

COLLEGE STUDENTS IN MULTIMEDIA RELATIONSHIPS: CHOOSING, USING, AND FUSING COMMUNICATION TECHNOLOGIES¹

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1 Abstract

This paper examines a population of residential American college students and how they integrate communication technologies—namely, landline and mobile telephones, email, and instant messaging—with conventional face-to-face communication to form “multimedia relationships.” Primary research investigates the use of different modes of communication in an environment typified by choice, where all members of the population have relatively equal access to technology and the Internet in particular.

Increasingly in technology-entrenched societies (like the United States), relationships cannot simply be categorized as “online” or “offline.” Looking at Internet applications as just one facet of daily communication, I suggest that mediating technologies provide new ways to experience communication, constituting distinct realms of interaction. I discuss potential difficulty in integrating such complex and varied communicative experiences, and I offer suggestions for future research.

2 Introduction

Communication has undergone drastic changes in the past two centuries. Having long relied on written messages as the sole form of communication besides face-to-face interaction, humans adjusted to telephony—a form of technologically mediated oral communication—when it became widespread in the early 20th century (see Pool 1977; Baron 2000). In the late 20th century, networked computers began offering even more ways to communicate, and the Internet now provides countless possibilities for interpersonal interaction via computer-mediated communication (CMC). Various synchronous, asynchronous, and semi-synchronous channels of communication are constantly available, including newsgroups, chat rooms, bulletin boards, email, Internet Relay Chat, and recently—and explosively—instant messaging.

What all of these mechanisms share is some form of *mediation*. In this paper, I use the term “mediation” to mean a physical disconnection of message from sender to receiver; I apply the term “multimedia” to communication within relationships, meaning that which is characterized by the use of different mediating technologies. While mediation may strip senders of some control over the interpretation of their messages, the abundance of mediating technologies heightens managerial control over just how messages are sent (Haddon 2003). This study recognizes that people choose how to send (and, to a lesser extent, how to receive) messages from the repertoire of communicative modes available. Relationships are not categorized as simply “offline” or “online;” they are *multimedia* (see also Baym *et al.* 2002).

¹ This paper is based on Squires’ Senior Honors Capstone project at American University in Spring 2003, sponsored by Professor Naomi Baron.

The paper begins with a review of research on communication technologies, including the telephone, mobile (cellular) phones, and computer-mediated communication. Qualitative and quantitative research findings from a focus group and survey ground a discussion suggesting that relationships are typically multimedia, and while newer communication modes do not facilitate inferior communication per se, they do present distinct realms of experience. I then discuss the possible implications of media use for integrating communication experiences.

3 Background

3.1 Telephones

Telephone conversations differ from face-to-face (F2F) communication in two basic ways. First, the telephone effectively transcends distance; second, the telephone transmits only audio information, lacking a visual channel (Reid 1977). The experience of speaking on the phone, then, is different from that of F2F, though studies have varied on results as to how it affects communication. It has been shown that communicators deal differently with interpersonal conflict situations and making judgments about interlocutors (Reid 1977); however, no difference has been shown for performing simple tasks and problem solving compared to F2F (Short 1972). The telephone seems to take little conceptual assimilation for communicators, with conversations feeling like relatively rich endeavors (see Baron 2002; Randall 2002).

The phone was the eminent popular communication technology until the 1990s, when email became prominent with the rise of home computers and Internet access (Baron 2000). Telephony is but one thread in today's web of mediation, comparable not just to F2F but to other technologies. Research looking at the telephone has found the phone to be preferred over computer interaction for matters of sociability. In a study of college students, Baym *et al.* (2002) found that after F2F, the phone was the most used medium (compared to "Internet" and "mail") for communication, and that phone use positively predicted relational quality and some measures of social well being, while Internet communication did not. Other research has found that phone usage predicts stronger relationships than email (Cummings *et al.* 2002), the phone is rated higher for social functions than email (Dimmick *et al.* 2000), and the phone is preferred over the Internet for performing the sensitive work of sharing good or bad news (Randall 2002). It has generally been concluded that the telephone is superior to CMC for socio-emotional content due to the richness of vocal cues.

