THE RELATIONSHIP BETWEEN AN IMMEDIATE COMMUNICATOR STYLE AND

RELATIONAL OUTCOMES: AN INVESTIGATION OF COMMUNICATION

TECHNOLOGIES

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ABSTRACT

THE RELATIONSHIP BETWEEN AN IMMEDIATE COMMUNICATOR STYLE AND

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The purpose of this thesis is to examine the relationship between an immediate

communicator style, the use of technologies, and relational outcomes. To communicate,

individuals now make phone calls on their computers, video conference on their handheld

devices, and connect to social networks through a vast array of hardware. Communication

technology refers to how people communicate, including the hardware and software individuals

use to process information and communicate with each other. Many individuals use these

technologies to connect and communicate with their romantic partners, but there is no clear

understanding of how this technology affects relationships.

The researcher believed the style of communication was more important than the use of various types of technology. When researchers investigated interpersonal communication and instructional communication without considering technology, aspects of an immediate communication style improved affective and relational outcomes. The researcher believed an immediate communication style would have similar results when investigating the use of technologies.

The present study surveyed 314 individuals who were involved in romantic relationships. Participants completed an online questionnaire designed to assess perceptions of the relational outcomes of satisfaction and commitment, perceptions of partners' immediate communicator style, and frequency of use for various communication technologies to maintain their romantic relationships. Results suggest that there is a significant main effect for perceptions of immediacy and the use of personal electronic communication such as text messaging on relational outcomes. However, the effect of amount of use of personal electronic communication on relational outcomes was minimal. Other technologies had no main effect on relational outcomes, and there were no interaction effects between immediacy and any of the technologies.

Chapter I

Introduction

Individuals now use smart phones, video calls, and various communication technologies to create constant connectedness across the United States. Individuals use this technology to maintain a variety of relationships, and they communicate with differing communication styles. Some individuals have chosen to use these technologies to connect and communicate with their romantic partners. Although the primary function of these products may be to connect people, some suggest there may be a negative consequence (Barnes, 1999). Despite this claim, the effects of communication technology on relational outcomes are unclear and research is underdeveloped.

This study examines the relationship between romantic relational outcomes, the use of various communication technologies, and communicator style. In this chapter the researcher overviews the thesis: there are brief definitions and explanations of relational outcomes, and a classification of communication technologies. This chapter includes summaries of three conflicting patterns in the literature about the effects of communication technology. The chapter ends with an explanation of communicator style, and a preliminary examination of the relationship between relational outcomes, communication technology, and communicator style.

Purpose

People have positive and negative feelings and emotions about their relationships. Communication, thoughts and actions in communicative situations affect the degree of these

emotions. These feelings and emotions are one type of relational outcome. Frequently, social

scientists have studied these relational outcomes to better understand the human condition.

Satisfaction and commitment are two of the most commonly studied relational outcomes in

interpersonal communication research (Rusbult, Martz, & Agnew, 1998). Employing satisfaction

and commitment in this thesis provides the opportunity to extend the past research on

interpersonal communication and on technology and intimate relationships.

Satisfaction is a feeling based on the extent to which an individual's expectations and

needs are met. Researchers have examined patient satisfaction in health communication (Mahon,

1996), job satisfaction in organizational (Wharton, Rotolo, & Bird, 2000) and relational

satisfaction in interpersonal (Rusbult, 1983) communication. Relational satisfaction is the extent

to which the relationship meets an individual's internalized standard or expectation of what a

relationship should be (Rusbult, 1983).

Commitment is the drive for an individual to remain in a relationship (Rusbult, 1983). An

individual decides to persist in a relationship due to a degree of contentment, obligation and

perception of obstacles to the relationship. Without a drive to remain in the relationship, the

individuals will no longer be in a relationship. The way individuals choose to communicate

affects both commitment (Stafford, Dainton, & Haas, 2000) and satisfaction (Maguire & Kinney

2010; Lemay, Clark, & Feeney, 2007; Stafford et al., 2000; Buller & Buller, 1987).

One choice people make when communicating in their relationships is the type of

communication technology to use. Although the social definition of technology refers to

mediated communication, the communication technology literature suggests that any channel of

communication is technology. Communication technology refers to how people communicate,

including the hardware and software individuals use to process information and communicate with each other (Rogers, 1986). The definition includes face-to-face communication in addition to the host of newer technologies. Computer-mediated communication (CMC) refers to the exchange of messages using computers. Electronic Communication Technology (ECT) or Electronic Mediated Communication (EMC) includes any electronic platform in which an exchange of messages is possible between one or more people, excluding mass media like radio and television (Baron, 2008). Many contemporary researchers now describe communication that is not face-to-face (FTF) as digital communication technologies (DCT) as opposed to ECT, EMC or CMC since contemporary technologies now employ digital platforms.

Individuals can now make phone calls on their computers, video conference on their handheld devices, and connect to social networks through a vast array of hardware. E-mail is no longer restricted to a computer, and cross-hardware communication, such as texting from PC to phone, is available. Multiple programs and software allow for different types of communication. For example, Yahoo offers E-mail and an instant messenger, while Facebook has an instant messenger, E-mail function, and a public wall for posting. Different researchers use different categories of technology, and most of those categorizations do not acknowledge the differences between these contemporary technologies. This study uses a communication technology typology Barron (2008) suggested and Salem, Achurra, Kline and Pridgen (2010) employed in a recent study. The use of this typology retains traditional hardware and software distinctions, but also incorporates new advancements of technological devices. The typology being used for this study includes the latest technological developments and provides a way to integrate older technology research distinctions.

There appears to be three patterns of research that have developed regarding communication technology and relational outcomes: technology has negative effects on interpersonal outcomes, comparable effects, or conditional effects when compared to face-to-face communication. In contemporary thought, one might recognize positive effects (i.e. allowing for interactions that might not have existed before); the research shows none on relational outcomes. One pattern suggests that relational outcomes are diminished through attributes of different communication technology. The use of some technology may partially or completely inhibit the use of touch, response time, cues that express distance, and vocal or visual cues. Individuals might be less committed to the outcomes of messages, including relational ones. Limiting cues could lead to reduced positive relational outcomes (Doering & Poeschl, 2007). Cues Filtered Out (CFO) theory explains that the diminished capacity to transmit communication cues that would otherwise exist in interactions primarily sustained through FTF and the ephemeral nature of most electronic communication technology might lead to deindividuation (Luke, 2006; Kiesler, Siegel, & Maguire, 1984). Deindividuation refers to a reduced capacity to appreciate others as individuals or a limited ability to attach personal identity to one's own actions (Diener, 1980; Zimbardo, 1969). Salem and Gratz argue that the limited richness of some communication technology could lead to dysfunctional communication, diminished communication competence, fragmented relationships, and a loss of self (Salem & Gratz, 1989; Gratz & Salem, 1984). Some empirical research confirms relationships sustained primarily through ECT have had lower relational outcomes when compared to relationships sustained primarily through FTF (Rabby, 2007; Scott, Mottarella & Lavooy, 2006; Parks & Roberts, 1998).

A second pattern in the technology literature clashes with the first. This pattern describes comparable relational outcomes when comparing use of different technologies for communication, possibly because of compensating factors. The Social Identity model of Deindividuation Effects (SIDE) explains that individuals develop stronger relational or social identities to replace diminished personal identities in a mediated environment (Reicher, Spears, & Postmes, 1995; Lea & Spears, 1992). Walther (1992) contends communicators develop individuating impressions of others through accumulated CMC messages. People then use these impressions to develop relationships and express multidimensional relational messages through verbal or textual cues. Communicators are able to adapt their messages to express relationship maintenance behaviors when there is a lack of nonverbal cues. Walther (1996) also assumes that individuals create a mediated impression on which the relationship is built over time. He describes these relationships as hyperpersonal and argues that these relationships would be as satisfying as those maintained through FTF (Walther, 1996). Some empirical findings reveal individuals that communicated primarily through ECT have had little or no relational outcome differences when compared to relationships maintained through FTF (Baym, Zhang, Kunkel, Ledbetter & Lin, 2007; Pauley & Emmers-Sommer, 2007; Ramirez & Zhang, 2007; Walther, Loh, & Granka, 2005).

A third pattern in the technology literature further complicates matters. Some researchers report conflicting data within their own studies. These studies found that greater relational outcomes were achieved through relationships primarily FTF in some instances and primarily ECT in others (Ledbetter, 2009; Walther, 1997; Walther, 1995). These conflicting results and theoretical arguments reveal the potential for other variables such as communicator style. Salem

and Gratz suggested that *how* individuals use technologies is more important in explaining outcomes than either the attributes of a technology or the simple *use of* one or more technologies (Salem & Gratz 1989; Gratz & Salem 1984).

Communicator style refers to *how* individuals communicate. Norton (1983) describes communicator style as "the way one verbally, nonverbally and paraverbally interacts to signal how literal meaning should be taken, interpreted, filtered and/or understood" (p. 19) and "gives form to content" (p. 20). The research about communicator styles in romantic relationships has been about communication maintained primarily through FTF.

Interpersonal communication researchers have studied aspects of three communicator styles most frequently: open, friendly, and attentiveness. An open communicator style is approachable, extroverted and is comfortable with appropriate self-disclosure (Norton, 1983). Openness has been positively correlated to both commitment (Stafford et al., 2000) and satisfaction (Stafford et al., 2000; Maguire & Kinney 2010).

A friendly style is also related to both relational outcomes. Someone with a friendly style confirms, supports, strokes and recognizes the other person in a positive way (Norton, 1983). Individuals being 'friendly' often reflect interest in the interaction by asking for elaboration to show genuine concern. Friendly behaviors have been positively correlated to relational satisfaction and commitment (Stafford et al., 2000).

Relational satisfaction experienced in a romantic relationship has been related to an attentive style. Attentiveness is the effort of the communicator to make sure that the other person knows that they are being listened to carefully (Norton, 1983). Responsive techniques include empathic or active listening behaviors such as paraphrasing and asking questions. These

techniques promoted greater satisfaction among relational partners (Lemay et al., 2007; Buller & Buller, 1987).

Some researchers have combined aspects of openness, friendliness, and attentiveness into other constructs. Immediacy, one of these constructs, describes verbal, nonverbal and paraverbal behaviors that create perceived closeness between two relational partners (Andersen, 1979). Andersen (1979) describes an immediate style as using behaviors that convey warmth, positive affect, and approach or availability. Some verbally immediate behaviors include self-disclosure and confirmation of others' messages (Andersen 1998). Norton describes self disclosure as part of an open style and confirmation of others' messages as friendly style. Some nonverbally immediate behaviors are smiling, positive head nods, and eye contact (Mehribian, 1972). Each of these behaviors is consistent with an attentive style. Open, friendly, and attentive styles were highly and positively correlated with immediacy behaviors (Anderson, Jensen, & McGee, 1999).

Current measures of openness, friendliness, and attentiveness in the interpersonal communication literature and measures of immediacy in instructional communication literature are too specific to apply to a broad range of technology. In other words, specific immediacy behaviors, such as vocalic, are not necessarily measurable through different ECT. For example, investigating the extent to which relational partners used a friendly vocal tone apply only to conversations that were FTF and telephone, and not E-mail. A general indicator of an immediate style is more appropriate for measuring communicator style across a variety of technologies. The purpose of this thesis is to examine the relationship between an immediate communicator style, the use of technologies, and relational outcomes.

Significance

This thesis research could enhance current communication technology literature in many ways. Individuals may be unable to construct some communication cues with specific technologies, and these reduced cues may hinder the level of relationship formation. If it does hinder relational formation, it is important to understand which use of which technology is related to these relational outcomes. This research adds to the literature about communication and romantic relationships when partners communicate through various technologies.

