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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

PREDICTING COMMUNICATION SATISFACTION AND RELATIONSHIP SATISFACTION IN ONLINE ROMANTIC RELATIONSHIPS

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

In partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

Traci Lynn Anderson
Norman, OK
2000

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PREDICTING COMMUNICATION SATISFACTION AND RELATIONSHIP SATISFACTION IN ONLINE ROMANTIC RELATIONSHIPS

A Dissertation APPROVED FOR THE
DEPARTMENT OF COMMUNICATION

BY

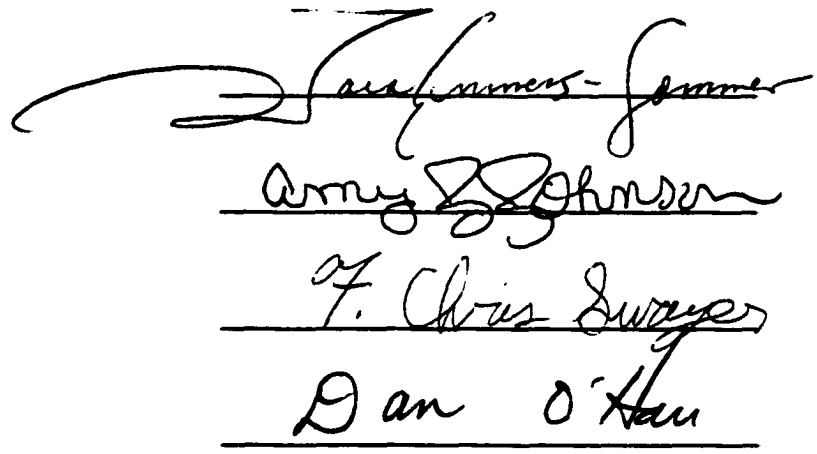


TABLE OF CONTENTS

ACKNOWLEDGEMENTS x

ABSTRACT xv

CHAPTER I. INTRODUCTION 1

Background of the Problem 1
Statement of the Problem 7
Significance of the Study 9

CHAPTER II. REVIEW OF LITERATURE 11

Computer Mediated Communication 11
Interpersonal Relationships 19
Satisfaction 32
Rationale and Research Questions 34

CHAPTER III. METHODS AND PROCEDURES 45

Overview 45
Triangulation of Methodologies 45
Online Research Methods and Data Collection 50
Power Analysis 53
Participants 56
Procedure 60

CHAPTER IV. RESULTS 76

Overview 76
Research Question One 76
Research Question Two 82
Research Question Three 84
Research Question Four 85
Research Question Five 86
Open-Ended Questions 87
Additional Analyses 93

CHAPTER V. DISCUSSION.....99

Conclusions, Implications, and Recommendations.....99
Summary of Key Findings..... 122
Limitations.....130
Suggestions for Future Research..... 136
Concluding Remarks..... 139

REFERENCES..... 148

TABLES..... 163

FIGURES..... 186

APPENDICES..... 201

LIST OF TABLES

Table 1. Key interpersonal concepts and corresponding theories

Table 2. Model Summary for Factor Analysis of Desire of Future Interaction Scale Items

Table 3. Summary of Scale Reliability Alpha Coefficients

Table 4. Correlation Matrix for Predictor and Criterion Variables

Table 5. Multiple Regression Model for Trust

Table 6. Revised Multiple Regression Model for Communication Satisfaction

Table 7. Multiple Regression Model for Relationship Satisfaction

Table 8. Correlation Matrix for Communication Satisfaction and Desire for Future Interaction

Table 9 Correlation Matrix for Relationship Satisfaction and Desire for Future Interaction

Table 10 Correlation Matrix for Communication Satisfaction, Relationship Satisfaction, and Romantic Beliefs

Table 11 Responses for the Theme of Communication

Table 12 Responses for the Theme of Emotional Closeness

Table 13 Responses for the Theme of Compatibility

Table 14 Responses for the Theme of Unconditional Acceptance

Table 15 Responses for the Theme of De-emphasis of the Physical Body

Table 16 Responses for the Theme of Distance

Table 17 Responses for the Theme of Social Negativity

Table 18 Responses for the Theme of Disconnection

Table 19 Responses for the Theme of Lack of Physical Contact

Table 20 Responses for the Theme of Non-Internet Constraints

Table 21 T-Tests for Sex and Romantic Beliefs, Communication Satisfaction, and Relationship Satisfaction

Table 22 One-way ANOVA for How Participants Met Their Partner and Communication Satisfaction, Relationship Satisfaction, and Desire for Future Interaction

Table 23 Correlation Matrix of Desire for Future Interaction Items and Predictor Variables

LIST OF FIGURES

Figure 1. Method of Meeting Online Partners

Figure 2. Average Length of Online Relationships

Figure 3. Frequency of Online Methods of Communication

Figure 4. Hours Per Week Communicating With Partner

Figure 5. Distribution of Intimacy Scores

Figure 6. Distribution of Physical Attraction Scores

Figure 7. Distribution of Similarity Scores

Figure 8. Distribution of Trust Scores

Figure 9. Distribution of Attributional Confidence (Certainty) Scores

Figure 10. Distribution of Information Seeking Scores

Figure 11. Distribution of Commitment Scores

Figure 12. Distribution of Romantic Belief Scores

Figure 13. Distribution of Desire for Future Interaction Scores

Figure 14. Distribution of Communication Satisfaction Scores

Figure 15. Distribution of Relationship Satisfaction Scores

LIST OF APPENDICES

Appendix A. Script for the Solicitation of Participants' From Chatrooms and Newsgroups

Appendix B. List of Newsgroups Accessed for Solicitation of Participants

Appendix C. Online Informed Consent Form

Appendix D. Attributional Confidence Scale

Appendix E. Perceived Similarity Scale

Appendix F. Information Seeking Scale

Appendix G. Relationship Satisfaction Scale

Appendix H. Commitment Scale

Appendix I. Desire for Future Interaction Scale

Appendix J. Communication Satisfaction Scale

Appendix K. Trust Scale

Appendix L. Physical Attraction Scale

Appendix M. Romantic Beliefs Scale

Appendix N. Intimacy Scale

Appendix O. Demographic Items and Questions About Internet Use

Appendix P. Institutional Review Board Approval Letter for the Use of Human Subjects

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"I do not fear computers, I fear the lack of them."

Isaac Asmiov

"Romeo and Juliet met online in a chat room. But their relationship ended tragically when Juliet's hard drive died."

Randy Glasbergen

ABSTRACT

Grounded in the literature on computer mediated communication and in traditional theories of interpersonal relationships and communication (e.g., Uncertainty Reduction Theory) this study examined the predictors of communication satisfaction and relationship satisfaction in online romantic relationships. Additionally, desire for future interaction and romantic beliefs were examined. One hundred fourteen (N = 114) participants completed an online survey that measured communication satisfaction, relationship satisfaction, intimacy, trust, perceived similarity, physical attraction, attributional confidence (certainty), information seeking, romantic beliefs, and desire for future interaction. Results of multiple regression equations and bivariate correlations reveal that (1) communication satisfaction in online romantic relationships is most significantly predicted by intimacy, trust, and physical attraction, (2) relationship satisfaction in online romantic relationships is most significantly predicted by intimacy and communication satisfaction, (3) romantic beliefs is not significantly related to either communication satisfaction or relationship satisfaction, and (4) desire for future interaction is slightly related to both communication satisfaction and relationship satisfaction. Results of additional analyses are presented, and findings are discussed in terms of existing interpersonal theory and the future investigation of online relationships.