3.2 Mobile Phones

The rise of the mobile (cellular) phone has taken the telephone's distance-transcending qualities to a new level. The two main communicative functions of the mobile phone are speaking and text messaging (a.k.a. texting or SMS) (Ling and Yttri 2002). Internet capabilities on some phones also allow users to perform functions that are normally mediated by a full computer, such as Internet surfing, chat, instant messaging, and email; these activities are beyond the scope of this study.

The basic function of a mobile phone, of course, is the same as that of the traditional "landline" phone, transmitting auditory information. The prime difference is portability. Puro (2002) has written that mobile phones privatize public spaces, bringing private information between two parties into the public sphere—the bus, subway, street, restaurant, or theater. For some, the

mobile phone implies perpetual availability, obligating one to respond to calls; for others, it is a means of control, allowing one to filter out unwanted contact. For still others, a mobile phone's appearance comprises a key component of visible self-presentation (Ling and Yttri 2002).

It has also been suggested that the prevalence of mobile phone "small talk" incites "emotionally empty" conversations, and the mobile could thus be an alienating technology rather than a socially enhancing one (Puro 2002). The experience and effects of using a mobile phone are thus potentially quite different from those of the landline phone, for the voice is taken to a different context and given new spaces in which to perform.

3.3 Computer-Mediated Communication

While the availability of landline and mobile phones may enable engagement in geographically distant relationships, the Internet's offerings for CMC invite it. Much research has contrasted F2F communication and CMC, claiming that CMC is best for task-based communication, as an impoverished and therefore impersonal medium for exchanging social or emotional content (Walther 1992; Dimmick *et al.* 2000). Major CMC research focuses on the lack of social presence, social context cues, and media richness (Walther 1992; Haythornthwaite *et al.* 1998). Lacking nonverbal cues is said to diminish CMC's ability to adequately convey social or emotional communication.

That CMC lacks nonverbal cues is significant, as nonverbal information has been shown to impact interpretation of F2F conversation as much as or even more than verbal information (Kiesler *et al.* 1984; Walther and D'Addario 2001). Yet, the designation of relational content to nonverbal cues and informational content to verbal cues creates a false dichotomy, working from which leads to the conclusion that CMC is best suited for impersonal exchanges (Walther 1992). Nonetheless, some recent studies have confirmed the low social satisfaction of CMC (Cummings *et al.* 2002; Dimmick *et al.* 2000; Birnie and Horvath 2002).

Walther (1992, 1996), on the other hand, has argued that just as relationships in "real" life take time to develop, so will relationships cultivated online. His "social interactive processing" model posits that over time, online partners can establish relationships that are just as fulfilling as relationships offline, and it has been supported by others (Liu *et al.* 2002; Dimmick *et al.* 2000). Similarly, Stafford *et al.* (1999) critique previous CMC research, arguing that the online/offline distinction is a false one and that research methods have traditionally followed an F2F-biased framework. Their study of home email use found that people *do* use email to maintain meaningful relationships, despite claims (prior and since) that email is a poor substitute for F2F or phone communication.

A limitation in extant research is that much of it takes place in organizational settings and/or groups where meeting and interaction take place online, with no prior acquaintance (e.g. Rice and Love 1987; Kraut *et al.* 1998; for a review see Johnson *et al.* 2000). This not only limits making conclusions about online communication in its most "natural" state (which is as an ongoing, interactive, and selective process) but also about pre-existing relationships that form over multiple modes in the first place or integrate technology later.

