Emotion encoding and interpretation in computer-mediated communication: Reasons for use

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ABSTRACT

As computer-mediated communication (CMC) is increasingly used to build and maintain relationships, the examination of channel choice for the development of these social ties becomes important to study. Using free response data from Riordan and Kreuz (submitted for publication), we examine reasons for choosing among face-to-face, asynchronous email, or synchronous instant message channels to transmit negatively or positively valenced emotional information. The most common reason for choosing face-to-face over channels of CMC was the ability to use more nonverbal cues. The most common reason for choosing a CMC channel over face-to-face was to shield oneself from the message recipient. Face-to-face was deemed more effective, more personal, more comfortable, and less permanent than CMC channels. Reasons differed significantly by valence and channel. We suggest that better knowledge of why people choose certain channels for different types of socio-emotional communication can help develop more comprehensive theories of CMC that account for different attributes of each channel in information transmission.

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1. Introduction

While several lines of research have found that computer-mediated communication (CMC) is often used for social purposes, research to date has largely failed to suggest why people might choose to share social news by CMC rather than face-to-face (FTF) or why people might choose one channel of CMC over another. In the following study, we assess in what ways channel type and emotion type play a role in the choice of a channel for emotion communication. Three channels of communication are assessed: asynchronous email, synchronous instant messaging (IM), and FTF communication. Two emotion types are also assessed: positive and negative.

1.1. Channel choice

FTF has often been thought to be a superior form of communication in comparison to CMC because of the existence of more cues for the interpretation of a message (e.g., gestures and eye gaze; Archer & Akert, 1977; Depaulo & Friedman, 1998). Based on this perspective, people should seek FTF communication over CMC whenever possible to convey socio-emotional communication. However, McCormick and McCormick (1992) have found that some

people use CMC primarily for social purposes. Many studies have found that people adapt to the lack of cue availability in CMC (e.g., Hancock (2004), Tidwell and Walther (2002), Walther and Tidwell (1995)) to make the channel just as effective for forming and maintaining friendships and relationships as FTF – especially when time is not a factor (Liu, Ginther, & Zelhart, 2002; Walther, 1992). Indeed, Riordan and Kreuz (submitted for publication) found that 82% of their survey sample indicated it was easy to convey emotion in email; 77% thought the same about IM. The majority (53%) of the sample did, however, indicate that it was easier to express emotion FTF than in either form of CMC.

If FTF and CMC channels are equal in their ability to form and maintain social bonds, as this previous research suggests, then there must be reasons for choosing a particular channel aside from their ability to form these bonds. What these reasons might be have not been examined previously.

- *RQ1:* Why is one channel of communication (FTF or CMC) chosen over another for socio-emotional communication?

1.2. Emotion valence

We hypothesize that emotion valence (i.e., the negativity and positivity of one's mood or temperament) may play a role in choosing a channel to convey information. Harris and Paradice (2007) suggest that emotion in CMC is transmitted largely through indirect

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phrases that avoid explicitly mentioning an emotion (e.g., "I can't believe he did that to me") rather than direct statements that name an emotion (e.g., "I am angry"). These researchers found that more indirect and direct emotion phrases in emails led participants to perceive more extreme emotion levels – both positive and negative. Participant ratings of the degree of emotion in the emails were correlated with the number of direct and indirect emotion phrases in positively valenced emails but not in negatively valenced emails. In addition, ratings of emotion in the emails were significantly correlated with the number of nonverbal cues (e.g., emotions) for positively valenced emails but not for negatively valenced emails. Such findings suggest that emotion valence plays a role in the interpretation of email messages.

Furthermore, the type of cues that are used carry emotion valence information. Hancock, Landrigan, and Silver (2007) instructed participants to act as if they were in a positive or negative mood and then interacted via IM with another person. These transcripts were examined for strategies used to express emotion. The researchers found that punctuation signaled mood more often when participants were instructed to convey positive emotion than when they were instructed to convey negative emotion. In addition, exclamation points significantly predicted whether the IM recipient perceived the IM sender to be in a positive mood. Disagreement, negative affect words (e.g., "angry," "hate"), and verbosity (e.g., how many words they wrote) were also clues to emotion. Different strategies appear to be used to express emotion in IM as a function of valence. We suggest that valence may also predict the type of channel a message sender chooses to use to convey a message.