Predicting Communication Satisfaction and Relationship Satisfaction in Online Romantic Relationships

Chapter 1

Introduction

Background of the Problem

The Internet has been espoused as a panacea to cure all personal, social, and political ailments; it has also been deemed the downfall of humanity as we know it. As in the case of most technological advancements of recent centuries, it is likely that the truth lies somewhere in between this exaggerated dichotomy exacerbated by academicians, theologians, politicians, and laypersons alike. Nonetheless, the Internet will not cease to exist. In fact, the technology is growing so rapidly that the Internet of today will be something measurably different within the next few years. As the technology develops and reaches further into the hidden corners of the globe, the population of the Internet will continue grow dramatically, as it has been doing within the past decade. It is estimated that by the year 2002 over 116 million Americans will be online (Greene, 1998). This is in addition to the millions of people worldwide who will be accessing the Internet (e.g., Feenberg, 1992). Although Internet use is utilized widely for business and organizational purposes, the use of the Internet for social communicative purposes remains strong and continues to expand. Concurrently, individuals are meeting others online where they are building and sustaining interpersonal romantic relationships (Anderson, 1997; Bennet, 1989; Parks & Floyd, 1996; Scharlott & Christ, 1995; Time, 1984; Wolff, 1997). Many of these

relationships, in fact, progress to offline relationships at which point they continue to develop and function the same as other romantic relationships in which the partners met in "traditional" face-to-face contexts (Anderson, 1997, 1998; McKenna, 1999).

As more people move toward using the Internet as a medium by which to communicate with others, it is becoming a way for people to sustain and manage not only business relationships but personal and social relationships as well. Formation of online personal relationships is becoming both popular and commonplace; increasingly, persons report having established "real" relationships in online settings (Parks & Floyd, 1996). One need only "lurk" in a chat room or pick up a popular periodical to access stories of people who have met online and developed friendships and intimate relationships. The recent proliferation of popular books on the topic of computer mediated relationships, such as Romancing on The Net: A 'Tell-All' Guide to Love Online (Booth & Jung, 1996), Online Seductions: Falling in Love With Strangers on The Internet (Grinwell, 1998), and Love, Lies And The Internet: Tales of Internet Romance, Cyber-Love and Heartbreak (Syrmopoulos & Papina, 1996), is an indicator of the degree to which people are developing online relationships or, at the very least, interested in the topic. In one of the many recently published books that deals with this topic, Online Friendship, Chatroom Romance, and Cybersex: Your Guide to Affairs on the Net (Adamse & Motta, 1996), the authors capture the essence of this current trend toward online dating (and the corresponding interest in online dating):

> ...the mystery and art of romance are having a field day. Thousands of people meet online every day, often by accident in a random electronic encounter. Some are looking for romance while others find it unexpectedly. Casual, public chatroom interactions lead to private chats and the exchange of increasingly personal information. Attractions and intrigue develop. Exchanges of e-mail are followed by phone calls, and then--for many--the first IRL [in real life] meeting. This is the moment of truth when fantasy gives way to reality. First dates frequently take place after one or both individuals have traveled thousands of miles to meet. For some, the meetings are a disappointment. For many others, the meetings live up to--or exceed--expectations. Of these couples, some move in together and get married. (p. 105)

Academicians have been just as interested in computer-mediated communication and interaction as have laypersons. Early scholarly studies of computer-mediated communication focused on examining the differences between computer-mediated and face-to-face task groups. It was from these studies that researchers deemed computer-mediated relationships as impersonal. Among the findings that led to such a conclusion were reports of verbal aggression, blunt disclosure, and nonconforming behaviors (otherwise known as "flaming") (Dubrovsky, Kiesler, & Sethna, 1991) and inability to establish a shared perspective (Kiesler & Sproull, 1992).

Based on reports such as these of relatively incompetent computer mediated communicative interaction, many social science scholars concluded

that computer-mediated interactions simply were not constructive and were instead relatively dysfunctional. Grounded in social context cues theory (Sproull & Kiesler, 1991), social presence theory (Rice &Love, 1987), and the computer mediated communication (CMC) specific cues filtered out perspective (Culnan & Markus, 1987) these scholars have argued that computer-mediated interactions are impersonal by nature and therefore cannot develop into satisfying relationships. They posit that this lack of satisfactory development is due to a lack of nonverbal (vocal, facial, physical) and social context cues inherent in non-computer-mediated interaction and because computer-mediated communication has a reduced bandwidth, or fewer channels through which interactants can gather information.

However, some communication scholars have argued that functional and authentic relationships can and indeed do form online (e.g., Parks & Floyd, 1996; Walther, 1992, 1993, 1994; Walther & Burgoon, 1992). Walther (1992, 1993) has suggested that online relationships, albeit differences in dynamics and temporal aspects of development, are just as real as other relationships and do indeed develop from impersonal to interpersonal associations. Walther (1992, 1993, 1994) posited the social information processing perspective in which he argues that relational development occurs over a longer period of time than in face-to-face interactions. According to Walther, partners must first adapt to the lack of cues and reduced bandwidth in order to reduce uncertainty and form impressions of one another. In other words, Walther asserts that people are adaptive and will come to compensate for the decreased social context and nonverbal cues in

online settings. Additionally, he found that CMC overcomes certain limitations of face-to-face interactions such as the tendency to be cautious or reticent concerning initial self-disclosures (1995).

The relative anonymity and unidentifiability afforded online interactants may affect the level of relationships as well. CMC lends itself to opportunities for identify and self-presentation manipulation (Lea & Spears, 1995; Myers, 1987; Polcar, 1996). However, this need not have negative consequences. Sproull and Kiesler (1991) have noted that the lack of communication apprehension people feel during CMC may have a positive effect on relationships. Myers (1987) found that online identities lead to reduced shyness. In addition, it has been suggested that CMC is highly genuine and open because physical cues and appearance do not mediate it (Pool, 1983; Rheingold, 1993), although more recently appearance may have an impact due to the high number of people who exchange photographs online.

Nonetheless, there are differences between computer-mediated and face-to-face relationships. The most obvious and perhaps salient difference between online and offline relationships is that online relationships do not involve the body. A computer screen instead mediates relationships and textual messages typed by the online relational partners. Even if photographs are exchanged online and uncertainty of physical appearance is minimized, the fact remains that there is no physical contact between partners.

Nonetheless, sexuality (and thus the intimacy that may come with it) is present in many online relationships (Sarch, 1996; Witmer, 1997). It has been

reported that four of the fifteen most popular newsgroups currently active on the Internet focus on sexual topics (McKenna, 1999; Reid, 1992). The cybersex experienced does not directly involve physical contact of any kind or even the physical presence of the online partner. However, although physical intimacy is impossible, emotional intimacy is not. In a study of online relationship development and uncertainty reduction, Anderson (1997) found no relationship between perceived attractiveness of online partner and desire for the relationship to continue online and, in many cases, progress to an in-person relationship. In addition, people in online relationships reported high levels of communication content intimacy regardless of their levels of uncertainty. Anderson argued that these findings may be due to the focus of online partners on the emotional and psychological considerations instead of strictly, or at least primarily, physical factors.

Coupled with the lack of physical presence is the issue of proximity in computer mediated relationships. Persons involved in computer mediated relationships may be across town or across the world. There is no opportunity for traditional expression of nonverbal affiliative behaviors or nonverbal immediacy. Moreover, the issue of proximity, including the resources (both time and money) necessary to lessen the distance, often make the likelihood of meeting the online partner difficult and the potential of sustaining an offline relationship cumbersome if not impossible. Even though people choose to take on such challenges, they have the potential to impact the relationship.

Possibly due to this issue of proximity, online relationships have an ephemeral quality. In a study of online friendships, Wolff (1997) found that participants rated their online friendships as significant only during those times they were online. In other words, when participants were not logged on to the Internet their online friendships ceased to be of any importance; according to these results, computer mediated relationships appear to adhere to a principle of "out of sight, out of mind." People have also reported that online relationships have come to sudden and expected endings which, at times, involved no attempt at closure (Anderson, 1997). This could be accounted for by the potentially high levels of anonymity and unidentifiability available to Internet users.

The relative obscurity afforded online interactants may affect computer-mediated relationships. According to Lea and Spears (1995), Myers (1987), and Polcar (1996), computer mediated communication lends itself to opportunities for identity and self-presentation manipulation. Whatever the reasons, online romantic relationships do appear to be oftentimes transitory.