Baym *et al.* (2002) looked at interpersonal communication among college students, examining daily F2F, phone, “Internet,” and mail use and their correlation to measures of social well being. They found that F2F and phone use are related to some aspects of social well being, but Internet use is not. The study also suggests, though, that “media penetration,” that is, how many members of a person’s social circle she interacts with through various media, positively affects one’s social well being. Likewise, Kraut *et al.* (2002) found support for a “rich get richer” hypothesis of Internet use; that is, online activities are a complement to, not a replacement of, offline activities.

3.4 *Instant Messaging*

One of the newer Internet-based technologies to pervade and change the communication landscape is instant messaging (IM). In a study of Canadian Internet users, Randall (2002) found that 80 percent of users under age 20 used IM, as did 57 percent of users age 20-34. Meanwhile, in America, a Pew study (Lenhart *et al.* 2001) found that 74 percent of teens with Internet access used IM; and, market research shows that 40 percent of Americans age 14-24 use Netscape’s America Online’s IM (AIM) system (Vise 2003). Furthermore, office IM use is surging—an estimated quarter of Americans use IM in the workplace (Harmon 2003).

New communication technologies naturally invite comparisons to previous ways of communicating (Haddon 2003). Where email is said to be a hybrid between speech and written communication (Baron 2000), IM seems a hybrid of specifically phone and email communication. It lacks visual presence yet has the near-synchronicity of phone conversation. It offers presence-awareness and other features for self-presentation not traditionally available via CMC (Squires and Stacey 2002). It is like email in that it is typed, but it differs in its closeness to real-time. It is different than chat, because it occurs privately between two users, and most users already know each other offline, with IM acting as an extender of daily social space and time. Indeed, IM’s popularity could be said to be proof of its uniqueness.

3.5 *Toward Integration*

A growing proportion of mediated to immediate communication can be observed on any wired campus, in any Internet café, and at any city bus stop where, rather than turn to a physically present neighbor, riders pull out mobile phones to make calls. While mediating technologies are not inherently bad for communication, they do provide venues for differentiated communicative experiences which are just now beginning to be teased out—IM is like speech, but so is email, but email is more like writing, and so on. Haddon (2003) has suggested that rather than displace prior modes, new media provide newly differentiated forms of communication.

When communication occurs within a context of multiplicity in mode and qualitative experience, a question arises of how interactions are integrated. Technology enables us to keep in contact with those we cannot see on a daily basis, but just as importantly, it enables contact with those we see in person regularly. In looking at relationships that exist and are maintained online, offline, and on phone lines, this project asks: 1) To what extent are different media used? 2) Why use different media? and 3) How do media fit in with unmediated interaction processes?

If mediated interaction represents a significant experiential alternative to communicating F2F, how then do those with media-penetrated lives coherently organize their interpersonal

experience? More specifically, how do people conceptualize experiences via various modes of communication within a single relationship?

4 Method

4.1 Broad Research Aims

The study from which this paper is drawn looked at six modes of communication: face-to-face (F2F), landline telephone, speaking on mobile phones, texting on mobile phones, electronic mail (email), and instant messaging (IM).² It was an exploratory study of the usage patterns of a sample population of college students, their behavior towards different technologies, and their integration of all modes of communication into “multimedia” relationships. Results are organized into three sections: the extent of multimedia relational maintenance among college students, the extent of distinctness afforded by different modes of communication, and the integration of different forms of communication.

4.2 Residential College Students as a Sample Population

This study was conducted among undergraduate American University (Washington, D.C.) residential students in the spring of 2003. Residential college students represent an ideal community in which to study choices in mode use, where F2F and technology-driven interactions are constantly available. With continuously connected Internet as well as convenient and inexpensive access to F2F and phone contact (and a high rate of mobile phone use), each initiated interaction is an exercise in communication choice. Additionally, today’s college students represent a population accustomed to life as a multimedia venture, and we can expect their behavior to follow them after college.

4.3 Qualitative and Quantitative Methodology

The study consisted of a focus group (eight students) and a survey (N=56), the genders and grade levels of which are shown in Fig. 1 and Fig. 2.

