

CARRYING TOO HEAVY A LOAD? THE COMMUNICATION AND MISCOMMUNICATION OF EMOTION BY EMAIL

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Despite advice to avoid doing so, email senders intentionally and unintentionally communicate emotion. Email characteristics make miscommunication likely, and I argue that receivers often misinterpret work emails as more emotionally negative or neutral than intended. Drawing on the computer-mediated and nonverbal communication, emotion, and perception literature, I introduce a theoretical framework describing what factors make miscommunication most likely, how emotional miscommunication affects organizations, and how employees can improve the accuracy of emotional communication in emails.

Employees are increasingly likely to use and prefer electronic mail (email) to communicate with coworkers, customers, and other colleagues. The proliferation of email for business communication is likely due to some advantages, such as flexibility and asynchrony, it has over other communication media. Consequently, email has increased information sharing in organizations (Rice, 1987; Sproull & Kiesler, 1986) and has improved productivity among employees separated in time and place (Higa, Sheng, Shin, & Figueredo, 2000).

However, the proliferation of email communication has also introduced some challenges not associated with other communication media. Research and theory suggest one likely deleterious effect of email use is harm to workplace relationships. Friedman and Currall (2003) have argued that the characteristics of email increase the likelihood of conflict escalation among those communicating by email. In their study of faculty and staff at a university teaching and research institute, Sarbaugh-Thompson and Feldman (1998) found that as email use increased, the overall volume of all forms of communication decreased, mostly because of fewer "greetings" and other informal interactions between

coworkers. In addition, employees reported feeling less connected to their coworkers as their email use increased.

A related potential problem lies in the communication of emotion. For several reasons, emotions are particularly difficult to accurately communicate by email. Although some have argued that email should not or cannot convey emotion, more recent theory and research suggest that email senders communicate emotions to recipients, intentionally or not (Thompson & Foulger, 1996; Walther & D'Addario, 2001).

Little theory or research exists to explain what factors may affect the accurate or inaccurate perception of emotion in emails. To fill this gap, I describe a theoretical framework, drawing on a wide range of research and theory on such topics as computer-mediated communication (CMC), nonverbal communication, emotions, and perception to develop a model explaining why emotions are likely to be inaccurately perceived in email communication, which types of inaccurate judgments are most likely, what factors influence their occurrence, and what implications this has for organizations.

Why should organizations care about inaccurate emotion perception among their employees? The functions of emotion in organizations help to clarify the reasons. Emotions provide information about others and the environment and play an important role in relationship development and group identity (Buck, 1984). Therefore, the failure to accurately communicate emotion, particularly positive emotions, may inhibit relationships between coworkers or

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employees and their clients or customers (Barsade, 2002). In addition, because emotions provide information to guide behavior, employees who inaccurately interpret others' emotions are not making adequately informed decisions regarding their behavioral response. Social cognition researchers argue that people need to understand each other with enough accuracy to direct their actions and interactions with one another (Bernieri, 2001; Fiske, 1993). Although one could argue that employees do not rely exclusively on email to communicate at work, the extent to which employees rely on email is increasing, and its use often supplants, rather than supplements, other ways of communicating (Hallowell, 1999; Sarbaugh-Thompson & Feldman, 1998).

The prevalence of emotional miscommunication in emails at work defies exact quantification. There is some evidence to suggest that emotions are commonly communicated—accurately and inaccurately—by email at work. In a focus group study all participants indicated having expressed or perceived emotions in email at work, and nearly all reported problems with doing so (Byron & Baldridge, 2005). Even communicating positive emotions in emails is far from straightforward: participants in the same study volunteered fewer ways to express or perceive positive, as compared to negative, emotions in email, and many of these ways were contradictory (e.g., writing short or long messages) or were identical to the cues they endorsed for expressing or perceiving negative emotions (e.g., using exclamation points). Further, a small body of research examining emoticons—sets of typographical symbols that when read sideways are meant to represent emotions in emails—suggests that these symbols are not uniformly interpreted (Thompson & Foulger, 1996; Walther & D'Addario, 2001).

DEFINING THE COMMUNICATION OF EMOTION

First, it is important to clarify what I mean by the term *emotional communication* and to specify the overall framework that guides this paper. Although there is disagreement on the finer points among researchers studying emotion, emotion here refers to discrete feeling states, such as happiness, fear, and anger. Many researchers categorize emotions in terms of their

valence (i.e., positive, negative, or neutral); emotions such as happiness and joy are positive, emotions such as anger or disgust are negative, and neutral refers to the absence of either positive or negative emotions. Emotions also differ in intensity—the perceived strength of the emotion (e.g., rage and elation are higher in intensity than frustration and contentment). In this paper I focus on emotions because emotions (unlike moods) are considered intentional—that is, precipitated by a specific stimulus, such as a person or event (Frijda, 1994). Email recipients would likely be more motivated to perceive others' emotions (than others' moods), because an email sender's emotion may be in response to the recipient's behavior, whereas moods are relatively stable within individuals and less likely to be caused by others' behavior.

Defining Accuracy

In this paper I am also concerned with the accuracy of judgments regarding emotional content in work emails. Several different streams of literature are concerned with the concept of accuracy in interpersonal communication—for example, research on interpersonal perceptual accuracy (e.g., Kenny & Winkquist, 2001), nonverbal communication of emotion (e.g., Ekman, Friesen, & Ancoli, 1980), and communication in general (e.g., Pavitt, 1989). Some conceptions of accuracy are not relevant for the present framework. For example, nonverbal communication researchers often define accuracy as agreement with an established standard based on the idea that nonverbal expressions represent a universal language (see Elfenbein & Ambady, 2002). The relative newness of email means that no universal standard of emotional communication by email exists, rendering this criterion irrelevant. Although other definitions exist, the criterion of accuracy that appears most relevant to the present framework is to define accuracy in relation to the sender's intentions. That is, I define accuracy in terms of the extent to which the receiver interprets the emotional content (in terms of valence and intensity) of a message consistent with that intended by the sender (Ekman & Friesen, 1969). Inaccurate judgments of emotion then differ from the sender's intended emotional expression in terms of valence and/or intensity. Under this definition, then, accuracy is ultimately determined by the receiver—and his

or her perception of the sender's communication attempt (although every receiver becomes a sender when responding to or sending a message). Defining accuracy is both a conceptual and methodological consideration; therefore, I later discuss other ways of defining and measuring accuracy.

Although some lament psychologists' preoccupation with errors in perception (e.g., Funder, 2001), the present framework considers both accuracy and inaccuracy. However, I focus on inaccuracy because, as I argue below, some characteristics of email make inaccurate judgments likely. This is not to say that inaccurate judgments are inevitable; to the contrary, I detail steps that organizational members can take to improve the accuracy of judgments regarding emotion communicated by email.