In previous literature surrounding communication technology and relationships, conflicting results exist. Some researchers argue that using ECT degrades relational perceptions, while others argue that the use of ECT makes no difference. Furthermore, some researchers posit that the use of different technologies has an effect on relational outcomes in some cases but not others, while even more researchers actually had conflicting data in their own studies. This graduate thesis research project suggests that the conflicting findings in the communication technology might be resolved by the introduction of an immediate style variable.

The addition of an immediate communicator style is new in this line of communication technology and relational outcome research. Previous studies have examined immediacy in relation to communication technology, but immediacy was an outcome, a feeling of closeness or intimacy (Pauley & Emmers-Sommer, 2007; Scott, Mottarella & Lavooy, 2006; Walther, Loh & Granka, 2005; Walther, 1995). There have been a number of researchers that have studied immediacy as a dependent variable, but there were no studies found where immediate communication behavior or style was the independent variable. A generalized immediate

communicator style is an independent variable in this thesis. This thesis helps fill a gap in research examining immediacy research.

Additionally, previous communication technology studies examined relational outcomes considering (a) the use of one technology compared to the use of another (Baym, Zhang, Kunkel, Ledbetter & Lin, 2007; Rabby, 2007; Scott, Mottarella and Lavooy, 2006; Walther, Loh and Granka, 2005; Parks & Roberts, 1998), and (b) the effect of using a combination of technologies (Pauley & Emmers-Sommer, 2007; Ramirez & Zhang, 2007). Researchers have studied the effect of and frequency of communication technology use on relational outcomes, and ignored *what* and *how* messages were communicated through the technology. This thesis fills a second research gap regarding *how* messages are communicated in relation to both technology and relational outcomes.

Summary

This chapter includes the necessary groundwork to understand this thesis. There were preliminary definitions and explanations of satisfaction and commitment. The researcher identified and explained communication technologies and three conflicting patterns in the literature about communication technology effects. Additionally, the researcher explained communicator style, discussed specific communication styles, and links them to relational outcomes. The addition of communicator style provides an opportunity to resolve this conflict.

The next chapter includes a more detailed review of literature about relational outcomes and communication technology. The researcher further elaborates on definitions and explanations of commitment, satisfaction, communication technology, and communication style. Additionally, the researcher includes an examination of previous communication research about

the relationship between the use of various technologies and relational outcomes, and communicator style and immediacy. The researcher addresses the conflicting patterns in the literature surrounding use of technology and effects on relational outcomes and suggests that another variable, an immediate communication style, is at play. This conclusion leads to the development of hypotheses.

The third chapter has a description of the method and procedures. The researcher describes the sampling procedure, along with a description of all measures used to test the hypotheses. The third chapter also includes a detailed description and explanation of statistical methods used to test hypotheses.

The fourth chapter reports on descriptive and inferential statistics of this research. First, there is a display of sample statistics, followed by a report of survey means, standard deviation and survey reliability. Next are results of exploratory factor analyses to confirm the factor structure and construct validity of the immediacy, satisfaction and commitment scales. Finally, the researcher reports on results from a series of MANOVAs that tested seven hypotheses.

This next and final chapter includes a discussion of the results reported in this chapter. The first section of the chapter describes how this thesis might contribute to the understanding of communication technology and relational outcomes in romantic relationships, and might add to both the interpersonal and communication technology areas of research. The next section describes four different areas for future research. In the final section, the researcher reviews results and explains four possible limitations of the study.

Chapter II

Rationale and Development of Hypotheses

The first chapter included general definitions and explanations of two prominent relational outcomes: satisfaction and commitment. It also included a preliminary analysis of research investigating individuals' use of a variety of communication technologies that impact these outcomes (satisfaction and commitment) in relational development. The chapter identified the purpose of this research as investigating how the use of technology and the communication style of the users might relate to these relational outcomes. The chapter identified inconsistencies in the research and develops arguments for the significance this research. The chapter concluded with a preview of the remaining chapters.

This chapter contains a more detailed explanation of the literature about technology and relational outcomes. The chapter includes preliminary explanations of five specific communication technologies distinguished in the typology for this research, and introduces three conflicting patterns surrounding the investigation of communication technology and relational outcomes. The researcher explains communicator style, links it to relational outcomes through research, and discusses it in terms of communication behaviors that may resolve the conflicting patterns in the technology research. This chapter concludes with the development of seven hypotheses.

The next section of the chapter contains an analysis of literature about relational outcomes. The second section is about communication technology and the researcher will review

theory and data about communication technology and relational outcomes. The third section

contains descriptions and application of communicator style and immediacy literature, and the

final section contains a synthesis of the previous sections to develop hypotheses.

Relational Outcomes

This study focuses on romantic relationships. A romantic relationship can refer to marriage, but

also includes relationships between lovers or significant others. These relationships are similar to

friendships in many ways, but romantic relationships go beyond the idea of loving someone. To

be 'in love' is more intimate and passionate (Sternberg, 1986). While sexual activity might be

assumed in a romantic relationship, it is not necessarily present and is not required (Diamond,

2004). Communication researchers typically assess the quality of romantic relationships through

relational outcomes. Two relational outcomes pervade existing studies: satisfaction and

commitment.

Satisfaction is a feeling based on the extent to which an individual's expectations and

needs are met. In organizational communication, for example, job satisfaction is an evaluation of

an individual's work role (Wharton, Rotolo, & Bird, 2000). In addition, in health

communication, patient satisfaction is the degree to which the care fulfilled patient expectations

(Mahon, 1996). For the purposes of this study, relational satisfaction is the extent to which the

relationship meets an individual's internalized standard, or expectation, of what a relationship

should be (Rusbult, 1983). Rusbult (1983) describes relational satisfaction in terms of a cost-

benefit analysis. A person is generally satisfied with a relationship when perceived rewards are

high, and perceived costs are low.

Relational commitment is the individual's drive for relationship persistence (Rusbult, 1983). It is a subjective sense of allegiance to persist with a relationship, a long term orientation, and a sense of attachment to a particular person or persons. Without a drive to remain in the relationship, the individuals may choose to no longer continue in the relationship.

There are four common explanations for commitment. First, greater satisfaction may lead to greater commitment. Individuals become more or less content in continuing that relationship depending on how well the relationship fulfills their needs. When people are more satisfied, they will be more likely to remain in that relationship.

Secondly, greater dedication may lead to greater commitment. Dedication consists of feelings of moral and personal obligation to stay in a relationship (Stanley & Markman, 1992; Johnson, 1991; Stanley 1986). Some researchers use commitment synonymously with dedication. However, dedication may be just *one explanation* for commitment. An individual might feel that it is necessary to stay in the relationship because he or she "owes" it to the other person. This might occur in cases of long-term relationships. One individual feels like the partner is committed and reciprocity is necessary.

Third, commitment might be greater because a person considers few alternatives. Perceived alternatives include both the quantity and quality of alternatives (Rusbult, 1983). Also, alternatives may be alternative relationships or alternative activities unrelated to romantic relationships.

Finally, a greater sense of personal constraint or feelings of great loss may lead to greater commitment. Constraint refers to feelings of entrapment or barriers to exiting a relationship (Stanley & Markman, 1992; Stanley, 1986). Although the social standard of commitment might

not include fear and resignation, some literature explains commitment this way. Johnson, Caughlin, and Huston (1999) have a typology of constraint and use the term "structural commitment" to label this. Rusbult (1983) describes investment as a concern with the extrinsic and intrinsic resources a person had contributed to a relationship. Commitment is related to the extent a person thought the costs for ending a relationship are too great. Individuals might fear the possibility of physical or verbal assaults if they try to exit the relationship, and others might feel they are unable to take care of themselves because they are geographically or financially isolated.

Satisfaction and commitment are two of the most common relationship variables in general interpersonal communication research and communication technology research. Satisfaction is the feeling achieved when the positive outcomes of interactions between two people outweigh the negative ones. Feeling satisfaction is closely related to commitment. Commitment is a feeling of persistence and a sense of allegiance to the other person. Being satisfied is one reason for having commitment, but there are others as well. This study examined these two variables in relationships maintained using various communication technologies.

Communication Technology

       The Nature of Communication Technology.

Communication technology refers to how people communicate. More precisely, it refers to the hardware and software individuals use to process information and communicate with each other (Rogers, 1983). Electronic Communication Technology (ECT) or Electronic Mediated Communication (EMC) includes any electronic platform in which two or more people can exchange messages, and excludes mass media like radio and television (Baron, 2008). Other

terms such as Information Communication Technology (ICT) and Computer-Mediated

Communication (CMC) identify specific functions or specific hardware. ECT has two important

characteristics: bandwidth and synchronicity. These characteristics describe the ability of

technology attributes to process nonverbal cues and to influence how individuals perceive

messages (Doering & Poeschl, 2007; Burke & Chidambaram, 1999).

Bandwidth refers to the range of cues transmitted by the medium (Burke &

Chidambaram, 1999). Higher bandwidth media have the ability to transmit more cues than those

with lower bandwidth. E-mail messages and text messaging are primarily text-only messages

using language with some limited visual cues. The receiver cannot perceive as many nonverbal

cues that would normally be part of face-to-face communication. These cues include body

movement, posture, gestures, facial expressions, touch, and vocalics.

Limiting cues could lead to lower relational outcomes, but some individuals compensate.

Some employ unique verbal expressions or graphic figures to compensate for what would

normally be nonverbal portions of face-to-face messages. Communicators using E-mail or text

messaging can use capital letters to emphasize, punctuation to reinforce, and emoticons to show

emotion (Doering & Poeschl, 2007). Communicators can also compensate for cues that others

cannot directly perceive by using more explicit verbal messages (Munzer & Borg, 2008; Doering

et al., 2007). For example, an individual might literally type, "*sigh*" to communicate what they

are physically doing. Because of this, some text-only messages may be longer than what is

needed for the primary message function in an effort to compensate for the lack or limitation of

cues. Beyond cue limitation, communication technologies also vary in response time.

Communication may be asynchronous or asynchronous. Synchronous communication allows each individual in the dyad to communicate with each other at the same time (Dennis, Fuller, & Valacich, 2008). Asynchronous communication, on the other hand, is an exchange of messages that does not require the relational partners to communicate at the same time during the interaction (Dennis, Fuller, & Valacich, 2008). When viewed on a continuum, technologies may have varying degrees of synchronicity.

Asynchronous communication creates response latency or time-lapse between creations of the message to receipt. Time-lapse between messages that are sent and received among relational partners can affect how people perceive messages (Doering et al., 2007). Although some messages might be exchanged concurrently because both parties are available and responsive at that time, it is not a guarantee. There could be hours or days between a message and its response over some technologies.

Previous communication technology research has categorized the different mediated channels in different ways. Some studies have grouped all technologies as CMC (Pauley & Emmers-Sommer, 2007; Rabby, 2007; Ramirez & Zhang, 2007; Scott, Mottarella and Lavooy, 2006; Parks & Roberts, 1998; Walther, 1995), and others have split technologies into synchronous and asynchronous communication (Ledbetter, 2009; Walther Loh, & Granka, 2005). Another study categorized face-to-face communication as a separate technology, telephone and E-mail as another, and grouped all other technologies together for the third category (Baym, Zhang, Kunkel, Ledbetter & Lin, 2007). This thesis adopted a variation of the categorization employed by Baron (2008).

