” medium for delivering feedback on an exam, because of its text-based nature and ability to reference the message context in a “non-sequential manner”. Similarly, Kluger and DeNisi (1996) have theorized that computer-administered feedback might evoke positive reactions because it gives the recipient time to process the message without needing to react, become defensive or manage the impression of the sender, though these authors did not test this idea empirically. Evidence also exists for the contrary idea that people will be more satisfied with face-to-face feedback sessions (Adrianson and Hjelmquist, 1991), as they are with face-to-face team communications (Warkentin, *et al.* 1997).

We argue that in the professional, organizational setting, e-mail will be seen as a less appropriate choice for feedback delivery, especially when the feedback contains some element of criticism. Negative feedback, awkward both for the giver and the receiver, can often cause procrastination and a searching for alternatives that do not contain negative outcomes (Simon, 1997). If an alternative cannot be found, computer communication may be seen as the psychologically easier choice, where awkward feelings of face-loss can be avoided for both sides. This may, we argue, be seen as an even less appropriate choice by the feedback recipient than would be a hard-copy paper feedback forms, because those are much more traditional in this realm. And despite a paper-form’s similar limitation both in terms of not having a two-way conversation and in not conveying the subtle nuances of meaning, paper-based feedback may be more accepted here because of the match with expectations.

Previous research has reinforced the idea that our expectations set the stage for our reactions – thus, when the outcome we receive is inconsistent with our expectations about what is appropriate, we process it more negatively than when it is in line with our expectations (Kiesler and Sproull, 1982). Actions in organizations are produced through legitimized rules, classifications and beliefs (Ashforth and Fried, 1988; Meyerson, 1994). Indeed, empirical and anecdotal evidence from the management literature indicate that both managers and laypeople recognize our use of e-mail primarily as a channel for informal observations (King and Xia, 1997; Poe, 2001; Zuboff, 1988), and not for official communications; particularly not those relating to feedback, reprimands, or hiring and firing decisions (Poe, 2001; Siddle, 2003). Following this logic, we assert that the e-mail feedback concept will be perceived by individuals more negatively than either face-to-face or paper feedback. Consequently, we argue that both the informality and the impersonality make electronic communication the least appropriate media for conveying the feedback, when comparing it with face-to-face or paper conditions. We similarly argue that face-to-face feedback will be the best accepted, based again on a combination of Media Richness Theory (Daft and Lengel, 1986) and normative expectations (King and Xia, 1997):

H1. Individuals will have a more negative reaction to feedback if delivered via e-mail, less if delivered via paper-form, and even less if delivered via face-to-face.

We now turn our attention to a possible interacting variable for the effects we describe – the mindset of the feedback recipient. Though we maintain that a main effect of communication media will exist, we next explore the possibility that in different

circumstances, the intensity of people's reactions to the feedback delivery vehicle may vary. More specifically, we propose that those recipients who are in a frame of mind where they feel they are still learning their job (called here "learners"), will be more accepting of negative feedback, from any source, than will those recipients who already feel capable and experienced at their jobs. This latter group (called here "doers"), we argue, will react more negatively to the use of e-mail for delivering performance feedback, since the normative expectations for being treated "professionally" will rise for this group.

Mindset of recipients

Psychologists have made the distinction between pursuing a learning-goal orientation and performance-goal orientation in organizational settings (Dweck and Leggett, 1988; Elliott and Dweck, 1988). Having a learning orientation can positively influence cognition about both the perceived cost and the value of the feedback received (Brett and Atwater, 2001; Carless and Roberts-Thompson, 2001; Martocchio and Dulebohn, 1994; VandeWall *et al.*, 2000; VandeWalle and Cummings, 1997) leading to more positive attitudes and involvement (Maurer *et al.*, 2002)[1]. Based on the above, we expect that the impact of negative feedback will be "softened" by a learner attitude in the recipient.