- *RQ2:* Does emotion valence influence channel choice?

1.3. Synchronicity

Email and IM differ in several respects as channels of CMC, perhaps most prominently in synchronicity. Email involves asynchronous communication in that it does not occur in real-time, whereas IM is synchronous and both users are available at the same time. Because email does not occur in real-time, there may be a loss of context over time, which could dilute or allow misinterpretation of the emotional content of the email. IM, however, provides immediate feedback regarding messages that allow for real-time correction of misinterpretations of emotion valence as well as degree. It may be the case that IM and email are differentially preferred as a channel choice for socio-emotional communication as a function of their synchronicity.

Dennis, Fuller, and Valacich (2008), in their theory of media synchronicity, have suggested that the ability of a channel to allow effective communication between persons is a function of, among other variables, synchronicity. When a message contains information that needs to be conveyed, a less synchronous channel is necessary than when a message is being used for the sake of converging upon a single decision. In this way, an email may be most effective for conveying the message that a meeting is being held at 3 p.m., but instant message may be best for a group to converge on a single time during which they are all available for a meeting to be held. Communicators may thus choose one channel over another based on whether a message is more effectively communicated synchronously or asynchronously.

- *RQ3:* Does synchronicity influence channel choice?

To examine the reasons for choosing a channel for socio-emotional communication, and the role that valence and synchronicity may play in this choice, free response data from Riordan and Kreuz (submitted for publication) were examined.

2. Method

2.1. Participants

Riordan and Kreuz (submitted for publication) conducted a survey asking two different populations about their use of CMC and FTF. One sample consisted of undergraduate students at the University of Memphis, while the other sample consisted of those who responded to the survey while it was posted as an online Amazon Mechanical Turk task (www.mturk.com). The samples differed significantly in age: The student sample had younger participants ($M = 25$, $SD = 7.20$) than the Mechanical Turk sample ($M = 29$, $SD = 6.20$; $t(105) = 3.34$, $p < .001$). The samples also differed in gender: The student sample had a greater proportion of females (71%) than the Mechanical Turk sample (47%; ($\chi^2(1, N = 123) = 7.00$, $p < .01$). Despite these age and gender differences, no significant differences existed between samples in their survey answers, and thus we combined the samples for the current study. The total combined sample for this analysis is 124 participants (53 males, 70 females, 1 unknown; mean age = 27, $SD = 6.99$).

Riordan and Kreuz (submitted for publication) also gathered data regarding experience with email and IM. Participants indicated the extent of their experience with email by choosing one of eight categories ranging from "never use" to "use 10 + times per day." For IM, participants chose one of six categories ranging from "never use" to "use 5 + hours per day." All participants indicated having some experience with both channels. The extent of the experience with either channel was not related to any variable explored in the current study.

2.1.1. Student sample

The survey was hosted by an online service allowing restriction of participants to only those invited (www.surveymonkey.com). Students accessed a University course website in which they were allowed to sign up for the study and were then redirected to the survey webpage. Each participant was given course credit.

2.1.2. Mechanical turk sample

This survey sample was recruited from Amazon's Mechanical Turk service, which operates as a micro-task market in which researchers can anonymously post tasks that are then completed by participants who log onto the service via the Internet. A variety of restrictions are available for the researcher to pinpoint a sample: The current survey was restricted to only those who had satisfactorily completed at least 95% of the tasks they chose from the service. For those who did not meet this requirement, the survey did not appear on their computers when they signed into the service.

After data are collected, the researcher can approve the work and pay the worker or can deny payment. When payment is denied, the worker's percentage of satisfactorily completed tasks decreases. By setting a high minimum percentage to restrict the sample of workers that can complete the survey, we sought to exclude any unreliable workers.

2.2. Materials and procedure

2.2.1. Survey questions

Participants were asked a series of questions about their use of CMC, their preference for and desirability of email, IM, or FTF in positively and negatively valenced contexts, and their use of cues in CMC. Free response data for several questions in their survey were also collected: These questions appear in Appendix A.

