




# From Facebook to cell calls: Layers of electronic intimacy in college students' interpersonal relationships

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## Abstract

Communication technologies are widely used to manage interpersonal relationships, but little is known about which media are most useful at different stages of relationship development, and how the pattern of usage may be influenced by contextual factors or users' gender. Drawing on theories of relationship development, this study examined usage patterns among 34 college students participating in six geographically stratified focus group interviews. Analyses revealed a sequence of media use tied to stages of relationship development – from Facebook in early stages to instant messaging and then cell phones as a relationship progressed. Judgments about the efficacy and appropriateness of using a medium were based on how well its salient features matched prominent goals or addressed major concerns of a relationship at the given stage. International students added two technologies to the sequence to accommodate time differentials and distance from communication partners. Males were less explicit about the sequence, except when referring to cross-sex relationships.

## Keywords

Adolescence, cell phone, communication norms, gender differences, instant messaging, international students, media selection, relationship development, social media, social networking site

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## Introduction

Interpersonal relationships play a crucial role in late adolescents' college experience. Successful maintenance of existing social connections and establishment of new social ties are associated with lower levels of loneliness and better adjustment to college (Buote et al., 2007; Cutrona, 1982). Advances in communication media have dramatically altered the ease with which and the ways in which college students sustain existing relationships and cultivate new ones (e.g., Ellison et al., 2007; Urista et al., 2009).

The social shaping of technology perspective argues that users are making active choices about technology use based on their circumstances and needs (see Baym et al., 2004 for a review). Previous research indicates that people's social use of communication technologies varies as a function of the purpose of communication and relational as well as geographic distance between communication partners (Baym et al., 2004; Kim et al., 2007; Oksman and Turtiainen, 2004). These factors should be especially salient for youths as they move to college because, compared with younger adolescents, college students have an opportunity to negotiate proximal as well as distal social networks composed of both acquaintances and close associates.

Although there is a rich literature documenting how individuals choose different communication channels based on their relationship with their partners (e.g. Baym et al., 2004; Dimmick et al., 2011; Kim et al., 2007; Oksman and Turtiainen, 2004), most of the research was conducted before social networking sites (SNSs) became a fixture in youths' lives. Our study considered college students' use of a wide array of communication technologies, including SNSs, and explored how their media selection may parallel the developmental level of a relationship.

## Relationship development and communication patterns

All relationships are not equal. The frequency of interaction, depth or intimacy of interaction, and strategies people use to facilitate or maintain relationships all vary as a function of the developmental level of a relationship.

Early in a relationship, interactants' primary goal is to reduce the uncertainty and increase the predictability of both themselves and others involved in the interaction (Berger and Calabrese, 1975). One way to accomplish this task is to obtain more information about the other person, but this objective is compromised by societal norms against exchanging intimate information in the early stages of a relationship. Asking for intimate information may seem like inappropriate prying, and divulging intimate information may diminish one's attractiveness as a relationship partner (Baxter, 1990). Consequently, the information elicited in the early stages of a relationship can be superficial and unreliable.

As relationships progress, individuals start to share more varied and intimate information about themselves (Altman and Taylor, 1973). Compared with less intense friendships, close friendships are characterized by higher levels of support and openness, and more frequent and meaningful interaction (Oswald et al., 2004; Rose and Serafica, 1986). The amount of interaction is not sufficient to maintain or enhance close relationships; intimate self-disclosure and communication are crucial (Hays, 1984).

Intimate self-disclosure and communication can be aided or hindered by different communication media and their varying affordances. These affordances may make different media more effective and appropriate in one type of relationship or another. The investigation of media choice in relation to relationship development is particularly meaningful among college students because college students typically negotiate both new and old, superficial and close relationships by using multiple communication media, and they must be responsive to features of their developmental and social contexts.

## Media features and media selection

Theories of computer-mediated communication in general and media selection in particular often attend to media features. Scholars discuss how media characteristics contribute to media affordances, influencing individuals' communication behavior and choice of media.

Some of the most widely studied media features include cue availability, synchronicity or feedback immediacy, and the degree to which a medium supports communication at a personal level. Communication technologies usually afford limited cues, compared with face-to-face interaction. Limited cue availability constrains the amount of information that can be carried by the medium (Daft and Lengel, 1984), but it also allows users to be less inhibited in self-expression (McKenna and Bargh, 2000) and more strategic in self-presentation (Walther, 1996). Synchronous conversations are more effective when the message to be delivered is equivocal and the goal of the communication is efficiency (Daft and Lengel, 1984). Asynchronous interaction allows users to carefully edit and deliberate upon their messages (Walther, 1996). Media that have a personal focus are useful in clarifying complicated messages (Daft and Lengel, 1984) and are widely used among close associates (Baym et al., 2004; Dimmick et al., 2011; Oksman and Turtiainen, 2004).