The first three types of technology are the oldest technologies in the categorization. Unmediated communication between individuals at the same location at the same time is face-to-face (FTF). A telephone conversation (TEL), on the other hand, is mediated and allows individuals in different locations to speak to each other at the same time. This category would include both land and cell phone lines, Skype, and VOIP. A third category is E-mail (EML). EML is an electronic technology that digitally transmits primarily textual messages of any length. EML is primarily asynchronous communication that can be transmitted while the individuals in the dyad are in two different locations. EML can have an intended audience (CC and BCC) where the communicator chooses specific individuals to include in the transaction, but this option is not primarily used in interactions between romantic partners.

Fourth, private electronic communication (PEC) is technological communication that includes mediated messages that are primarily synchronous, but can be asynchronous depending on availability and responsiveness of the relational partner, and the bandwidth of the technology. Transmission of these primarily textual messages is limited to a specific amount of bytes (usually resulting in approximately 160 character message maximum) and only includes communication between the two romantic partners. This category included private chat, text messages, and instant messages such as AIM, Yahoo Messenger and Facebook private chat.

Public Electronic Communication (BEC) involves primarily textual and asynchronous messages that are not only directed at one person but also viewed by an audience. Social network sites allow mediated communication between individuals to be publically transmitted or displayed before a network and to share a network with all the members (Boyd & Ellison, 2007). Members of the audience can also comment on or enter the interaction. Depending on privacy

settings, users can broadcast their conversation to anyone or only their contacts on that specific Web site. However, there is no way of knowing or choosing exactly who will see or comment on the message. An exchange of comments on blogs and public chartrooms are also forms of BEC.

Communication Technology and Relational Outcomes.

There seem to be three patterns in the communication technology literature about relational outcomes. One pattern suggests mediated communication diminishes relational outcomes. Cues Filtered Out (CFO) theory highlights two aspects of much CMC research associated with the first pattern. First, most of this communication consists of text-only messages with a diminished capacity to transmit communication cues that would otherwise exist in a FTF interaction. Secondly, users tend to regard the messages as ephemeral or having no physical existence. The combination of these two factors leads to deindividuation. Deindividuation refers to a reduced capacity to appreciate others as individuals or a limited ability to attach personal identity to one's own actions (Diener, 1980; Zimbardo, 1969). The original ideas about deindividuation explained how otherwise rational and sensitive individuals could participate in violent behavior as part of a group or crowd. When people deindividuate, they are more likely to flame. Flaming is communication similar verbal aggression and consists of the use of textual features such as capitalization and dramatic expression to attack others, and flaming leads to relational deterioration (Kiesler, Siegel, & Maguire, 1984). Salem and Gratz argue that the limited richness of some communication technology could lead to dysfunctional communication, diminished communication competence, fragmented relationships, and a loss of self (Salem & Gratz, 1989; Gratz & Salem, 1984). Contemporary research continues to support this argument in a variety of relationships and contexts.

There has been research regarding communication technology and relational outcomes confirming that people using ECT to maintain relationships score lower on various relational outcomes when compared to relationships maintained primarily through FTF. Scott, Mottarella and Lavooy (2006) found there was higher perceived intimacy in FTF relationships, than virtual relationships. Similarly, Rabby (2007) examined the difference of commitment in relationships maintained through FTF versus virtual relationships, but also examined relationships that experienced both types of technologies. Those individuals interacting only through virtual relationships reported significantly lower levels of commitment when compared to virtual relationships that then moved to FTF.

A second pattern in the literature clashes with the first. The Social Identity model of Deindividuation Effects (SIDE) argues that individuals develop stronger relational or social identities to replace diminished personal identities in a mediated environment (Reicher, Spears, & Postmes, 1995; Lea & Spears, 1992). In other words, relational identities could be stronger because of less personal identity. Walther (1992) suggested communicators develop unique individuating impressions of others through accumulated CMC messages. People then use these impressions to develop relationships and express multidimensional relational messages through verbal cues. Communicators are able to adapt their messages to express relationship maintenance behaviors better when there is a lack of nonverbal cues. This model also assumes that individuals create a mediated impression on which the relationship is built over time. Walther (1996) describes these relationships as hyperpersonal and argues that these relationships would be as satisfying as those maintained through FTF.

Some researchers have confirmed little to no difference between ECT and FTF interactions. Virtual environment relationships had similar breadth or depth of the relationship when compared to relationships maintained through FTF (Parks & Roberts, 1998). Walther, Loh and Granka (2005) also found no difference in the relational outcome between FTF and CMC communication interactions. People using CMC expressed closeness and reacted to those expressions in a manner similar to people communicating FTF. A different study classified mediated relationships into TEL and internet, and compared them to FTF interactions (Baym, et al., 2007). There was no significant difference in relational closeness or satisfaction. Another study examined relationships in terms of relationships maintained through FTF, exclusively CMC interactions, and a mix of the two (Pauley & Emmers-Sommer, 2007). The researchers found no difference in relational confidence or intimacy between romantic relationships that are exclusively online and those that have a mix of virtual and FTF interactions. One study used the same structure of technological categorization as Rabby (2007) and Pauley and Emmers-Sommer (2007). They found that mediated-only relationships score higher on perceived relational outcomes than any combination of media and FTF interactions. Partners remaining online yielded greater intimacy and social attraction than the other conditions in which FTF contact occurred (Ramirez & Zhang, 2007). However, this finding was not significant.

A third pattern in the technology literature further complicates matters. Some researchers have reported conflicting data within their own studies. Walther (1995) used an experimental design where coders rated different CMC and FTF interactions. Results showed that CMC groups achieved more positive levels on several dimensions of interpersonal communication than did FTF groups, but on other dimensions there were no differences between conditions.

Dominance and formality were greater in CMC dyads than FTF dyads, and immediacy/affection and relaxation/composure scored higher for FTF than CMC dyads. Receptivity/trust and relaxation/composure increased over time with a use of CMC that moved into a FTF relationship. Walther (1997) had a similar result in a study he conducted two years later. He again found that some conditions of CMC experience greater or lesser relational outcomes than effects obtained through FTF interaction. In this study, he also found that use of CMC by geographically dispersed partners renders effects systematically superior to those obtained in other mediated conditions. Ledbetter (2009) found that the asynchronous public communication, social networking communication, and synchronous offline communication related to higher friendship interdependence, but private asynchronous communication did not.

Researchers have used a multiple methods to examine the relationship between technology and relational outcomes. There were several methods to classify technologies, and some researchers chose quantitative surveys while others employed experiments. The conflict in findings from previous patterns in the research cannot be ignored. One line of research found that relationships maintained through FTF scored higher on perceived relational outcomes, a second line of research suggests that there is no variance in the relational outcomes when comparing relationships with mediated and FTF interactions. A third and final line of research implied that some relational outcomes were higher in CMC while others were higher in FTF interactions. Previous research examining relational outcomes and communication technology was contradictory. Some may suggest methodological error to be at fault for the conflicting results in this line of research. However, multiple methods were used (experiment, survey) resulting in

similar findings, confirming reliability. Studies using similar methodologies however, resulted in conflicting data. Another variable could have been in play.

Communication Style

None of the studies examined in this thesis accounted for other communication variables. The research designs explored how the use of one technology or another might have the ability to solely influence relational outcomes. While the use of technology with various attributes might have the ability to alter message cues, the data did not demonstrate a clear relationship between the use of a particular technology and relational outcomes. There were conflicting patterns in previous technology and communication research. A variable that has the possibility to explain the variance over communication technologies is style.

Salem and Gratz suggest that *how* individuals construct messages via technology is more important in explaining outcomes than either the attributes of a technology or that individuals simply *use* one or more technologies (Salem & Gratz 1989; Gratz & Salem 1984). Communicator style refers to *how* individuals communicate. Norton (1983) described communicator style as "the way one verbally, nonverbally and paraverbally interacts to signal how literal meaning should be taken, interpreted, filtered and/or understood . . . and is a relatively enduring pattern of human interaction associated with the individual" (p 19). Style "gives form to content" (Norton, 1983, p.20).

Norton examined 90 different terms used to describe communication style and synthesized them into 10 categories of communicator style (Norton, 1983). He constructed and validated several scales to develop a communicator style survey. Descriptions of communication style have been popular in many lines of communication research, but some of Norton's styles

are not as popular as others. Also, researchers do not always use his scales, and some researchers do not use his terms (Buller & Buller, 1987; Andersen, 1979). Only one article examined the relationship of overall communication style with communication technology (Parker, Chignell, & Ruppenthal, 2002). However, this article focused on the creation of a personal preference inventory of communication style related to technologies, rather than an examination into the effects of those variables. The thesis researcher found no studies examining overall communication style, technology use, and relational outcomes.

Of the Norton styles that have been studied in the general interpersonal communication literature, three have been positively related to satisfaction and commitment: open, friendly and attentive. The first style is open. Norton (1983) describes an open communicator as conversational, convivial, and somewhat frank and outspoken. Others perceive this communicator as straight-forward and approachable. Self disclosure is a form of the style. Openness has been positively correlated with both commitment (Stafford, Dainton & Haas, 2000) and satisfaction (Maguire & Kinney, 2010; Stafford et al., 2000). Sprecher and Hendrick (2004) found that self-disclosure was positively related to both satisfaction and commitment.

A friendly communicator style confirms, supports, strokes and recognizes the other person in a positive way (Norton, 1983). Individuals using positive behaviors often reflect interest in the interaction by showing genuine concern, being positive and being supportive. Showing concern and being positive have been positively correlated to relational satisfaction (Shapiro & Gottman, 2004; Stafford et al., 2000) and commitment (Stafford et al., 2000). Additionally, showing emotional support has been positively correlated to relational satisfaction (Cramer, 2004a; Cramer, 2004b) and to commitment (Meyers & Bryant, 2008).

Attentiveness is an effort of the communicator to make sure that the other person knows they are being listened to carefully (Norton, 1983). These behaviors include paraphrasing, asking questions, and appropriate nonverbal behaviors such as eye contact and back-channeling cues (Naiman & Breed, 1974). Other words for attentiveness are responsiveness, empathic behaviors, and active listening (Salem, 2009). Responsiveness has been positively related to immediacy and feelings of closeness (Meyers & Avtgis, 1997; Thomas, McCroskey & Richmond, 1994). Perceived responsiveness has been shown to promote relational satisfaction within marital relationships (Lemay, Clark, & Feeney, 2007). Expressions of empathy have been positively related to intimacy (Mitchell, Castellani, Harrington, Joseph, Doss, & Snyder, 2008).

Some researchers have used categories that represent combinations of these Norton basic styles. Buller & Buller (1987) described an affiliation style encompassing many trait elements of *both* the attentive and friendly styles - warm friendly, honest compassion and overall other orientation. Results showed that an affiliation style was related to greater interpersonal satisfaction as well.

Similarly, an immediate style combines openness, friendliness, and attentiveness. Immediacy refers to verbal, nonverbal and paraverbal behaviors that create perceived closeness between relational partners (Andersen, 1979). An immediate style involves behaviors that convey warmth, positive affect, and approach or availability (Anderson, 1979). Some verbally immediate behaviors include self-disclosure and confirmation of others' messages (Andersen, 1998). Self-disclosure is an example of an open style, and confirmation of other' messages is what Norton describes as "confirming the other in a positive way" for the friendly style. Some nonverbally immediate behaviors are smiling, positive head nods, and eye contact (Mehribian,

1972). Norton specifically mentions eye contact when describing the attentive style. Smiling and positive head nods are synonymous with the responsive and active listening behaviors described for the attentive style as well. Open, friendly, and attentive styles have also are highly and positively correlated with immediacy (Anderson, Jensen, & McGee, 1999).