Figure 1: Focus Group Participants

	Male	Female	Total
Freshman	1	-	1
Sophomore	2	4	6
Junior	1	-	1
Senior	-	-	-
Total	4	4	8

Figure 2: Survey Respondents

	Male	Female	Total
Freshman	9	12	21
Sophomore	8	9	17
Junior	4	3	7
Senior	5	6	11
Total	26	30	56

² Other media, such as written “snail” mail and Internet chat were not examined because their use is minimal in this community. Text messaging is also used marginally, but was included because of its popularity in other countries and its rising popularity in the United States.

The focus group lasted approximately one hour and queried participants on technology use in terms of frequency, quality, and experiential attributes.³ The qualitative findings guided a six-page survey constructed to address frequency and perceptions of communication. Specifically, the survey sought to explore the characteristics of dyadic relationships; in one section, students were asked to consider one person whom they regularly contact both face-to-face and via other media, then they were asked a series of questions about their interaction with that “communication partner.”

The survey was administered to sixty residential students over a two-week period; four surveys were discarded for lack of consent signatures (N=56). The author analyzed frequencies, scanned the data set for significant correlations, and performed selected crosstabulations. The study’s sample size is small due to researcher limitations, so analysis focuses on frequencies rather than correlations. Only valid percentages are used throughout the findings; missing data is not included.

4.4 Technology Ownership and Experience

All participants in the focus group owned mobile phones and computers. Fig. 3 shows technology ownership within the survey’s sample. Fig. 4 shows statistics regarding length of time using mobile phone, email, and IM. Overall, the sample was highly experienced with all technologies.

Figure 3: Technology ownership (frequency of respondents)

	Own	Don’t Own
Mobile Phone	46	10
Computer	54	2

Figure 4: Length of time using media (percentage of respondents)

	Less than 1 year	1-2 years	2-4 years	More than 4 years	Don’t Use
Mobile phone	16.1	30.4	26.8	8.9	17.9
Email	1.8	3.6	30.4	64.3	-
IM	7.1	10.7	44.6	33.9	3.6

5 Results

5.1 Communication Mode Use

Participants in the focus group almost unanimously reported using F2F, IM, phone (usually mobile), and email in decreasing order of frequency (texting use was marginal). Students said that they used IM several times a day, almost always engaged in more than one IM conversation at a time. Most people they IMed were people at the same university, whom they saw on a daily or near-daily basis. In such a text-based medium, they said, conversation must be substantive and requires shared experience, “fodder for conversation,” as one participant called it, which is

³ Naomi S. Baron and Marshall Thompson co-facilitated the focus group, which is also cited in Baron *et al.* (2003).

why IM is used mainly with real-space friends. As for email, the focus group for the most part viewed it as an efficient way to manage daily activities, but not to converse socially; thus, they used it far less frequently.

Survey results support the focus group finding that overall, texting is unpopular, IM is enormously popular, mobile phones⁴ are used far more than landline phones (even to people on campus), and email is used minimally. In measures of use on a monthly/weekly/daily basis (Fig. 5) and length of use per day (Fig. 6), respondents rated F2F as the mode of communication used most frequently, followed by IM, mobile phones (voice), email, and landline phone.

Figure 5: Frequency of media use (percentage of respondents)

	Several times a day	Every day	Several times a week	Several times a month	Never/Almost Never
IM	75.0	10.7	5.4	5.4	3.6
Mobile	32.6	43.5	19.6	2.2	2.2
Landline	12.7	21.8	30.9	20.0	14.5
Email	17.9	25.0	35.7	14.3	7.1
Texting	4.5	4.5	6.8	9.1	75.0

Figure 6: Duration of media use per day (percentage of respondents)

	More than 4 hours	2-4 hours	1-2 hours	30 minutes to 1 hour	Less than 30 minutes
IM	19.6	17.9	25.0	21.4	16.1
Mobile	2.2	2.2	17.4	34.8	43.5
Landline	-	-	1.9	18.5	79.6
Email	1.8	-	7.1	42.9	48.2
Texting	-	-	2.4	4.8	92.9

The survey sought to find out how much of students' use of Internet-driven, text-based communication occurred with daily, real-space acquaintances as opposed to distant or even random contacts. Fig. 7 shows that respondents generally used IM with people they see regularly, whereas email occurred with people they do not see regularly. Results indicate that more often, students use IM in addition to F2F and phone communication, not because such supposedly "richer" contact is unavailable.