Statement of the Problem

Because of the unique contextual aspects of computer mediated relationships, lack of physical presence, lack of proximity, and potential for "inauthentic" communication, persons involved in computer mediated relationships are likely to experience a high degree of uncertainty about both the online relational partner and the relationship itself. Additionally, uncertainty may be heightened because the levels of anonymity and unidentifiability of the interactional partner (Lea & Spears, 1995) afforded by computer-mediated

communication allows a prime opportunity for deception (Lea & Spears, 1995; Myers, 1987).

Most of these preliminary articles (e.g., Parks & Floyd, 1996) are concerned with how these relationships are initially established or perceived and managed as "real" relationships. However, many more people are meeting online and then moving the relationship forward to offline, or "in real life." Studying only the formation of online relationships and debating whether they "truly" exist in the opinions of academicians are no longer sufficient paths for social scientists to take; the move must begin to be made toward the study of what leads to online partners to pursue offline relationships and how and why they succeed. Prior to individuals deciding to pursue relationships offline, it seems reasonable to assume that the individuals perceive their respective relationships as having some relatively high degree satisfaction lest they would not want to advance the relationship. However, to date, no studies of online interpersonal communication satisfaction or relationship satisfaction have been published. More importantly, we do not know the possible predictors of online interpersonal communication satisfaction and relationship satisfaction. Although some online relationships are indeed perceived as genuine, salient relationships by at least one partner, some online relationships exist in which the partner(s) simply view the relationship as a way to "have fun" or "pass the time" and not genuine and salient as most face-to-face relationships (Wolff, 1997). People involved in online relationships likely have different expectations for how they would like that relationship to progress (if at all).

Additionally, persons in online romantic relationships are in a unique position because they not only are participating in a relationship that goes against the grain of societal norms for romantic relationships, but they may be lacking in information about online romantic relationships and social support networks from which to gain a sense of confirmation about their relationship. Indeed, even current interpersonal theories do not completely account for what occurs in online romantic relationships and scholars themselves are choosing the theories over the reality, arguing that relationships not fitting traditional models cannot be defined as relationships (e.g., Rice & Love, 1997).

Moreover, as more persons become involved in online romantic relationships it is inevitable that these relationships, like any other, will experience relationship problems. Likewise, persons in in-person relationships may find themselves or a partner transgressing the current relationship by having an online affair. In either of the aforementioned cases, people may seek counseling from a practitioner who, at the present time, would be hard pressed to find any substantial research on online romantic relationships.

Significance of the Study

The purpose of this study is to examine (1) predictors of interpersonal communication satisfaction, (2) predictors of relationship satisfaction, (3) the relationship between interpersonal communication satisfaction and relationship satisfaction in online romantic relationships, and (4) the desire for online relationships to advance and progress. Concurrently, the purpose of this study includes identification of issues that are fundamental to the perceived satisfaction

of online romantic relationships. Finally, a secondary goal of this study is to lay the groundwork for a necessary re-examination of theoretical positions driving the study of (face-to-face) relationships in order to ascertain the utility and heuristic value of these positions in the future examination and theorizing of computer mediated interactions and relationships.

Past theories of and research on romantic relationships have identified key components in relationship development, maintenance, and satisfaction. These components include commitment, uncertainty, liking, physical attraction, trust, and intimacy to name just a few. Theories such as uncertainty reduction theory (Berger & Calabrese, 1975), social exchange theory (Thibaut & Kelley, 1959), the social penetration model (Altman & Taylor, 1973), and attraction theory (Newcomb, 1961), provide a good starting point from which to examine online romantic relationships. It is important to start this examination at the beginning because the medium of the computer is so unique that it is uncertain at best to assume online relationships simply function in the same manner and with the same dynamics as face-to-face relationships. If for no other reason than the fact that so many laypersons and academicians both view online relationships as "non-real," online romantic relationships must be examined initially as a phenomenon separate from other relationships.

Chapter 2

Review of Literature

Computer Mediated Communication

Computer mediated communication has received wide research exposure of late in the contexts of email (e.g., Rice & Love, 1987; Sproull & Kiesler, 1986), newsgroups (e.g., Parks & Floyd, 1996), and chat rooms (Rintel & Pittam, 1997). Computer mediated communication (CMC) is any communication between two or more persons which occurs through/across any number of forms of computer technology channels such as bulletin board services, instant relay chat rooms, or email. CMC can occur asynchronously, as in newsgroups and email, and synchronously, as in instant relay chat which allows the users to interact in "real" time.

Computer Mediated Versus Face-to-Face Interaction

Initially, investigations of computer-mediated communication led researchers to examine and compare computer-mediated and face-to-face communicative interaction. These studies focused on computer-mediated communication in organizational settings and other task related contexts, and most of them examined email interaction exclusively. Many of these initial findings appeared to indicate that computer-mediated communication was inherently abrasive and anti-social in nature (e.g., Hiltz, Johnson, & Turoff, 1986; Rice & Love, 1987; Sproull & Kiesler, 1986). Kollack and Smith (1996) reported that incidents of flaming—acting verbally aggressive and hostile toward online community members—were abundant in online contexts such as newsgroups

and chatrooms. Similarly, Dubrovsky, Kiesler, and Sethna (1991) found that amounts of verbal aggression and blunt disclosure (flaming) were greater in computer mediated versus face-to-face interactions. Also, Kiesler and Sproull (1992) argued that participants who interacted online, unlike face-to-face, were unable to reach a shared task-related perspective.

The cues filtered out perspective suggests that technologically mediated communication filters out cues found in face-to-face situations; moreover, different technologies filter out different cues. Thus, a technology mediated communicative interaction will result in relatively predictable changes in interpersonal variables depending upon the specific technology used (e.g., Culnan & Markus, 1987; Sproull & Kiesler, 1991). Walther (1992, 1993, 1994), and Walther and Burgoon (1992) have argued against this perspective, stating that the cues filtered out approach may be of a higher magnitude at the beginning stages of online relationships but that as persons continue to interact online they will adapt to the lack of cues and grow and progress similarly to face-to-face relationships. People will use such technology driven tactics as acronyms (i.e., LOL for "laughing out loud") and emoticons (i.e., "smiley faces") to manage the low bandwidth of the medium. In fact, with this adaptation comes increased trust and higher focus on social interaction.

More recently, several studies have investigated MUDS (e.g., Turkel, 1997). MUD is an acronym for multi-user dungeon, an online gaming environment in which participants construct personae and detail the physical environment of the location. Users create a virtual situation in which the

environment is as "real" as possible without being constrained by the limitations of reality, that is, personae can include animals, aliens and the like, inanimate objects can come to life, persons can be invisible, and many other possibilities limited only by one's imagination. MUDs have been found to be "richer" than chat-rooms because of their ability to more closely mirror the physical world (Holmes, 1994). Interpersonal relationships appear to develop in MUDs though intimacy management tactics such as the "textual giving" of flowers, gifts, rings, and the affinity-seeking strategy of using one's real first name in moments where closeness is desired (e.g., Jacobson, 1996; Reid, 1992). Carlstrom (1992) investigated communication in MUDs (multi-user dungeons) versus face-to-face communication and found several differences in use of silence, turn-taking, and proxemic factors. For example, in MUDS silence could be used by a group of MUDers to virtually erase another's presence if he or she was violating the rules of the MUD. Turn-taking in MUDs was much more ordered than in face-to-face interactions, and interactants positioned their virtual selves closer to one another than persons in face-to-face encounters. Additionally, Cherny (1994) identified significant language differences between men and women in MUDs, including the ways in which men and women discuss and portray their (virtual) bodies. According to Cherny, women describe their virtual bodies with greater detail and using more descriptive terms than do men.

Although early studies of computer mediated communication (CMC) provided initially evidence of and emphasized the differences between computer mediated and face-to-face communication such as reduced social context and

nonverbal cues and high verbal aggressiveness in computer mediated environments (e.g., Sproull & Kiesler, 1986), the differences are now, and will continue to become, increasingly moot with the advancement of technology enhanced media (Cochrane, 1995). Hellerstein (1985) advocates that people in computer mediated social environments construct their reality the same ways in which people in in-person communication situations do. Likewise, investigations of CMC have "consistently shown the interpersonal side of CMC. Users commonly report that they socialize, maintain relationships, play games, and receive emotional support" (Parks & Floyd, 1996, p. 82).