Researchers have examined specific immediacy behaviors as the outcome variable and primarily in the instructional context (O'Sullivan, Hunt & Lippert, 2004; Frymier, 1993; Christophel, 1990; Gorham, 1988). Measures of these specific behaviors would be would be difficult to examine in romantic relational outcomes. The way this could be done is to adapt the measure to specific relationships. For example, Burgoon and Hale, (1984) developed a general immediacy sub-scale as part of the Relational Communication scale as an outcome measure.

The communicator styles of open, friendly, and attentive are conceptually related to immediacy. Open, friendly, and attentive styles have been positively related to both satisfaction and commitment, and to immediacy behaviors. Therefore, an immediate communication style should positively correlate with satisfaction and commitment.

Current measures of openness, friendliness, and attentiveness styles measure based on specific behaviors and are too narrow to apply to a broad range of technology. Measures of verbal and nonverbal immediacy behaviors are also too specific. Some of the technologies may not be able to transmit specific vocal or visual cues, which biases the measure for technologies that are able to do so. For example, investigating the extent to which relational partners use a friendly vocal tone applies only to conversations that are FTF and telephone, and not E-mail. More general indicators of an immediate style (i.e. 'my partner conveys warmth', instead of 'a warm vocal tone') seem more appropriate for measuring communicator style across a variety of

technologies. The purpose of this thesis research is to examine the relationship between an immediate communicator style, the use of technologies, and relational outcomes.

Relational Outcomes, Communication Technology, and Immediate Communicator Style

Research examining relational outcomes and technological use has had conflicting results. While some found that relationships maintained through FTF interactions have greater positive relational outcomes, others found that there is no difference between relationships maintained through FTF and relationships maintained through electronically mediated communication. Furthermore, additional studies had conditional results. None of these studies accounted for any other variable that might interact or directly affect relational outcomes.

The review of other communication literature uncovered the relationship between immediate communicator style and relational outcomes. Communicator styles of open, friendly, and attentive all have been found separately or in combination to be positively correlated with satisfaction and commitment in romantic relationships. All of these styles are ways to approach, and approach strategies constitute an immediate style.

Individuals could use technology in an immediate way. Conflicting results in previous studies may have been due to the lack focus on *how* individuals construct messages rather than through *what* technology. Although different technologies can limit communication cues, individuals still have the ability to adapt their messages to compensate for the lack of cues. Individuals with an immediate style would be more likely to compensate for the limitations of different technologies. Conversely, individuals may be less immediate over any technology, resulting in lower relational outcomes. In some of these specific instances, others may have over-

compensated style cues to improve communication with a particular technology. This would account for instances where the use of a given ECT produced greater relational outcomes than FTF.

Previous communication technology studies about relational outcomes have neglected individuals' abilities to adapt their styles. Accounting for communicator style should resolve the differences between FTF and other technology. There should be significantly greater relational outcomes for those who use a more immediate communicator style than for those who use a less immediate communicator style, regardless of the technology. This conclusion leads to the following hypotheses.

H1 There will be significantly greater positive relational communication outcomes (satisfaction and commitment) for partners who use a more immediate communicator style than for partners who use a less immediate communicator style.

H2 There will be no significant difference of relational communication outcomes (satisfaction and commitment) between high and low FTF users.

H3 There will be no significant difference of relational communication outcomes (satisfaction and commitment) between high and low TEL users.

H4 There will be no significant difference of relational communication outcomes (satisfaction and commitment) between high and low EML users.

H5   There will be no significant difference of relational communication outcomes

(satisfaction and commitment) between high and low PEC users.

H6   There will be no significant difference of relational communication outcomes

(satisfaction and commitment) between high and low BEC users.

H7   There will be no interaction effects between the level of immediate

communication style and the levels of use of any technology.

Summary

This chapter contained a more detailed review of literature about relational outcomes regarding communication technology. The researcher gave specific definitions and explanations of commitment, satisfaction, communication technology, and immediate communication style. This chapter included a broad examination of findings from previous communication research in regard to the relationship between the use of ECT and relational outcomes. This examination also included research about the relationship between communicator style, immediacy and outcomes in other communication research. The researcher addressed the conflicting patterns in the literature surrounding communication technology effects on relational outcomes and suggested that an immediate communication style may be more important than technology use. This proposition led to seven hypotheses.

The next chapter has a description of the method and procedures in this research. In includes descriptions of sampling procedure, along with a description of all measures used to test the hypotheses. The third chapter also includes a detailed description and explanation of statistical methods used to test hypotheses.

The fourth chapter reports on descriptive and inferential statistics of this research. First, there is a display of sample statistics, followed by a report of scale means, standard deviation and survey reliability. Next are results of exploratory factor analyses to confirm the factor structure of the immediacy, satisfaction and commitment scales for validity. Finally, the researcher reports on results from a series of MANOVAs that tested and seven hypotheses.

This next and final chapter includes a discussion of the results reported in this chapter. The first section of the chapter describes how this thesis might contribute to the understanding of communication technology and relational outcomes in romantic relationships, and might add to both the interpersonal and communication technology areas of research. The next section describes four different areas for future research. In the final section, the researcher reviews results and explains four possible limitations of the study.

Chapter III

Research Methods

The first chapter included general definitions and explanations of satisfaction and commitment. The chapter also had preliminary explanations communication technologies, and introduced conflicting research patterns about communication technology effects. The researcher explained communicator style, linked it to relational outcomes, and discussed it in terms of communication behaviors in an attempt to resolve the conflicts in the technology research.

The second chapter contained a more detailed review of literature about relational outcomes and communication technology. The researcher gave specific definitions and explanations of commitment, satisfaction, communication technology, and immediate communication style. Additionally the second chapter provided a broad examination of findings from previous communication research in regard to the relationship between the use of electronic communication technology (ECT) and relational outcomes. This examination also included research about the relationship between communicator style and immediacy. The researcher addressed the conflicting results in the literature surrounding communication technology effects on relational outcomes and suggested that an immediate communication style may be more important than technology use. This proposition led to seven hypotheses.

The first section of this chapter has a description of the method and procedures in this research: sampling procedure, along with a description of all measures used to test the

hypotheses. This chapter also includes a detailed description and explanation of statistical methods used to test hypotheses.

Subjects

Most past communication technology and relational outcomes research used convenience samples of volunteer undergraduate students selected from courses at various universities across the United States. The students' participation led to extra credit or course credit. Samples in previous communication technology literature ranged from approximately 50 (Walther Loh, & Granka, 2005) to 1300 (Rabby, 2007), but the most common sample was from 150-200 participants.

This study had a similar convenience sample. The sample consisted of undergraduate students enrolled in a general requirement, introductory communication course required for all students at a large Southwestern university. Instructors offered students extra credit as an incentive for participation.

Researchers often used a convenience sample in studies as a preliminary step to larger research (Wrench, Thomas-Maddox, Richmond & McCroskey, 2008). Although the sampling method in this research limited generalizibility to a college-age student population, it allowed for an examination of all types of students, instead of one specific academic major. Ultimately, the sampling procedures in this thesis were comparable to the extant research.

Measurement

Survey Design.

Previous researchers have used questionnaires to measure some of the variables in this study. The researcher created a three-part questionnaire. Part 1 of the survey was about relational

communication outcomes. Part 2 assessed the perceived communicator style of the relational partner, and part 3 measured the frequency and distribution of the use of different forms of communication technology. The Appendix contains the entire survey.

Subjects completed the survey online through *Survey Monkey* for simplicity and ease of completion. This method also allowed for uncomplicated transference of the data to an analysis program. Participating professors and instructors introduced the survey opportunity to students and sent them a link to the actual survey through E-mail.

An introduction and consent form was on the first page of the survey. First, the subjects were asked to read and agree to the informed consent required by the Texas State Institutional Review Board. The informed consent form used in this study adheres to the prescriptions set forth by Wrench, Thomas-Maddox, Richmond and McCroskey (2008). This consent form detailed the general purpose of the study and divulged any risks that could be associated with participation. The form then emphasized anonymity and confidentiality of subjects, and stressed that answers would be separate from personal information. In addition, the consent form stressed that participation is completely voluntary. Subjects were able to quit at any time and did not have to answer any questions they felt uncomfortable answering. Finally, the consent form included a section that specified that no categorization group of individuals benefited more from this research, than themselves. If they agreed, subjects clicked "yes".

Once the participants consented to participate, they completed all three measures in one sitting: relational outcomes, immediate style, and technology. No individual was able to stop and continue at a later time; if they chose to quit the survey in the middle, the measurement was over.

The survey used for this study contained 32 items. The first twenty items dealt with relational outcomes in a romantic relationship. These items were about satisfaction commitment, quality of alternatives, and investment size from the Investment Model Survey. Note that only the satisfaction and commitment scales related to this thesis. The next seven items measured communicator style. Participants were asked to think about their current romantic relationship. For these first 27 items, subjects were asked to indicate how they agreed or disagreed with each statement. These items of the questionnaire used a seven point Likert-type response ranging from "strongly disagree" to "strongly agree".

The last five items measured the frequency of communication technology use. After completing the relational outcomes and communicator style measure, participants estimated how often they communicate with their romantic partner through each type of technology (i.e. face-to-face, telephone, E-mail, private and public electronic communication). There were five possible responses ranging from "several times" a day to "less than yearly/never." The following is a more comprehensive and detailed description of each measure.

Relational Outcomes Scales.

Rusbult Martz and Agnew (1998) created an Investment Model questionnaire that includes both satisfaction and commitment. The researcher reviewed the items in the scales to reduce the overall size of survey. It was important to use a smaller survey to preserve participant stamina (Wrench et al., 2008). The researcher assessed factor analyses of the scale to determine appropriate factor loadings of .5 or greater (Wrench et al., 2008). This ensures that the items are acceptable measurement of the specific variable. Those items with small loadings in association to other items in a scale were omitted. The five highest in factor loadings were kept for each

scale. Since the Investment Model survey contains four scales, this portion of the survey consisted of 20 items.

Past researchers confirmed that items were strongly associated, and measure the intended specific construct. After a factor analysis, the creators of the model posited that individual items correlated more with their global construct than any other global construct. The results of the validity analysis also showed little dependence among the four global elements and correlations among the Investment Model sub-constructs were consistent with the Model's hypothesis (Rusbult, 1998).

In the previous studies, some communication technology researchers measured satisfaction using Rusbult et al.'s (1998) Investment Model scales. Two studies used adaptations of The Relationship Assessment scale created by Hendrick (1988) and another lone investigation used the Kansas Marital Satisfaction Scale, but these two scales were not part of other communication technology studies. More frequently, researchers adapted items from previous scales or created a 3-5 item scale assessing how satisfied or dissatisfied the respondents were with various areas of their relationship (i.e. physical intimacy, conflict resolution, relationship equality etc.) (Maguire & Kinney, 2010; Lemay, Clark, & Feeney, 2007; Cramer, 2004a; Cramer, 2004b; Stafford, Dainton, & Haas, 2000). These items used a 7-point Likert-type scale ranging from very satisfied to very dissatisfied. One study included only one semantic differential item asking the respondent to rate how satisfied or dissatisfied they were with the relationship on a continuum (Byam, Zhang, Kunkel, Ledbetter & Lin, 2007). Other measures were more frequent, but Cronbach Alpha's for reliability have been higher for the satisfaction measure in the Investment Model.

The Investment Model survey's satisfaction measure was used for this study. Assessing reliability for individual questions began with item-total correlations. These correlations ranged from $r = .82$ to $r = .95$ (Rusbult et al., 1998). Overall, reliability for this scale was tested multiple times and produced alpha coefficients of .92 to .95 (Rusbult et al., 1998).