Survey questions were followed by text boxes in which participants were asked to explain why they chose one channel or

the other. Eight percent of respondents provided more than one reason, and were coded as representing both (or, in two cases, all three). Of a total 1570 answers (12 questions per participant), 477 questions were answered with "same" (189 from the undergraduate sample and 288 from the Turk sample), indicating no preference for one channel over another. As the primary interest of this study is to determine why participants choose one channel over another, these responses were not analyzed, resulting in a total sample of 1093 free responses in which a preference for one channel over another was made. Of these responses, 51 (<5%) were left blank and 41 (<4%) were unable to be categorized (e.g., "because I said so," "very good," "I just think it's better"). The final set of responses included 1001 reasons. Two researchers independently created a set of categories into which all responses would fit. Discussion between the coders led to a final set of 13 categories (see Table 1; examples included), and all responses were coded as to which category they best represented. An assessment of interrater reliability was high ($\kappa = .82$), and was further increased by a discussion of disagreements. "Easier" is coded only as a reason for questions 5–8 and 11–12 because it is used as the questioned attribute between channels in questions 1–4 and 9–10.

3. Results

3.1. Choosing between FTF and email or IM between emotion types

Participants who reported that it was easier to convey positive emotion FTF than via email largely reported the ease came from the ability to say more than one could write in the same amount of time (see Table 2, row 1). Those who reported that email was easier than FTF to convey positive emotion tended to report the ease came from the ability to edit one's responses and the asynchronicity of the channel.

Participants who reported that IM was easier than FTF for positive emotions reported several reasons, most commonly that it was less personal (see Table 2, row 2). Those who chose FTF for the same question most commonly reported having more cues available.

Those who chose FTF over email for negative emotions most commonly reported having more cues available (see Table 2, row 3), and the same reason was given for choosing FTF over IM (see Table 2, row 4). Those who chose email over FTF, however, most commonly reported the shielding effects of the computer, the same most common reason IM was chosen over FTF.

Table 1
Defined categories of reasons for channel use; examples included.

Category	Definition
More cues:	The channel allows more nonverbal expression "It is because we together can view the expression from their face itself, so no need to rethink" "You can read facial expressions and hear the intonation in the voice"
A/synch:	The channel gives either delayed or immediate feedback "Conversations are instant two-way conversations with no waiting time for response" "Face-to-face offers instant clarification"
Shield:	The channel allows one to avoid immediate consequences and/or eye contact "Since I often back down from confrontation, it is easier for me to express negative feelings in writing" "To avoid the repercussions of expressing the negative feelings face-to-face"
><Pers:	The channel makes communication more or less personal or private "IM tends to be more personal and would hurt someone more than an email would" "Because it is more intimate"
More words:	The channel allows one to write or say more "Since IMs are often so short, a short response that could be interpreted as negative in person could be read as a typical IM communication" "Conversations typically contain more words" Category
More effective:	The channel delivers a message more effectively "There is more impact face-to-face than through text" "You can interact better face-to-face"
Social rules:	The channel is the proper way to communicate "We may feel a bit embarrassed to tell unpalatable facts openly. Good manners may prevent it also" "It's always nice to give good news in person"
Edit:	The channel allows one to critique and revise "You have more time to compose the message and get it just right" "It gives you time to think about what you are writing and choose your words carefully"
More comfort:	The channel is more comfortable to use "Because to convey positive feeling i like email it comfortable to me" "I prefer face-to-face"
Soften:	The channel allows one to alleviate the harshness of a communication "It hurts more when done in person. With email, you can just give the message a glance and just move on" "One can easily convey the feeling without making it look too negative"
No interrupt:	The channel prevents interruptions "Because you can finish your thoughts without interruption" "The email conversation take turns; there are no interruptions from the other person when you're making your statement"
IM/perm:	The channel results in either impermanent or permanent communication "Sometimes it's better not to put things in writing" "Emails can be easily saved or forwarded if appropriate"
Easier:	The channel is easier to use "Its easy to deal with" "It is easier"

Table 2
Reasons for Channel Choice, by Question and Answer.