Computer mediated environments have also proven to be a constructive, viable alternative for persons who may otherwise not have their interpersonal and social needs met. Individuals and groups of individuals who are experiencing sensitive issues, dealing with social constraints, constrained by geographical boundaries, or who are simply reticent to communicate can easily, safely, effectively, and often anonymously access information, support groups, and a sense of community online. In a study of people who are gay and lesbian, Bradlee (1993) discovered that a newsgroup called Gaynet provided support and information for young persons who were often isolated in geographical locations with no outlet for people in the gay community. Two recent studies have focused on seniors using the Internet and the ability granted them for daily interaction from which they might otherwise be excluded due to physical, financial, or social constraints (Cody, Dunn, Hoppin, & Wendt, 1999; Wright, 1999). Additionally,

North (1998) examined social support chat rooms for women with various eating disorders.

Computer Mediated Relationships

In his canonical work The Virtual Community: Homesteading on the Electric Frontier, Howard Rheingold (1993) relays his and his family's personal account of the online community of which they became a part and the relationships they forged. Rheingold, as do others, vehemently believes that close relationships of all kinds develop online. Computer mediated romantic relationships are a type of those relationships, romantic and/or sexual in nature, that initiate and develop over the computer. Although there is debate among scholars as to whether online relationships, due to their minimal social context and nonverbal cues, are impersonal and thus not "authentic" (e.g., Culnan & Markus, 1987; Sproull & Kiesler, 1991; Rice & Love, 1997), a larger body of scholars advocates allowing relationships to be defined by those involved; thus, if an individual or individuals have socially constructed a computer mediated relationship as a "real" relationship, then it most certainly does exist and can be examined empirically.

Studies that have focused on interpersonal interaction in social and relational contexts as opposed to task-related contexts have provided evidence that online relationships are quite "real" indeed. Walther and Burgoon (1992) found that in the initial stages of online relationship development individuals are less open and self-disclose more slowly. However, soon afterward they adapt to the lack of bandwidth (Walther 1993, 1994, 1996) and overcome what may

otherwise be missing in an online context through the use of strategies such as emotes (or emoticons). Additionally, once these relationships begin to develop they continue to do so at a much quicker pace than face-to-face relationships, possibly due to the open and anonymous nature of the Internet. Pratt, Wiseman, Cody, and Wendt (1999) found that interrogative strategies are used frequently in online interaction, thus, information was exchanged through direct means.

In a study of online romantic and friendship relationship development and uncertainty reduction, Anderson (1997) found no relationship between perceived attractiveness of online partner and desire for the relationship to continue online and, in many cases, progress to in person relationships. Thus, individuals wanted to maintain their online relationships regardless of whether they perceived their online partners as attractive or not. In addition, people in online relationships reported high levels of communication content intimacy regardless of their levels of uncertainty. Anderson argued these findings may be due to the online romantic partners' focus on emotional and psychological considerations instead of strictly, or at least primarily, physical factors. Additionally, Anderson reported that 92% of 109 respondents wanted their computer-mediated relationships to continue online, 86% of respondents wanted these relationship to progress to the telephone, and 78% wanted these relationships to progress to in-person involvements. Similarly, Parks and Roberts (1998) investigated personal relationships in various types of MUDs and discovered that nearly 94% of their 235 respondents had formed an online relationship of some kind (friendship or romantic in nature). They write that respondents reported relationship breadth

and depth, commitment, predictability, and understanding of one another were moderate to high. Furthermore, nearly one third of their respondents had progressed to in-person meetings.

Walther (1996) noted that CMC overcomes certain limitations of face-to-face interactions; one way through which this occurs is the level of anonymity individuals experience online. Once in an online environment, persons may alter their names, physical presence, or any other personal detail about which they might feel uncomfortable or self-conscious (Lea & Spears, 1995; Myers, 1987; Polcar, 1996). This is not to suggest individuals online are all highly deceptive, rather that they are free to "try on" and experience other possible selves. The de-emphasis on the physical presence is conducive to free and open communication (Myers, 1987) and subsequent potential reduced communication apprehension (Sproull & Kiesler, 1991). Both Pool (1983) and Rheingold (1993) have suggested that CMC is highly genuine and open because it is not mediated by physical cues and appearance, and Chesebro and Bonsall (1989) point out the ability to form "computer friendships" based on nothing other than pseudonyms. This feeling of "freedom" online may lead to communication that increases relational intimacy.

Intimacy Online

Popular media have focused recently on the abundance of cybersex occurring online. Many people argue that engaging in cybersex is somehow a (failed) attempt to attain a form of intimacy online that may be lacking in the offline (e.g., Turkle, 1997). In a counter perspective, Springer (1994) argued that

cybersex or online erotica may seem to be a safe, viable alternative to a potentially emotionally and physically risky face-to-face encounter. Correspondingly, Clark (1998) identified the advantages of cyber-sexual experiences for teenagers growing up in a high-risk society. In actuality, cybersex is not the basis of many online romantic relationships, but in fact, those persons maintaining salient online relationships often experience other issues surrounding intimacy that face-to-face couples encounter such as jealousy, excitement, betrayal, and even love (e.g., Anderson, 1997, 1999). This is likely accounted for by the fact that intimacy is a rich and complex phenomena rooted in many actions and psychological responses of which sex is only one. Furthermore, it may be the psychological component of intimacy that is of the greatest importance. Although some of the "psychology of intimacy" may be a function of physical actions, it is the affective component of intimacy, the psychological closeness one feels with a partner, that increases the development of romantic relationships.

According to Burgoon (1989), intimacy is expressed in nonverbal behaviors such as eye gaze, frequent gesturing, touching, and close distance. These types of behaviors can obviously be difficult to express in an online context. However, as Walther (1993, 1996) and others have explained, people who engage in computer mediated communication tend to adapt to the low bandwidth of the context and use other means by which to indicate nonverbal (including vocal) behaviors. One such method for this is the use of emoticons, "faces" composed of keystrokes used to indicate smiling [for example :-)],

frowning, furrowing one's brow, and sticking out one's tongue to name just a few. Another method is the emote, a command or explanation used in MUD or chat room that designates an action such as "Cyberdude nods," or "Tina1999 waves hello to the room." Emoticons and emotes, then, can be used to convey intimacy.

Interpersonal Relationships

The following section focuses on theories and corresponding constructs of interpersonal relationships. Specifically, these theories concern themselves with face-to-face relationships, and the corresponding constructs, then, are used to examine and support these theories. It is important to examine these theories as they are inherently linked to findings of (face-to-face) "relationship truths" and subsequently used as either a backdrop for the investigation of online relationships or as the position from which to argue dismissing the study of online of relationships.

Theories of Interpersonal Relationships

Most theory used to examine communication in interpersonal relationships is imported from outside the field of communication; specifically, most theories are extracted from psychology, sociology, and social-psychology. In fact, only one theory dealing explicitly with interpersonal relationship development is widely recognized as having emerged from within the field of communication studies and that is uncertainty reduction theory (URT) (Berger & Calabrese, 1975). Other theories that are not only common but also often "frontrunners" of interpersonal communication research are social exchange theory (Thibaut & Kelley, 1959), social penetration theory (Altman & Taylor, 1973), and attraction theory

(Newcomb, 1961). Embedded in each of these theories are core components that are argued to be necessary to the development and maintenance of interpersonal relationships. Some of these components, such as self-disclosure, are found in multiple interpersonal theories.

Uncertainty Reduction Theory. Uncertainty reduction is a primary factor in the initiation and development of relationships (e.g., Berger & Bradac, 1982; Berger & Calabrese, 1975). Applications of uncertainty reduction theory have included the explication of URT to later, as opposed to strictly initial, stages of relationships (Berger, 1979; Berger & Bradac, 1982; Parks & Adelman, 1983; Planalp & Honeycutt, 1985), the impact of the partner's communication network (Parks & Adelman, 1982; Planalp, Rutherford & Honeycutt, 1988), and cross cultural influences (Gudykunst & Nishida, 1984).