In this research, the scale consisted of five items, and participants indicated the degree they agreed or disagreed with each statement. Subjects had one choice of seven responses: 1 - "strongly disagree", 2 - "disagree", 3 – "somewhat disagree", 4 – "neutral", 5 - "somewhat agree" 6 – "agree" and 7 – "strongly agree". Two examples of questions measuring satisfaction were "My relationship is close to ideal" and "Our relationship makes me happy". These questions aimed to measure how well the relationship is meeting the needs/wants/desires of the individual.

When investigating commitment and communication technology, researchers have used Rusbult's et al. (1998) global commitment items from the Investment Model survey most frequently. However, one other measure has been used. Two studies incorporated the Lund (1985) commitment scale that contained 5 Likert-type items closely resembling those on Rusbult's sub-set. Rusbult's Investment model commitment measure has demonstrated high reliability.

This research used the Rusbult commitment scale. In the questionnaire, the scale consisted of five items, and participants indicated the degree they agreed or disagreed with that statement. Subjects had a choice of seven responses where each number represents and answer: 1 -"strongly disagree", 2 - "disagree", 3 – "somewhat disagree", 4 – "neutral", 5 - "somewhat agree" 6 – "agree" and 7 – "strongly agree". The measure asked questions like "I want my

relationship to last a long time" or "I am oriented toward the long-term future of our

relationship" to identify an individual's drive to persist in the relationship.

The researcher adopted the Investment Model scale because it aligns with previous

technology research in measuring both satisfaction and commitment. Researchers have

consistently used these scales in relational outcome research. The researcher employed

Cronbach's alpha to assess reliability and conducted a factor analysis of the revised outcomes

items to confirm the factor structure. These procedures were consistent with the past use of these

scales.

Immediate Communicator Style.

Norton's (1983) communicator style survey has consistently distinguished between multiple and

different communicator styles. The style measures consisted of perceptions of specific verbal and

nonverbal behavior exhibited by an individual. Limitations of the technology made it difficult to

apply these separate scales directly. For example, investigating the extent to which relational

partners used an immediate vocal tone or leaned forward to signal attentiveness would apply to

conversations through face-to-face and some forms of telephone, but not E-mail, private or

public electronic communication. This thesis needed a more generalized scale.

The immediacy/affection set of questions from Burgoon and Hale's (1984) Relational

Communication Scale measured perceived immediate behaviors in previous studies. Questions

from this measure aligned well with the behaviors described for Norton's (1983) open, friendly,

and attentive styles. The researcher adapted items from immediacy/affection scale on Burgoon

and Hale's (1987) Relational Communication Scale for this thesis survey to indicate immediate

communicator style. To measure the immediate style, the survey included questions like "My

partner found our communication stimulating" or "My partner showed enthusiasm while communication with me." Rather than describing specific immediate behaviors, the questions focused on impressions that immediacy cues should arouse.

The immediate communicator style measure included nine Likert-type questions on a seven-point scale. Each question contained a statement about perceptions of the relational partner's communication. Participants then answered how much they agree or disagree with statements, where 1 is "completely disagree", 2 is "disagree", etc. up to 7 representing "completely agree".

Burgoon and Hale (1987) claimed that the scale had the ability to discriminate between immediate and non-immediate behaviors. They also reported high reliability for this scale. Coefficient alpha for this scale was .91 (Burgoon & Hale, 1987). The researcher conducted a Cronbach's alpha analysis to ensure reliability and a factor analysis of the items to confirm the univariate nature of the scale.

Communication Technology.

Previous studies have grouped communication technology in a number of different ways. Some grouped all technologies together and compared those interactions to face-to-face communication, while others went further to isolate E-mail and telephone conversations and then grouped the rest of the technological resources. Some researchers even grouped communication by synchronous and asynchronous forms where some technologies fell into both categories.

For this research, technologies were distinguished in several ways. Communication that is face-to-face was distinguished the only type of unmediated technology, and groups of one-to-one and one-to-many communication channels were identified as well. The one-to-many

distinction was one way to define public communication and to distinguish it from private or one-to-one communication (Dance & Larson, 1972). Additionally, there was a distinction between message length and synchronicity. Baron (2008) suggested the categories of communication technology in this thesis study and Salem, Achurra, Kline and Pridgen (2010) had used the categories in an earlier study.

There were five categories of technology. First, face-to-face (FTF) communication referred to unmediated communication between individuals at the same location at the same time. In a telephone conversation (TEL), relational partners used a telephone and communicated at the same time, but the individuals were in two different places. This category includes both land and cell phone lines being used, as well as VOIP and Skype. A third category was E-mail (EML). EML was defined as an electronic technology that digitally transmits mediated textual messages. EML has no limit on message length and is primarily asynchronous. Private electronic communication (PEC) referred to any technologically mediated communication only viewed by the two relational partners. The messages are primarily synchronous and restricted to short character lengths. This category included SMS/MMS text messages and instant messages (i.e. AIM, Blackberry Messenger etc.). The final category of media was Public Electronic Communication (BEC) and is primarily asynchronous. BEC is mediated and primarily textual communication between individuals to be publically transmitted or displayed.

This third portion of the survey began with instructions defining communication as an exchange of messages between two relational partners. Subjects completed forms indicating how often they communicate with their romantic partner by FTF, TEL, EML, PEC, and BEC. Subjects were asked to estimate their frequency of technology use to communicate with their

relational partner by using the following choices: (D) Several times a day, (W) Several times a week, (M) Several times a month, (Y) Several times a year, and (0) Less than yearly or never.

Each subject had 10 scores. Four scores were for relational outcomes: commitment, satisfaction, quality of alternatives and investment size. One score was composed for communicator style. Finally, five scores measured use of technology – one for each of the communication technologies being measured.

Design and Statistics

For the purposes of this study, data were analyzed to see if an immediate communicator style, the amount of technology use, or the interaction of the two, affected relational outcomes (i.e. 4 elements of the Investment Model). The researcher intended to classify subjects as high/low in terms of technology use and immediate communicator style. The researcher intended to block scores above the mean or median as high, while those falling below the mean or median as low. However, the distribution of responses for the immediacy scale suggested three categories. The next chapter includes an explanation of the final categories. A factorial design of 2 (high and low use of a technology) x 3 (high, medium and low immediate style) was used to test hypotheses. The factorial design allowed for testing main effects and interaction effects.

This research design combines the relational variables (satisfaction and commitment) to act as the dependent variable. An analysis of variance would have been appropriate to understand changes in one relational variable. However, because there were multiple independent variables, and a combination of outcomes as the dependent variable, a MANOVA was more appropriate and efficient. The researcher used a typology of five different technologies. To test the differences between frequency of use of each of these technologies, there were 5 MANOVAs.

The MANOVAs showed if the style or technology affected any combination of the outcomes, or if style and use of technology acted together to affect any combination of the outcomes.

Summary

This chapter has a description of the method and procedures in this thesis. The chapter includes an explanation of sampling procedures, and all measures of the variables. The previous section also includes descriptions and explanations of statistical methods used to test hypotheses.

The fourth chapter reports on descriptive and inferential statistics of this research. First, there is a display of sample statistics, followed by a report of survey means, standard deviation and survey reliability. Next are results of exploratory factor analyses to confirm the factor structure of the immediacy, satisfaction and commitment scales for validity. Finally, the researcher reports on results from a series of MANOVAs that tested and seven hypotheses.

This next and final chapter includes a discussion of the results reported in this chapter. The first section of the chapter describes how this thesis might contribute to the understanding of communication technology and relational outcomes in romantic relationships, and might add to both the interpersonal and communication technology areas of research. The next section describes four different areas for future research. In the final section, the researcher reviews results and explains four possible limitations of the study.

Chapter IV

Results

The first chapter included general definitions and explanations of two relational outcomes: satisfaction and commitment. The first chapter also included a preliminary review of literature, and introduced conflicting research surrounding communication technology and relational outcomes. The researcher explained communicator style, linked it to relational outcomes through research, and discussed it in terms of communication behaviors that may address conflicts in the technology research.

The second chapter contained a more detailed review of literature about relational outcomes regarding communication technology. The researcher provided definitions and explanations of all variables in this thesis: commitment, satisfaction, communication technology, and immediate communication style. Additionally the second chapter included a broad examination of findings from previous communication research regarding the relationship between the use of electronic communication technology (ECT) and relational outcomes. This examination also included research about the relationship between communicator style and immediacy. The researcher addressed the conflicting results in the literature surrounding communication technology effects on relational outcomes and suggested that an immediate communication style may be more important than technology use. This proposition led to seven hypotheses.

The third chapter included a description of the method. The researcher clarified the sampling procedure and measures for commitment, satisfaction, technology use and an immediate style. The previous section also included descriptions and explanations of statistical methods to test hypotheses.

This chapter reports on descriptive and inferential statistics of this research. First, there is a display of sample statistics, then a report of scale means, standard deviations, and reliabilities. This is followed by results of exploratory factor analyses to confirm factor structure of the immediacy, satisfaction and commitment scales. Finally, the researcher reports on results from a series of MANOVAs to test hypotheses.

Descriptive and Scale Results

A total of 502 individuals responded to the call for participants to complete this survey research. Before completing the survey, a total of 188 individuals were disqualified because they were under 18 years of age, not in a romantic relationship, or did not agree to the terms of the survey. Out of the total number of participants that responded, 352 qualified for and submitted the survey, but only 314 answered every question.

Sixty-three percent of the participants were female, and 37% were males. Slightly over 90 % of the subjects were 18-24 years-old, while 6% were 25-34, 2% were 35-44, and 1.7 % were 45-54. The sample represented a number of ethnicities. Sixty-three percent of the population classified themselves as Caucasian while, and Hispanic accounted for 24% of the sample. Six percent of the sample identified as African-American/ Black, 2.6% classified themselves as Asian, and Native Americans accounted for 1%, while the final 3% classified themselves as Other.

Table 4.1 presents the sample means and standard deviation for each of the satisfaction, commitment and immediacy scales. The satisfaction scale consisted of 5 items. Responses from items 1, 2, 3, 4 and 5 were averaged to attain an overall satisfaction score. The commitment scale included five items. Subject responses from items 16, 17, 18r (reverse coded), 19 and 20 were averaged for an overall commitment score. Subject responses for items 21, 22, 23r, 24r, 25r, 26 and 27 were averaged for an overall perceived immediate style score. Means for satisfaction, commitment, and immediate communicator styles fall above the middle score of the scales. These means demonstrate that the sample collected for this research was generally satisfied, committed and perceived their partner as exhibiting an immediate style.

Table 4.1

Descriptive Statistics of Scales

	Mean	No. of Items	Standard Deviation	Cronbach Alphas
Satisfaction	5.46	5	1.44	.94
Commitment	5.69	5	1.26	.87
Immediate Style	5.44	7	1.20	.90

Table 4.1 also reports on reliability of scales used in this survey. Reliabilities were checked by calculating Cronbach alpha scores for each scale. Using this test, an alpha score of .70 or better indicates an acceptable level of reliability (Wrench et al., 2008). This test assesses the consistency of answers to questionnaire items and checks the reliability of a scale. Cronbach alpha scores for satisfaction (a=.94), commitment (a=.87), and immediacy (a=.90) confirm the scale reliability reported in previous studies for each scale.

In order to test the construct validity of the satisfaction, commitment and immediacy scales, the researcher conducted exploratory factor analyses with orthogonal varimax rotation. Analysis for the satisfaction scale produced a one-factor solution, accounting for 81.31% of the variance. The analysis also provided a one-factor solution for commitment, accounting for 71.82% of the variance.

