Do You Hear What I Hear? Long-Distance Relationships and the Power of a Loved One's Voice

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Abstract

Couples today have access to online methods of communication such as texting, audio chatting, and video interface, which allow them to stay connected with each other. However, each medium differs in its ability to support effective communication between partners. While two widely stated opinions of Media Richness Theory and Social Information Processing Theory suggest that video calls or texting would account for better communication, our study finds effective long-distance communication is facilitated through audio media.

Keywords: long-distance relationships, romantic relationships, relationship satisfaction, computer-mediated communication, media functionality, social information processing, media richness, video interface, audio call, texting, email

Introduction

Griffin (2011) described 1990s computer-mediated communication (CMC) as a mere "relational wasteland," a poor place to nurture strong relational bonds (p. 136). However, since then, media have evolved rapidly and developed richer platforms for online-communicators, benefiting people in close relationships living in different cities or even countries. Unlike the common

belief that long-distance relationships (LDRs) are bound to end, they may now succeed with the help of wireless technologies such as video interface, audio call, and texting. These tools differ in their abilities to deliver accurate information, emotions, or intentions. The purpose of our study was to examine what medium, and its abilities, results in a greater perception of relationship quality between long-distance couples who maintain a close relationship.

Literature Review

Two competing theories, Media Richness Theory (1983) and Social Information Processing Theory (1992), provide frameworks for this study, motivate its research questions, and provide initial positions. As we reviewed the data and considered their theoretical significance, it became clear that a third approach bridges the competitive gap with new insights. This literature review considers MRT and SIP and related research that supports our proposal for a new view of how digital media influence the development of healthy long-distance relationships.

Media Richness Theory (MRT)

Daft and Lengel's (1983) Media Richness Theory (MRT), also known as Information Richness Theory, argues that information processing is achieved through reducing equivocality and uncertainty. The carrying capacity of a medium is dependent on feedback (i.e., how the receiver responds), capability (i.e. what a medium affords), communication channels (e.g., face-to-face, text-only, audio-only, video), source (i.e., the sender), and language (i.e., written content). Regarding channels, they believe that platforms differ in their abilities to deliver information accurately, which reflects their definition of richness: "the potential information-carrying capacity of data" (p. 7).

Central to our study, Daft and Lengel rank communication channels as very rich, somewhat rich, lean, or very lean. Media that provide visual-audio interaction (with multiple cues and immediate feedback), such as video calls, are considered richer, while word-based only media (with limited cues and delayed feedback), such as email or texting, are considered leaner. The telephone medium (with moderate cues and immediate feedback) is considered less rich than video interactions, yet richer than texting or email. According to Daft and Lengel, each medium "represents a difference in the act of information processing" through feedback, cues, and language variety (p. 11).

Social Information Processing Theory (SIP)

In contrast to Media Richness Theory, Walther's Social Information Processing Theory (1992) or SIP, proposes that partners do not require video conferencing to develop strong bonds but may do so through information-thin media, such as email and texting, as long as they modify their language

(expressing warm and supportive messages), communicate consistently over time, and possess motivation to maintain close bonds. Relaters may also bridge the loss of nonverbal cues in the way they sign correspondence, intentionally misspell, punctuate, and play with metalinguistic cues, etc. (pp. 75–80).

To better understand Walther's thinking, Communications Professor Malcolm Parks suggested the "sip" analogy (2003, as cited in Griffin, p. 140). He argues that CMC users reveal personal characteristics and attitudes via bits of information each time they text or email, and do so after thoughtful consideration. This results in their loved one "sipping" information as if from a big glass by way of a thin straw. In contrast, face-to-face (FTF) and video interactions allow partners to consume big "gulps" of information over a shorter time. While both FTF connectors and CMC users consume the same quantity and quality of water or information, it is the rate and means that differ. Walthers (1992) found that when individuals adapt their communication to the affordances of text-based media, they can develop close relationships despite the absence of physical, visual and vocal cues (p. 67).

What is Missing in Between?

While Media Richness Theory promotes the "gulp" of information-rich media for long-distance relating, and Social Information Theory defends the "sip" of text-modified emailing and texting, we propose that the channel of phoning (voice-only) has similarly robust potential for long-distance relaters—one that delivers informational "swig" for distant partners. Research supports this idea.