Berger and Calabrese (1975) posited a "developmental theory of interpersonal communication" known as uncertainty reduction theory (URT). This developmental theory is grounded in the "assumption that when strangers meet, their primary concern is one of uncertainty reduction or increasing predictability about the behavior of both themselves and others in the interaction" (p. 100). In their original treatise Berger and Calabrese argued that uncertainty reduction is essential during the entry phase of a relationship in which communication is structured and adherent to normative rules of interaction. When information is exchanged (1) uncertainty is reduced, (2) behavior of the other is predicted, (3) explanations are provided for both the self and the partner, and (4) appropriate behavior is chosen in lieu of these predictions and explanations. However,

Berger and Calabrese noted that information gained as a result of uncertainty reduction strategies could often result in inaccurate knowledge of the other and, therefore, in making inaccurate predictions of the other's behavior.

Berger and Calabrese (1975) postulated that level of uncertainty relates to reciprocity, information-seeking, liking, nonverbal affiliative expressiveness, amount of verbal communication, intimacy level of communication content, and similarity. They also posited that reducing uncertainty about another's predicted behavior would result in positive relationship outcomes. However, these assertions--and the abundance of research that followed--focused on face-to-face interaction. Developments in URT (Berger, 1979) have included a differentiation between the presence of uncertainty and the need for it to be reduced, and a modification of when URT is likely to operate in initial interactions. According to Berger (1979), expectation of future interactions (will the relationship continue?), deviance (when the other diverges from normative behavioral expectations), and incentive value (can the other do something rewarding for me?) should induce one to employ information-seeking strategies in an effort to reduce uncertainty. In addition, Berger (1979) added a typology of information seeking strategies: passive, active, and interactive. Passive strategies refer to unobtrusive behaviors such as monitoring nonverbal behaviors of the partner. Active strategies refers to behaviors engaged to gain information from third parties, other sources, or via manipulation of environmental factors. Interactive strategies refer to target-directed behaviors enacted to obtain information such as question asking and self disclosure.

There are, however, shortcomings to uncertainty reduction theory. It is unclear as to what degree uncertainty is lessened by amount of contact with the relational partner as opposed to contact with the partner's network of family and friends (Parks & Adelman, 1983). Also, research suggests that the negative relationship between amount of time spent with partner and uncertainty is limited to initial interactions only (Parks & Adelman, 1983). More importantly, support for many of the axioms and theorems have been weak (Sunnafrank 1996b, 1990). Sunnafrank (1986a) summarized the results of URT findings and argued that many investigations have not directly tested axioms and theorems, lending only tacit support to the theoretical claims. Concurrently, Bochner (1978) asserted that URT needs better scope and boundaries such as an incorporation of social context and a means of measuring uncertainty. Not all assumptions of URT have been empirically supported; for example, Gudykunst and Nishida (1984), in an examination of uncertainty reduction as mediated by cultural variables, found evidence to support only one of the original axioms. Just as culture may affect the process of reducing uncertainty so may the message channel and context.

Social Exchange Theory. Social exchange theory (Thibaut & Kelley, 1959) is an economic perspective of relationships; social exchange theory examines the roles of rewards gained and costs incurred within relationships. This theory posits that attraction is dependent upon "the exchange of rewards and punishments that takes place when people interact" (Berscheid, 1985, p. 429). Specifically, attraction hinges on the ability to maximize profits within a given relationship and minimize losses (Gergen, Greenberg, & Willis, 1980; Thibaut &

Kelley, 1959). Not unlike purchasing a product, people "shop" around for a relational partner who, over the long haul, will provide the maximum benefits or rewards. This is known as the minimax principle. Central to this theory are those qualities, material items, and "services" that constitute as costs or rewards. Rewards are construed as anything a relational partner considers a benefit such as intimacy, companionship, attractiveness, and satisfaction (happiness) with the relationship. Costs, then, include anything a relational partner considers detrimental such as loss of privacy, time demands, and the need to negotiate personal time.

Social Penetration Theory. Social penetration theory (Altman & Taylor, 1973) posits that we move from a non-interpersonal to an interpersonal stage in relationships. This is achieved through communication, of course, which facilitates the progression of the relationship by allowing the interactants to get to know one another through their reciprocal self-disclosures. These disclosures can be classified along two dimensions: breadth and depth. Breadth refers to the number of topics discussed at any given time in a relationship; that is, do the interpersonal partners feel free to discuss numerous sorts of issues. Depth, on the other hand, refers to the level at which topics are discussed, to the degree that the personality or "inner core" of the partner penetrated. Relationships develop as breadth and depth increase and, concurrently, breadth and depth increase as the relationship moves from acquaintance to intimate. VanLear (1991) suggests that the model of social penetration is somewhat linear and simplistic, possibly outdated:

> Relationships were pictured as progressing by the gradual, relatively linear, reciprocal increase in breadth and depth of information exchanged. Research supported the hypothesis that as relationships progress over time people gradually reveal more information about themselves and the intimacy level of that information gradually increases (Altman & Taylor, 1973; Knapp, 1984; Knapp, Ellis, & Williams, 1980; Taylor, 1968). Stability was the point at which growth leveled off and relationship disengagement or "depenetration" was pictured as the reverse of the formation process (e.g., less openness and more closedness). (p. 339)

Attraction Theory. Attraction theory is a composite theory originating from research conducted about key antecedents of attraction. Although there are numerous factors said to affect interpersonal attraction, the premise of attraction theory largely rests on the argument that people come to be interpersonally attracted to those persons who are in close proximity, physically appealing, and similar (e.g., Newcomb, 1961). Proximity, or propinquity, refers to the notion that if we are physically or geographically near another person on a consistent basis we will become emotionally close to this person and also develop feelings of physical attraction toward him or her. In part, this is grounded in the notion that simply by being near another it eliminates part of the work involved in getting to know that person and developing the relationship. Similarly, physical attractiveness refers the propensity to like a person based solely on his or her physical attributes. This is also known as the "what's beautiful is good" stereotype that often leads us to attribute socially desirable qualities to those who

possess physically desirable qualities (Dion, Berscheid, & Walster, 1972; Hatfield & Sprecher, 1986). Similarity refers to the similarity-attraction effect whereby people tend to like those who have characteristics and attitudes similar to their own. This would seem intuitively true as well; we have more in common with someone who shares our values and who comes from a similar background (e.g., education, socio-economic status, and religion).

Key Components in Interpersonal Relationships

Embedded in all theories of interpersonal relationship development and maintenance are key components, or constructs, that are claimed to be the central components necessary to all interpersonal relationships. Although each theory advocates its own set of key constructs some, such as self-disclosure, are found in multiple theories. This section provides a list of those components that are most frequently utilized in interpersonal theories (including but not limited to those theories referenced in the aforementioned section) and recognized as central to relationship development and maintenance. Table 1 presents a summary of these concepts grouped according to their corresponding theories.

Self-disclosure.

Self-disclosure is most obvious in the uncertainty reduction and social penetration theories. For each of these theories, the actual development of any relationship is dependent upon self-disclosing to the intended relational partner and then, once the relationship is initiated, continuing to do in order to develop and maintain the relationship (Altman & Taylor, 1973; Berger & Bradac, 1982).

The importance of self-disclosure to uncertainty reduction has been supported not only by numerous studies involving self report but also by third party observers. In a controlled setting, Douglass (1990) had participants interact and then transcribed and coded their interactions; he reported a positive relationship between uncertainty reduction and self-disclosure.

Self-disclosure is more implicit but just as powerful in social exchange and attraction theories. In social exchange, rewards often come in the forms of support, empathy and affection, all of which lend themselves to self-disclosure. In attraction theory, self-disclosive behavior is an underlying component of the proximity factor (we have greater opportunity to disclose to those with whom we have frequent contact); additionally, ascertaining how similar a person's attitudes and background are perceived as close to one's own rests on both persons self-disclosing this information during initial encounters. In fact, self-disclosure itself can be viewed as a reward.