Figure 7: Using Internet communication with daily contacts (percentage of respondents)

	Agree	Neutral	Disagree
"Most people I exchange IMs are people that I see in person regularly"	63.6	14.5	21.8
"Most people that I email are people that I see in person regularly"	25.0	17.9	57.1

⁴ For the duration of this discussion, "mobile phone" usage refers to real-time voice functions, not texting or voicemail.

The dyadic relationship portion of the survey asked how much relationship partners communicate in mediated modes. To isolate a fairly generic sample of dyads that were in regular F2F contact, the results here are limited to respondents who chose a “friend” as their communication partner (N=37), with whom they communicate F2F at least “several times a week” (N=33). Usage patterns on the overall level also held for the dyadic level, as shown in Fig. 8. Over half of respondents claimed to IM their communication partners at least every day, whereas email was used infrequently.

Figure 8: Dyadic usage with communication partners, controlling for relationship type and frequency of F2F interaction (percentage of respondents)

	Several times a day	Every day	Several times a week	Several times a month	Never/ Almost Never
F2F	57.6	15.2	27.3	-	-
IM	27.3	30.3	18.2	3.0	21.2
Mobile	10.7	25.0	39.3	14.3	10.7
Landline	3.0	6.1	33.3	27.3	30.3
Email	-	3.0	3.0	24.2	69.7
Texting	-	3.7	3.7	-	92.6

5.2 Mode Differentiation

All students in the focus group agreed that they are exposed to different characteristics of interlocutors when communicating via different modes. Part of this has to do with one’s communicator style in various modes (see Rice *et al.* 1992); students mentioned that some friends are “just not good IMers.” Furthermore, students often say things on IM that they might never say F2F or on the phone. They claimed that the contemplative nature of IM allows for better articulation, and its shielded nature fosters comfort in disclosure. Yet they were concerned with limitations of the medium such as the relatively high probability of misinterpretation due to absent vocal intonation and facial expressions.

Students also expressed differing preferences for kinds of communication based on the kinds of activity being done—they would not share bad news over IM or email; they would prefer IM or email to make plans; apologizing would be best in person; and contacting a professor is best through email. Various media thus afford the conscious delegation of interaction to different realms of experience.

Survey results confirm that users experience acquaintances differently depending on the mode of interaction; they agreed to a lesser extent that they themselves act differently on IM (by being “more open with people”) (Fig. 9).

Figure 9: Media differentiation (percentage of respondents)

	Agree	Neutral	Disagree
“I get different aspects of people’s personalities depending on whether I am interacting with them through email, IM, or phone”	66.1	17.9	16.1
“I am more open with people over IM than I am in other communication venues”	46.3	25.9	27.8

To further probe users' experiences, respondents rated the similarity of communication occurring in different pairs of modes. Overall, the sample reported a striking difference between most modes of communication (Fig. 10). Rated as the most similar were IM and email; next came the phone and F2F, suggesting that people conceptualize different forms of CMC to be similar and modes involving voice to be similar.