More importantly for this research, however, is the question of interaction between this mindset and the communication medium chosen. Specifically, it is expected that doers will perceive the idea of negative feedback delivered through e-mail more negatively than learners. We assume this additive effect because we expect doers to magnify their sense of injustice when negative feedback is delivered via e-mail instead of through more traditional means. Recipients in this mindset (who we expect to feel more indignant at having to receive negative feedback at all) are also predicted to react much more strongly when their superior chooses the convenience or perceived "shortcut" of communicating the feedback via e-mail. Our logic is based on the idea of professionalism, and the attitude that we expect people to hold about appropriate forms of feedback: the more a person feels like a professional in his or her job, the less consistent with expectations it will seem to have feedback delivered over e-mail. Hence, we propose:

- H2. The mindset of individuals will moderate the relationship between communication media for delivering feedback and negative reaction, such that "doers" who read about feedback received via e-mail will react more negatively than will those in the other conditions.

Method

In order to test the proposed hypotheses, a scenario study was conducted with 171 business school students from two different universities[2]. The MBA population was an average of 31 years old, 35 percent female, 50 percent White, 25 percent Asian and 25 percent other racially, and had an average of 6 years of full-time work experience prior to returning for an MBA part-time (this population remains employed throughout their studies). The undergraduate population was an average of 24 years old, 57 percent female, 38 percent White, 23 percent Asian and 39 percent other racially. The experiment took place before the topics of feedback, goal orientation, or e-mail communication were discussed in class. The scenario methodology was utilized in order to explore only the inherent attitudes that people have about the various

communication mechanisms, and not about the feedback itself. Participants were randomly assigned to one of six different versions of the scenario, where they were put in the role of an associate manager of product development in a hypothetical company that manufactures and sells toys. As the “learner” versus “doer” manipulation, learners were told that they were in the middle of a two-year management-training program, while doers were told that they were hired as a manager a year ago because of their successes in similar work at a previous job. In this way, we hoped to inspire the doers to think of their job in more of a performance-goal frame, while learners were to think of their job in more of a learning context, though both were in the position of completing their first year with this company, so prior experience with these specific managers would not be relevant in either case. Completing the 3×2 design, participants were told that the negative feedback about their managerial performance was delivered either face-to-face, by formal letter or via e-mail. The scenario itself contained some praise and some criticism (see the appendix for the scenario text), and so allows us only to examine the case of personal feedback from supervisor to employee, containing some positive and some negative elements.

It is important to note that all participants in all conditions:

- received exactly the same feedback in every version of the scenario; and
- read the scenario on a piece of paper.

These constants in the methodology were chosen to ensure that any differences that we observe in their reactions to the feedback are solely the result of their attitudes and norms about the idea of that communication channel, and are not based on any other differences in the experimental process. We thus feel this particular (scenario) methodology to be a conservative test of differences in attitudes in this context. After reading one version of the scenario, participants were asked to answer questions, again on paper, regarding their attitude towards the feedback they received.

Dependent measures

Manipulation check. To assess whether participants paid attention to our manipulation of “learner” versus “doer” they were asked the question, “How much do you agree with the following statement? I am a professional who does not need this kind of feedback,” where 1 = I am still learning and need feedback, and 7 = I am an expert and need no feedback. Results indicated that across all conditions, the contrast was significant ($t = -2.38, p < 0.05$) such that learners classified themselves in the learning role to a significantly greater extent than did those in the doer role. Thus, our manipulation check was supported[3].

Negativity. Three sections from the post-scenario questionnaire were used to develop our primary dependent measure for degree of negativity in response to the feedback. First, participants were asked the question “After receiving the above feedback would you consider leaving the company?” on a 7-point Likert scale, where 1 = Not at all and 7 = Definitely[4]. Second, the free response question, “What do you think about the content of the feedback you received?” was coded by two independent coders, based on a coding scheme with four alternatives designed to assess the degree of negativity in their responses (1 = Very positive to 4 = Very negative). The two raters coded a subset of 20 percent of the responses independently, and agreed on 90 percent of their responses. When corrected for chance agreement, this resulted in a

Cohen's Kappa reliability statistic of 0.80 (Cohen, 1960). Finally, three items from Watson and Tellegen (1985) model of affect scale were used to assess negative emotion on a 7-point scale: "After receiving the above feedback, I feel angry/hostile/scornful" (Chronbach $\alpha = 0.80$ for these three items). The degree of intercorrelation among these three elements (the 7-point scale, the open-ended question code, and the combined negative affect scale) was sufficient to warrant combining them into a single scale for negativity (Chronbach $\alpha = 0.83$).