Uncertainty. Uncertainty can be defined as the inability to explain and predict a relational partner's actions (Kellerman & Reynolds, 1990). Berger and Calabrese (1975) stated that "When strangers meet, their primary concern is one of uncertainty reduction or increasing predictability about the behavior of both themselves and others in the interaction" (p. 100); they then later advanced this theoretical proposition of the need to reduce uncertainty to include not only initial interactions but all stages of relationships (Berger, 1979; Berger & Bradac, 1982). Although a differentiation exists between the presence of uncertainty and the varying need people have to reduce it, uncertainty is typically present to

some extent. Uncertainty and its subsequent reduction, then, have been posited as a primary factor in the initiation and development of relationships (e.g., Berger & Bradac, 1982; Berger & Calabrese, 1975; Parks & Adelman, 1983).

Intimacy. Intimacy can be defined as a feeling of familiarity and openness. Research based on social penetration theory (Altman & Taylor, 1973) suggests that there is a significant alteration in patterns of communication as intimacy develops in relationships. According to Knapp, Ellis, and Williams (1980), as intimacy increases communication becomes more personal, efficient, and smooth, and develops more breadth and depth. In fact, research shows that intimacy is an important relationship issue across cultures (Triandis, Vassiliou, & Nassialou, 1968, as cited in Hecht, 1984). Furthermore, intimacy has been closely linked with communication satisfaction (e.g., Hecht, 1978, 1984).

Similarity. Similarity is the degree to which individuals perceive themselves as similar to others. Byrne (1971) forwarded the argument that similarity and attraction are correlated because the discovery of similarities, particularly attitudinal similarities, is reinforcing. Individuals feel drawn to those who share their same values and viewpoints. Similarity between relational partners has been the subject of a great deal of research (e.g., Byrne, 1971; Duck, 1994). Although there are differences in types of similarity—real, perceived, and assumed—the focus here is on perceived similarity as it is how the relational partner perceives his or her situation and relationship that is of importance (Laing, 1967; Laing, Phillipson, & Lee, 1966).

Similarity has been linked to uncertainty reduction strategies that partners use with one another not only in North American contexts but also across cultures. Gudykunst et al. (1985) found that perceived homophily in intimate relationships induces uncertainty reduction strategies that (1) cause a relational partner to self-disclose and thus (2) increase certainty.

Trust. According to uncertainty reduction theory, people will seek to gain information about their relational partners in an effort to reduce uncertainty about those partners. Because a central component of trust is a relational partner's behavioral predictability, a person in an intimate relationship will engage uncertainty reducing strategies to gain knowledge of a partner's relationship-oriented behaviors.

People high in uncertainty and subsequently low in trust have been found to possess greater motivation to examine and assess their partners' level of commitment than do people high in certainty and trust (Holmes & Rempel, 1989). Although this lack of trust can be caused by any number of personal and/or relational issues, people with uncertainty/lack of trust are inclined to react negatively to information about their partner that they perceive to be unfavorable. According to Holmes and Rempel, the very goal of uncertainty reduction is to ascertain a sense of security in the relationship based on the partner's level of attachment.

Information seeking. Berger (1979) stated that the presence of any one uncertainty producing antecedent, or a combination of these antecedents, should induce people to employ information-seeking strategies in an effort to seek out

information about a relational partner via increased monitoring of both the self and the other. Although information-seeking could take the form of direct or indirect strategies and be centered on the relational partner or those in his or her social network, information seeking is most often conceptualized--and will be for the purpose of this study--as question asking that is used to gain information about a relational partner (Kellerman & Reynolds, 1990). The greater the uncertainty, the more an individual tend to seek out information about their relational partners.

Commitment. Commitment involves the extent to which people in romantic relationships experience relational cohesion (togetherness), exclusivity, and anticipated continuance of the relationship (dedication) (e.g., Rusbult, 1983; Sabatelli & Cecil-Pigo, 1985). This commitment is shown through a relational partner's expressed attitudes, behaviors, and specific statements. Commitment results from a person's relationship investments; therefore, rewards acquired in a relationships lead to commitment and can be viewed as an investment in that relationship (Rusbult, 1987).

Commitment has been linked to relational alternatives (Miller, 1997; Rusbult, 1980), intimacy (Martson, Hecht, Manke, McDaniel, & Reeder, 1998), and relationship satisfaction (e.g., Sprecher, 1999). Rusbult (1980) argues for an investment model of relationship development in which she posits that commitment is a result of individuals' perceived alternatives to their current relationship, investment in the relationship, and relationship satisfaction. In fact, Rusbult and Buunk (1993) state that "Highly committed individuals need their

relationships, feel connected to their partners and have a more extended, long-term time perspective regarding their relationships" (p. 180). Furthermore, Duck and Gilmour (1981) state that problems with relational commitment and perceptions of a partner's lack of commitment can impede the development of intimate relationships and ultimately cause them to decline or even dissolve.

Although some have conceptualized commitment as a dyadic construct, others (e.g., Nock, 1995) have provided solid justification for examination of commitment at the level of the individual "marked by mutual influence" (Knapp, 1989). In other words, an individual's level of commitment is deemed important because this level of commitment exists within the context of a specific relationship; it is influenced by the relational partner. This position is not inconsistent with Rusbult's model in which an individual's perception of various relational components are the key to satisfaction and commitment. Individuals' levels of satisfaction and commitment might be linked to perceptions of their partners' commitment and level of investment.

Physical attraction. Obviously, physical attraction is the most essential element to attraction theory; however, numerous research studies using uncertainty reduction theory, social penetration theory, and social exchange theory have examined the role of attraction in general and physical attraction, specifically, in interpersonal relationships. For example, some scholars have advocated that in the case of social exchange theory physical attractiveness of one's partner (or potential partner) is a reward (Clark & Pataki, 1995). Similarly, an axiom of URT states that an inverse relationship exists between uncertainty

and attraction. Although some research has provided evidence that physical attractiveness may also increase uncertainty (as in the case of concern over a partner's potential opportunity for infidelity) (Douglass, 1990), the opposite appears to be the case in most research findings (e.g., Douglass, 1990) which can likely be explained by "what's beautiful is good" stereotype. Attractive people are believed to possess good and pure social qualities andtherefore the uncertainty decreases. Some studies involving social penetration explanations of relationship development assume physical attraction to be the instigator of relationships before they can progress from an acquaintance to intimate stage (Hatfield & Sprecher, 1986).

Proximity. Proximity is central to attraction theory and a staple of much relationship research in general. Research over the years has indicated that proximity and face-to-face interaction are essential to the formation of relationships and the development of attraction—both physical and interpersonal—to others (e.g., Berger & Bradac, 1982; Hinde, 1979; Newcomb, 1961). The necessity of physical proximity is implied in most theories of relationships because the theories argue that closeness and subsequent relationship development occur over continued (and usually regular) interactions. Thus, according to these theorists, without proximity it would seem that relationships cannot exist. Yet, online relationships do exist and do not have physical proximity.

Satisfaction

Satisfaction, or contentment, is central to the examination of relationships. Because individuals strive toward contentment, fulfillment, and happiness in their romantic relationships, an abundance of social psychological and communication literature has focused on both relational satisfaction and interpersonal communication satisfaction as predictor and criterion variables. The following section examines interpersonal communication satisfaction and relationship satisfaction.

Interpersonal Communication Satisfaction

According to the social exchange perspective, relationships continue to develop as rewards exceed costs. Because communication is a building block of relationships (e.g., Duck & Pittman, 1994) satisfying, or rewarding, communication should aid in relationship development (Hecht, 1978). Similarly, advancing the research in communication satisfaction should prove heuristically valuable in understanding communication practices. Hecht (1978) states:

> An understanding of communication outcomes such as satisfaction is a prerequisite to an integrative explanation of communication behavior. Not only are such outcomes influential in determining future communication behavior, they also provide a theoretical framework for grouping and assessing the importance of various process elements. (p. 350)

Relationship Satisfaction

Because communication and relationships are so closely linked, another dimension of satisfaction that is important to the understanding of interpersonal

interactions is relationship satisfaction. Relational satisfaction is the degree to which an individual is content and satisfied with his or her relationship. Relationship satisfaction has been examined as both an individual and dyadic construct, and each has yielded results that suggest individuals' perception of their partners' various attitudes, behaviors, and communication can have a significant effect on perceptions of relationship satisfaction (e.g., Guerrero, 1994).