It seems likely that college students will choose the technologies whose features match the communication patterns of a relationship, given its level of relational development. While some earlier studies touched on the issue, many merely speculated on the reasons for the observed patterns without providing data that directly addressed the association between media features and media choice (e.g., Baym et al., 2004; Dimmick et al., 2011; Kim et al., 2007). In this study, we directly assess how college youths appropriate media use by attending to salient media characteristics.

## Moderating factors: Geographic distance and gender

Media use and selection is sensitive to contextual factors such as geographic distance between communicators. Previous research showed that while individuals relied on phone calls to stay connected with local friends and relatives, internet-based channels were more effective in long-distance relationships (Boneva et al., 2001; Cummings et al., 2006). The exigency of building a social network, especially for college students whose home is at a great distance from their residential campus, might obviate the sequencing of media use. A shortcoming of these studies is that most focused on one or a few specific

media, thus failing to clarify how college students select among the variety of communication technologies available to them.

Gender differences in communication styles and use of the internet are well documented. Men's communication centers on instrumental purposes whereas women display more expressive behavior in their communication (see Boneva et al., 2001 for a review). Male college students frequently use the internet to research purchases, play games, and listen to or copy music, whereas female students are more likely to use the internet to communicate socially or to express themselves (Jones et al., 2009; Odell et al., 2000). Studies of gender differences have tended to consider both instrumental and social functions of internet use combined, thus failing to indicate how distinctive the genders are in use of the internet for social communication.

## Current study objectives

Existing literature suggests that individuals' selection of communication media varies as a function of their relationship with the communication partner, although usage patterns may also differ among males and females and may be contingent on the geographic distance between communicators. These studies, however, have not specified the position of SNSs, and few have systematically analyzed how perceived salient media features contributed to the observed patterns. To address the gaps in the literature, we conducted a set of focus group interviews with college students – a demographic group that frequently uses multiple communication technologies to negotiate social relationships (Pew Research Center, 2010). The samples were drawn from in-state, out-of-state, and international students. Our aims were to ascertain norms in the use of various electronic devices in college students' communication with peers, variations in norms as a function of distance from communication partners and users' gender, and the apparent role of media features in media selection. Specifically, we had the following research questions:

RQ1: How do college students use different communication technologies based on the developmental level of a relationship?

RQ2: What features of each medium are most salient in college students' social use of communication technologies?

RQ3: How does distance between communication partners influence college students' media use in relation to relationship development?

RQ4: How do male and female college students differ in their use of communication technologies?

## Method

### Sample

In 2008, we recruited participants at a major Midwestern university via flyers posted in campus dormitories, presentations at meetings of groups of international students, and emails sent to members of several international student organizations as well as a random

sample of undergraduates. Willing participants were assigned to an appropriate focus group (according to their residential status). Ultimately, we had six focus groups (two each for state residents, other US students, and international students) ranging in size from four to seven members (total  $N = 34$ ; 56% female). Among the 34 participants, 22 (65%) were freshmen, five (15%) were sophomores, five (15%) were juniors, and two (5%) were seniors. Among the 22 US students, 18 were White (82%), two were Asian (9%), and two were Latino (9%); all 12 international students came from Asia. All participants were aged 18 or older and provided informed consent; they received a modest honorarium for participating.

## Design

We conducted semi-structured, focus group interviews about students' use of communication technologies. Groups were mixed-gender and stratified by permanent address, as already noted. The focus group discussions lasted for about 90 minutes. Participants were asked to name the communication technologies they frequently used, indicate with whom they usually used each medium, and discuss the roles of communication media in relationship management. All discussion sessions were led by the same facilitator and were audio recorded. The facilitator's major role was to pose questions, ask for clarification, and note remarkable tones or facial expressions as they occurred in each session. Data collection was completed shortly before Facebook Chat (a form of instant messaging) was launched.