Berlo's Source-Message-Channel-Receiver Model

Berlo's Source-Message-Channel-Receiver (SMCR) Model of communication (1960) serves as an overarching framework for the model I present here. Using a psychological perspective, Berlo argued that four factors determine the effectiveness of communication attempts: the source, or sender (S), the message (M), the channel (C), and the receiver (R). Senders (S) encode messages (M) verbally or nonverbally using their choice of channels (C) to receivers (R) who decode them. Senders affect the communication process because, among other things, they have different communication skill levels, come from different cultures, and have different attitudes toward receivers. Messages and channels influence the communication process because senders choose how to encode and send the message. Receivers affect the communication process because they have prior information about or attitudes toward senders, different communication skill levels, and prior beliefs based on their sociocultural context.

Although some communication researchers have criticized the model for its simplicity and its assumption of linearity in the communication process, it has proven useful in explaining communication in other studies (e.g., Pavitt & Johnson, 2002) and remains one of the most popular models of communication. Communication researchers have praised the model for, among other things, acknowledging that the sender and

receiver's relationship and social context affect the communication process—both of which prove useful in the present model.

EFFECT OF CHANNEL ON EMOTION PERCEPTION IN EMAILS

I adopt here the convention of some researchers to refer to *channel* as the *medium* used (e.g., email, phone) and to use these terms interchangeably (e.g., Moenaert & Souder, 1996). Several theorists have proposed that the objective characteristics of various media influence the accuracy of and effort associated with delivering different types of messages. Proponents of rational choice models such as information richness theory (Daft & Lengel, 1986) argue that different media have inherent characteristics that constrain their use and make them more or less appropriate for a given situation or message. According to this theory, communication media vary in their information richness—that is, the ability to allow rapid feedback, enable multiple cues, use natural language, and establish a personal focus (Lengel & Daft, 1988). Whereas face-to-face communication is highest in richness, email is leaner because fewer cues are available and because feedback can be delayed and is less obtainable. With leaner media, communicators have greater difficulty resolving ambiguity and facilitating understanding. Therefore, using lean media such as email for ambiguous messages is less effective and efficient—it increases the likelihood of inaccurate communication and more time is then spent resolving the miscommunication.

Communicating Emotion with Few Cues and Little Feedback

One of the characteristics of email that complicates the communication of emotion is its relative lack of cues. Email communication is text based, which means that communicating verbally is easier than communicating nonverbally. Relative to email, face-to-face communication provides more nonverbal cues, such as facial expressions, paralanguage, and social context cues (Owens, Neale, & Sutton, 2000; Sproull & Kiesler, 1986). Because emotions tend to be expressed and perceived nonverbally rather than verbally (Ekman et al., 1980), the relative dearth of cues in email, compared with

some other channels, makes the miscommunication of emotion in emails more likely.

This is not to imply that nonverbal cues are entirely absent from emails. On the contrary, emails may contain nonverbal cues that have parallels in face-to-face communication, such as emoticons to symbolically convey emotion, asterisks to provide emphasis, or all capital letters to indicate emotional intensity. However, despite the availability of some nonverbal cues, research indicates that their purposeful use remains infrequent (Rezabek & Cochenour, 1998; Witmer & Katzman, 1997). Further, many authors of articles on "netiquette"—etiquette related to internet use—advise employees to use sparingly, or not at all, cues such as emoticons in work-related emails because their use may appear too casual and unprofessional (Calem, 1995; Jett, 2005).

In addition to the relative lack of cues, the fact that communication partners are not copresent further complicates the communication of emotion by email by limiting and delaying feedback. In contrast, communication partners communicating face to face are copresent, allowing senders to get immediate feedback and recipients to seek clarity by asking questions or repeating information. Because the delay in feedback restricts the ability of communication partners to resolve ambiguity, the miscommunication of emotion by email may be more likely than in face-to-face communication. This is especially true for the communication of emotion, because determining the emotional state of others is often ambiguous (Blanchette & Richards, 2003; Nowicki & Duke, 1994). Indeed, the lack of immediate feedback—and other characteristics of email—led Daft and Lengel to prescribe that CMC, such as email communication, be used for "very simple or unequivocal" messages and not for messages that are "ambiguous, emphatic, or emotional" (1986: 57).

Neutrality Effect

The characteristics of email may increase the likelihood that receivers perceive emails intended to convey positive emotion as more emotionally neutral than senders intend, which I term here the *neutrality effect*. First, the reduced availability of cues and feedback may make email communication in general less physiologically arousing than face-to-face interaction

(McKenna & Bargh, 2000; cf. Kiesler, Zubrow, Moses, & Geller, 1985). Using an evolutionary perspective, Kock (2005) has argued that the lack of such cues as facial expressions or vocal tone in email render it less arousing than communication that permits these cues. Research using functional magnetic resonance to examine brain wave activity or other measures of arousal, such as pulse rate or palm sweating, has shown that facial expressions, direct gaze, and other nonverbal cues are physiologically arousing, and their absence tends to decrease arousal during communication (Critchley et al., 2005). Although some emails are very arousing, regular email users generally report that the act of sending and receiving emails at work is duller and less stimulating than engaging in face-to-face communication (see Kock, 2005, for a review).

Second, emotional intensity is difficult to accurately convey in email owing to the relative lack of cues. In face-to-face communication, vocal tone, such as raising one's voice, or the intensity of a facial expression conveys how intensely a person may be experiencing an emotion. However, research suggests that accurately conveying the intensity of positive emotion in email is difficult. Email recipients rated jokes communicated by email as less humorous than the email senders expected (Kruger, Epley, Parker, & Ng, 2005). The authors attributed these findings to egocentrism—"the inherent difficulty of moving beyond one's subjective experience of a stimulus and imagining how the stimulus might be evaluated by someone who does not share one's privileged perspective" (Kruger et al., 2005: 926). Email senders "hear" their intonations indicating emotional intensity when writing the email and fail to consider that those reading the email cannot similarly "hear" them. For example, an employee may intend to express positive enthusiasm in an email about an upcoming change, but the email recipients may perceive it as more neutral than intended, conveying information about the change rather than excitement about it. Further, with less feedback available, such as a wrinkled brow or blank stare, senders may not find out that their recipients failed to understand an email as intended.

Third, research conducted in organizational settings has shown that emails tend to be task oriented (e.g., Ku, 1996; Sarbaugh-Thompson &

Feldman, 1998), perhaps because of the relative difficulty of communicating emotional content. In a survey of company email use, a manager discussed his tendency to be serious, perhaps because of the difficulty of conveying positive emotion: "With email I find myself answering w/o all the kindness necessary to keep people happy with their job" (Markus, 1994: 139). The tendency for emails between coworkers or between clients and customers to be serious, task oriented, and impersonal may mean that recipients come to expect less positive emotional content in work emails (Lea & Spears, 1991).