The analysis of immediacy scale produced a one factor solution accounting for 64.22% of the variance, but the addition of a second factor accounted for 15.63% more of the variance. However, the second factor consisted of all negatively worded items. Negatively worded items ask about negative feelings rather than positive ones, and are reverse coded for statistical analysis. For example, "my partner communicates coldness" would be considered a negatively worded item while "my partner communicates warmth" would be the positively worded form of the question. Since reliability is high, and a second factor only reflects the negatively worded items, the analysis confirmed the single factor structure of the immediacy scale. The two combined factors accounted for 79.85% of the variance.

Table 4.2 displays the distribution of technology use among respondents. Participants indicated how often they used each of the five technologies when communicating with their romantic partners: face-to-face (FTF), telephone (TEL), E-mail (EML), personal electronic communication (PEC), and public electronic communication (BEC). Participants chose from one of five categories of frequency: several times a day, several times a week, several times a month, several times a year, or less than yearly/never. The table specifies the percentage of the sample who used each technology and how often. Individuals reported that they communicated most

using PEC (71.7% answered several times a day) while the least used technology was BEC. Only

17% used BEC several times a day, while over 20% of the sample never used the technology.

Table 4.2

Use of Technology Distribution

	Frequency				
Technology	Several times a day	Several times a week	Several times a month	Several times a year	Less than Yearly/ Never
FTF	40.4%	31.5%	21.0%	4.8%	2.2%
TEL	55.4%	31.5%	9.6%	1.0%	2.5%
EML	34.1%	15.0%	21.0%	15.0%	15.0%
PEC	71.7%	17.5%	4.5%	2.9%	3.5%
BEC	17.2%	28.0%	25.8%	6.4%	22.6%

Inferential Results

Blocking allows for a more direct test of interaction effects using MANOVA. Blocking is

grouping similar respondents' answers into categories (Peck, Olsen, & Devore, 2009). On the

other hand, natural blocking is an attempt to put subjects into groups of nearly equal proportions.

Blocking into two categories attempts to put approximately 50% of the sample into each

category, and blocking into three categories attempts to put approximately 33% of the sample

into each category. Respondents in this research were blocked for responses to use of each

technology condition and perceived partner immediate communicator style. . In order to test

hypotheses, the researcher used a natural blocking method.

For the use of technology and an immediate style, the researcher examined the percentages of the sample that answered in a particular way. Splitting technology into a two category system of high/low produced distributions closer to equality than a three category system of high/medium/low. High FTF use consisted of 41% of the sample (several times a day), while low use classification included all other answers. High TEL use (several times a day) comprised 55% of the sample while all other answers made up the remaining low use (45%). Those using EML several times a day, week or month made up high use (51.7%), while the remaining percentages and scores fell into the low classification. PEC presented a challenge in that 71.8% percent of the sample answered several times a day. The researcher concluded that this answer, while not close to the preferred 50%, was the natural break for high use and low use included all other answers. Those reporting on BEC that answered several times a day or week (47.5%) were high use, and all others were low. Although technology was blocked into two categories, the more natural blocking for the immediate communicator style was three categories. Scores ranging from 1-4.86 were a low level of immediacy (33%), 4.87-6.14 was a medium level (34%), and 6.15-7 was a high level (33%).

Table 4.3 reports means for satisfaction in each of the technology (high/low) and immediate style (high/medium/low) conditions. Table 4.4 reports means for commitment in each of the technology (high/low) and immediate style (high/medium/low) conditions. There are very small changes in the relational outcomes across levels of technology use, but these outcomes have larger differences across levels of immediacy. The statistical analyses described below would test the significance of these patterns.

Table 4.3

Satisfaction Means

Variable	Level		
	High	Medium	Low
FTF Use	5.65	-	5.39
TEL Use	5.57	-	5.40
EML Use	5.64	-	5.43
PEC Use	5.67	-	5.06
BEC Use	5.27	-	5.54
Immediate Style	6.50	5.82	4.29

Table 4.4

Commitment Means

Variable	Level		
	High	Medium	Low
FTF Use	5.82	-	5.59
TEL Use	5.83	-	5.49
EML Use	5.99	-	5.55
PEC Use	5.84	-	5.29
BEC Use	5.61	-	5.70
Immediate Style	6.38	5.77	5.02

The researcher performed a series of multivariate analyses of variance (MANOVAs) using 2 (technology high/low) x 3 (immediacy high/medium/low) factorial design. SPSS produces outputs that indicate main effect and interaction effects of the two independent variables. Outputs include computations of an F score based on the Wilks Lambda procedure.

The MANOVA analysis, using a 2 (FTF high/low) x 3 (immediacy high/medium/low) factorial design searched for main effects and interaction effects of variables. There was no significant difference in the combined relational outcomes (satisfaction and commitment) between high and low users of FTF ($F(2, 286)=0.39$, $n.s.$). There were significant differences in the combined relational outcomes (satisfaction and commitment) between high, medium, and low levels of immediate style ($F(4, 572)=42.93$, $p<.01$) that accounted for 23% of the variance in relational outcomes. Bonferonni post hoc procedures revealed that those subjects communicating with partners using a high level of immediacy style experienced more positive relational outcomes than those communicating with partners at medium or low levels of immediacy, and those subjects communicating with partners using a medium level of immediacy style experienced more positive relational outcomes than those communicating with partners at the low level of immediacy. The analysis revealed that there was no significant interaction effect between levels of FTF use and levels of immediate communicator style ($F(4, 572)=0.99$, $n.s$).

The MANOVA analysis, using a 2 (TEL high/low) x 3 (immediacy high/medium/low) factorial design searched for main effects and interaction effects. There was no significant difference in the combined relational outcomes (satisfaction and commitment) between high and low users of TEL ($F(2, 286)=1.80$, $n.s.$). There were significant differences in the combined relational outcomes (satisfaction and commitment) between high, medium, and low levels of

immediate style ($F(4, 572)=45.61$, $p<.01$) that accounted for 24% of the variance in relational outcomes. Again, Bonferonni post hoc procedures revealed that those subjects communicating with partners using a high level of immediacy style experienced more positive relational outcomes than those communicating with partners at medium or low levels of immediacy, and those subjects communicating with partners using a medium level of immediacy style experienced more positive relational outcomes than those communicating with partners at the low level of immediacy. The MANOVA revealed that there was no significant interaction between the levels of immediate communicator style and the levels of TEL use ($F(4, 572)=1.04$, *n.s.*).

The MANOVA analysis, using a 2 (EML high/low) x 3 (immediacy high/medium/low) factorial design searched for main effect and interaction effect results. There was no significant difference in the combined relational outcomes (satisfaction and commitment) between high and low users of EML ($F(2, 286)=1.00$, *n.s.*). But again, there were significant differences in the combined relational outcomes (satisfaction and commitment) between high, medium, and low levels of immediate style ($F(4, 572)=44.30$, $p<.01$) that accounted for 24% of the variance in relational outcomes. Bonferonni post hoc procedures revealed that those subjects communicating with partners using a high level of immediacy style experienced more positive relational outcomes than those communicating with partners at medium or low levels of immediacy, and those subjects communicating with partners using a medium level of immediacy style experienced more positive relational outcomes than those communicating with partners at the low level of immediacy. The analysis revealed that there was no interaction between levels of immediate communicator style and levels of EML use ($F(4, 572)=0.71$, *n.s.*).

The MANOVA analysis, using a 2 (PEC high/low) x 3 (immediacy high/medium/low) factorial design searched for main effects and interaction effects. There was a significant difference in the combined relational outcomes (satisfaction and commitment) between high and low users of PEC ($F(2, 286)=3.81$, p<.05), which accounted for only 3% of the variance in relational outcomes. Those using a high frequency of PEC experienced more positive outcomes than those at the lower level. There were significant differences in the combined relational outcomes (satisfaction and commitment) between high, medium, and low levels of immediate style ($F(4, 572)=39.55$, $p<.01$) that accounted for 22% of the variance in relational outcomes. Once more, Bonferonni post hoc procedures revealed that those subjects communicating with partners using a high level of immediacy style experienced more positive relational outcomes than those communicating with partners at medium or low levels of immediacy, and those subjects communicating with partners using a medium level of immediacy style experienced more positive relational outcomes than those communicating with partners at the low level of immediacy. The MANOVA revealed that, again, there was no interaction between an immediate communicator style and the use of PEC ($F(4, 572)=1.54$, *n.s*).

The MANOVA analysis, using a 2 (BEC high/low) x 3 (immediacy high/medium/low) factorial design explored main effect and interaction effect results. There was no significant difference in the combined relational outcomes (satisfaction and commitment) between high and low users of BEC ($F(2, 286)=0.67$, *n.s*.). There were significant differences in the combined relational outcomes (satisfaction and commitment) between high, medium, and low levels of immediate style ($F(4, 572)=45.28$, $p<.01$) that accounted for 24% of the variance in relational outcomes. Again, Bonferonni post hoc procedures revealed that those subjects communicating

with partners using a high level of immediacy style experienced more positive relational outcomes than those communicating with partners at medium or low levels of immediacy, and those subjects communicating with partners using a medium level of immediacy style experienced more positive relational outcomes than those communicating with partners at the low level of immediacy. The analysis again revealed that there was no interaction between an immediate communicator style and the use of BEC (F(4, 572)=0.35, *n.s.*).

Hypothesis 1 predicted that here would be significantly greater combined relational outcomes (satisfaction and commitment) for partners who use a more immediate communicator style than for partners who use a less immediate communicator style. This was true for each of the five MANOVAs. The data supported hypothesis one.

Hypothesis 2 predicted that there would be no significant difference of combined relational outcomes (satisfaction and commitment) between high and low FTF users. This was true for the MANOVA run for analysis for levels of FTF condition. The data supported hypothesis two.

Hypothesis 3 suggested that there would be no significant difference of combined relational outcomes (satisfaction and commitment) between high and low TEL users. This was true for the MANOVA analysis for levels of TEL use. The data also supported hypothesis three.

Hypothesis 4 predicted that there would be no significant difference of combined relational outcomes (satisfaction and commitment) between high and low EML users. This was true for the MANOVA analysis for levels of EML use. The data supported hypothesis four as well.

Hypothesis 5 predicted that there would be no significant difference of combined relational outcomes (satisfaction and commitment) between high and low PEC users. The results suggest a marginal relationship between PEC and relational outcomes (satisfaction and commitment), but provides weak support for rejecting the hypothesis. Data did not support hypothesis five.

Hypothesis 6 predicted that there would be no significant difference of combined relational outcomes (satisfaction and commitment) between high and low BEC users. This was true for the MANOVA analysis for levels of BEC use. The data supported hypothesis six.

Hypothesis 7 suggested that there would be no interaction effect between the level of immediate communication style and the levels of use of any technology on the combined relational outcomes (satisfaction and commitment). This was true for all five MANOVAs. The data also supported hypothesis 7.

Subjects communicating with partners using a high level of immediacy style experienced more combined positive relational outcomes than those communicating with partners at medium or low levels of immediacy, and those subjects communicating with partners using a medium level of immediacy style experienced more combined positive relational outcomes than those communicating with partners at the low level of immediacy. This was true regardless of the frequency of technology use. Subjects communicating with partners using a high level of face-to-face communication, telephone use, E-mail use, or public electronic communication experienced no significant difference in combined positive relational outcomes than subjects communicating with partners at a low level of use. Subjects communicating with partners using a high level of private electronic communication did experience somewhat greater combined positive relational

outcomes than those communicating at a low level of use. The levels of immediacy did not interact with the levels of technology use to produce significant differences in combined positive relational outcomes. The results supported six of seven hypotheses.

Summary

This chapter reported on descriptive and inferential statistics of this research. First, the researcher included an analysis of sample statistics, and then reported survey means, standard deviation and survey reliability. This was followed by results of exploratory factor analyses to confirm factor structure of the immediacy, satisfaction and commitment scales. Finally, the researcher reported on results from a series of MANOVAs to test hypotheses. Results demonstrated that difference in communication style proved to be more important to explaining relational outcomes than differences in the use of technology. Results supported six out of seven hypotheses.