Evidence by Rosen et al., (2013) indicates that voice-to-voice phoning is the second most common medium used after texting, a rate that is ahead of using smartphones for other purposes (which includes video chatting) as well as emailing. Some of phoning's popularity can be attributed to its mobility. For example, Klamer, Haddon, & Ling (1999) found that a device's mobility promotes its use, especially among family members living in diverse locations who value effective time management. On this note, it is important to observe that certain technologies (e.g. video chatting) require individuals to be stationary for high-quality connection, which may limit their mobility, and therefore use (p. 6).

In a similar vein, Wei (2008) examined motivations for using one's smartphone and found that instrumentality was more common than either passing time or sociability. While instrumentality speaks of staying informed and getting through one's day (more than relational "sociability"), one cannot overlook the relational functions such communication performs as a steady "sip" between partners. Moreover, we know that the "report" (content) aspects of what is said frame and help interpret the "rapport" (relational) aspects that accompany it (Watzlawick, Beavin, and Jackson, 1983). For example, Kraus (2017) found that one's tone of voice led to greater empathetic accuracy during voice-only communication compared to visual-only or multi-sense communication. (pp. 647–652). That is, subjects were more able to discern a speaker's emotions in a

phone call than they were through facial pictures or voice-visual-verbal messages. This comports with the classic finding that when people's words conflict with their voice and face, people weigh the voice as more telling based on the view that the voice is less easy to control than the face (Mehrabian, 1981).

In light of this research, we sought to examine the role that diverse digital media played in shaping people's perceptions of experiencing a satisfactory long-distance relationship. Specifically, we examined media for the functions they perform for users, including their: 1) preference (Do I prefer this medium?), 2) convenience (Is this medium convenient?), 3) ease of disclosing risky information (Does this medium help me manage trust with my significant other?), 4) lessening of misunderstanding (Does it heighten message fidelity?), and 5) ease in expressing emotions (Does this digital medium help me share how I feel?). We suggest that some of these features concern content, and other affordances, and that both add to or take away from long-distance relating. The correlations between media functionality and relationship quality, then, will show the ability of media to facilitate satisfactory relationships across the miles.

Variables and Hypotheses

In order to test our thinking that media functionality contributes to the quality of long-distance relating, we operationalized these variables from existing and new measures. The dependent variable of relationship quality was assessed with a modified version of Norton's Quality of Marriage Index, and the independent variables of media functionality were discerned from the first author's personal experiences and reflections in a long-distance relationship. We developed new measures for each (see questionnaire in Appendix A). All are explained below.

Dependent Variable: Relationship Quality

Relationship Quality (RQ) is the variable that we believe changes depending on the five variables noted above. We measured RQ with a revised version of Norton's Quality Marriage Index (1983) by including three out of four original items and three more questions to capture the long-distance dynamic. All items related to the RQI were summed to create a total relationship quality score (RQ-All).

Independent Variables: Functionality of Media

As previously explained, we defined functionality as a medium's degree of 1) convenience, 2) preference, 3) elimination of miscommunication, 4) ease by which to disclose risky information, and 5) difficulty in conveying emotions. We believe that the better quality a person's experience of criteria 1–4, and not criterion 5, the better their long-distance relational satisfaction. Of note, convenience and preference concern a user's experience with the technology, and the remaining variables concern the types of messages and outcomes these messages afford.

Convenience

Convenience refers to how easily accessible a digital device is in the subject's environment that allows for ready communication. It may be subject to change depending on an individual's commitments related but not limited to their work, family, and mobility. Such commitments determine the availability of an individual to communicate with their long-distance partner and the ease of using a device in their changing context. All questionnaire items related to the convenience variable (for texting, audio, and video) were summed to create a total convenience score (Convenient-All).

Preference

Preference is an individual's value for using a communication medium. The items in this section of the questionnaire assess a person's preference for one medium over the other(s). All items related to the preference variable were summed to create a total preference score (Prefer Medium-All).

Elimination of Miscommunication

The elimination of miscommunication variable is the degree a subject judged a digital channel for its potential to eliminate miscommunication and deliver a clear message. Miscommunication has traditionally been considered a stumbling block to relational satisfaction. All items related to the elimination of miscommunication variable (for texting, audio, and video) were summed to create a total miscommunication elimination score (Elimination Miscommunication Medium-All).