## Analysis

Audio files were transcribed, with notations about the speaker's tone or facial expression added, as appropriate, based on the facilitator's notes. We followed guidelines for performing a thematic analysis by developing a theory-driven coding scheme first, while also being open to any emerging themes (Boyatzis, 1998). The codes were derived from previous research on communication and media features as well as our research questions, and were assigned by the first author to each meaningful unit of utterance produced by the participants. The meaningful unit was usually a complete sentence, but it could also be a short phrase that made sense in the context. The first author then clustered the codes into categories. The transcriptions were reviewed several times and underwent recoding and recategorizing (Saldaña, 2009) until saturation was reached. To protect the participants' identity, names presented in this paper are pseudonyms.

## Results

### *Norms of technology use*

*Sequence of technology use.* By analyzing participants' responses to questions regarding when and with whom they used a particular medium, we noticed that female college students articulated a consistent sequence in the use of communication technologies as relationships developed. They usually started communicating with new acquaintances

through Facebook and then progressed to instant messaging (IM), after which they might exchange cell phone numbers and, finally, scheduled a time to meet, if everything went well. Such comments were prevalent in all three types of groups:

I think there's a hierarchy, like start[ing] from Facebook, then IM, and then cell phone maybe, and finally you can make your way to meet someone.

(Josie, out-of-state group)

There are steps there. First you meet someone at work or school, and then typically people will find them on Facebook, unless you got a really good connection on the first time and then maybe you'll call them and maybe flirt with them or text them, depending on what kind of relationship you're pursuing with this person. But like a lot of times I think people will just go to Facebook, and then eventually you'll exchange phone numbers and then meet each other.

(Sarah, in-state group)

If you choose to become someone's friend, like you can post on a person's Facebook saying 'Hey I saw you crossing the street the other day. How's it going?' It's a bit creepy to ask for a person's phone number the first time you meet.

(Mandy, international group)

In line with previous findings that people enjoy SNSs because they avert the awkwardness of actual conversations with new acquaintances (Urista et al., 2009), the emergence of the sequence was closely aligned with the concept of minimizing direct interaction and the accompanying awkwardness and embarrassment:

I think when you use Facebook, you are less embarrassed. 'Cuz if you talk to a new friend on the cell phone, it's like... how are you going to start the conversation? Like 'hi, this is our first time talking on the phone'?

(Yen (female), international group)

With acquaintances, I use Facebook 'cuz we don't have to talk all the time, and you don't need to have in-depth conversations with them.

(Shiela, out-of-state group)

The challenges of not knowing what to say and the unwillingness to engage in ongoing, in-depth conversations with acquaintances, as reported by our participants, were consistent with the characteristics of communication patterns at this stage of relationship development: narrow topics, limited interaction, and a low level of openness (Altman and Taylor, 1973; Berger et al., 1976). Facebook appeared to be a good shelter from overly intense communication.

This medium, however, was not interactive enough after the initial stage of a relationship. To really know a person, some more personal give-and-take was necessary:

And I think by checking a person's Facebook, the understanding is more one-sided. For example, I get the impression that he is very friendly because he got a lot of posts or I get the impression that he goes to a lot of parties because of the pictures, but you don't actually know the person; you just know *of* the person.

(Mandy, international group)

You don't know somebody just by leaving a message on Facebook. You don't know this person until you really talk to or go out with him or her.

(Aadi (male), international group)

IM was in the middle of the sequence. One male participant compared IM with Facebook and felt that, with IM, 'It's more like you're really having a conversation with a person, except that you can't see the person's facial expression, but other than that, it's almost as good as having a pop-up conversation' (Wayne, international group). At the same time, however, it was not as personal as cell phone calls. Like other communication technologies that were not voice-based, IM served as 'a barrier between you and this other person' (Adela, in-state group).

Cell phone conversations, on the other hand, were preferred when interacting with intimate associates. Participants stated that they used a cell phone with their close friends because 'it's not embarrassing or awkward anymore' (Mandy, international group). They felt that they would have enough to share with their close friends and the interaction was so spontaneous that they did not need a computer screen to buffer awkward silence. Some participants acknowledged that to check up on a close friend, they would bypass Facebook or IM and just call the person so that they could 'have a real conversation instead of having words back and forth online' (Josie, out-of-state group).

Interestingly, even though texting afforded fewer cues compared with cell calls, it was still reserved for close friends. When asked whom they usually texted, Malinda from the out-of-state group said she only texted her close friends because 'I think it's more personal. Since you can't have a face-to-face conversation, you choose the most personal channel'. Our participants frequently mentioned cell phone calls and texting as a bundle as opposed to two distinctive channels.