Figure 10: Communication mode comparison (percentage of respondents)

	Completely different	Somewhat different	No opinion	Somewhat the same	Completely the same
IM and Email	17.9	44.6	5.4	28.6	3.6
IM and Phone	30.4	44.6	8.9	14.3	1.8
IM and F2F	75.0	12.5	7.1	3.6	1.8
Phone and F2F	28.6	46.4	3.6	21.4	-
Phone and Email	41.1	44.6	1.8	10.7	1.8
F2F and Email	80.0	14.5	1.8	1.8	1.8

5.3 Communication Segmentation and Integration

The focus group discussed the “reality” of mediated communication in comparison to unmediated communication, and to what degree of ease they are able to integrate such exchanges into real-space relationships. This predominantly applied to fusing IM exchanges with F2F exchanges, since it was the technology said to be of more socially significant use than either the phone or email. One group said that IM happens seamlessly as part of a stream of interactions:

For me, whatever medium I'm using—whether I go from speech to email to IM, or what—it's the same flow...It's just another conversation...even if one of those gaps has passed electronically.

The second group said that IM requires a second-order discussion in order to integrate it into “real” life:

Phone conversations seem to be on par with normal, social interaction...[With IM] you have to talk about it again to bring it into the realm of actual, personal communication. You have to talk about it again to bring it into your own actual physical existence.

Fig. 11 shows survey respondent opinions regarding Internet-driven communication as to whether it is contained within the medium in which it occurs, or whether there is cross-modal dialogue. Responses were almost evenly split on how well they agreed to discussing conversations outside of the original mode of communication with both IM and email, and on whether IMing was like having a “real” conversation. Email, by contrast, was not said to be like a real conversation.

Figure 11: Conversation containment and media reality (percentage of sample)

	Agree	Neutral	Disagree
“After exchanging IMs with someone, we usually discuss our exchange later, either over the phone or in person”	38.2	27.3	34.5
“After exchanging emails with someone, we usually discuss our exchange later either over the phone, in person, or on IM”	39.3	25.0	35.7
“IMing is like having a real conversation”	32.7	23.6	43.6
“Emailing is like having a real conversation”	9.0	7.1	84.0

6 Discussion

6.1 Using Technologies: Dominance of Instant Messaging

Students in this study reported that IM is their most frequently used mode of communication other than F2F. This supports popular reports and some recent, more academic, research on the rising popularity of this particular form of communication, especially among younger cohorts, while differing from previous reports (Baym *et al.* 2002) indicating that the phone has a higher usage. Email, on the other hand, is seen as less appropriate for personal communication, supporting findings of traditional CMC research.

Two evident advantages of IM over email are in its near-synchronicity and enhanced sense of presence. IM's preference over the telephone should be examined more in depth, and there are some technical advantages that can explain the popularity. First, IM enables conversing with multiple partners at once, each in its own channel of exchange, whereas using the phone is typically a single-channel, single-conversation endeavor. Though effective multitasking is fairly achievable while talking on the phone, IM occurs at the site of most of a college student's work—the multi-functional computer. IM allows socializing with a number of people at once, while also doing a number of private things. One's existence online while connected is publicized, yet only to effect *private* conversation. IM publicizes the private sphere—whereas mobile phones have been said to privatize public space (Puro 2002). The most important distinguishing feature of IM in interpersonal communication, then, may be its ability to keep one engaged during *other* activities, rather than its lack of nonverbal cues—thus, it needs analysis that takes into account the potential complexity of context around it.

6.1.2 Multimedia Relationships

This study demonstrates the extent to which people frequently use both traditional, voice-driven media and newer, text-driven media to maintain relationships that exist in unmediated realms as well—over half of the survey respondents reported IMing their communication partner at least every day. This lends support to previous findings that a higher frequency of media use comes about with contacts one sees more often (Baym *et al.* 2002; Grinter and Palen 2003). IM is, like the phone and email, a geographical equalizer, so one might presume that among students in college, most online contacts would be friends from home. Yet this is not the case among this population; students use IM to talk to people they could just as easily walk down the hall or across campus to see in person. Indeed, a significant portion of students' interpersonal communication is mediated, when there is no ostensible need for it to be so.