Ease of Disclosing Risky Information

This variable specifically refers to the degree a person can disclose information that may generate feelings of rivalry or envy for their distant partner. Such instances may occur when the subject is in the presence of attractive rivals, such as at a club or a bar. The easier partners feel they can disclose messages such as "right now I'm at a club with friends" indicates a quality relationship, and a functional medium to convey this message. All items related to the ease of disclosure variable (for texting, audio, and video) were summed to create a total ease of disclosure score (Ease Medium Clubbing-All).

Difficulty in Expressing Emotions

This variable was the degree to which subjects struggled to express deep emotions with their loved ones via digital media. This was mainly dependent on the sender's comfort level of expressing "my feelings" or "my emotions" to their partner. All items that related to finding it hard to express emotions (for texting, audio, and video) were summed to create a total hard-to-express-emotions score

(Hard Express Medium). This variable was reverse coded in the analysis, meaning a high score indicates ease with expressing deep emotions.

All of these variables were measured in order to answer the question of whether the various functions media afford impact how users experience their long-distance relationships.

Independent Variables: Subjects' Evaluation of each Medium's Functionality

While the first five variables measured the functionality afforded by digital media, the following three variables measured the perceived effectiveness of the digital device used. These variables were created by re-assembling the original five sets of questions by type of medium. That is, all questions were combined for how subjects evaluated texting, audio, and video for perceived convenience, preference, elimination of miscommunication, ease of disclosing risky information, and difficulty in conveying emotions. Again, in each case, the responses for the hard-to-express-emotions items were reverse-coded to be consistent with the other four variables. We referred to these three new variables as **Texting-All** (total texting score), **Audio-All** (total audio call score), **Video-All** (total video interface score), and they served as a measure of a person's evaluation of the medium itself as a means to connect with their distant partner.

These variables were measured in order to answer the question of whether a particular medium (email, phoning, or video chatting) led to better evaluation of a user's long-distance relationship.

Hypotheses: Functions of Digital Media

We propose the following relationships among the independent variables, and the dependent variable (relationship quality):

H1: The more convenient communication media, the more positive relationship quality.

H2: The more preferred communication media, the more positive relationship quality

H3: The easier to disclose risky information about rivals, the more positive relationship quality.

H4: The more elimination of miscommunication, the more positive relationship quality.

H5: The less difficulty expressing emotions, the more positive relationship quality.

Hypotheses: Evaluation of Specific Digital Media

> **H6:** Video interfacing will predict a higher perception of relationship quality compared to audio (phoning) or text media (texting). Here we defaulted to the common belief that richer media functions like genuine FTF interaction and therefore leads to better relating. (A test of the Media Richness Theory.)

While the gender of participants and the location of their first meeting were not central to this study, we wondered if men and women might perceive communication and digital media similarly or not, and if first meeting face to face versus online, before becoming distant-relaters, influenced quality of relationship. Therefore, we posed two questions:

> **RQ1:** How do male and female participants differ in their use of communication technologies?

> **RQ2:** How do long-distance couples who meet online and face-to-face differ in their perception of their relationship quality?

The study was designed to test these hypotheses and explore these questions.

Methodology

Procedure and Sample

Research materials were first approved by the authors' university Human Research Ethics Board. The survey (see Appendix A) along with a short text was shared on various social media platforms, such as the primary author's personal Twitter, Facebook, WordPress website and mailing list, and several Facebook and Reddit groups. Subjects could also enter an optional draw for a $10 gift card at a popular coffee shop. To begin, the participants completed a consent form.

The final sample consisted of 59 female and 21 male participants. Out of the 80 participants, 67 (83.0%) were heterosexual, 5 (6%) were homosexual, 4 (5%) were bisexual, and 5 (6%) did not say. Participants' occupations were "students" 48 (59%), "full-time employees" 20 (25%), "part-time employees" 9 (11%), and "other" 4 (5%). The participants indicated their relationship status as "in a relationship" 60 (74%), "engaged" 5 (6%), "married" 10 (12%), and "other" 6 (7%) (which we interpreted as participation in a common-law or open relationship with multiple or overlapping partners).