*Consequences for violating the sequence.* Participants in all three types of focus groups cautioned that violating the sequence could jeopardize a budding relationship. One student argued, 'Even if you are my Facebook friend, I don't necessarily want you to call me. There are different levels of friendships' (Malinda, out-of-state group). In fact, calling someone too soon was considered an unpleasant surprise:

Even if you got a phone number from a person you met at a party, they didn't expect you to call them. They would have expected you to contact them on Facebook, and if you actually call them, they'll be like 'oh it's a surprise (frowned)'.

(Sarah, in-state group)

Some participants made it even clearer that asking for cell phone numbers and calling an acquaintance was not only unpleasant but often regarded as overly forward and aggressive:

It [asking for a person's cell phone number at the first meeting] is a little bit too much. Facebook is more OK because you keep contact but you're not super close.

(Mandy, international group)

You can talk to these people on Facebook instead of texting them or calling them. 'Cuz if you keep on texting or calling a person you've just known, it seems to be a bit too aggressive.

(Malinda, out-of-state group)

The connection between being aggressive and calling someone too soon seemed to be associated with the intrusiveness of the medium, which is discussed in the next section.

To summarize, information pertaining to our first research question (how college students use different communication technologies based on the developmental level of a relationship) revealed a media use sequence. Students started with Facebook, then progressed to IM and finally cell phones as relationships became closer. Calling someone in an underdeveloped relationship was unwelcome and viewed as being aggressive.

### *Perceived salient features of each medium*

**Facebook.** Two features were frequently mentioned by our participants when discussing why and how they used Facebook. The first one was its impersonality, which was explained from three perspectives. First, due to its public nature, Facebook hindered intimate conversation and thus interaction on the platform was casual and superficial:

I think Facebook is a huge and casual way for communication, but it's not intimate. 'Cuz most of the message is quite public so it's not very intimate. When you post it wall-to-wall, everyone can see it, which is weird, 'cuz everyone can see your conversation.

(Malinda, out-of-state group)

Second, Facebook information was not personal because many postings were daily trivia of little interest to our participants:

There are people who are avid users, 'cuz I always see someone updating their profiles. I don't sign into it very often, but when I do, it's always the same people updating their profiles. And they post details that you really don't care about. They post things like this person didn't get good test grades or this person is excited because this TV show is on. Like is it really necessary?

(Coco, in-state group)

Finally, Facebook information was seldom directed toward a specific recipient. It was viewed more as a bulletin board than a personal communication channel:

Facebook is like a casual thing. Like, people invite a bunch of people to their party, so it's not rude if you don't come. But if they invite you by texting you or calling you, and you say yeah I'll come but you don't, then it's kind of rude. If you're just invited through Facebook, it's not weird if you don't show up.

(Malinda, out-of-state group)



The second outstanding feature of Facebook was cue availability. Although Facebook did not deliver vocal tones and facial expressions, college students considered it a cue-rich platform and used it for a background check when they first met someone. By reviewing an acquaintance's profile, college students got a sense of what this person was like, whether or not they should further the relationship, and what they could talk about if more interactive communication took place:

I guess the reason, for me, if I would do that [checking out an acquaintance's Facebook], it's because I want to get to know this person, like what they're interested in, do you like to read or things like that, and if you go to their Facebook you can see all that. So it makes you feel like 'oh I think I'll like or dislike this person'.

(Ember, in-state group)

It [Facebook] also serves as a good conversation starter, 'cuz if I want to make friends with this person I can check the person's profile in advance, and if we like the same movie, we can talk about it when we meet.

(Andrew, in-state group)

This background check was also used when romantic interests were involved:

Actually, my girlfriend checked my Facebook before we started dating and found out what I was like and everything, and that was how we got to know each other. So in that sense, Facebook actually kind of helped our relationship start.

(Deacon, in-state group)

Facebook information also prepared college youths for potential incompatibility when future interaction was inevitable (e.g., if they were assigned to be roommates in the following year), as suggested in the following quote:

You can check this person's [future roommate's] profile first, and make sure you don't have this huge ideological conflict, and to see whether you have anything in common, and just so if you do have something you don't agree about, maybe you can get prepared by the time you get there, and just not to be shocked, like 'why are you doing this?'