Lamke, Sollie, Durbin, and Fitzpatrick (1994) examined masculinity and femininity in relation to relationship satisfaction and found that for both men and women, satisfaction was related to partner's ability to express affect. Burleson, Kunkel, and Birch (1994) discovered that relationship satisfaction could in part be predicted by similarity in communication values. Richmond (1995) reported that married persons who reported high relationship satisfaction indicated their relationships were characterized by a greater degree of communication. Additionally, Neimeyer (1984) suggested that similarity of interpersonal variables is an predictor of marital satisfaction. However, in an interesting finding researchers have reported that individuals who live together prior to marriage report less satisfaction with both the relationship and the communication after marriage has taken place (DeMaris & Leslie, 1984; Watson, 1983).

Another reason for investigation of these relationship components is the impact that commitment and expectations have on satisfaction. Rusbult and Buunk (1993) note that couples who report high relationship satisfaction also report higher levels of intimacy and commitment. In fact, numerous studies that

have examined the investment model show relationship satisfaction and commitment are positively correlated whereas they are negatively correlated with relationship alternatives. If an individual feels highly committed to his or her online partner and is anticipating future interaction with an online partner in an offline context, that is, a progression of the online relationship to "real life," then perceived commitment of the partner may influence satisfaction as the future success of the "in real life" relationship may hinge upon the partner's commitment to the relationship as it stands. This is exacerbated by the knowledge that if the relationship does progress to offline, it will likely continue (at least for some time) as a long distance relationship which brings with it new issues and a potential increased need for trust and commitment (see Rohlfing, 1995 for review).

Rationale and Research Questions

Within the decade that computer mediated communication has been a topic of research, the surface of interpersonal relationships online has barely been scratched. Initial studies of online communication were concerned with comparing computer mediated communication to face-to-face communication in an effort to better understand this then new and exciting medium. Subsequent investigations brought battles over theoretical perspectives of online communication and whether the technology was equipped to allow impersonal relationships to move through interpersonal stages. Specific studies of online relationships are newer still and the findings of these studies show mixed support for which interpersonal dynamics are at play in the online context (e.g., Anderson, 1997; Parks & Floyd, 1996; Walther, 1992). Even fewer of these

aforementioned studies focus exclusively on intimate, or romantic, online relationships even though the propensity for the development of online affairs and romantic attachments is growing rapidly. As these relationships do develop social science scholars, and perhaps most importantly the online interactants themselves, are left with little clear information as to what leads to satisfactory online relationships. For future research on computer mediated relationships, predictors of online satisfaction will need to be compared with those of satisfaction for individuals whose online relationships have progressed to offline. While there is an abundance of information on romantic face-to-face relationships in general, online romantic partners alike are hard pressed to find any scholarly research of their experiences from which to glean information and seek validation.

Furthermore, the wealth of interpersonal relationship theories (many of which were mentioned in the preceding section), research, and subsequent theorizing about interpersonal relationship development focuses on the prototypical "couple" which, according to most research operationalizations, is heterosexual, close in proximity, culturally and socio-economically homogeneous, and most importantly exist "in real life". Because these theories were developed and tested prior to the introduction of the Internet medium, these conceptual and operational definitions of interpersonal relationships are potentially flawed due to the propensity to conceptualize relationships according to normative ideals of relationships which, in turn, lead to theorizing and research that reifies these relationships.

As indicated above, there are numerous perspectives on relationship development (e.g., Altman & Taylor, 1973; Knapp, 1984) and correspondingly a relatively large number of arguably important components of interpersonal relationships. Also, as VanLear (1991) points out, "most traditional models [of relationship development] share two things in common. First, they depict communication and relationship development as relatively linear. Second, they view communicative openness and disclosure as central to relationship formation and development" (p. 338). But how might this differ in a unique and hyper-personal communicative context that, when these theories were developed, did not exist?

As the number of Internet users continues to grow, the number of personal relationships that develop online will undoubtedly increase. Online romantic relationships are a phenomena that will not disappear simply because some scholars conclude that they do not exist. As many people have already discovered, online communication offers a new opportunity to establish and maintain salient and meaningful relationships. Scholars of communication and relational behavior must rethink their role in defining relationships and shaping social norms of relationships through a conceptual definition that appears to be lacking in validity at best and simply outdated at worst (e.g., VanLear, 1991; Walther, 1996). One way in which to begin the move toward re-theorizing about interpersonal relationships and at the same time provide a starting point from which to closely and effectively investigate online relationships is to establish which of the predictors of communication and relationship satisfaction in face-to-

face relationships hold true in online romantic relationships. This investigation may begin by employing a long-standing theory of (face-to-face) relationships, uncertainty reduction theory.

Online Relationships and Uncertainty

With the exception of a few recent articles (e.g., Pratt, Wiseman, Cody, & Wendt, 1999) uncertainty reduction has received little attention in relation to CMC. Previously established strategies used for reducing uncertainty in face-to-face interactions may not be applicable to CMC interaction or may elicit different "technology-specific" tactics than have been found in previous studies of face-to-face interaction (Emmers & Canary, 1996); without the ability to interact face-to-face with a partner, access the partner's social networks, or to monitor his or her behavior, the use of some strategies may be thwarted. Additionally, uncertainty may function at higher levels online because of reduced social cues and the opportunity for highly anonymous interaction. Also, key elements in uncertainty reduction in relationships such as attraction and nonverbal affiliative expressiveness may not take the same role in relationships where partners do not interact face-to-face. Furthermore, although deception may occur at any point in any relationship, the opportunity for deceit in CMC is heightened by Internet users' high level of anonymity online. The type of uncertainty that may be experienced online, then, could be a result of uncertainty over issues such as trust, intimacy, and commitment. Finally, uncertainty over ambiguity of these relational components, or a lack in these relational components in general, could affect satisfaction. Satisfaction is important because it predicts the stability of a

relationship to large extent (e.g., Rolfing, 1995), therefore, it is important to understand what contributes to satisfaction in online relationships. Considering the aforementioned predictors of satisfaction in face-to-face relationships (intimacy, physical attraction, similarity, trust, certainty, information-seeking, and commitment), and taking into account the prior literature that indicates communication satisfaction predicts relationship satisfaction, the following two research questions are posed concerning how these predictors relate to online relationships:

RQ1: Of the following variables-- intimacy, physical attraction, similarity, trust, certainty, information-seeking, and commitment--what are the strongest predictors of communication satisfaction in online romantic relationships?

RQ2: Of the following variables-- intimacy, physical attraction, similarity, trust, certainty, information-seeking, and commitment--what are the strongest predictors of relationship satisfaction in online romantic relationships?

In addition to the predictors and factors included in most theories and studies of (face-to-face) relationships, evidence suggests that two other factors may significantly influence the state of online relationships; these factors are expectations for the relationship to continue and progress to offline, and romantic beliefs.

Expectations for Future Interaction

A key component of relational satisfaction may be whether online romantic partners have expectations for the relationship to advance to face-to-face relationships. Persons in online relationships may worry about whether their

partner takes the relationship as seriously as they do. They may experience high levels of uncertainty about their partner's commitment to the relationship, particularly if an effort is made to move the relationship to another level (e.g. telephone) and the partner thwarts the effort. "[People] build up a limited knowledge base about their partners and their relationship. At some point, part of that knowledge [may be] called into question. Where before there was relative certainty, there is now uncertainty about a central concern of the relationship – commitment" (Siegert & Stamp, 1994).