Because the emails they receive may tend to be (or at least appear to be) emotionally neutral, employees may develop a schema regarding emails and therefore may overlook emotional content when it is present. Expectations regarding a particular context constitute a schema—a relatively stable mental framework regarding what is typical or usual in a given situation based on past experience (Sternberg, 1996). Schemata can have a strong influence on perception in that people ignore disconfirming data and favor data consistent with their expectations (e.g., Brewer & Treyens, 1981). Similarly, in the absence of clear cues about the emotion of the sender, receivers are likely to fill in the gaps with information based on a schema. Although the infrequency of emotional content could make emotional content more salient, employees tend to receive a large volume of emails (Dawley & Anthony, 2003) and, consequently, read them quickly, "often missing important points intended by the writer" (Grosvenor, 1998: 2).

A neutrality effect, such that emotions are perceived as more neutral than intended by the sender, could occur for either positive or negative emotions. However, the research cited above suggests that positive emotions would be more susceptible to the neutrality effect. In addition, the symbolic meaning of email may contribute to the neutrality effect when senders mean to convey positive emotion. Whereas face-to-face communication symbolizes caring (Treviño, Lengel, & Daft, 1987), email communication may suggest a less personal focus (Timmerman & Harrison, 2005). In effect, the ease with which emails are sent, the informality of emails as a written form of communication, and the often ephemeral quality of emails may contribute to their symbolic meaning such that

emails intended to convey positive emotions are interpreted as more neutral (less positive and intense) than the sender intends. Treviño and her colleagues offered the following example: "The manager who congratulates a subordinate on 25 years of service with an electronic mail message may symbolize a lack of concern, leaving the subordinate feeling furious rather than cared about" (1987: 558). The symbolic meaning of email may explain why employees reported a preference for receiving good news face to face rather than by electronic communication (Sproull & Kiesler, 1986).

Proposition 1: Receivers are likely to inaccurately perceive emails intended to convey positive emotion as more emotionally neutral than intended by the sender.

Negativity Effect

The characteristics of email may also increase the likelihood that receivers perceive emails as more intensely negative than senders intend—referred to here as the *negativity effect*. Because emails are text based and relatively lacking in cues, their emotional tone is often ambiguous. The ambiguity of emotional tone in emails makes the negativity effect likely by increasing the salience of any negative information, particularly because emotional content in email may violate employees' schemata of emails as emotionally neutral. Previous research indicates that violations of expectancies result in more intense and negative evaluations (e.g., Kernahan, Bartholow, & Bettencourt, 2000).

Furthermore, research suggests that emails and other electronic media increase the likelihood of negativity effects. Walther and D'Addario (2001) found strong evidence for negativity effects in email such that any verbal or nonverbal negative cue tended to override other cues. They concluded that a negativity effect existed in emails because emails often contain few cues about emotion. Similarly, other research has shown that evaluations based on electronic media are more negative and less accurate (e.g., Weisband & Atwater, 1999). Anecdotally, negativity effects may be the reason one company requires the following statement to be appended to its employees' emails: "This e-mail may display a telegraphic style that gives the

false impression of curtness or insensitivity" (Martin, 2004).

In addition to the lack of cues, the lack of feedback also likely contributes to the negativity effect in emails. With less feedback available, email senders have less information available to construct effective messages. For example, they have less information about the email recipient and how he or she is interpreting their communication attempts. This means that inaccurate interpretations of emails are not likely to be righted—email senders may not find out that their emails have been interpreted more negatively than they intended. An MBA student said about emails from her boss: "I can never tell how my manager feels. When organizing a meeting I got a sarcastic reply ('this had better be good') that I took to heart" (Byron & Baldridge, 2005). Only much later did she find out the manager intended the comment to be funny.

Therefore, based on research and anecdotal evidence, I propose a negativity effect in the perception of emotion by email such that a relatively common judgment in emotion perception by email is perceiving emails as more intensely negative than intended by the sender. The evidence provided above suggests that emails intended as positive, neutral, or negative are subject to the negativity effect, although when the negativity effect occurs, receivers may be more likely to perceive emails as conveying anger and its variants—annoyance, frustration, aggravation, hostility, and rage (Shaver, Schwartz, Kirson, & O'Connor, 1987)—than as conveying other negative emotions—sadness or fear.

Proposition 2: Receivers are likely to inaccurately perceive emails as more intensely negative than intended by the sender.

Both the neutrality effect and the negativity effect are indicated by the extent to which a receiver's perception differs from the sender's intent (in terms of rated valence and intensity); a stronger effect is indicated by a greater difference between the sender's intent and the receiver's perception, and the absence of the effect is indicated by no difference between these. Considering intended emotion on a continuum ranging from negative to positive (with neutral at the midpoint), these two effects are similar, in that both predict that receivers perceive emails as more negatively valenced than intended by the

sender. They differ in terms of emotional intensity; the neutrality effect predicts that receivers perceive emails as less intense than intended by the sender, whereas the negativity effect predicts a more intense perception. They also differ in that the neutrality effect is specific to emails intended to convey positive emotions, whereas the negativity effect could occur for emails intended as positive, neutral, or negative. Last, these two effects may have different antecedents and different consequences.

Figure 1 summarizes the proposed relationships between sender and receiver factors (including their social context) and message factors that increase the likelihood a receiver will experience neutrality effects or negativity effects. I purposefully restricted the model to only those variables expected to be the best, although not the only, predictors of neutrality or negativity effects based on previous related research.