(Dan, in-state group)

*Instant messaging.* IM impressed college students with its affordance for both synchronous and asynchronous interaction. On the one hand, compared with most other technologies (except for cell calls), IM had the capacity to deliver instant feedback, which made IM interaction almost comparable to a true conversation – as Wayne said (already quoted), a conversation but without the facial expressions. Erna (in-state group) commented, 'I think with IM, you can still have that kind of closeness, almost, 'cuz it's still instant and you can still have the sincerity or all those kinds of stuff'.

On the other hand, synchronicity was not always expected because one could not assume that the communication partner happened to be sitting in front of the computer and would see the message right away. Indeed, when discussing the limitations of IM, students

quickly pointed out, 'You have to be at a computer' (Mandy, international group) and 'You need the internet, so compared with cell phone, it's a bit inconvenient' (Cheng-Ming, male, international group). IM's affordance for immediate feedback was often offered with qualifiers such as 'if the person is available, he'll type back' (Joyce, in-state group).

Assuming this was a shared understanding, our participants took advantage of it; they did not feel obligated to respond to an IM message instantly, and they took their time constructing responses:

And I think one thing good about it [IM] is that if you're busy, you can ignore the message and respond ten minutes later. You just need to say 'oh I was busy, so...', but on the cell phone, you can't.

(Yen (female), international group)

One thing I like about IM is that it allows you time to think. You don't have to come up with responses right away.

(Joyce, in-state group)

Some participants made further comparisons between the silence in IM versus phone conversations, suggesting that the former was more excusable:

Yeah, you are allowed more time to think what to respond. It's not weird at all if it takes three minutes to reply on IM, but you don't feel comfortable if you don't get responses in three seconds in phone conversations.

(Andrew, in-state group)

I guess also with IM, you don't have those weird awkward silences, like when you're on the phone you don't know what to say. When IMing, you can just like 'I was doing something else'.

(Deacon, in-state group)

*Cell phones.* Our participants thought cell phone conversations outperformed Facebook and IM in their affordances for audio cues and synchronicity, which made cell phones the most personal and direct channel for communication. As illustrated in the following conversations, serious issues with close associates were expected to occur through this medium.

Andrew: But I mean, with the phone, yes it's not 100% like face-to-face interaction, but it's similar enough. There's little difference, 'cuz it's instantaneous, it's still that the person will hear directly from you, so in that aspect I don't think a phone makes much difference. And even on Facebook, if you just go to somebody's Facebook, and say 'oh I'm really angry at you, blah blah blah...I don't want to see you anymore', the person might just get offended and never write back. But when you talk on the phone or talk in person, 99% of the time you'll hear the person state on the situation what their opinions are.

Joyce: A phone is definitely more direct than anything. That's why using Facebook to end up a relationship is immature, 'cuz it's impersonal. Facebook is like a casual means of communication. No one takes it too seriously. It becomes like drama if you post things like that there.

(in-state group)

- Malinda: I know some people would break up on Facebook, but that's just not OK.
- Jane: Right. Face-to-face is the most OK way to do so. And like my last relationship, my ex at least did it in a decent way. He made a long-distance call and broke up with me, 'cuz he was in another country and we couldn't talk about it face-to-face, so we talked on the phone for an hour.
- Malinda: Yeah, because a relationship is so personal, so to end it up in an impersonal level is just... not acceptable.
- Jane: I think the major drawback [of using other media] is the lack of tone reflection. Because when you IM with someone, you can interpret the whole thing in a completely wrong way.

(out-of-state group)

Besides tone reflection and synchronicity, which have been widely studied in previous research (e.g., Daft and Lengel, 1984; Walther, 1996), our participants consistently mentioned two additional media characteristics when explaining why cell phones were reserved for close relationships. The first one was intrusiveness. A cell phone call was considered most intrusive. Its tone could disrupt one's work and its requirement of both parties' full availability could easily disturb one's schedule. Participants mentioned this concern, saying that they would like to avoid such disturbance as much as possible. One woman stated that she and her brother seldom called each other because 'He's in class. I'm in class. And neither of us has the energy to really pick up the phone and have a voice-to-voice conversation' (Jane, out-of-state group). Such intrusiveness is much less justifiable among acquaintances, whose emotional bonds are not strong enough (Boase and Wellman, 2006).

The other element introduced by our participants was commitment. Cell phone conversations were used among closest associates not only because they were capable of carrying rich information but also because they required both communicators' commitment to a big chunk of time.

If you call someone, and like if you're not calling them for a specific thing and you're just calling to talk, it's usually someone who you're better friends with, 'cuz then you're likely to talk for more than a couple of minutes. So it usually depends on how close friends they are.