Perception of feedback. A secondary dependent measure came from a question in which participants were asked to assign percentages to the degree that they felt the feedback they received was each developmental and evaluative, totaling 100 percent (values were then transformed to a proportion, totaling 1).

Results

Before testing the hypotheses directly, we first examined the variance of our dependent measures. Levene's Equality of Error Variance Test showed that for the perception of feedback dependent variable the error variance was equal across groups ($F(5; 164) = 0.42, ns$), while for the negativity dependent variable the error variance was marginally unequal across groups ($F(5; 155) = 2.26, p < 0.06$). Therefore, as will be seen later, we used the LSD Post Hoc comparison for the perception of feedback dependent variable and both the LSD Post Hoc comparison and the Dunnett C test for the negativity dependent variable to account for this difference in error variance (as per Green *et al.*, 2000).

To explore the overall model, a 3×2 ANOVA was conducted using communication condition (1 = Face-to-face; 2 = Email; 3 = Paper) and mindset (1 = Learner; 2 = Doer) as the factors to evaluate the effects of the three communication conditions and mindset on feedback perceptions. The means and standard deviations for each feedback perceptions and negativity are presented in Tables I and II respectively.

Our analysis finds support for *H1*. The results of ANOVA indicate a significant main effect for communication medium, in regards to each:

- the feedback perceptions dependent variable: $F(5; 164) = 3.08, p < 0.05, \eta^2 = 0.04$; and
- the negativity dependent variable: $F(5; 155) = 4.26, p < 0.05, \eta^2 = 0.05$.

There were no significant differences between mindsets with respect to either dependent variable – feedback perceptions ($F(5, 164) = 0.28, ns, \eta^2 = 0.002$) and

Communication condition	Mindset	Mean	SD
Face-to-face feedback	Learner	0.59	0.23
	Doer	0.53	0.20
E-mail feedback	Learner	0.61	0.21
	Doer	0.66	0.21
Paper feedback	Learner	0.56	0.20
	Doer	0.53	0.22

Table I.
Means and standard deviations for feedback perceptions

negativity ($F(5; 155) = 0.86, ns, \eta^2 = 0.006$). On the whole, results of the overall ANOVA indicate that there are indeed significant differences between media conditions that warrant further exploration.

More specifically, in order to verify *H1*, we performed *post hoc* multiple comparisons according to the equality of variances test results mentioned in the beginning of this section. These follow-up analyses to the main effect of communication medium differences consisted of all pairwise comparisons among the three types of feedback communication. We first explored differences in the feedback perceptions dependent variable. The LSD procedure was used to control for Type I error across the pairwise comparisons. The results of this analysis indicate that those who were led to believe that their superior chose e-mail to deliver their feedback were significantly more inclined to judge this feedback as evaluative (as opposed to developmental) than those in either face-to-face ($p = 0.05$) or paper condition ($p = 0.05$). With respect to the negativity dependent variable, both the LSD and Dunnett C procedures were used. The Post Hoc LSD analysis results indicated that those in the e-mail condition were significantly more negative than those in the paper condition ($p = 0.005$), and marginally more negative than those assigned to the face-to-face condition ($p < 0.07$). As mentioned earlier, due to marginal differences in error variance we also conducted contrasts using the Dunnett C analysis (as per Green *et al.*, 2000), and these analyses yielded the same pattern of results. Taken together, our findings support *H1* that e-mail provokes a more negative reaction to feedback than do other media.

H2, however, saw mixed results in our analyses, and was thus not strongly supported by our data. Recall that *H2* predicted that the mindset of individuals would moderate the relationship between communication media and negative perceptions, such that doers who receive their feedback via e-mail would elicit the most negative reactions as compared to all other conditions. In our analysis we first explored the overall interaction effect between the two criteria (the communication condition and the mindset) using the 3×2 ANOVA. Results indicated that the overall model was not significant for either the feedback perception dependent variable ($F(5; 164) = 1.03, ns, \eta^2 = 0.012$) or the negativity dependent variable ($F(5; 155) = 0.35, ns, \eta^2 = 0.004$).