The participants indicated the length of time they spent in an on-and-off long-distance relationship, with 14 (17%) indicating 3 months, 15 (19%) 3–6 months, 18 (22%), 1 year, 14 (17%), 2 years, 18 (22%) 3+ years, and 2% no response. When asked about the longest time the participant was apart from their

partner, 46 (57%) indicated 3 months, 18 (22%) said 6 months, 9 (11%) said 1 year, 2 (3%) responded 2 years, 4 (5%) indicated 3+ years, and 2% gave no response. The participants indicated the duration of time they spent with their significant other in person prior to the time they spent apart: 17 (21%) spent no time together, 19 (24%) spent 3 months, 14 (17%) spent 6 months, 12 (15%) spent 1 year, 9 (11%) spent 2 years, 9 (11%) spent 3+ years together prior to being apart, and 1% gave no response. Finally, when asked whether the couple met online or in -person, 22 (27%) stated they met online, whereas 58 (72%) stated they met face to face with their partner, and 1% indicated no response.

Reliability of the Research Measures

We thought it important to report the reliability scores for the variables we created for this study. The quality of communication scales assessed subjects' perceptions of preference for each medium, the convenience of each medium, their ease in disclosing a difficult topic (going clubbing) for each medium, their belief in the elimination of misunderstanding for each medium, and their hardship in expressing emotions for each medium. However, the items on functionality concern each medium (one concerning texting, one phoning, one video chatting) and so it was not surprising that, when subjected to inter-item correlation, the items did not cohere. That is, the function being judged was the same (e.g., convenience), but the objects being judged differed. Hence, it was not surprising to find that items did not reliably cohere. Cronbach alpha coefficients for each were: Convenience (α = .55), ease (α = .82), eliminate misunderstanding (α = .18), hardship expressing emotion (α = .81), and preference (α =.01). What we can learn here is that, generally speaking, subjects found texting, phoning, and video chatting relatively convenient, easy, and difficult for expressing emotions, but they differed greatly on how they found these three media for eliminating misunderstanding and personal preference.

However, the media-functionality scales required subjects to indicate their attitude by medium, e.g., the degree they found texting to be convenient, easy, etc., the degree they found phoning to be convenient, easy, etc., and the same for video chatting. Cronbach alpha coefficients indicated more consistency because items concerned just one medium, including: texting (α = .68), audio (α = .65), and video (α = .64). These indicate modest yet suitable reliability for the construct of medium functionality.

Norton's Quality Marriage Index (1983) has an average reliability coefficient of r = .94 (see Graham, Diebels, Barnow, 2011), and its adaptation for this study yielded a reliability coefficient of r = .86, indicating high reliability.

Results

Hypotheses 1–6 were tested by correlating each independent variable with the dependent variable and examining the resulting Pearson correlation

coefficients. All results can be found in Table 1. What follows are the results as they pertain to each hypothesis and research question.

> ***H1:*** *The more convenient communication media, the more positive relationship quality.*

To find the effects of subjects using a convenient medium on relationship quality, a total score of convenience (Convenient-All) was generated and then correlated with Quality of Relationship. The findings indicate that convenient media positively correlated to relationship quality ($r = .35$, $p = < .01$) (Table 1). In other words, the more subjects viewed all three digital media convenient (texting, audio, video), the more they saw their relationship of higher quality. Hypothesis 1 was supported.

> ***H2:*** *The more subjects preferred communication media, the more positive relationship quality.*

To find the effects of using a preferred medium on relationship quality, a total score of preference (PreferMedium-All) was generated and then correlated with Quality of Relationship. The findings indicate that the correlation to relationship quality was insignificant ($r = -.15$, $p = .20$) (Table 1). Subjects' preference to text, phone, or video chat did not make a difference in their perception of relationship quality. Hypothesis 2 was not supported.

> ***H3:*** *The easier to disclose information about rivals, the more positive relationship quality.*

To find the effects of using a medium that allows for easier disclosure of certain events on relationship quality, a total score of disclosure (EaseMediumClubbing-All) was generated and then correlated with Quality of Relationship. The findings indicate that ease of disclosure positively correlated ($r = .25$, $p = < .05$) to relationship quality (Table 1). The more subjects viewed a medium to allow for easier disclosure, the more they saw their relationship of higher quality. Hypothesis 3 was supported.