(Adela, in-state group)

Several participants also discouraged multitasking during a phone conversation. Jane from the out-of-state group shared her experience, 'when I multitask on the phone, they [her communication partners] got upset'. It appeared that multitasking while talking on the phone was inappropriate because it showed a lack of commitment.

In sum, our analysis targeting the second research question (college students' perception of salient media features) suggested that Facebook was embraced in underdeveloped relationships because of its lack of a personal focus and affordance of rich cues. IM was used at the next stage because it allowed for more instantaneous responses than Facebook, and yet did not require full synchronicity, as cell calls did. Cell phone conversations were most desired in close relationships because intimate discussions were supported by real-time delivery of multiple cues. In addition, associates who were not as close might not be

willing to tolerate the intrusiveness of the calls or spend a large amount of time talking with each other.

### *Geographic distance*

The third research question addressed the role of distance between partners in college students' media choice. In-state and out-of-state participants specified the same basic sequence of electronic communication, but there were noticeable differences between these participants and the international groups. Although international students shared their US peers' perceptions of increasing intimacy as one moved from use of Facebook to IM to cell phones, they added two other communication technologies, Skype and email, to the sequence.

Whereas several individuals in the US groups asked what Skype was, this medium, which allowed users to text-chat and make free voice or video calls online, was mentioned spontaneously by almost all international participants as a way to stay connected with friends and family in their home countries:

I use Skype with my family and friends back in my home country, too. But I'll use cell phones with local friends because cell phone is always with you and any time you want to call a friend, you can. But Skype is more useful when you want to talk to a friend overseas; it's used intentionally and it's a cheaper way to call friends in other nations.

(Ru-Ping (female), international group)

The high financial cost of making international calls was obviously the main reason why international students favored Skype when communicating with people in their home countries. Typical calling plans in the US make domestic cell phone calls essentially free, but per-minute charges can make international calls prohibitively expensive.

It was noteworthy, however, that Skype was a substitute only for cell phone calls. In other words, it was only used in more advanced stages of relationships, when communication partners wanted to have a real conversation. None of the participants who mentioned Skype said they used it with acquaintances.

The other medium that international students considered useful in maintaining intimate relationships with old friends and family was email, which our US participants used almost exclusively for academic purposes, such as communicating with course instructors. Consider several international students' responses to the question of whether or not they would use email with people in their home countries:

Mandy: Maybe with close friends.

Yen (female): Sometimes my best friend, she really wants to talk to me but she can't, then she'll send a very, very long email to me.

Jing (female): Or when they want to have a private conversation.

Email was very different from the other two intimate channels, cell calls and Skype, because it was asynchronous and usually just text-based. US students complained about its asynchronicity, 'Emails are... you have to wait, and people don't like to wait' (Ann,

out-of-state group), which led to its low popularity among US college students. Malinda from the out-of-state group said that college students did not necessarily check emails, and Jane from the same group confessed, 'I don't even know my friends' email addresses'. Nevertheless, the norm was different for international students when any form of phone call was impractical because of the dramatic time difference between home and school time zones.

To sum up, when exploring the influence of distance between communication partners on college students' media use (research question 3), we found that while international students agreed upon the media use sequence, they added Skype and email as two additional intimate channels to stay connected with family and friends back home. It was a sharp contrast with US students' use of Skype and email, as some US students had never heard of Skype and most of them used email strictly for academic purposes.

### *Gender differences*

The most striking gender difference to emerge in our examination of the final research question (how male and female college students differed in their use of communication technologies) was that males did not mention the intimacy sequence of communication technology use as much or as explicitly as females did. One possible reason was that, unlike females, male college students did not regard communication as the most important function of communication technologies. Many of them regarded online or phone conversations as a 'girl thing'. Consider the comments made by some males in an international focus group:

- |  |  |
|--|--|
| Wayne:                                   | I think one thing different for guys is that guys are less comfortable talking to each other on IM and Facebook.   |
| Aadi:                                    | That's true.   |
| Facilitator and two female participants: | Why?   |
| Aadi:                                    | Sometimes it gets weird.   |
| Wayne:                                   | Yeah, it's just the guy thing. It's like guys will go out with a bunch of people and have fun rather than like talk online. Yeah... it's just... different... I guess. |

Two males in an out-of-state group echoed similar sentiments: Soren commented, 'I don't know why, but I just think it's dumb to call someone and say "hey I just want to talk to you"'. Patrick from the same group also stated, 'I think it's just awkward for guys to call just because they want to talk. It'll be weird, just a little bit. But I guess it's different for girls'.