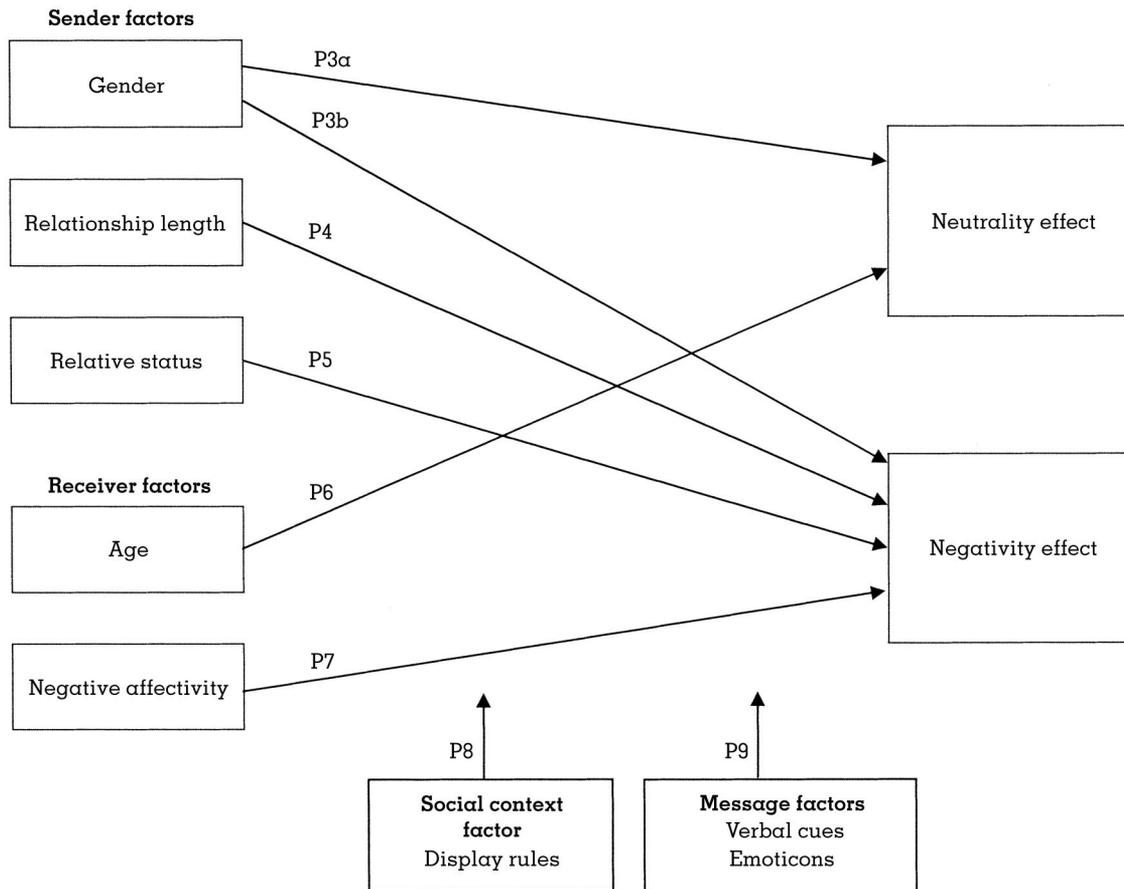
EFFECT OF SENDERS AND RECEIVERS ON EMOTION PERCEPTION IN EMAIL

Even among technologically savvy users who are highly dependent on email at work, individuals and groups vary in both their perceptions and use of email at work (Carlson & Zmud, 1999; Higa et al., 2000). These variations likely persist because the rapid adoption of email allowed for few established norms and rules for its use. Accordingly, these variations in terms of users (i.e., recipients and senders of emails) and their social context (i.e., their workgroup or organization) likely influence how receivers perceive emotion in email communication.

How Sender Factors Influence Emotion Perception in Emails

In accordance with the SMCR model, email senders (S) influence the accuracy of emotional communication in emails because, among other reasons, senders have different attitudes toward and knowledge about the receiver. In turn, email recipients likely rely on knowledge about the sender, such as his or her gender, in perceiving emotion in emails from that sender. In little research have scholars directly considered these factors, perhaps because of the belief that the relative lack of cues about the sender's identity in electronic media eliminates biases and al-

FIGURE 1
Model of Sender, Receiver, Social Context, and Message Factor Effects on Receivers' Emotion Misperception in Emails



lows for more accurate perceptions of messages (e.g., Lea & Spears, 1992). However, this view rests on the idea that users do not know each other—an untenable notion in the workplace, where employees often send and receive emails to and from known coworkers, clients, and customers. Even when those communicating electronically do not know each other, receivers actively search for information about the sender and use any available cues to form judgments (Nowak, 2003; Walther & Tidwell, 1995). Therefore, it seems likely that sender characteristics and the sender-recipient relationship influence how emotional content in emails is perceived.

Gender. Receivers may differentially perceive emotions in emails sent by male coworkers than those sent by female coworkers based on actual and expected differences in emotional expression. Compared to women, men tend to be less emotionally expressive (Hall, 1984). And when

men do express emotion, they tend to be less accurate encoders of that emotion (Hall, 1984; Wagner, MacDonald, & Manstead, 1986). These two factors make it more difficult to accurately interpret the emotions of men than women.

Although little research exists on the expression of emotion in emails, studies have found that men are less likely than women to use cues in emails representing positive emotions (Reza-bek & Cochenour, 1998; Witmer & Katzman, 1997). Because men tend to be less emotionally expressive of positive emotion, their emails may tend to be emotionally neutral. Consequently, email receivers who perceive their emails as emotionally neutral will often be accurate. However, when men intend to convey positive emotion, their lower accuracy at encoding emotion in general, along with their minimal use of emoticons indicating positive emotion, may increase the likelihood that recipients will per-

ceive their emails as more neutral than intended. That is, receivers are more likely to experience the neutrality effect when emails are from male rather than female senders (Path P3a).

The negativity effect may also be more likely to occur with emails from male senders. One study found that men were more likely than women to express anger in emails (Witmer & Katzman, 1997). Other research on nonverbal behavior has shown that although emotions expressed by women are generally easier to decode, some negative emotions such as anger are more easily detected when expressed by men than by women (e.g., Rotter & Rotter, 1988). Because male email senders may be more likely to express negative emotion in email and because email receivers may be more sensitive to cues indicating negative emotion in their emails, I predict a negativity effect for emails received from male senders (Path P3b).

Proposition 3a: Receivers of emails from male as compared to female senders will be more likely to inaccurately perceive emails intended to be positive as more emotionally neutral.

Proposition 3b: Receivers of emails from male as compared to female senders will be more likely to inaccurately perceive emails as more emotionally negative than intended.

Relationship length. Many studies have examined how CMC between those with a longer history differs from that of more recently acquainted or unknown communication partners and how CMC differs from face-to-face communication. When communicating electronically, people less known to each other use less relational communication and perceive each other less accurately (Walther, Anderson, & Park, 1994). These findings mirror more general research on person perception, which has tended to find that individuals are more accurate at perceiving known than less known targets (for reviews see Fiske, 1993, and Jussim, 1991). In addition, individuals communicating electronically, as compared to face to face, tend to evaluate unknown communication partners more negatively (Straus & McGrath, 1994; Weisband & Atwater, 1999).

In contrast, the longer the relationship between communication partners, the more accurate and rich CMC becomes. Over time, communication partners communicating electronically tend to use more relational communication, to be more sociable, and to communicate more accurately (Walther et al., 1994; Walther & Burgoon, 1992). In addition, the longer communication partners communicate via electronic media, the more similar that communication is to face-to-face communication: a meta-analysis comparing CMC to face-to-face communication found few differences in accuracy or content between the media when communication partners were known to each other (Walther et al., 1994).