Question number	Choice	Reasons for choice													Total Responses (% per question)
		More cues	A/synch	Shield	><Pers	More words	More effective	Social rules	Edit	More comfort	No interrupt	Soften	IM/perm	Easier	
1	FTF	10%	20%		2%	59%	2%	2%		5%				X	41 (77%)
	Email	8	33	8	17									X	12(23)
2	FTF	79	2		12	2				5				X	58 (92)
	IM	20			40				20	20				X	5(8)
3	FTF	82	11		2	2	4							X	55 (54)
	Email		13	66	4	2		4	6		2	2		X	47 (46)
4	FTF	69	7	2	4		6	9		2				X	54 (58)
	IM		5	74	5		3	5	5			3		X	39 (42)
5	FTF	33	11		13		18	18		2		2	2	4	45(46)
	Email		12	71	4		2	2	6		2	2			52 (54)
6	FTF	35	8	2	10		19	17		8		2			52 (60)
	IM	3	6	63	6			11	6	3		3			35 (40)
7	FTF	54	8		21		7	6		3				1	95 (96)
	Email		50			25				25					4(4)
8	FTF IM	49	4		26		10	4		8				1	84 (97)
	IM				25		25	25					25		4(3)
9	Email		33	5	10	29		5	14	5				X	21 (30)
	IM	17	75				2							X	48 (70)
10	Email		48	17	2	12	2		10	2	8			X	52 (68)
	IM	16	68	4	8		4							X	25 (32)
11	Email		24		7	28	10	3	10	7			10		29 (36)
	IM	4	86	2	2		2	4						2	51 (64)
12	Email		43	1!)	4	9	4	1	19	3	3	1	1		69 (73)
	IM	8	68	12	4		4	4							25 (27)
Total responses (% of total)		276 (28)	244 (24)	144 (14)	91 (9)	55 (5%)	53 (5)	48 (5)	40 (4)	30 (3)	8(1)	7(1)	5(.5)	9(1)	1001

X = category not used for this question

Those who thought it was more desirable to convey negative emotion FTF than using email thought so largely because FTF has more cues available (see Table 2, row 5). The large majority of those who chose email for the same question reported its shielding effects as the reason why. This same pattern was found for those who chose between FTF and IM (see Table 2, row 6).

When choosing FTF rather than email as a more desirable way to express positive emotions, having more cues available was the most commonly cited reason for the choice (see Table 2, row 7); those who chose email most commonly cited the asynchronicity of the channel. The same question, with the choice being FTF or IM, resulted in the majority of those who chose FTF listing their reason as having more cues, and those who chose IM were evenly split among effectiveness, social rules, level of personal closeness, and ease (see Table 2, row 8). It is worth noting, however, that for these questions, FTF was by far the more common answer; more than 95% of participants chose FTF over email and IM.

3.2. Choosing between email and IM between emotion types

For positive emotion communication, participants who chose email over IM most commonly cited the asynchronicity of the channel; interestingly, those who chose IM over email most commonly cited their reason as synchronicity (see Table 2, row 9). For negative emotion communication, the same pattern was found (see Table 2, row 10).

When asked which channel of CMC was more desirable for positive emotion communication, those who chose email reported their reason as being able to write longer messages. Those who chose IM cited their primary reason as synchronicity (see Table 2, row 11). For negative emotion communication, both those who said email was the more desirable channel and those who said IM was the more desirable channel most commonly chose a/synchronicity as their reason (see Table 2, row 12).

3.3. Choosing Between FTF and combined CMC types within emotion type

Participants differed significantly in their reasons for choosing FTF or CMC (see questions 1–8 in the Appendix). Participants indicated they chose FTF ($M = 32.13$, $SD = 17.32$) over CMC ($M = 0.38$, $SD = 0.52$) because it has more potential cues ($F(1, 15) = 26.85$, $p < .001$). FTF ($M = 4.89$, $SD = 3.80$) was also seen as more effective than CMC ($M = 0.38$, $SD = 0.52$) at conveying emotion ($F(1, 15) = 11.04$, $p < .005$). In addition, FTF was also believed to be more personal than CMC ($Ms = 8.00$ vs. 1.63; $SDs = 8.35$, 0.74; $F(1, 15) = 4.63$, $p < .05$), more comfortable than CMC ($Ms = 0.75$ vs. 0.13; $SDs = 0.70$, 0.35; $F(1, 15) = 5.00$, $p < .05$), and less permanent than CMC ($Ms = 2.63$ vs. 0.375; $SDs = 2.20$, 0.52; $F(1, 15) = 7.93$, $p < .05$). Social rules was provided as a reason marginally more often for FTF ($M = 4.00$, $SD = 3.54$) than CMC ($M = 1.25$, $SD = 1.39$; $F(1, 15) = 4.17$, $p = .06$). On the other hand, CMC ($M = 15.00$, $SD = 16.28$) was significantly more often perceived as being a shield ($F(1, 15) = 6.56$, $p < .05$) than FTF ($M = 0.25$, $SD = 0.46$).