Males took a more instrumental approach, using communication technologies to send documents, get academic and social information, form study groups, or seek academic help:

- |       |   |
|-------|---|
| Tony: | You can share stuff through IM, like when you have a document you want to send to your friends. |
|-------|---|

Patrick: I think it also functions as an aid. Like if you have a bunch of friends online, and you're doing an assignment, you can see who else online are sharing the same assignment in the same class, maybe online and communicate that way, and help each other out.

(out-of-state group)

Nevertheless, when communicating with females, especially more intimate associates, male college students seemed to fall in line with female norms in their use of communication technologies:

Different means for different purposes. I would say cell phone is much more personal than IM, so cell phone is more for girlfriend, and IM can be with any kinds of female friends. I'm not saying that you can't have a cell phone conversation with a female friend, but it's just not as often as talking on cell phone with your girlfriend.

(Wayne, international group)

In summary, with regard to research question 4 (gender differences), males were more likely than females to attend to instrumental aspects of electronic communication media. Yet, when managing cross-sex relationships, males fell in line with the communication norms proposed by their female peers.

## Discussion

The most provocative finding to emerge from our conversations with college students was the normative sequence of communication channels that they – especially women – expected to be followed as relationships progressed from initiation to intimacy. Individuals were expected to begin by contacting new acquaintances via Facebook, then move to IM and, as the relationship grew closer, proceed to cell phones. Violation of the sequence could undermine the development of a relationship.

It appeared that, for college students, the most valued media features varied from one stage to another due to different relational concerns or goals at each stage. Early in a relationship, when in-depth conversations and self-disclosures were against communication norms and could lead to lower attractiveness of the discloser (Altman and Taylor, 1973; Baxter, 1990), college youths' major concern was to minimize awkwardness by avoiding direct interaction. Thus, the most appropriate medium should allow users to maintain a distance. The public nature of Facebook served this function. Indeed, our study duplicated previous findings, showing that Facebook was widely used among acquaintances (Choi et al., 2011; Ellison et al., 2007) because no direct interaction was required on the platform.

Availability of rich cues further enhanced the power of Facebook in initial relationships, when one major goal was to gain knowledge about new people (Berger and Calabrese, 1975). With Facebook, college students could bypass the problems associated with direct interrogation (Berger et al., 1976) and still obtain abundant information about the profile owner. Although not articulated by our participants, Facebook information may be regarded as more reliable than superficial (and often unverifiable) conversations

with an acquaintance because it contains not only what the page owner displays but also the comments and reactions of Facebook friends (Walther and Parks, 2002). In addition, checking out someone's profile avoided the dilemma of the reciprocity norm that applies to interpersonal interactions, in which one person is expected to divulge personal information in response to information offered by one's interaction partner (see Berger et al., 1976). This may explain why 'lurking' is the most popular Facebook activity among college students (Pempek et al., 2009; Subrahmanyam et al., 2008). As some of our participants noted, information gleaned from Facebook can facilitate subsequent conversations with an acquaintance. Other studies suggest that such information increases liking among strangers (e.g., Hancock et al., 2008). Both of these factors underscore the salience of Facebook features in the early stages of a relationship.

As the relationship progressed, individuals desired more personal interactions with each other, so that they would actually 'know' the person instead of just 'knowing of' him or her, as one participant put it. At the same time, however, the level of openness and interaction intensity of this stage is still lower than that in closer relationships (Altman and Taylor, 1973; Hays, 1984). Thus, a medium that was more personal than Facebook but not as 'demanding' as cell calls would be optimal. IM's flexibility in instantaneousness stood out, making it an ideal channel for this stage. It supported instant responses so that individuals could have real-time conversations, but users could also delay their reply without social sanction. As Walther (1996) suggested, this temporal luxury allowed users to carefully craft the image they would like to present to the partners, which can be especially crucial in determining whether the relationship could be maintained and advanced. After all, different from very close relationships, which are usually more self-sustaining and affection-based (Rose and Serafica, 1986), this stage can involve much more evaluation and judgment of partners.