These findings suggest that the length of the relationship between those communicating by email will have three simultaneous effects on emotion perception. First, partners with a longer email history may be more likely to express and perceive emotion by email. Second, they may communicate emotion more accurately. Third, they may be less likely to negatively evaluate the email and its sender. Combined, these three findings suggest that receivers of email from less known senders are more likely to experience the negativity effect (Path P4 in Figure 1):

Proposition 4: Receivers of emails from senders known for shorter durations will be more likely to inaccurately perceive emails as more emotionally negative than intended.

Relative status. The relative status of the sender may also affect how receivers perceive emotion in emails. Although some have argued that CMC limits cues indicating status and inhibits the salience of status, several studies have found that cues about communicators' status are present in CMC (e.g., Sherblom, 1988; Weisband, Schneider, & Connolly, 1995). Even in the absence of cues, it is likely that recipients know the relative status of familiar senders, given the salience of status in organizations.

The negativity effect may be more common when emails are received from higher-status senders, for several reasons (Path P5 in Figure 1). First, higher-status employees generally are less likely to send positive emotional content in emails. In a study of employees at a telecommunications company, Ku (1996: 38) found that socioemotional content, which he defined as using

email "to get to know someone, to keep in touch with someone in another location, and to send notes that contain sociable or nonwork-related content," was less likely in emails sent to lower-status employees and that employees with high absolute status in the organization were the least likely to use email for socioemotional purposes.

Second, although higher-status employees may be less likely to express positive emotions, they may be more likely than lower-status employees to express negative emotions. Research has shown that employees are more likely to express negative emotions to those of lower, rather than higher, status (Flett, Blankstein, Piner, & Bator, 1988; Kipnis, Schmidt, & Wilkinson, 1980). In reviewing research on emotional expression and status, Gibson and Schroeder (2002) found evidence that those with more power express a wider variety of emotions, including anger and other negative emotions. "Lower status [organizational] members, however, are not free to express negative emotions upward" (Gibson & Schroeder, 2002: 206). Although the expression of negative emotion downward in organizations may have fewer sanctions than the expression of negative emotion upward, this by no means implies that higher-status senders can do so without fear of reprisal. Organizational norms typically discourage the abuse of power by higher-status employees (Bies & Tripp, 1995). Higher-status senders may be more likely than lower-status senders to express negative emotion in emails, although the overall occurrence may be infrequent.

Last, being dependent on higher-status others for desired outcomes may motivate lower-status employees to seek information about them. Individuals tend to seek information about higher-status others because they want to be able to predict and influence them in order to obtain the outcomes they desire (Depret & Fiske, 1993). In their search for information, they may be particularly sensitive to negative cues from higher-status others, because lower-status employees are motivated to seek approval from higher-status others (Snodgrass, 1992). More generally, research on the recognition of nonverbal cues provides some support for the "subordination hypothesis"—the premise that those with lower status are more motivated to recognize emotional displays of those with higher status (Elfnein & Ambady, 2002).

Proposition 5: Receivers of emails from higher- as compared to lower-status senders will be more likely to inaccurately perceive emails as more emotionally negative than intended.

How Receiver Factors Influence Emotion Perception in Emails

Characteristics of receivers are also likely to explain emotion perception in email communication. This idea rests on a well-supported assumption—that individual variations affect perception in general (e.g., Fiske & Taylor, 1991), and emotion perception in particular (see O'Sullivan, 1983, for a review), in persistent and predictable ways.

Age. The receiver's age may be important in explaining how he or she perceives emotional content in emails. Specifically, older employees may be less likely to perceive emotional content in email communication. Research suggests that older employees tend to use and perceive email differently from younger employees. They have been found to use email less frequently in general (Higa et al., 2000; Mitra, Hazen, LaFrance, & Rogan, 1999), to use email less to send socioemotional content (Ku, 1996), and to have lower richness perceptions of email (Higa et al., 2002). These findings suggest that older employees may be more likely to perceive emails as emotionally neutral based on their own use of email and their perceptions of the medium.

More generally, age is negatively related to emotional expression, regulation, and perception. Older employees tend to be less likely to express and more likely to suppress emotions, and they tend to show a decline in emotion perception. Gross and his colleagues found that, in general, older people were less likely to experience and express emotions and were more likely to report controlling those emotions they did experience (Gross et al., 1997). Similarly, other researchers found that the experience of negative emotions declined with age until age 60 (Carstensen, Pasupathi, Mayr, & Nesselrode, 2000). Last, although findings have been mixed, research results have tended to support the finding that older individuals are less accurate at emotion perception from verbal and nonverbal stimuli (e.g., Grunwald et al., 1999; Nowicki, 2005). In summary, older employees may perceive others' emails as more neutral than in-

tended based on their own use and perception of email as less emotional and because of their lessened tendency to experience and accurately perceive emotional stimuli (Path P6).

Proposition 6: Older email receivers will be more likely to inaccurately perceive emails intended to be positive as more emotionally neutral.

Negative affectivity. Employees' negative affectivity (NA)—their tendency to experience negative emotional states—likely influences emotion perception in email communication. I expect that NA leads to persistent, predictable differences in emotion perception because, as a trait, NA has been found to be relatively stable within individuals and to influence perception of both people and objects (e.g., George & Brief, 1992). A large body of research has considered the relationship between NA and perception. Two findings are particularly relevant here: NA increases attention to congruently valenced stimuli and decreases perceptual accuracy (e.g., Ambady & Gray, 2002).

Although much research links traits and mood to perception, findings have not always been consistent. One reason that has been proposed to explain these inconsistencies is the type of processing used in perception. Research indicates that the processing and accuracy effects suggested above tend to occur when several conditions exist: when the perceived stimulus is affective in nature and when automatic processing is used in the perception of the stimuli, as it is in nonverbal emotion perception (Ambady & Gray, 2002; Patterson & Stockbridge, 1998). Although the question of whether affective information is automatically processed in emails has not been determined, to the extent that emotion perception in email communication is processed automatically, as it is in face-to-face communication, I expect that those higher in NA will be especially likely to experience the negativity effect in their perception of emails (Path P7).

Proposition 7: Email receivers higher in NA will be more likely to inaccurately perceive emails as more emotionally negative than intended.

How Social Context Influences Emotion Perception in Emails

In the SMCR model, the social context of the sender and receiver affects the accuracy and effectiveness of their communication (Berlo, 1960). In addition, social context factors have been theoretically and empirically linked to the use and perceptions of different media (e.g., DeSanctis & Poole, 1994; Schmitz & Fulk, 1991). Therefore, I propose that social context variables will influence the perception of emotion in emails.