> ***H4:*** *The more elimination of miscommunication, the more positive relationship quality.*

To find the effects of a medium's ability to eliminate miscommunication on relationship quality, a total score of elimination (ElimMiscommMedium-All) was generated and then correlated with Quality of Relationship. The findings indicate that the elimination of miscommunication is positively correlated ($r = .37$, $p = < .01$) to relationship quality (Table 1). The more subjects viewed a medium as eliminating miscommunication, the more they saw their relationship of higher quality. Hypothesis 4 was supported.

H5: *The less difficulty expressing emotions, the more positive relationship quality.*

To find the effects of a medium's ability to facilitate emotion-sharing on relationship quality, a total score of expression of emotions (HardExpressMedium) was generated and then correlated with Quality of Relationship. The findings indicated that the correlation to relationship quality (r = -.18, p =.11) was inverse, however, insignificant (Table 1). Hypothesis 5 was not supported.

H6: *Video interfacing will predict a higher perception of relationship quality compared to audio or text media.*

The results showed that video interface (r =.26, p =.02) and audio call (p =.41, p =.00) were positively correlated to relationship quality (See: Appendix A). In other words, the more subjects rated highly audio media and video media, the better they reported their quality of relationship. The results for text media were in the same direction (r = .20, p =.07) but just fell short of statistical significance. Given the weaker correlation for texting and the significant correlation for video interfacing, these results support Hypothesis 6—that video channels would win out over texting channels in predicting quality of relationship. However, the finding that audio interaction correlated with quality of relationship more strongly than video interaction does not support Hypothesis 6. We will discuss this outcome below.

RQ1: *How do male and female participants differ in their use of communication technologies?*

To explore this question, we compared the average scores that women and men gave on each of the five communication variables with an independent samples t-test (See Table 2). Results indicated that women and men differed on the difficulty they experience in expressing their emotions through digital media. Women reported an average score of 8.6 whereas men reported an average score of 12.7 in terms of the difficulty experienced. Because we had reversed these scores to be consistent with the others, this finding means that men have a harder time expressing their emotions through online media in LDRs.

RQ2: *How do the long-distance couples who meet online and face-to-face differ in their perception of their relationship quality?*

The data derived from the "Where We Met" question was analyzed in its relation to the total score of Relationship Quality by comparing this variable between two groups—those who had met offline before living apart, and those who met online and were still living apart. We subjected the Relationship Quality scores to an independent samples t-test between these two groups. The results indicated that those who met online (n = 21) rated their current relationship more favorably ($\overline{x}$= 37.04) compared to those who met in person ($\overline{x}$ = 32.0) before becoming separated geographically (Table 3). We will discuss this outcome as well.

Discussion

Computer-mediated communication technologies have rapidly undergone changes that allow for better long-distance relating. The current advancements of wireless technologies play a crucial role in forming and maintaining high-quality relationships. Our purpose was to illustrate the quality of digital communication and the evaluation of digital media to help or hinder relationship quality. While we found promising results, new insights directed us beyond the purpose of this study and revealed thought-provoking outcomes.

The Voice of a Loved One

Upon starting this project, we examined Media Richness and Social Information Processing theories and suggested that they represent different ends of a spectrum. While MRT would suggest that rich media (video or FTF) conveys more information and facilitates better communication, SIP argues that small bits of information over time (text or email) can be equally effective. Contrary to these poles, we found that the middle road, the use of audio, was associated with perceptions of the best relationship quality. Specifically, we found subjects' high evaluation of audio media (Audio-All) as the best predictor for quality relationship ($r = .41$, $p = .00$), compared to text media (Texting-All, $r = .20$, $p = .07$) or video media (Video-All, $r = .26$, $p = .02$). In this sense, audio media represents a "swig" that is in between the sip and the gulp and leads to more quality long-distance relationships. We propose that audio, as a swig, is a relational drink consumed heartily. (See Table 1.)

This finding is counter to thinking by Daft and Lengel who propose in MRT that video interface is the richest medium with both visual and vocal cues. However, our findings indicate that visual cues are not as crucial in long-distance relating compared to vocal-only cues. As Kraus (2017) found in experimental research, voice-only communication accounted for subjects' greater empathic accuracy than visual or multi-sense communication (pp. 647–652). Empathy is the ability to "feel into" others' feelings and thoughts, taking on their perspective to understand them and identify with their situation (Kuhn, 2001). Thus, partners who have higher empathetic accuracy can mutually understand the emotional world of one another. This can allow individuals to develop and maintain their connections despite the geographical distance (Côté & Miners, 2006, as cited in Kraus).