3.4. Choosing FTF or email between emotion types

In a comparison of the free response answers chosen when FTF was compared to email (see Table 2 rows 1, 3, 5, and 7), the ability to provide more cues was cited significantly more often ($F(1, 7) = 6.24$, $p < .05$) as a reason for choosing FTF ($M = 28.75$, $SD = 22.81$) than for choosing email ($M = 0.25$, $SD = 0.50$). FTF ($M = 4.50$, $SD = 3.51$) was also perceived to be more effective than email ($M = 0.25$, $SD = 0.50$), but the difference was only marginally significant ($F(1, 7) = 5.74$, $p = .054$). Only one reason was given significantly more for negative emotions ($M = 0.75$, $SD = 0.50$) than for positive emotions ($M = 0$): The ability to edit ($F(1, 7) = 9.00$, $p < .025$).

3.5. Choosing FTF or IM between emotion types

In a comparison of the free response answers when FTF was compared to IM (free response answers to questions 2, 4, 6, and 8 in the Appendix; see Table 2), the ability to use more cues was again cited more often ($F(1, 7) = 32.67$, $p < .001$) as a reason for choosing FTF ($M = 35.50$, $SD = 12.23$) than for choosing IM ($M = 0.50$, $SD = 0.58$). Im/permanency was given more often ($F(1, 7) = 6.42$, $p < .05$) as a reason for choosing FTF ($M = 3.75$, $SD = 2.50$) than IM ($M = 0.50$, $SD = 0.58$). For the choice of FTF vs. IM, the provided responses also had differences between emotion valence. Those expressing negative emotions ($M = 0.75$, $SD = 0.50$) were more likely to mention that the ability to edit as the reason for their choice ($F(1, 7) = 9.00$, $p < .05$) than those expressing positive emotions ($M = 0$).

3.6. Choosing between email and IM within emotion types

In the choice between email and IM for both emotion types (free response answers on questions 9–12 in the Appendix; see Table 2), the channels differed significantly ($F(1, 7) = 169.00$, $p < .001$) such that the ability to easily write more was reported as a reason for choosing email ($M = 6.50$, $SD = 1.00$) more often than choosing IM ($M = 0$). The channels also differed ($F(1, 7) = 8.00$, $p < .05$), such that having more cues available was given as a reason for choosing IM ($M = 4.00$, $SD = 2.83$) more often than it was given for those who chose email ($M = 0$). Lastly, the channels differed ($F(1, 7) = 27.00$, $p < .005$) such that a channel's level of permanency was provided as a reason more often by those who chose email ($M = 1.50$, $SD = 0.58$) than those who chose IM ($M = 0$). In only one case did the reason given for the channel choice differ as a function of emotion valence: Those expressing negative emotions ($M = 5.00$, $SD = 3.65$) gave the reason of shielding themselves marginally more often ($F(1, 7) = 5.93$, $p = .051$) than those expressing positive emotions ($M = 0.50$, $SD = 0.58$).

4. Discussion

The most prominent reason for choosing FTF over email or IM was the presence of more cues for emotion encoding and interpretation. It appears that respondents find it easier to rely on nonverbal cues such as eye contact and gestures to encode and interpret emotion, and may perceive the cues available in CMC (e.g., emoticons) as more ambiguous. However, Walther and D'Addario (2001) found that emoticons are as easily recognized as facial expressions were in Ekman and Friesen (1969), and other researchers suggest that emoticons add to the meaning of the verbal part of a message (e.g., Rezabek & Cochenour, 1998; Thompson & Foulger, 1996). Other cues whose role in CMC has not yet been thoroughly examined, such as underlining, capitalization, and punctuation, may play a role in the perceived ambiguity.