The existence of strong shared norms regarding email use may moderate the relationship between user characteristics and perceptual inaccuracy of emotion in email when both communication partners are in the same group. Research has found that strong norms regarding the use of electronic media promote its effective use (Orlikowski, Yates, Okamura, & Fujimoto, 1995; Yates, Orlikowski, & Okamura, 1999) and that norms are more strongly related to email use and perceptions than are individual characteristics (Higa et al., 2000). Consequently, display rules—norms regarding emotional expression—may affect how emotions are expressed and perceived in work emails. Research on emotional labor suggests that display rules differ among organizations and influence employees' expression and repression of emotions (e.g., Morris & Feldman, 1997; Rafaeli & Sutton, 1987). Moreover, they influence the valence, frequency, and duration of emotions employees display at work in different contexts, such as interactions with customers or supervisors (e.g., Morris & Feldman, 1997).

Because display rules address the context in which emotions are expressed, it follows that organizational display rules may exist for and apply to the expression of emotion in email communication. The existence and knowledge of display rules for the expression of emotion in email communication are likely to influence how employees express and perceive emotion in emails. Past research on display rules in organizations suggests that rules may seek to both suppress some emotions and increase the expression of others. When present and adhered to, these display rules may attenuate the relationship between recipient and sender characteristics and inaccuracy in emotion perception in email communication by establishing guide-

lines for the expression of emotion in emails. Receivers' perceptions then may be more determined by the display rules and less influenced by the sender and receiver factors proposed above (and shown in Figure 1). Established display rules regarding emotional expression in emails may increase employees' accuracy of emotion perception in emails. Conversely, when these rules do not exist, are not shared, or are not followed, email recipient and sender characteristics will be more likely to influence receivers' emotion perception of emotion in email communication, and receivers will be more likely to misperceive emails' emotional content (Path P8).

Proposition 8: Known and shared display rules regarding emotional expression in emails will moderate the relationship between recipient and sender characteristics and emotion perception in emails such that the existence of display rules will attenuate the relationship between recipient and sender characteristics and receivers' perceptual inaccuracy of emotion in emails.

EFFECT OF MESSAGE ON EMOTION COMMUNICATION

How senders encode their messages (M) contributes to the communication process (Berlo, 1960). Despite the difficulties of doing so, as research suggests, senders may adapt email to convey their intended emotions. Similarly, organizational communication scholars have argued that although somewhat constrained by the inherent characteristics of media, people can use media adaptively to achieve their aims (e.g., Barry & Fulmer, 2004; Carlson & Zmud, 1999).

The most straightforward way of encoding a message to convey the sender's emotion is to verbalize it. For example, a sender could write, "I am so happy that you decided to sign the contract." Common sense suggests that interpreting verbalizations of emotion would be associated with a fairly high degree of accuracy (especially when accuracy is defined in terms of the receiver's interpretation matching the sender's intent). Although words have different meanings for different senders and receivers,

research examining the affective tone of text has found a relatively high degree of agreement among raters (Bestgen, 1994; Mossholder, Settoon, Harris, & Armenakis, 1995), suggesting that people tend to reliably interpret verbal emotional content. Further, the content and availability of resources, such as dictionaries of affect (e.g., Whissell, 1989), suggest that many words describe emotion and that these words have some degree of shared meaning.

However, senders may infrequently verbalize their emotional state to others. Research on face-to-face communication has found that people are more likely to communicate emotions nonverbally than verbally (Ekman et al., 1980). In fact, people have difficulty verbalizing at all when they are experiencing intense emotions (see Von Glinow, Shapiro, & Brett, 2004, for a review). For these reasons, considering other ways of expressing emotion apart from verbalizing it may be fruitful. Although fewer cues are available in emails than in face-to-face communication, senders can use cues to express emotion in emails, according to some research.

The most obvious cue of emotion in email is the emoticon. Research suggests that receivers rely on emoticons, when present, to interpret senders' emotional state (e.g., Byron & Baldrige, in press; Thompsen & Foulger, 1996). However, Walther and D'Addario (2001) argue that emoticons are symbolic rather than spontaneous displays of emotion, and, as such, receivers may interpret them as less authentic indicators of senders' emotion (Walther & D'Addario, 2001). If this argument is correct, then it may be that receivers rely more heavily on other cues, such as response time, message length, presence or lack of greeting, or degree of formality, in perceiving emotion by email. Exploratory research has shown that employees report relying on these other cues to express and interpret emotion (Byron & Baldrige, 2005). However, save response time (Walther & Tidwell, 1995), I found no studies that empirically considered how receivers might emotionally interpret these cues, either alone or combined with other cues. The issue of what cues receivers rely on to indicate emotion and how they interpret these cues is a matter for future research.

Despite the lack of empirical research, I argue that receivers will more accurately interpret emails that include more verbal and nonverbal cues of emotion. Although it is conceivable that

cues can be contradictory (e.g., representing both positive and negative emotions), *ceteris paribus*, receivers are more likely to accurately interpret emails that contain more cues, especially given that cues in email may be more controllable and intentional displays of emotion. Based on the above arguments, verbalizations of emotion and the presence of nonverbal emotional cues may moderate the relationship between sender and receiver characteristics and the likelihood that receivers will inaccurately interpret senders' emotion (Path P9).

Proposition 9: Emotional cues, such as verbal cues and emoticons, in emails will moderate the relationship between recipient and sender characteristics and emotion perception in emails such that these cues will attenuate the relationship between recipient and sender characteristics and receivers' perceptual inaccuracy of emotion in emails.

CONSEQUENCES OF EMOTIONAL INACCURACY IN EMAILS

Based on the previously discussed functions of emotion, the neutrality and negativity effects likely have both positive and negative implications for workplace relationships and the transmission of information at work. Figure 2 summarizes

the proposed positive and negative relational and informational effects of the neutrality and negativity effects in organizations.