This aligns with Watzlawick, Beavin, and Jackson's (1983) interactional view that suggests that communication functions in two ways: one is to report information (by way of what is said), and the other is rapport (by way of nonverbal cues that indicate the nature of the relationship). Perhaps the voice—its tone, volume, timbre, rhythm, and unique personal fingerprint—plays a key role in conveying the idea that partners are well, the relationship is good, and that they can trust one another.

While our study did not specifically assess voice qualities and perceived emotion (see for example Scherer, 1995; 2003; Wallbott and Scherer, 1986; Laver, 1980), related research on this topic provides insight on why audio calls compose the proposed "middle way" that enhances relationship quality. Specifically, Gobl and Chasaide (2003) found that differences in voice quality (e.g., harsh voice, tense voice, breathy voice, whispery voice) can evoke a cluster of emotions varying from negative to positive. Similarly, Sobin and Alpert (1999) have catalogued the acoustic attributes our voices make when communicating fear, anger, sadness, and joy. Thus, vocal qualities play an important role in delivering emotional messages as much as, if not more than, conveying information.

In his famous book Silent Messages, Mehrabian (1981) emphasizes the importance of nonverbal messages when people are interpreting social and emotional messages, suggesting that "vocal feelings" contribute 38% while "verbal feelings" only contribute 7% in regard to the sender's communication or attitude (p. 76). Likewise, Mehrabian and Wiener's (1967) experimental research that combined degrees of attitude with regard to the verbal content and nonverbal tone of communication, found that tone had a greater effect on generating an understanding for inconsistent messages while the effects of content were weak or inconsistent (p. 113). In other words, how something is said weighs more than what is said, and receivers believe the nonverbal aspects more in inconsistent messages.

Therefore, vocal cues may be more important than those that are visually delivered. In light of these results, our theory challenges Daft and Lengel (1983) while reaffirming the findings of Kraus (2017).

Frequent Calls for a Mobile Lifestyle

While the empathic accuracy of voice communication provides insight to our results, we suggest that there may be other factors that connect audio media with higher relationship scores, namely its frequency of use and mobility.

First, research by Rosen et al. (2013) found that people spend more time speaking on their phones compared to time spent emailing and other smartphone usages, including video calls. Thus, as suggested by Walther's Social Information Processing (1992) Theory, the frequency of phoning provides a steady sip of information between partners in geographically distant relationships.

A second reason is the higher mobility of making phone calls versus video calls. In diverse everyday situations, as defined by Klamer, Haddon and Ling (1999) (including commuting to work, transporting children, travelling to shops), phone calls were often judged more accommodating compared to video calls due to their mobility (see full list: Klamer et al., p. 36,). Specifically, focus-group research indicated that when subjects' friends became more mobile, people resorted to audio calls to reach them (p. 47). Moreover, research by Wei (2008) explored motivations to use mobile phones and found that a mobile phone's ability to facilitate communication positively correlated with "stay[ing] informed

and in touch anywhere and anytime" (r = .64) and suitable for "multitask[ing]" (r = .61) (p. 40). Taking both into account, these reaffirm that phoning is likely more suitable for busy, active people than is video calling which normally requires a more stationary and quiet place.

Easy Technology for Ready Disclosure

Two other reasons audio (phoning) channels contributed most to high-quality long-distance relationships are its ease of use as well as its prompt and easy disclosure. To review, our findings indicated that when a medium was considered to be convenient (r =.35), it led to perceptions of a better relationship. This was especially strong for the audio channel (r =.41, p= .00). No doubt ease-of-device is likely related to device mobility insofar that talking on the phone (with one hand) is easier than texting with two or finding a quiet stationary place to video chat.

Moreover, we found that media that facilitated easier disclosure of potentially threatening events increased relationship quality (r = .25), which was generally true for texting, audio, and video channels. As Altman and Taylor's (1973) Social Penetration Theory (SPT) suggests, the deeper we disclose about ourselves in our relationships, the more connection we establish. Participants in our study found each medium adequate to discuss the risky information that they were going clubbing with friends where potential rivals might be present.

Of note, there was no significant correlation between how hard it was to express emotions and relationship quality (r = -.18; p =.11), and this was true for texting, audio, and video. This could be due to the fact that those relationships already feel that they have established a level of emotional connection before proceeding with their long-distance relationships.