This ease of interpreting nonverbal cues in FTF relative to CMC may be the result of socialization skills accumulated by FTF contact over a lifetime; as CMC is relatively new compared to FTF socializing, it is still a channel in which cue use and interpretation is negotiated between users and learning to encode and interpret emotions using these cues is an ongoing experience (e.g., Tidwell & Walther, 2002). FTF was also deemed more effective at conveying emotion (perhaps as a result of having more cues), more personal, more comfortable, and less permanent. Being FTF allows a person to see the facial expressions that a computer could mask (and even allow one to lie about), resulting in a more personal method of communication in which true emotions can be seen and interpreted. In addition, because people learn to communicate using voice and facial expression long before they learn to communicate using computers, they may be more comfortable FTF than using CMC for some purposes. In addition, the lack of permanency allows people to deny their words later on; it is easier to forget an argument when it cannot be reread every day as it sits in one's email inbox. However, CMC offers a shield from negative backlash in a conversation, an attribute that FTF does not.

For positive emotions, the most common reason for choosing IM was the synchronicity of the channel; it appears as if people want to deliver positive news as quickly as possible. However, in the opposite circumstance, the most common reason for choosing email for negative news was asynchronicity. Perhaps the asynchronicity of email allows the sender to delay or mitigate the sending of negative news. Dennis et al. (2008) theory of media synchronicity suggests that email would be best for both emotion types; the conveyance of a message is most effective in asynchronous channels. However, it appears as if other variables of the theory are at play here and render synchronicity less of a factor in channel choice. The theory of media synchronicity suggests that the choice of a channel may vary not just by synchronicity, but also by rehearsability (the ability to reread and edit a message, i.e., ability to edit), reprocessability (the ability of the reader to return to the message, i.e., permanency), symbol variety (the availability of cues), and parallelism (the ability to effectively have simultaneous conversations). These factors have obvious links to the findings in this study, but fail to fully explain several factors for channel choice, such as shielding effects and noninterruption. The addition of emotion to the message may make these factors more salient reasons for channel choice than those suggested by the theory of media synchronicity.

Interestingly, reasons for choosing email over IM included the ability to craft longer messages and the permanency of the message. Participants appear to view email as a way to get all their thoughts out without having to stop and submit messages and then begin typing again (as in IM); indeed, Herring (1999) reported a high degree of disruption and overlapping exchanges in IM (though Herring, 1998, reports much fragmentation via email as well). Furthermore, the permanency of the message may allow the reader to reread the message for comprehension. Herring (1999) suggests that the permanency (i.e., persistence, reprocessability) of a message may help cognitive processing by offering a method by which to go back to a message, refresh one's memory, and reflect upon its meaning.

In addition, participants chose email to convey negative messages rather than IM primarily for its shielding effects. While for both types of CMC, the computer acts as a physical barrier to any violence or other physical consequences of expressing a negative emotion, email also prevents immediate feedback from the reader. This lack of immediate feedback may buffer the message writer from having to deal with the consequences immediately, and may even dissipate the consequences entirely, as the message reader may not reply to the negative message.

The most common reason for choosing email over FTF was different depending upon emotion valence as well. When positive emotions were being expressed or interpreted, email was preferred because it is an asynchronous channel. Perhaps users did not want to celebrate good news with their communication partner; indeed, it may be possible that unless the good news pertains to oneself as well, it is nothing to be excited about. On the other hand, email offers the ability to quickly forward the good news to numerous others, and as such, the message sender may save time by distributing the news this way. Indeed, just as one might mail announcements of the birth of a new baby rather than call every family member, it may be easier to email good news than call all those on a need/want-to-know basis.

Only one reason was given significantly more often for negative than positive emotions, however: the ability to edit writing. The

expression of negative emotion may require more thought as to how to formulate a way to express the emotion in the most effective way possible to avoid hurting the message recipient (a prime reason for choosing email over FTF). This result is in parallel to research regarding flaming; many researchers have suggested that people feel less inhibited using CMC (e.g., Dyer, Green, Pitts, and Millward (1995), O'Sullivan and Flanagin (2003)) and thus may be more likely to express negative emotions online than FTF. It appears that anonymity is a principal reason for this proposed disinhibition (e.g., Reinig and Mejias (2004)). However, in this survey, the assumption was made that one knew the person to whom one was emailing or IMing, which may have influenced reasons for channel choice. Indeed, the ability to carefully craft messages was a more common reason than shielding oneself from the immediate negative feedback available in IM.

Across emotion types, though, participants reasoned that FTF allows more cues and is more effective than email at conveying emotion. It appears that using nonverbal cues such as gesture and eye contact better allow a communicator to express emotion in a more effective manner (e.g., Kiesler, Siegel, and McGuire (1984)). It may be that participants find it difficult to put emotions into words to write on a screen, and emoticons may not represent the full range of emotion intensity available using FTF nonverbal cues.