This next and final chapter includes a discussion of the results reported in this chapter. The first section of the chapter describes how this study might contribute to the understanding of communication technology and relational outcomes in romantic relationships, and might add to both the interpersonal and communication technology areas of research. The next section describes four different areas for future research. In the final section, the researcher reviews results and explains four possible limitations of the study.

Chapter V

Discussion

The first chapter included general definitions and explanations of two relational outcomes: satisfaction and commitment. The first chapter also included a preliminary review of literature, and introduced conflicting research surrounding communication technology and relational outcomes. The researcher explained communicator style, linked it to relational outcomes through research, and discussed it in terms of communication behaviors that may address conflicts in the technology research.

The second chapter contained a more detailed review of literature about relational outcomes regarding communication technology. The researcher provided definitions and explanations of all variables in this research: commitment, satisfaction, communication technology, and immediate communication style. Additionally the second chapter included a broad examination of findings from previous communication research regarding the relationship between the use of electronic communication technology (ECT) and relational outcomes. This examination also included research about the relationship between communicator style and immediacy. The researcher addressed the conflicting results in the literature surrounding communication technology effects on relational outcomes and suggested that an immediate communication style may be more important than technology use. This proposition led to seven hypotheses.

The third chapter included a description of the method. The researcher clarified the sampling procedure and measures for commitment, satisfaction, technology use and an immediate style. The previous section also included descriptions and explanations of statistical methods to test hypotheses.

The fourth chapter reported on data analyses and the descriptive and inferential statistics from that analysis. First, the chapter included a display of sample statistics, followed by a report of survey means, standard deviation and survey reliability. Next the research discussed results of exploratory factor analyses to confirm the factor structure of the immediacy, satisfaction and commitment scales. Finally, the researcher reported on results from a series of MANOVAs that tested and supported six out of seven hypotheses.

This next and final chapter includes a discussion of the results reported in this chapter. First, the researcher reviews results and explains four possible limitations of the study. The next section of the chapter describes how this research might contribute to the better understanding of communication technology and relational outcomes in romantic relationships, and might add to both the interpersonal and communication technology areas of research. The final section describes four different areas for future research.

Implications

This study sampled individuals enrolled in a basic required course at a Southwestern University. The subjects completed on-line surveys regarding their feelings about their romantic relationship (satisfaction and commitment), perceptions of their partners' immediate communicator style, and frequency of using various types of communication technology. The researcher confirmed the reliability and factor structure of all scales. Inferential results demonstrated a significant main

effect for an immediate communicator style, and a statistically significant, but small, main effect for the use of PEC on the combined relational outcomes of satisfaction and commitment. The use of FTF, TEL, EML, and BEC had no significant effect on the relational outcomes. There were no interaction effects between the frequency of using various technologies and the immediate communicator style. These findings support four conclusions that add to the understanding communication technology and romantic relationships. First, the analyses of scales for satisfaction, commitment, and an immediate style confirm previous results that the scales are reliable and valid. Second, there are minimal effects for the use of technology. Third, PEC has a surprising relationship to positive relational outcomes. The final, and most unique implication for this study, is the significance of communication style.

The first way this thesis adds to communication research is the reinforcement of existing scales: immediacy, satisfaction and commitment. Through analysis, the reliability and validity of the adapted perceived immediate style measure was similar to previous uses of the scale. Although two factors were revealed from the exploratory factor analysis, the second factor is a result of negative wording and adds little to the variance explained. In all, this suggests comparable validity. The scale also produced a high alpha score for reliability. Additionally, results from analysis of the Investment Model satisfaction and commitment scales confirmed the validity and reliability. Both of the outcome scales used from the model produced high alpha scores, and the exploratory factor analysis revealed only one factor for each scale.

Second, the results support the claim that the choice and frequency of use of a particular technology are irrelevant to relational outcomes. This finding supports previous studies and theoretical arguments (Reicher, Spears, & Postmes, 1995; Lea & Spears, 1992; Walther, 1992).

Although different technologies have different cue processing capabilities, the results in this thesis can lead to the conclusion that the frequent use of one technology does not produce more positive relational outcomes than the frequent use of another technology.

One possibility is that individuals may be adapting their communication successfully over various technologies. This adaptation may be related to the sample, primarily 18-24 year-olds college students. These students grew up with technological change and have ready access to these technologies. The norm for these individuals may be to adjust their individual communication to different technologies to reap similar relational benefits.

A third insight into communication technology in romantic relationships is surprising. One pattern in the past research highlights the potential for FTF communication to relate more to relational outcomes than other technologies. Additionally, the second and third patterns in previous research emphasized no difference between specific technologies. In the results for this study, PEC use appears to be the only technology significantly related to relational outcomes. A large number (71%) of the sample communicate several times a day via PEC with their romantic partner; this is a greater frequency than FTF and TEL. PEC has become pervasive in the romantic relationships of younger generations. This pervasiveness suggests that these younger individuals may be relying on PEC as a crucial form of communication. Rather than PEC affecting relational outcomes, the relationship might be reversed. That is, the more satisfied and committed an individual is in a romantic relationship, the more they might use PEC to maintain their relationships, and less PEC use might signal less satisfaction and commitment. The frequency of use of PEC does not account for nearly as much variance as an immediate

communicator style, but that there is any minimal main effect at all suggests further investigation.

Finally, the unique contribution of this thesis to communication technology research is the addition of *communication style* to the investigation of technology use and relational outcomes. Previous communication technology and relational outcome research focuses on the use and frequency of use of technology and ignores the importance of how people used technology to communicate. Communication style, specifically immediate communication style, is a significant factor in all technology conditions (FTF, TEL, EML, PEC, and BEC). No matter the technology, perception of an immediate communicator style is significantly related to how a person feels about his or her relationship. These results point to the conclusion that communication style affects relational outcomes more than just individuals' choice and frequency of use of technology. When a communicator adapts cues to a particular technology to have their partner perceive a more immediate communication style, the partner will also feel more positive relational outcomes in any technology condition. While assuming that only one variable (i.e. frequency of use of technology) affects relational outcomes directly is parsimonious, additional variables (i.e. immediacy) also have a relationship with these outcomes. This realization demonstrates communication via various technologies is more complex than once thought.

Future Research

Further research should explore four areas. Research should investigate generational and socio-economic differences. Researchers should also focus their research to include more and different

communication variables related to communication technology. And finally, future research should continue the investigation of the Investment Model.

First, future investigations may seek to gather a sample with representation of multiple generations to understand differences between age groups. Individuals adopting technology mid-life could use technology differently than an individual who has grown up with that technology. This difference of technology use may create different perceptions about the technology, communication or relationships. An incorporation of multiple generations may show different technology use, communication patterns, and relational outcomes when comparing an earlier generation to a newer generation.

Additionally, researchers should seek to include representation of individuals from all socio-economic statuses to understand how groups might differ in relation to access and availability. Individuals adopting technology based on financial ability could use technology differently than an individual who has less financial limitations. This difference of technology use may create different perceptions about the technology, communication and/or relationship. Technologies' effects on relational outcomes may vary based on availability. Including representation of multiple socio-economic statuses may show a difference of communication patterns, technology use, and relational outcomes between statuses.

Second, a broader investigation of communication variables and relational outcome variables with technologies is necessary. In furthering this line of research, investigations should include other forms of communication styles (open, friendly, attentive, supportive, responsive, etc.) and behaviors (compulsion, addiction, etc.) to better understand how different types of communication might relate to relational outcomes and different communication technologies.

Future studies should also include more and different relational outcomes to build upon the current research. Future research could examine relational outcomes such as intimacy, breadth, depth, attraction and/or trust when investigating relationships communicating using technology. This inclusion could help to better understand which other relational outcomes can be related to communication, or technology.

A final recommendation for future research is further investigation into elements of the Investment Model. This study only used two of the four scales out of the model: satisfaction and commitment. The two other elements, quality of alternatives and investment size, make up the rest of the Investment Model. Having respondents complete all four of these elements together would provide a more comprehensive view of investment in relationships communicating using various technologies. Immediacy and communication technology may influence certain elements of the Investment Model (quality of alternatives, investment size and satisfaction) which then lead to greater commitment. Knowledge of this process will add to better understanding of the Investment Model.

Limitations

There are four limitations to the methods used in this research that should be addressed. First, there are limitations to generalizing from this sample. Secondly, the study might have been stronger had the survey been more specific about communication behaviors. A third limitation is due to the technology typology operationalized in the study. A fourth and final limitation of the study is in regard to the survey choices for use of technology.

The first limitation is common to many academic studies. The sample consisted primarily of 18-25 year-old college students in the Southwest United States. One can only directly

generalize the results to this age and geographically-specific group. Individuals in this demographic classification studied in this research have grown up with the technology and are accustomed to using it. This sample in this research did not appropriately represent mix of individuals of multiple generations that may have experiences with technology. This unsampled age group could have expanded the generalizability of the study.

The homogenous nature of the sample also affects generalizibility of the sample to different socio-economic statuses. Contemporary communication technology is often expensive which creates a digital divide where some individuals are not able to possess or use certain technologies because of their economic status or financial stability (Norris, 2001). The subjects in this study are generally able to access a wide variety of technologies because of parental funding or availability on campus. The sample did not represent segments of the population that might find some technologies unavailable, and that may experience different communication technology and relational outcomes. To insure greater heterogeneity of the sample and to increase the external validity of findings, the researcher could have sampled from a larger national population. Additionally, a stratified random sample could have also been used to ensure representations of all age and socio-economic classes.

A second limitation to this study is the lack of a description of specific behaviors that lead to the perception of an immediate communicator style. The generalized immediacy scale left interpretations of immediate behaviors to the discretion of participants when using different technologies. When asked if their partner "communicates warmth", the participant might assess this based on language choice, tone of message, tone of voice, nonverbal facial expressions, etc. Because the questions are not specific, there is no way to attribute specific behaviors to the

outcomes. Although it would have lengthened the survey, the researcher could have created a more specific immediacy scale for each technology. Instead of asking a blanket question, like the prior example, for all technologies, the scale could have been altered based on each technology: The question for FTF interactions might specify a "warm vocal tone", while the question for any textual media could indicate a "warm tone in their use of language". Nevertheless, one option would have been a longer and more specific set of scales.

A third limitation is the typology of communication technologies. While Barron's (2008) typology of communication provides a more comprehensive categorization of technology than used in previous studies, the typology does not include mutually exclusive categories. The current typology classifies communication technologies by synchronicity, message length, message privacy, and geographic limitations. However, these designations omit the difference in visual and vocal capabilities of different technologies. Omitting these characteristics may lead to a misunderstanding of the technology and its effect. Furthermore, there is the tendency for convergence between technologies. That is, the availability of multiple ways of communicating on just few devices challenges the boundaries on any set of categories. Facebook includes postings and comments, examples of BEC, but Facebook also includes the option to send private instant messages, an example of PEC, and the option to E-mail as well. The solution may have been to ask about the specific technology (e.g., text messaging, IM, Facebook Messenger) rather than a class of technologies (e.g., PEC).

Finally, a fourth limitation of this study is the answer choices provided for frequency of technology use. The answers used for this study (several times a day, several times a week, several times a month, several times a year, less than yearly/ never) might not be a precise

representation of the number of interactions in relational communication. In some instances, a majority of the sample answered (up to 71%) 'several times a day'. To better understand the difference of technology use, more choices might have been more valid. The researcher could have chosen to use a different type of response (i.e. choose the number of episodes: 1-500 in a given time frame) to produce a more accurate distribution of high and low frequency of technology use.