6.2 *Choosing Technologies: Controlling the Experience*

The implications of students' preference for IM as a form of social communication are manifold, beginning with the recognition that IM, like other media, truly does represent its own form of communication. That is to say that while technology does not necessitate communication inferior to F2F communication (it is not so deterministic), each mode constitutes a unique domain—in technical characteristics as well as in users' experiences with the media. Mode choice is a highly individual, contextual process; delegating certain content for discussion in certain communicative venues is a way to control information by choosing the realm in which the information will be exchanged. The technology users in this study are keenly aware of functional differences between technologies and choose to use media accordingly (see also Flaherty *et al.* 1998).

Students in this study more often use a form of CMC than the phone, both in overall and dyadic usage. This suggests that the privilege formerly assigned to both visual and auditory cues in interpersonal communication may be weakening; what it means for a medium to engender “social presence” is also changing. Mediating technologies, and especially text-based forms, enable communication that is controllable to a higher degree than is F2F. If nonverbal cues are the least controllable aspect of communication, the fewer nonverbal cues it is possible to pick up or emit, the fewer uncontrollable elements (such as Goffman's [1959] signals “given off”) enter the equation.

There are, of course, patent differences among media in technical affordances—a mobile phone can be carried whereas a landline phone cannot. Not so straightforward are the *experiential* qualities of communication through different modes, which also affect one's choice to use them or not. Evident in this study is the perception of all modes of communication as very distinct from one another, with attributes that make them suitable for some situations and not others. Such attributes are not merely “technical,” like cost or convenience, but are more nuanced and personalized.

Students agreed that different aspects of people's personalities are highlighted or downplayed in different modes of communication. This works on a number of levels. Personal characteristics can be elaborated, exaggerated, or minimized by the qualities of various media. The Internet has long been a “virtual laboratory for exploring and experimenting with different versions of self” (Bargh *et al.* 2002, p. 33), and this pertains as much to online communication for the dyad that sees each other daily as for the couple that interacts solely online. In fact, it is to one's daily, F2F contacts that the notion of difference would be applied in the first place, for they witness one's online and offline “versions” as points of comparison.

6.3 *Segmentation and Integration*

I have tried to show that multimedia relationships are maintained by and in media that are technically and functionally distinct. Such variety could enhance a relationship and one's experience of a partner, or demarcate potentially problematic partitions in relational experience. I am suggesting that just as a medium's experiential qualities affect one's choice to use it, so its usage affects a user's experience with the medium and beyond. With this realization, several important and fascinating questions emerge.

Perhaps the most general question is, With so many means of maintaining a relationship—with a relationship *alive*, as it were, in several different channels—how does one reach a sense of coherence about it all? Relationships do not exist entirely offline or online, but *portions* of them do. Communicators may have distinctive personae online and offline—at the least, they adopt and adapt communication styles to fit the media.

The present findings suggest that for some users, maintaining continuity in multimedia relationships necessitates special conceptualizing of experience different from that of F2F interaction.⁵ There are two possibilities, represented by the present research, of how multimedia communicators cope:

1. *Viewing all communication modes as “just another way to talk.”* Viewing communication in this way allows for a relatively smooth integration process, and discussing interaction across modalities is enabled because it is *de facto* integrated.

Example: “Did you go to that movie you were talking [emailing] about? Sarah was saying [IMing], she might see it tomorrow.”

OR

“I talked [on IM] to Greg last night, he had some crazy story about going home!”

2. *Viewing communicative exchanges in different modes as unique to those modes.* Viewing communication in this way may require an active integration of interactions, with second-order treatment or reiteration by rehashing or clarifying exchanges.

Example: “So what you were saying [IMing] last night is crazy! Did Greg really go home?”

OR

“Were you being serious last night [on IM] about wanting to go to Spain? I couldn’t tell.”

Thus, for many IM users (expressed by 2 above), the medium is something that contains conversations, needing later active reiteration to bring them into “real” existence. Such behavior would likely be seen as redundant if performed for a previous F2F conversation.