Do Women Make Better Online Relaters?

While gender was not central to the MRT or SIP analysis, it provided interesting insight into how women and men use digital media variously to connect long-distance. (See Table 2) First, female participants perceived their relationships to be of higher quality ($\bar{x}$ = 34.45) compared to the perceptions of male participants ($\bar{x}$= 29.90). Second, women had higher scores compared to men in audio (phone call) communication (females = 27.80, males = 24.80). Third, the results indicated that men have a harder time ($\bar{x}$ = 8.6) expressing their emotions compared to women ($\bar{x}$ = 12.7).

Understanding these results may come from Tannen (1990). In Genderlect Theory, she explores gendered communication and suggests that women engage in "rapport talk," communicate to express emotions, share feelings, and listen to empathize with others. In contrast, men engage in "report talk" about factual information and speech acts that aim to control the conversation. Tannen suggests that expressing emotions comes more easily for women, and she would likely

agree that women can convey emotions through social media at a higher rate, especially the voice-rich medium of phoning. This may also explain why women have higher relationship-quality scores compared to men, as emotional expression positively correlates with relationship quality.

Does Meeting Online Prompt a Halo Effect for Perceived Online Relational Quality?

Finally, our study revealed that partners who met online reported higher relationship quality scores ($\bar{x}$= 37.04) compared to those who met face-to-face ($\bar{x}$ = 32.00), see Table 3. As Social Information Processing Theory suggests, communicators are able to adapt their communication to the media available to them, whether online over miles or in person, face-to-face. We suggest that those who meet online adapt their communication style to digital cyberspace, and so their perception of what is normal for a relationship (in their case, a long-distance relationship), remains inside a computer-mediated frame that also functions as an unseen barrier. This may be especially true for partners who meet online and have always interacted online and how the criteria for judging an LDR may be "thinner" compared to criteria for judging relationships face to face. We can illustrate this thinking through an analogy. Those who meet online may have relationships like a beautiful flower, tender and good, yet singular in dynamics compared to people who meet and interact offline who have a relationship like a garden that is rich, diverse, and lush, with some areas blooming and other areas in decline. As the analogy explains, those who meet online do not see the possibilities beyond their online and geographically distant relationship. Thus, they perceive their relationship to be of high quality because they have no face-to-face experience with their long-distance lover for comparison.

Limitations

The research data consisted of 80 participants, which reflects a modest sample size, however, the data were collected from a diverse population, and it did not focus on a specific group. There were more heterosexual participants than of other orientations and more female participants than males. Therefore, the results were influenced by input from these majority groups. Finally, cultural demographics were not collected. Cultural information may have a significant impact on the results of this research because of the cultural perceptions of different people groups.

Final Remarks

We hope this research can help couples understand the role of computer-mediated communication within their relationships and open up a door to future research that may strengthen our findings.

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Tables

Table 1: Pearson Correlations between Independent Variables and Quality of Relationship

1.	Convenience of device	.35**
2.	Ease in Disclosing Difficult Information	.25*
3.	Prefer Medium	.15
4.	Elimination of Miscommunication	.37**
5.	Hard to Express Emotions#	.18
6.	Texting-All	.20
7.	Audio-All	.41**
8.	Video-All	.26*

Note: scores closer to 1.0 indicate a stronger relationship between the two variables.

* Correlation is significant at the 0.05 level (2-tailed). [strong]
** Correlation is significant at the 0.01 level (2-tailed). [stronger]

Scores were reverse coded to match direction of other variables; higher scores indicated ease with expressing emotions.

Table 2: Means and Standard Deviations of All Variables and by Gender

Variables	Mean	(S.D.)	F	t	p
Convenient-All	17.6	3.1	1.3	.95	.35
Females	17.7	2.9			
Males	17.0	3.5			
Ease Disclosing-All	15.6	4.8	.00	.90	.37
Females	15.8	4.9			
Males	14.7	4.6			

Prefer Medium-All	14.4	2.9	.36	-.23	.81
Females	14.4	2.9			
Males	14.7	3.4			
Eliminate Miscommunication-All	14.9	2.9	.87	.18	.86
Females	14.9			2.9	
Males	14.8			3.5	
Hard to Express Emotions-All #	14.3	4.6	3.60	3.72	.00**
Females	15.4	3.8			
Males	11.3	5.5			
Texting-All	22.4	5.7	.09	.11	.91
Females	22.4	5.7			
Males	22.3	5.4			
Audio-All	27.	5.2	.09	2.28	.03*
Females	27.8	5.1			
Males	24.8	5.0			

Video-All	27.4	5.3	.02	2.0	.05*
Females	28.1	5.3			
Males	25.4	5.1			
Relationship Quality-All	33.23	7.4			
Females	34.45	7.2	15.80	2.8	.00**
Males	29.90	7.2			

Scores were reverse coded to match direction of other variables.