However, in order to check for all possible effects, a contrast was constructed comparing this one condition (i.e. e-mail/doer) with the other five conditions combined (all three learner conditions along with the paper/doer and face-to-face/doer conditions). Consistent with our prediction, results demonstrate that participants in the e-mail/doer condition were the most negative in their reactions to the feedback ($t(160) = -2.68, p < 0.01$), as well as the most likely to view it as evaluative as opposed to

Communication condition	Mindset	Mean	SD
Face-to-face feedback	Learner	3.71	1.30
	Doer	3.72	1.10
E-mail feedback	Learner	3.94	1.12
	Doer	4.33	1.06
Paper feedback	Learner	3.37	1.54
	Doer	3.50	1.13

Table II.
Means and standard
deviations for perceptions
of negativity

developmental ($t(160) = -2.24, p = 0.05$), providing some support for *H2*. As additional support for this hypothesis, we tested e-mail/doer participants' reactions to the manipulation-check item, and indeed these participants were most inclined to perceive themselves as professionals who "do not need this kind of feedback" ($t(160) = -2.49, p = 0.05$).

In sum, our second hypothesis finds mixed support from our findings, and while we did not document a strong effect, it does seem that there are psychological particulars associated with the combination of the doer mindset and the e-mail delivery vehicle.

Although not empirically analyzed, indirect support for our argument comes by way of the free-response section. (see Table III for sample comments from participants in each condition). Clearly, people attached meaning to the choice of e-mail as a delivery vehicle, and chose to interpret the decision as both inappropriate and symbolic of a general lack of respect, despite the fact that others (in the paper-form condition) appeared to recognize the merits of the idea of reading feedback instead of hearing it out loud.

Discussion

Our goal in the presented research was to empirically explore people's attitudes towards the use of e-mail for performance feedback. Results demonstrated three main things:

- (1) people generally had a more negative response to the idea of feedback delivered over e-mail;
- (2) the subset of people in a performance-goal situation ("doers") were more resistant about getting feedback in general, and were slightly more negative about e-mail feedback in particular; and
- (3) people reacted differently to the two forms of written-communication feedback – paper and e-mail (in fact, and contrary to our predictions, participants in the paper condition were even more positive about the feedback they received than were the others).

E-mail	Paper	Face-to-face
"This is terrible, aloof, cold and the VP is hiding behind e-mail" "The impersonal chastising and decrease in bonus makes me feel more like a dispensable cog than a valued asset in the company" "It's somewhat cowardly and lame" "I feel it was a cowardly, non-personal way, which creates harsh, uneasy situations"	"I think it was the best way to give a feedback. A face to face meeting would do good, but I would be too nervous to ask questions or angry to accept responsibility" "I believe [feedback] is better on paper because you can't predict how different individuals would take this feedback" "I feel a little more relieved...I believe e-mailing is much more impersonal than having it on paper"	"I liked it and appreciated the chance to start a discussion" "I much prefer the face-to-face method as a sign of respect" "Excellent. Showed that the work being done was very important and he took interest in what was being done." "Face-to-face is preferable. However, I'd like a hard document with rating scale/evaluation provided"

Table III.
Qualitative data from
free-response section
(Sample comments)

Our argument that paper feedback and e-mail feedback, treated as identical by Media Richness Theory, are indeed vastly different in terms of their psychological impact in this context, has been supported. Similar to other findings from the procedural justice literature (Brockner and Wiesenfeld, 1996; Folger, 1987), we see that the actual process used to convey information has strong effects on how it is received.

Clearly, individual reactions to feedback cannot be understood merely by assessing the properties of the media through which a message is communicated; it is also critical to look into the possible normative, affective, and cognitive influences that shape our interpretations. In this way, we contribute empirical evidence to the growing stream of theoretical literature that describes the social influence process involved in using and interpreting various communication media (e.g., DeSanctis and Poole, 1994; Ngwenyama and Lee, 1997), and refutes those theories, such as Media Richness, which equate all written text.