7 Suggestions for Future Research

Drawing from the notion described above, I want to propose that one of the ultimate implications of mediating technologies may be the way that they facilitate experiential compartmentalization, rather than elements such as cue reduction or diminished richness. This proposal has some basis in social and cognitive psychology, which theorize that humans employ “schemata” in order to comprehend experiences past, present, and future. We actively construct our realities by selecting what information to pay attention to in a given situation, what information to remember

⁵ I use here as an example IM, because it was mentioned to be most problematic and most common, but the phenomenon needs to be examined among all modes.

(Fiske and Taylor 1984). Schema theory talks about ongoing sequences of events and how humans understand them according to general concepts; included is the perception and remembrance of “breakpoints” between the end of one event and the beginning of another (Wyer and Gordon 1984).

The salient question here is, What kind of divisions do media make in our experiences, and how do they differ from those in unmediated communication processes? What happens when the stage for language—one of the most natural and instinctual of human behaviors—is moved to artificial spheres? When the mechanisms of “parsing” our experience abide not in our minds, but at the site of the experience itself (Rumelhart 1984)?

An analogy is a photograph, which visually records a particular event. Photos provide convenient frames for interpreting and remembering past events, and people sometimes even remember an event *as* a scene in a photograph. But photos are not the event itself, and taking a photograph is not an intrinsic part of the event. Similarly, an IM box or the text of an email provides a verbal snapshot of what has happened in a communicative event, providing a ready-made frame for conversation. The difference I see between Internet, text-based communication and the photograph is that on the Internet, recording an exchange is part of the process of conversation itself. As such, it could increase the experience of a conversation as an isolated “event” or “scene,” rather than an integrated facet of ongoing, progressive interaction.

To explore this issue, it would be useful to observe the ways in which people talk about their communication. To what extent do people recall IM interactions as plain “conversations” as opposed to “IM conversations,” distinguishing the mode of interaction in retelling? A statement like, “I was talking to Sarah the other day, well, we were IMing,” reveals that a user experiences IM as something different from normal conversation and conceptualizes it as something other than “talking.”

Further useful research would study memory effects of CMC compared to other modes of communication. For instance, is visual, text-based communication more readily (or more accurately) remembered than oral or F2F information? If so, do relationships that use CMC maintain a store of shared experience that is in some ways superior to oral communication? If one conceptualizes CMC as “unreal” yet recalls it more accurately than “real” communication, what is gained interpersonally by mediation?

How well one integrates multimedia relationships depends, of course, on many variables; in particular, it relies on one’s own perceptions of and strategies for dealing with multiple media. Schemata formation will also have to do with how one’s relationship has developed, and where it is expected that a relationship will go. Research should address multimedia relationship formation, including the extent to which it occurs in mediated and unmediated realms, as well as the points at which partners find it appropriate or even necessary to use a mediated form of communication.

8 Conclusion

This study explored an environment characterized by communication choice and found that the Internet-driven medium of IM is a viable alternative to F2F communication and the phone is also used frequently, effecting multimedia relationships. In it, I have suggested that each mode of communication provides a distinct kind of communicative experience, with implications for maintenance of interpersonal relationships.

Several limitations are apparent. First, the sample size is very small, precluding generalizations to external populations or the population as a whole. Second, subjects all reside in one particular, highly concentrated community, with unique conventions and culture. Third, the study uses self-reports, which are by nature subjective and prone to error. Fourth, the study did not assess changes in media use over time within relationships. Finally, because of the small sample size, it did not consider gender as a variable for group comparison, where other studies (e.g., Boneva *et al.* 2001; Lacohee and Anderson 2001) have found gender differences in media treatment.

As ways to communicate proliferate and converge, strategies for dealing with them will change, as will strategies for using them to deal with relationships. Above all, future research should take into account the everyday, integrated uses of technology as one facet of interpersonal communication. Media need not be compared to F2F for better or worse, but examined as they work in concert with F2F in complex, multimedia relationships.

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