IM was chosen over FTF most commonly because it is a less personal channel (a reason supported by research by Trevino, Lengel, and Daft (1987)). IM allows one to do other tasks while conversing, which perhaps has the effect of making conversations less deep and more superficial. Participants selected FTF over IM for two significantly different reasons: more cues and impermanency. Again, FTF allows the use of gestures and other nonverbal cues to contribute to communication, whereas IM does not. In addition, FTF has less permanency than IM – without a means for recording it, spoken conversations cannot be saved for later. This impermanency may be a desirable attribute for some conversational topics, especially those that could be inflammatory (indeed, a case of "he said, she said" is much harder to prove than a case of "he wrote, she printed it out for proof"!).

The expression of negative emotions elicited the reasons of editing and social rules more than positive emotions did. Editing allows one to carefully craft a message for a desired effect, which may help with the delivery of negative emotions – or make them as harsh as possible, if that is the goal of the writer. In the same way, social rules may guard the expression of negative emotion in certain ways such that editing would result in a softer, rather than a more harshly, worded message.

For negative emotions, the most common reason for choosing email or IM over FTF was that it could be used as a shield against negative backlash to the news. CMC may allow this in two ways: by passing the message through a computer, it disperses the "kill the messenger" feeling, dissociating the person from the bad news or negative emotions; and on the other hand, it may physically separate the person from any consequences that may result from the negative emotions being expressed.

5. Limitations

Because this study relies on self-report, it may not be an accurate representation of one's thought processes regarding channel choice when conveying a message. However, this study is a good starting point for further exploration of the topic. Second, we recognize that the availability and convenience of a particular channel varies at any given moment and may play a role in the choice of a channel. However, this study does show that certain considerations are taken into account when conveying a message FTF or using CMC, assuming the availability and convenience of a channel is equal to all others. In-

deed, in a world of smart phones that render email and IM easily accessible, the availability of these channels is often greater than FTF, and often more convenient. However, the most common answer for most of our survey questions was FTF, which is in many cases the least available and least convenient form of communication. Several reasons appear to influence communicators to bypass the more available and convenient technologies for FTF, while in other cases, CMC appears to be a better option.

6. Conclusion

In this survey, we examined reasons for choosing a specific channel for socio-emotional communication over another channel. Three channels were assessed: email, IM, and FTF communication. Two emotion types were also assessed: positive emotions and negative emotions. Reasons for channel choice differed significantly based on the valence of the emotion being expressed and channel attributes such as synchronicity and permanency.

Participants may not be aware of the reasons why they prefer specific types of communication channels to convey a message; as a result, this self-report study should be seen as the first step in exploring this relationship. The results give insight into why people may choose one channel over another for a variety of reasons. Further study should differentiate between positive and negative emotions as well as channel type, as it is clear from this study that the type of CMC channel and the type of emotion being expressed play a role in channel choice. In addition, the results regarding reasons for channel use create a basis on which studies regarding norms and conventions of emotion communication may rest. The results show promise for further study and suggest interesting relationships among channel attributes and communication goals.

Appendix A. Appendix

A.1. Survey questions

In the following questions, choose from *face-to-face, email, instant message*, or *the same*, and indicate why you made such a choice:

1. Is it easier to convey positive feelings face-to-face with your conversation partner or over email?
2. Is it easier to convey positive feelings face-to-face with your conversation partner or by instant message?
3. Is it easier to convey negative feelings face-to-face with your conversation partner or over email?
4. Is it easier to convey negative feelings face-to-face with your conversation partner or by instant message?
5. Is it more desirable to convey negative feelings face-to-face with your conversation partner or over email?
6. Is it more desirable to convey negative feelings face-to-face with your conversation partner or by instant message?
7. Is it more desirable to convey positive feelings face-to-face with your conversation partner or over email?
8. Is it more desirable to convey positive feelings face-to-face with your conversation partner or in instant message?
9. Is it easier to convey positive feelings over email or by instant message?
10. Is it easier to convey negative feelings over email or by instant message?
11. Is it more desirable to convey positive feelings over email or by instant message?
12. Is it more desirable to convey negative feelings over email or by instant message?

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