Following our arguments, we see empirically here that e-mail has low symbolic legitimacy in the feedback-giving domain in the context studied here. The exact same message from supervisor to employee, when delivered via e-mail, was treated with more negativity than when delivered in any other way, written or spoken. Here we see people rejecting the idea that e-mail is equivalent to other forms of communication, and in fact, our qualitative data from the free-response section provides comments from participants frustrated with the choice of e-mail delivery for this type of feedback. These participants used words like "impersonal", "cowardly", and "aloof" as opposed to those such as "relieved", "respect", and "excellent" as offered by those considering other mechanisms. Thus, the choice of e-mail as a tool for this purpose seems to carry meaning to the recipient.

It is important to note, however, that the feedback itself is situated in a context, and some types thus may be considered more or less appropriate for a given medium. For example, academic researchers submitting manuscripts for potential publication expect feedback to come via a written channel, and indeed, e-mail is now the dominant choice in this area. In this case, getting a phone call or a request to have a face-to-face feedback session with an editor would be counter-normative and would likely raise a more emotional reaction than would e-mail. Therefore, it is critical to note that the reactions we observe are limited in scope to the particular situation we described: feedback from one's immediate supervisor in an ongoing professional relationship.

Similarly, our findings are based on feedback that feels personal in nature. It may be the case that, were the feedback more quantitative or generic (responses from an employee survey, for example), the feedback would not have generated such negativity even if delivered over e-mail. Indeed, it seems that the need for a "personal touch" when delivering e-mail of this particular variety may be what drove the reactions that we here reported. In fact, it is also important to note that our context did not allow for a two-way communication in any of the three conditions, which in and of itself may be counter-normative to how feedback is expected currently. In particular, it has been noted that there are several forms of face-to-face communication possible for feedback conversations – including those that encourage an interaction and those that are aimed at a one-way delivery of a message, and our research only covers the latter. Though this one-way dialogue was consistent across all conditions, the e-mail condition may have further highlighted the fact that the supervisor expected no response from the employee, adding increased potential for a negative reaction.

Extending the above arguments, we get some insights about possible psychological mechanisms that might be at play when people make sense of the technology that they encounter on a daily basis. Emergent norms about what e-mail is and when it is appropriate to use are still being developed in our society. The results here suggest that people might consider e-mail to be a more informal channel, perhaps more appropriate for off-the-cuff comments, or for standardized and impersonal information, than for formal evaluations and feedback communication. However, some research has suggested that people learn to adapt over time to the new demands of the electronic format (Althaus and Tewksbury, 2002; DeSanctis and Poole, 1994), so it is possible that our use of these types of media will change over time, as our society becomes more accustomed to them.

It may be the case that the paper-form procedure attained the least negative response from our participants reading about feedback merely because it avoided the worst of the pitfalls inherent in the other two media: the nerves associated with the idea of having to emotionally react to feedback in a face-to-face manner; and the slight that may be perceived when sensitive information is conveyed in a seemingly informal e-mail document. Therefore, the written document, which both has at least some symbolic legitimacy due to its history as a tool for this process, and allows for private emotional reactions, might be perceived by recipients as the most appropriate medium for delivering negative feedback in the workplace.

A second alternative would claim that e-mail messages are in reality often more harsh and negative in content. This is consistent with the findings from previous research that demonstrated that people distorted bad news less using a computer to communicate (Sussman and Sproull, 1999). If this were true, an internal sense might warn that news delivered over e-mail was bound to be worse than news delivered another way, and a negative loop might be created whereby information received over e-mail was systematically, and preemptively, treated as more negative, whether or not this was actually the case. Future research can help disentangle these issues, but in the meantime, managers must balance the benefits of using convenient and efficient communication channels such as e-mail with the potential costs of encouraging more negative interpretations.