In close relationships, individuals are intimate enough to communicate openly and take care of each other's emotions (Hays, 1985; Oswald et al., 2004). The most direct and personal medium that afforded immediate feedback and vocal tones was thus preferred. Consistent with previous research, we found that cell phones were the most popular channel among close associates (Baym et al., 2004; Dimmick et al., 2011; Kim et al., 2007; Oksman and Turtiainen, 2004). Cell phones were also the most intrusive medium that demanded most commitment. Young people engaged in cell phone conversations only when the relationship was close enough to justify the intrusiveness as well as to make them feel that the commitment was worth it.

Eventually, the 'personalness' of a medium was interpreted symbolically. Several theories have argued that media themselves carry symbolic meanings, so that the mere use of a medium conveys a message to a relationship partner (e.g., Sitkin et al., 1992; Trevino et al., 1990). College students, who equated Facebook with casualness and impersonality, thought that Facebook interactions reflected a lack of personal interest and sensitivity. Using Facebook to discuss highly emotional issues (such as a romantic break-up) was a sign of disrespect. On the contrary, the use of cell phones conveyed the idea of closeness. Some features of cell phone calls may have been translated into a symbolic level: tolerance of the intrusiveness indicated tolerance in a more general sense, and commitment to the conversation signified commitment to the relationship – which explained why multitasking during a phone conversation was regarded as



inappropriate. The idea that the device itself illustrated relational closeness may explain why texting, embedded in cell phones, fell on the intimate end of the sequence even though it was largely text-based.

Factors beyond media features also figured into the progression in use of different communication channels. Especially noteworthy in this regard was the distance in time and space between communication partners. International students concurred with the intimacy sequence stipulated by US students, but they added two other media to the more intimate end of the sequence – Skype and email – because of time differences and the cost of using cell phones for international calls. Our participants' concerns about costs and their use of Skype and email echoed other investigators' observation that computer-mediated communication channels are less affected by distance than devices that levy charges on the basis of the distance a message travels (Boneva et al., 2001; Cummings et al., 2006). International students' choice of email to communicate personal emotions and their tendency to regard email as one of the more intimate channels underscored the importance of situational judgments, given the proclivity of US students to regard email as a relatively impersonal communication channel reserved for more professional (student–instructor) correspondence.

Observed gender differences also illustrated how judgments about the intimacy or efficacy of certain media were moderated by factors other than media characteristics. Although male and female students were both aware of the benefits and limitations brought by salient media characteristics, males tended to engage communication media in a more instrumental fashion than females. Males did not explicitly articulate the normative progression in types of media to be used in different phases of relationships, except when communicating with females. Because establishing romantic relationships is a major task for late adolescents (Connolly and McIsaac, 2009), it is conceivable that males tended to regard many female acquaintances as potential romantic partners and demurred from violating female communication norms to avoid jeopardizing the future potential of such relationships. For those already in a romantic relationship, following the norm would avert unnecessary conflicts with their girlfriend.

## **Limitations and future directions**

Because of the small sample size we could not reliably ascertain how representative the sample was of the broader university student population. The requirement of joining a focus group, for example, may have deterred more socially anxious students from participating, and they may not perceive the same intimacy sequence as our respondents did. In addition, our participants were recruited from a large university; respondents often complained about the effort required to make new friends. Patterns may be different in smaller colleges featuring more close-knit social networks. Future research should test the sequence with a larger sample from universities of different sizes.

Two issues are worth exploring to advance our understanding of individuals' media use and their relationship management. First, researchers should continue to examine the sequence of media selection as the media environment becomes more advanced and existing communication technologies keep integrating more features. For example, the increasing prevalence of smartphones has made it easier to use IM even when not sitting



in front of a computer. This could change users' expectations of their IM interaction and alter the position of the medium in the communication sequence. Second, while our participants articulated a sequence of technology use in relation to relationship development, they did not indicate how they knew when it would be appropriate to move on to the next, more intimate communication channel. Deciphering the phenomenon will further clarify the norm of technology-mediated communication and illuminate our understanding of relationship development as well as media use.

## Conclusion

Our study suggested that there was a sequence of media use among college students, although the sequence was moderated by geographic distance between communication partners and users' gender. Judging the efficacy and appropriateness of using a medium was based on how well its salient features matched prominent goals or addressed major concerns of a relationship at the given stage. Reaffirming the proposal that media choice is seldom, if ever, a function of a single factor (Fulk et al., 1990; Sitkin et al., 1992), the findings revealed that media choice was contingent upon interactions between media features and factors at the individual (gender), relational (closeness of a relationship), and contextual (geographic distance) levels. Future research and theory on media choice must continue to address the interactions among these factors.

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