Positive Consequences of the Neutrality Effect

The tendency for receivers to inaccurately perceive emails intended to convey positive emotion as emotionally neutral should have positive informational and relational consequences in organizations. In terms of informational consequences, the neutrality effect may allow receivers to focus more on the informational content of the email than its emotional content, thereby increasing the accuracy of nonemotional communication. For example, some influence tactics, such as inspiration and ingratiation, involve the display and perception of positive emotion. Positive emotion has persuasive powers by increasing liking for the influencer and reducing resistance on the part of the influence target (Gibson & Schroeder, 2002). The target of the influence attempt who "catches" the positive emotion is presumably more likely to be persuaded because he or she is less focused on the informational content of the attempt. When email senders use email to influence others through the display of positive emotions, the neutrality effect increases the likelihood that the targets of the influence attempts—the email receivers—will focus on the informational

FIGURE 2
Proposed Relational and Informational Effects of the Neutrality and Negativity Effects in Emails in Organizations

	Relational effects	Informational effects
Positive consequences	Neutrality effect: <i>Maintain social distance</i>	Neutrality effect: <i>Increased focus on informational rather than emotion content</i>
	Negativity effect: <i>None expected</i>	Negativity effect: <i>Motivation to seek information</i>
Negative consequences	Neutrality effect: <i>Lower feelings of connectedness; impaired group functioning</i>	Neutrality effect: <i>Lower performance-to-outcome expectancy; more confusion</i>
	Negativity effect: <i>Conflict escalation</i>	Negativity effect: <i>Increased anxiety and insecurity about performance</i>

rather than the emotional content of the emailed influence attempt. This may increase the accuracy of decisions, because email receivers are less likely to be distracted by the intended positive emotional content in the emails.

In terms of relational benefits, the neutrality effect may serve to increase social distance between employees. The sharing of positive emotion can help to strengthen workplace relationships, and, presumably, the failure to share positive emotion can inhibit relationship development. Although workplace relationships are generally considered integral to organizational functioning, some theorists have argued that close relationships at work can complicate rather than simplify employees' work lives (Eisenberg & Witten, 1987). For example, some managers seek to maintain a reasonable degree of distance between themselves and their subordinates. Therefore, to the extent that the neutrality effect inhibits relationship development and that further relationship development is not always preferable, a benefit of the neutrality effect could be to maintain or increase social distance between employees.

Negative Consequences of the Neutrality Effect

The neutrality effect is also likely to have negative informational and relational consequences. When subordinates inaccurately perceive emails intended to convey positive emotion as more neutral, they receive inaccurate information about what behaviors elicit positive emotion from their superiors. For example, when managers use email to praise employees, the diminished positive emotion conveyed in the email may be less informative to subordinates about what behaviors are desirable and should be modeled or repeated. A colleague recently recounted the following example. Her department chair sent an email to college faculty members about an award she had won from a foundation. Although he likely intended to convey positive emotion (e.g., joy), she perceived the email as more neutral, leaving her disappointed by his "lack of enthusiasm" and unclear about whether this award was institutionally valued. In sum, the neutrality effect might lower subordinates' performance-to-outcome expectancy because it increases uncertainty regarding or, at the least, does not help to clarify desired performance.

The neutrality effect may also have harmful consequences for workplace relationships. Although social distance is sometimes desirable, relationships between coworkers and others outside the organization are often fundamental to an organization's success. Research on emotional contagion in groups suggests that the communication and sharing of positive emotions among group members benefit group functioning by increasing cooperation, curtailing conflict, and improving task performance (Barsade, 2002). It seems likely that the neutrality effect in email communication is one of the reasons that employees have reported feeling less connected to their coworkers as email use has increased and replaced other forms of communication (Sarbaugh-Thompson & Feldman, 1998). If employees fail to communicate positive emotions by email, their relationship development may be stunted.

Positive Consequences of the Negativity Effect

The negativity effect may have both beneficial and harmful consequences in organizations. Although I expect no potential positive *relational* consequences of the negativity effect, it may offer positive *informational* consequences. It may motivate the receiver to seek more information about the sender's emotional state, which could result in the eventual greater accuracy of his or her judgments. For example, if a recently hired subordinate incorrectly perceived an email from his boss as conveying anger (although she intended it as neutral), the subordinate might be motivated to ask coworkers or the supervisor about the email. When the receiver responds to negative emotion in emails by seeking more information—for example, by initiating face-to-face communication—he or she may acquire more accurate information about the intent of the email sender.

Negative Consequences of the Negativity Effect

On the whole, the negativity effect likely has greater negative than positive consequences for organizations. According to Markus (1994), employees have a stated preference for email when delivering negative information—for example, when they don't like the receiver or when the topic angers them. Although sending an email

in these situations may be less anxiety producing for the sender, the tendency for receivers to perceive the email as more negative than intended could have long-term consequences for the sender's relationship with the receiver. In their model of conflict escalation in email communication, Friedman and Currall (2003) theorized that communicating by email increases the likelihood of conflict escalation between those using the medium to communicate. Although they did not address a negativity effect, it seems likely that the negativity effect is an additional factor in exacerbating conflict between those communicating by email. Employees who mistakenly perceive an email sender as expressing anger may feel provoked and retaliate with an angry response, thus escalating conflict and harming workplace relationships.

In addition to harming workplace relationships, the negativity effect may have negative informational consequences. When email receivers perceive an email sender as more angry than intended, they may receive distorted information about their past performance and desired future performance. An email intended as a reminder may be perceived as corrective feedback. For example, one MBA student told of an email from his manager to all employees in his department regarding sales goals. The student interpreted that the manager was angry with his performance, which confused him because he had exceeded his quota. He was left wondering what he had done wrong and what he should do differently.

The negativity effect may be increased by the tendency for email senders to use fewer niceties or to not "sugarcoat" their message. When asked to provide negative feedback to others, study participants were less likely to positively distort negative information in electronic media (Sussman & Sproull, 1999). However, it should be noted that the more accurate expression of a message does not ensure accurate perception of it. Rather, email receivers may negatively distort the information, which could lead to employees' increased anxiety and insecurity about their performance.

DISCUSSION

My purpose has been to present a model of emotional perception in email communication that accounts for channel, sender, receiver, and

message characteristics. Drawing from a large body of literature on communication, emotions, and perception, the present model explains why emotions are likely to be inaccurately communicated in emails, which inaccurate perceptions are most likely, what factors affect their occurrence, and what consequences may ensue.

Methodological Issues

Testing the present model requires careful consideration of several issues, especially regarding how researchers measure accuracy. I have defined accuracy in terms of the extent to which the receiver's perceptions of an email agrees with the sender's intentions; therefore, measuring accuracy depends, in part, on measuring senders' intended emotion. Fortunately, research on nonverbal emotional expressions offers guidance (for reviews see Ickes, 2001; Kenny & Winquist, 2001; Noller, 2001). In a field study researchers can ask senders to retrospectively report their intended emotion. Another option more appropriate to a laboratory study is to have senders encode a particular emotion in an email, which is then randomly assigned and "sent" to different receivers (Noller, 2001), similar to the method used by Kruger and his colleagues (2005) in their recent studies on email miscommunication.