Summary

This thesis began the first chapter with a statement of purpose and significance, followed by a brief overview of relational outcomes, technology, a conflict in the literature, and an immediate communicator style. The second chapter continued with a more representative review of literature about the relational outcomes, conflicting theoretical and empirical patterns, the review of communicator style, and development of seven hypotheses. The third chapter reviewed methods: sampling procedure, measurement, design, and statistical analysis. The fourth chapter reported on descriptive and inferential statistics from analysis and confirmed six out of the seven hypotheses. This fifth and final chapter discussed results of this research: implications of results, suggestions for future research, and limitations to the study.

The aim of this study was to examine the relationship between an immediate communicator style, the use of technologies, and relational outcomes. The researcher examined relational outcomes of satisfaction and commitment in relationship to their perceived partners' immediate communicator style and the frequency of using five different technologies: face-to-face communication (FTF), telephone (TEL), E-mail (EML), private electronic communication (PEC), and public electronic communication (BEC). By examining these variables we gain

insight into the nature of relationships that communicate using various technologies. Results of this study indicate that face-to-face is no longer the most frequent form of communication among young college students, and romantic partners now maintain relationships through a variety of technology. It is important to understand how the use of technologies affects romantic relationships.

Technology has become pervasive in society. Smart phones, Skype, Facebook, AIM, Twitter, blogs, forums, and videophones are just a few of the ways that individuals are communicating with their romantic partners. This study attempted to explore a range of these technologies based on various attributes. Previous research examining technology and relational outcomes were conflicting. One theoretical approach suggests diminished relational outcomes when communicating using media when compared to FTF. A different perspective suggested no differences or minimal effects in relational outcomes when comparing relationships communicating through FTF or ECT. A final pattern suggested some conditional effects. This study used measures common to the previous research in an effort to confirm scales and to clarify and extend this previous research.

Results of this study suggest that, generally, the frequency of use of any given technology has no significant relationship with relational outcomes. Individuals may be adapting their communication successfully over various technologies. The college students in this study may have grown up with and may have become accustomed to adapting messages over various technologies. However, the use of private electronic communication does have a small but significant main effect. Individuals who are satisfied and committed will want to communicate

more with their romantic partner. The more satisfied and committed an individual is, the more likely they will be to have a higher frequency of use of a prominent technology, in this case PEC.

This research tried to address the conflicting nature of the technology and relational outcomes literature by adding another variable: an immediate communicator style. Style is, in essence, how individuals communicate to signal meaning of messages. Interpersonal communication researchers have associated three styles with the relational outcomes: open, friendly, and attentive. Results demonstrate these three are positively related to both satisfaction and commitment. Norton (1983) describes behaviors for each of these styles, and all these behaviors align with immediacy behaviors. In an attempt to simplify measurement, the researcher chose to measure an immediate style behavior instead of multiple styles.

Participants filled out the immediacy scale from The Relational Communication Scale. Analysis of the scale confirms reliability and validity. Results from the statistical analysis show a significant main effect for the immediate communicator style on relational outcomes, no matter the technology condition. Immediacy accounted for around 24% of the variance. The most unique addition to the interpersonal and communication technology literature is that the researcher integrated immediate style as an independent communication variable to the study of communication technology and relational outcomes. The addition of a third variable limits parsimony, but it allows for more insight into the nature of romantic relationships that maintain relationships using various technologies. The perception of an immediate communicator style is, by far, more important to relational outcomes than frequency of use of any technology examined in this study.

APPENDIX A

INFORMED CONSENT

Thank you for your decision to contribute to research in the communication field!

My name is Stephanie Pridgen and I am collecting data for a graduate research project. The purpose of this study is to understand how communication relates to how you think and feel about a relationship.

The survey should only take 10-15 minutes to complete. Make sure to read directions carefully, and mark appropriate answer choices.

All survey responses are anonymous. This research has been approved by the Texas State University Institutional Review Board (# 2010K6468), and Dr. Philip Salem of the Department of Communication Studies.

Please be advised that if you do decide to participate, you are free to withdraw from the study at any time. If you do, it cannot affect your relationship with the Communication Studies Department, or Texas State University – San Marcos. You may withdraw your consent to participate at any time by notifying the researcher or by ceasing your completion of the survey. You may also choose not to answer any question(s) for any reason.

If you have any questions regarding this research, you may contact Stephanie Pridgen. If requested, a summary of the findings of this research will be provided to participants at the completion of the study. To obtain information please contact the researcher at sp1106@txstate.edu or (512) 757-3388.

Your answers will go to help better the understanding about communication in romantic relationships. Thank you again so much for your participation!

1. If you choose not to participate, please click "NO". If you understand the above conditions, and agree to participate in this study, please click "YES".

○ YES

○ NO

APPENDIX B

PARTICIPANT QUESTIONNAIRE

2. Are you 18-years-of-age or older?

○ YES

○ NO

A romantic relationship refers to marriage, lovers or significant others. These relationships are similar to other close relationships in many ways, but romantic relationships go far beyond the idea of just loving someone. To be 'in love' is considered more intimate and passionate. While physical intimacy might be common in a romantic relationship, it is not necessarily present and is not required.

3. Are you in a romantic relationship?

○ YES

○ NO

What do you think about your romantic relationship?

On the next couple of pages are a set of statements about your romantic relationship. When an item refers to 'partner', it means your current romantic partner. In reference to 'relationship' the item is asking about your current romantic relationship.

Satisfaction is the degree to which your romantic partner fulfills your expectations of intimacy (sharing personal thoughts, secrets, etc.), companionship (doing things together, enjoying each other's company, etc.), affection, security (trusting, comfortable, etc.), and emotional involvement.

4. How much do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
I feel satisfied with our relationship.	○	○	○	○	○	○	○
My relationship is much better than others' relationships.	○	○	○	○	○	○	○
My relationship is close to ideal.	○	○	○	○	○	○	○
Our relationship makes me very happy.	○	○	○	○	○	○	○
Our relationship does a good job of fulfilling my needs for intimacy, companionship, etc.	○	○	○	○	○	○	○

The quality of alternatives to your romantic partner is the degree to which your needs (intimacy, companionship, affection, security, emotional involvement) could be fulfilled by someone other than your romantic partner.

5. How much do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
The people (other than my partner) with whom I might become involved are very appealing.	○	○	○	○	○	○	○
My alternatives to our relationship are close to ideal (dating another, spending time with friends or on your own, etc).	○	○	○	○	○	○	○
If I weren't dating my partner, I would do fine - I would find another appealing person to date.	○	○	○	○	○	○	○
My alternatives are attractive to me (dating another, spending time with friends or on your own, etc.).	○	○	○	○	○	○	○
My needs for intimacy, companionship, etc., could easily be fulfilled by an alternative relationship.	○	○	○	○	○	○	○

Investment size is how much you put into the relationship (disclosing secrets, amount of time), how closely tied you are to your partner (share many memories, personal identity is linked to partner) and how difficult it would be to replace your relationship.

6. How much do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I have put a great deal into our relationship that I would lose if the relationship were to end.	○	○	○	○	○	○	○
Many aspects of my life have become linked to my partner (recreational activities, etc.) and I would lose all of this if we were to break up.	○	○	○	○	○	○	○
I feel very involved in our relationship - like I have put a great deal into it.	○	○	○	○	○	○	○
My relationships with friends and family members would be complicated if my partner and I were to break up (e.g. partner is friends with people I care about).	○	○	○	○	○	○	○
Compared to other people I know, I have invested a great deal in my relationship with my partner.	○	○	○	○	○	○	○

Commitment is the drive for an individual to remain in a relationship. An individual decides to persist in a relationship due to a degree of contentment, obligation and perception of obstacles to the relationship.

7. How much do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I want our relationship to last for a very long time.	○	○	○	○	○	○	○
I am committed to maintaining my relationship with my partner.	○	○	○	○	○	○	○

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I want our relationship to last forever.	○	○	○	○	○	○	○
I would not feel very upset if our relationship were to end in the near future.	○	○	○	○	○	○	○
I am oriented toward the long-term future of my relationship (e.g. I imagine being with my partner several years from now).	○	○	○	○	○	○	○

Communication is an exchange of messages between two people to create a shared meaning of your perceptions about the world around you. This message exchange can happen through various media (face-to-face, telephone, e-mail, text message etc.)

Please think about when you communicate with your romantic partner. How does your romantic partner communicate with you? Below are a set of statements that describe your partner's communication.

8. How much do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
He/She is intensely involved in our communication.	○	○	○	○	○	○	○
He/She finds our communication stimulating.	○	○	○	○	○	○	○
He/She communicates coldness rather than warmth.	○	○	○	○	○	○	○
He/She creates a sense of distance between us.	○	○	○	○	○	○	○
He/She acts bored by our communication.	○	○	○	○	○	○	○
He/She is interested in communicating with me.	○	○	○	○	○	○	○
He/She shows enthusiasm while communication with me.	○	○	○	○	○	○	○

9. Face-to-face communication occurs when both parties exchange messages in the same geographic location at the same time and do not use other technologies.

How often do you communicate with your romantic partner face-to-face?

○ Several Times a Day

○ Several Times a Week

○ Several Times a Month

○ Several Times a Year

○ Less than Yearly/ Never

10. Telephone communication allows individuals in different locations to speak to or exchange messages with each other at the same time. This category would include both land and cell phone lines. With the advancement of technology, this category also encompasses video and voice calls placed over the internet (EX: Vonage or Skype).

How often do you communicate with your romantic partner over telephone?

○ Several Times a Day

○ Several Times a Week

○ Several Times a Month

○ Several Times a Year

○ Less than Yearly/ Never

11. E-mail is an electronic technology that digitally transmits textual messages. E-mail allows two individuals to exchange messages while being in different places and the communication messages can be sent at different times. E-mail can be accessed through computer environments, and - with advances in technology software and networks - hand-held devices.

How often do you communicate with your romantic partner via E-mail?

○ Several Times a Day

○ Several Times a Week

○ Several Times a Month

○ Several Times a Year

○ Less than Yearly/ Never

12. Private electronic communication is any exchange of messages that is not face-to-face, telephone, or e-mail and is only viewed by the two relational partners involved in the conversation. It can be simultaneous message exchange or include long response times. Instant messages (Yahoo, AOL Instant Messenger, Blackberry Messenger, Facebook Messenger) or text messages (SMS, MMS) fall into this category.

How often do you communicate with your romantic partner using private electronic communication?

- ○ Several Times a Day
- ○ Several Times a Week
- ○ Several Times a Month
- ○ Several Times a Year
- ○ Less than Yearly/ Never

13. Public Electronic Communication is the exchange of messages between two people in different places and the messages may not be transmitted at the same time. Also, third-party individuals can interact in the conversation between you and your partner. Facebook Wall posts, Twitter, and other social network Web sites allow communication between individuals to be publicly transmitted or displayed. This would also include an exchange of comments on blogs. Individuals use smart phones, hand-held devices and computers to access these programs and Websites that allow for this type of communication.

How often do you communicate with your romantic partner using public electronic communication?

- ○ Several Times a Day
- ○ Several Times a Week
- ○ Several Times a Month
- ○ Several Times a Year
- ○ Less than Yearly/ Never

Please provide information about yourself.

14. What is your biological sex?

○ Male

○ Female

15. What is your age?

○ 18-24

○ 25-34

○ 35-44

○ 45-54

○ 55 or older

16. What is your race/ethnicity?

○ What is your race/ethnicity? White/ Caucasian

○ Black/ African-American

○ Hispanic/ Latino

○ Asian

○ Native American

○ Other

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