* Significant at the p = .05 level notes a significant difference between female and male scores

** Significant at the p = .01 level notes a significant difference between female and male scores

Note: degrees of freedom for each t-test were either 77 or 78

Table 3: Average Scores Among Media Evaluation and Quality of Relationship Scores for Subjects Offline (FTF) or Online

	Met				
Variable	Offline	Online	F	t	p
Texting-All	21.58	24.90	1.46	2.33	.02
Audio-All	26.20	29.22	6.48	2.35	.02
Video-All	27.49	27.18	0.57	-.23	.82
QofR	32.00	37.04	15.80	2.86	.00

Note: Where p is equal to or less than .05, a significant difference exists between the averages.

Appendix A

Relating Long Distance Survey

We gathered the following demographic information in order to understand our sample and to test the research questions regarding gender and where partners met (offline or online).

Part 1–Background Information

- I identify my gender as ___. (female/male/other)
- I am ___. (heterosexual/homosexual/bisexual/other)
- I currently work ___ (part-time/full-time/student/other)
- I am currently ___. (in a relationship/engaged/married)
- I have (or had) been in an on-and-off long-distance relationship for ___. (3 months/6 months/1 year/2 year/3+ years)
- The longest we had been apart is for ___. (3 months/6 months/1 year/2 year/3+ years)
- Before starting an online long distance relationship, we spent ____ months/years together face-to-face. (none/3 m/6 m/1 y/2 y/3 y).
- I met my significant other ___ (online/in person)

Part 2–Staying Connected

The following items were randomly ordered in the original questionnaire but grouped here for ease of understanding which ones represent each independent variable. Subjects indicated their level of agreement or disagreement using the following Likert scale:

1 strongly disagree
2 disagree
3 mildly disagree
4 neutral or unsure
5 mildly agree
6 agree
7 strongly agree.

Convenience items

- I find that texting is a convenient way to connect with my close friend living abroad.
- Audio chatting is a convenient way to communicate with my long distance friend.
- Using video interface is a convenient way to interact with my loved one far away.

Ease of disclosing risky information items (going clubbing with friends)

- It is easy to let my significant other know that I am going out to a club with my friends when we text.
- I can let my significant other know I am going clubbing during an audio call without creating conflict.
- I am comfortable telling my friend I am going clubbing during a video call.

Difficulty expressing emotions items (reverse coded in the analysis)

- It is hard for me to express my deep emotions through video interface.
- I struggle with expressing my feelings when texting with my friend.
- I do not think I can express my feelings during audio chatting.

Preference items

- I prefer to text my long distance friend.
- I prefer to audio chat with my long distance friend.
- Using live video is my preferred way to connect with my friend living abroad.

Miscommunication items

- I like video interface because it eliminates potential misunderstandings.
- I like audio chatting because it eliminates potential misunderstandings.
- I like texting because it eliminates potential misunderstandings.

Part 3

Relationship Quality

Subjects indicated their relationship quality after reading these directions: "Please think about your long distance relationship and reflect on how you feel about it. Indicate the degree to which you agree or disagree with each statement using the same scale as above."
The scale consisted of original items from Norton (1983), revised items based on Norton, and new items.

- I am satisfied in my relationship.***
- We have a good relationship.*
- My expectations are not met in my relationship.*** #
- My long distance relationship with my partner makes me happy.**
- I can easily imagine a future with my partner.***

My relationship is strong enough to overcome challenges with my friend.**

*Item taken directly from Norton's *Quality Marriage Index* (1983).

**Adaptations of items from Norton's *QMI* to refer specifically to long-distance couples.

***New items.

Scores were reverse-coded to match direction of other variables; higher scores indicated expectations of the relationship met.