However, researchers may alternately define accuracy in terms of the extent to which the receiver interprets a message consistent with the internal state of the sender. This can differ from the sender's intended communication of emotion, because sometimes people (1) lack awareness of their internal state but unconsciously "leak" the emotion to others or (2) intentionally express an emotion different from their internal state. Both criteria of accuracy have been endorsed by researchers of nonverbal communication; accuracy has been defined in terms of the agreement between the sender's intentions and the receiver's perceptions and in terms of the agreement between the sender's internal state as indicated by self-report and the consensus of other judges (Noller, 2001), despite the potential conflict between these criteria and the problems inherent in each. Researchers testing the present model may consider examining multiple definitions of accuracy to gain a fuller understanding of emotional communication in work emails.

More generally, I recommend that researchers testing all or parts of this model consider advances in research on interpersonal sensitivity. Noller (2001) has argued that standard content methodology allows researchers to determine the extent to which misunderstandings are due to the sender and the extent to which misunderstandings are due to the receiver. Alternatively, Kenny and Winqvist (2001) have outlined numerous research designs using componential analysis that allow researchers to partition accuracy into different sources, such as accuracy due to a receiver's tendency to respond consistently over time across multiple senders or to a receiver's tendency to perceive a particular sender consistently.

Scholarly and Practical Implications

The propositions I have set forth have implications for management scholars and practitioners. First, they imply that although emotional content is difficult to transmit accurately in emails, it can be transmitted in this medium. This suggests that ignoring the possibility that emails can carry emotional content is likely to increase the likelihood of miscommunication. Kruger and his colleagues (2005) similarly have argued that being overconfident in our ability to either perceive or convey ambiguous content in emails prevents us from taking steps to increase accurate communication. People believe they can accurately convey intended emotion while doubting others' abilities: in a recent survey, employees were likely to report that their colleagues needed more training in email yet they themselves did not (Dawley & Anthony, 2003).

Certainly, a first step toward improving accuracy in emails is to recognize the possibility that, as the model suggests, we are fallible as both email senders and receivers. Miscommunication in emails can be caused by senders' inability to accurately convey their intended meaning and by receivers' inability to accurately perceive senders' intended meaning. Still, more empirical research on emotions in email communication is needed to gain an understanding of how emotions are expressed and perceived and what factors affect the perceptual accuracy of emotions in emails.

A second implication is that, despite the difficulty of accurately expressing and perceiving emotions in emails, inaccurate emotion percep-

tion is not inevitable. Although I have outlined when particular errors may be more likely, the propositions also suggest when accuracy is more likely. This suggests that accuracy can be improved; inaccuracy is not inevitable. However, because few studies have examined what factors influence accuracy in email communication, research testing the propositions of the present model is needed. Additionally, although the relative lack of cues and slower and reduced feedback make inaccurate emotion perception more likely in email communication, increasing the use of cues and the rate and amount of feedback in emails may reduce the likelihood of inaccurate emotion perception in emails. Senders who use established, shared cues to communicate emotion or who seek clarity by repeating important information may more accurately express emotions by email. Likewise, email recipients who seek clarity by asking questions or stating their interpretation of the message are more likely to accurately perceive emotions from email communication.

Finally, the propositions imply that the perception of emails is influenced by both individual-level and group-level factors. Considering that employees often communicate with colleagues outside their workgroup or organization and with clients and customers outside their employing organization, further research on group and organizational differences is warranted. Specifically, research should address how these differences influence the perception of emails received from those inside and outside their workgroup or organization, as well as the relative contribution of individual-, group-, and organizational-level effects.

In addition to directions for future research, practical advice can be gleaned from the model as well. First, employees should be aware that emails communicate emotion and, if the number of relative paths is any indication, that they may be especially likely to misinterpret emails as more negative than senders intend. In addition, employees should be cognizant of the fact that others may be perceiving emotional content from the emails they send—whether they intend to communicate emotions or not. Increased awareness of emotion in emails will help to make email communication more effective by increasing its accuracy. A second related practical implication is that employers may want to consider offering training on the use of email at

work (including, or perhaps even especially, to those who feel confident in their use of email). Research on other electronic media has shown that training helps to establish organizational norms for its use (Orlikowski et al., 1995). As specified in the present model, established and accepted norms may help to limit the influence of recipient and sender factors that increase the likelihood of inaccurate emotion perception in emails.

Limitations

Although the model has both practical and scholarly implications, it is not without limitations. I focused on the likelihood of emails being misperceived as negative or neutral; I did not consider the possibility that emails could be misperceived as expressing positive emotional content. Although inaccurately perceiving an email as positive is possible, I intentionally ignored this possibility in the model because I considered it less likely based on my review of related research and theory. Future research should confirm the frequency of different types of inaccurate judgments in emotion perception in email communication.

Second, the model focuses on the perception, rather than the expression, of emotion in email communication. Unfortunately, relatively little is known about emotional expression in emails in organizational settings. Organizational researchers and theorists should consider expanding knowledge about how emotions are communicated by email at work, how frequently work-related emails contain emotional content, and how authentic and unauthentic displays of emotion in emails at work differ. In particular, the prevalence of email communication in the workplace may have important implications for emotional labor and regulation (e.g., Morris & Feldman, 1997; Rafaeli & Sutton, 1987). It seems likely that suppressing undesired emotions may be less effortful and stressful for employees and more convincing to others in email communication as compared to face-to-face communication.

Furthermore, I based my arguments partly on research concerning the perception and expression of emotions from nonverbal behavior present in face-to-face communication. Although I focused on research findings that would likely be replicated with regard to emails, the extent to which these processes are parallel

remains a subject for future research. For example, although women tend to be better facial encoders of emotion, I found no research addressing whether women are able to encode emotion more accurately in email communication.

Last, I should note that the present paper focuses on email and neglects discussion of other forms of electronic communication. Email, however, is presently the dominant form of electronic communication in the workplace, and many of the theoretical arguments presented may be applied to other electronic media used at work, such as instant messaging or collaborative electronic technologies that similarly reduce available cues and slow and decrease feedback. Because emotions serve several important functions in organizations, it seems important to examine how emotional information in the workplace is exchanged within a technology that is rapidly replacing other communication channels.

The increased prevalence of email communication in the workplace underscores the need to develop an understanding of how emotions are perceived and expressed in emails at work. The small body of research on this topic suggests that emotions are present in email communication, but this research has focused on nonorganizational settings and has not considered what factors might influence emotion perception in email communication. In contrast, I have focused here on how emotional content in emails is likely to be misperceived and what factors are likely to increase or decrease the likelihood that these perceptual inaccuracies will occur. In doing so, I argue that narrow views of communication media are insufficient to explain new media and that considering both objective and perceptual and social processes has the greatest potential to advance understanding on this topic (e.g., Barry & Fulmer, 2004). Gaining a better understanding of how emotions are communicated (or miscommunicated) in email at work is especially important given the increasing growth in email communication and the increasing recognition of the importance of emotions in organizations.

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