Limitations and future research directions

First and foremost, it is critical to recognize that in these studies we did not measure individuals' actual reactions to real feedback on their own performance. Instead, participants were asked to imagine themselves as an employee receiving this feedback. Although this allowed us to examine what people thought about the various feedback delivery options without confusing the results with their feelings on actual personal content, we cannot form conclusions about people's emotional or cognitive reactions to actual feedback received from these results. Future research is needed to explore the nuances of feedback delivery in real time and based on real experiences. Similarly, even simulated feedback could be actually delivered via different communication channels, to observe more directly how people react. These processes could attempt to quantify the emotional costs associated with having a face-to-face conversation as opposed to the symbolic costs of having feedback delivered via an e-mail message.

In addition, the student population that we used may be more "learner" oriented than an average working employee. By the very nature of being in the academic setting, students may be more able and willing to hear negative feedback about their

performance. These ideas should be tested in the field; however, the systematic differences in results based on our manipulations are less likely to be due in their entirety to the particulars of this sample. Along this same vein, there might be cultural differences about the norms surrounding e-mail use. In other words, some cultures (organizational or national) might treat e-mail messages as more formal than face-to-face contact, while others might see it as informal.

Finally, left for future research is the idea proposed by the procedural justice literature that improper procedures can lead employees to feelings of unfair treatment. Though implied, our results do not specifically address the issue of fairness, and this may be a powerful explanatory variable for understanding the relationships among emotion, feedback, and communication media.

Our conclusions run contrary to the belief in the literature that computer communication can be a good channel for providing personal feedback (Kluger and DeNisi, 1996; Soon *et al.*, 1993). Our participants demonstrate noticeably that e-mail delivery of feedback comes with a negative valence, which may in turn color their perceptions of the decision maker and the process in general (Brockner and Wiesenfeld, 1996; Folger, 1987).

From a practical perspective, this research provides better understanding of human interactions with technology (e-mail in particular) in regards to the performance appraisal and feedback process. A better understanding of the psychological and cognitive frameworks that individuals carry with them about the different technological tools is imperative for creating systems by which people accept the information they are given. Only then can technology be managed in a way that will benefit both individuals and organizations, and the full implications of technology on our society can be considered.

Notes

1. Though much previous research has treated goal-orientation as a dispositional variable, we here treat it as situational, based partly on critiques of dispositional variables in general (Snyder and Ickes, 1985) and partly by the precedence set by other researchers considering goal orientation to be situationally determined (e.g., Butler, 1987; Button *et al.*, 1996; Dweck, 1986).
2. Though from one of the universities, students were recruited from two different programs within the business school (the vast majority was from the part-time MBA program, but 30 were from the undergraduate program), preliminary analyses revealed no difference between these groups, nor between the two business schools at the two different universities on any variable of interest, so the groups were combined for all subsequent analyses.
3. As a manipulation check for the medium manipulation, participants were asked to free-respond on how they felt about receiving their feedback in that particular medium. All participants responded appropriately based on their assigned condition.
4. While it is possible that people would consider leaving the company after positive feedback due to an increase in options, the strong relationship between this scale and negative comments in the free-response section implies otherwise.

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Appendix. Feedback excerpt from scenario

We know that you are a competent specialist and you have proved to be a good manager of your department so far. In the past year we successfully launched several products that we believe were aided by your excellent work. However, there are some reasons to think that the product that your department is working on right now might become a major failure on the market, because of some limitations in the toy design. Although, as I said, so far you have handled your responsibilities well, it has also been recognized that you have a tendency to leap through things without getting into all of the details. Therefore, I suspect that the complications with the "Magic Toy" design are at least in part the result of the way you managed this project. I understand that you have a deadline for this product; however, such negligence could cause our company a lot of trouble. Overall, I think you are a smart and hardworking employee, and expect you to have many future successes in this company, once you settle down and learn to take time with major decisions. There are many resources in this company to help you with critical decisions. In particular, we recommend that you consult with the managers of other departments (including marketing and manufacturing) as you reach major decision points.

For this reason, we have decided to give you a "3" out of "5" on your formal evaluation at this point. Your bonus will be adjusted accordingly.

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