If partners are content maintaining a virtual affair then issues of importance to relational development and satisfaction most likely cease to function as important relational factors. However, for those who do wish to maintain and advance their online relationship, and who hope the relationship will be satisfactory and successful in-person, motivation to make the relationship work may significantly influence the online satisfaction of relationships. Kellerman and Reynolds (1990) attempted to include the construct of motivation into the uncertainty reduction framework in order to predict attraction and information-seeking. Motivation was conceptualized in multiple ways (scope condition, tolerance for uncertainty, function of uncertainty, and difference between uncertainty level and tolerance for uncertainty). Three separate studies were conducted, each examining antecedents corresponding to the seven hypotheses from Berger's (1979) work. Each study utilized four different interaction scenarios to account for generalizability. The antecedent in each was varied (high, moderate, and low). Participants read scenarios and then completed

questionnaires designed to measure various URT related constructs. None of these studies supported the addition of motivation in predicting uncertainty reduction. Nonetheless, it should be re-emphasized that persons in online romantic relationships are unique and cannot adequately be compared to traditional face-to-face relationships. It may be a "special" kind of person who feels he or she can overcome the limitations of computer-mediated relationship issues, and for whom motivation to continue or advance the relationship influences other relational variables.

Walther (1994) discovered that individuals' expectations for continuing their online interactions was a significant predictor of the interpersonal nature of online communication. In an ethnographic investigation of online romance in MUDS, Rosenblum (1998) found that talk of future (online) meetings and accounts of commitment were two behaviors through which people built online relationships.

Finally, based on studies of persons in online romantic relationships Anderson (1997, 2000) concluded that most people currently involved in online online relationships did indeed desire future interaction. Specifically, in the 1997 study 86% of 79 participants reported a desire to progress the relationship to the telephone, nearly 75% reported a desire to progress the relationship to an in-person meeting, and approximately 63% reported a desire or hope that the relationship would develop into a serious, committed "real life" relationship. In the 1998 study, open-ended responses again revealed that participants were hoping to progress their online romantic relationship through stages of development

congruent with those of "traditional" relationships. Participants wrote of wanting or planning to begin speaking with their respective online partners on the telephone, then in time setting up a safe first meeting, then seeing what would develop from that point. This is consistent with arguments made by proponents of media richness theory whereby people hold different media preferences in different situations and when varying levels of equivocation exist, specifically, when high equivocation is present it results in a desire to use richer forms of media) (Daft, Lengel, & Trevino, 1987; Trevino, Lengel, Bodensteiner, Gerloff, & Muir, 1990). Therefore, persons in online romantic relationships were motivated to seek out modes of communication that are "richer" and offer more bandwidth than online communication, possibly due the level of uncertainty present with an online romantic partner.

Based on the aforementioned research concerning expectations for future interaction with relational partners, the following six research questions are posed:

RQ3a: How is communication satisfaction in online romantic relationships related to expectations for continuing online relationships?

RQ3b: How is communication satisfaction in online romantic relationships related to expectations for advancing online relationships to telephone contact?

RQ3c: How is communication satisfaction in online romantic relationships related to expectations for advancing online relationships to face-to-face contact?

RQ4a: How is relationship satisfaction in online romantic relationships related to expectations for continuing online relationships?

RQ4b: How is relationship satisfaction in online romantic relationships related to expectations for advancing online relationships to telephone contact?

RQ4c: How is relationship satisfaction in online romantic relationships related to expectations for advancing online relationships to face-to-face contact?

Finally, due to the highly specialized nature of these relationships, another factor that may influence satisfaction is the belief system surrounding romantic relationships.

Romantic Beliefs

In our culture, ideals of romanticism tend to characterize our intimate relationships. Indeed, some scholars have argued that the experience of romantic love is universal (Hatfield & Rapson, 1987) even though specific ideals of this type of love are heavily affected by one's culture. Although the experience of romantic love is commonplace, romanticism--"love as an ideology"--is a belief system centered on oftentimes mythical ideals of how intimate relationships occur and function and differs from person to person (Hendrick & Hendrick, 1992). At the center of romanticism are beliefs such as "there is only one true love for each person," and "love conquers all" (Sprecher & Metts, 1989).

Romantic beliefs may be related to how people perceive romantic relationships, including those that exist in cyberspace. Inherent in the cognitive schema of romantic beliefs is the notion of "romantic destiny [that] holds that potential relationship partners are either meant for each other or they are not" (Knee, 1998). Additionally, romanticism is "a relatively coherent individual orientation toward love, [and] it may function as a cognitive schema for

organizing and evaluating one's own behavior and the behavior of a potential or actual romantic partner" (Sprecher & Metts, 1989). Murray and Holmes (1997) found that relationship "illusions" (including level of optimism about the future) was a significant predictor of relationship satisfaction and trust. These ideals, or illusions, of relationships may lead persons to feel they are invulnerable to relationship problems (e.g., VanLange & Rusbult, 1995).

A person who holds strong romantic beliefs may be likely to "overlook" the unconventional nature of online meetings and relational development because if there indeed exists only one true love for him or her, and a relationship is destined to be, then the context of the meeting should be of no consequence. In other words, if two people are "meant to be together" then maybe they are "meant to meet online." Also, the romantic belief of "love conquers all" can support this notion. It may be believed that true love can overcome obstacles associated with online romantic relationships such as issues of trust, lacking nonverbal and physical cues, distance, and the like. In fact, preliminary studies of online relationships have indicated that those people who do form online relationships report they are unconcerned, or less concerned than is often reported in studies of interpersonal relationships, with physical appearance (Anderson, 1997). Furthermore, persons involved in online relationships reported feeling that the distance actually aided in increased levels of intimacy because relational partners feel free to be themselves (Parks & Floyd, 1996).

However, it is possible that holding romantic beliefs may have the opposite effect. A person who is highly oriented toward romanticism may hold

ideals of a "romantic first encounter" or, drawing from another component of romanticism, "love at first sight." If this is true then holding strong romantic beliefs would prohibit one from finding online romantic relationships compatible with romantic ideals because the very nature of the computer-mediated interaction would preclude the romantic ideals from being fulfilled. In a case such as this, romantic beliefs may impede online relationship satisfaction.

Therefore, based on the prior review of literature on romantic beliefs, the following two final research questions are posed:

RQ5a: What is the relationship between romantic beliefs and communication satisfaction in online romantic relationships?

RQ5b: What is the relationship between romantic beliefs and relationship satisfaction in online romantic relationships?

The following methods chapter provides specific information as to the methodological approach and methods utilized in this study.

Chapter III

Methods and Procedures

Overview

In this chapter, the overarching methodology and precise methods used in this study are explained. Although the primary focus of a method chapter is to outline procedures such that they may be understood clearly and precisely enough to allow replication, this researcher advocates an understanding of the historical and cultural factors which inform social research investigations. Therefore, in addition to the standard detailing of operational events, here the reader will find an explanation of the rationale for the methodological traditions to be used. Additionally, this chapter provides an overview of technology-driven methods in order to provide an understanding of the tools employed in this study for data collection. Specifically, this chapter provides (1) an argument for the incorporation of a triangulated methodological research design, (2) an overview of and rationale for online data collection, (3) a description of the sampling protocol and research participants, (4) an outline of the procedures used for the collection of data, (5) a summary of measurement instruments, and (6) an explanation of data analysis procedures used in answering the research questions.

Triangulation of Methodologies

A methodology refers to the philosophic underpinnings of an approach to research; it includes the ontological, epistemological, and axiological assumptions inherent in an approach to attaining information and knowledge

about the nature of people and human interaction. Fundamentally linked to methodology is method, the specific tools used to generate data within a given methodological framework. Whereas methods are the specific tactics used to collect and analyze data, methodologies are the larger sets of overarching, philosophical assumptions that guide the choice of these tools. A belief in the worthiness of all methodologies, then, would lead to the incorporation of multiple-methods in a study where the use of multiple methods would best answer the question(s) at hand. This researcher does recognize the value of each methodological approach and believes this research would be best informed by triangulation of methodologies and ensuing methods. In this section, two methodological traditions guiding this research are explained and an argument advanced that blending these methodologies benefit the study of human behavior.

Positivistic-Neopositivistic Methodological Tradition

According to the traditional model of logical positivism, there are only two sources of knowledge: logical reasoning and empirical experience (see Giere & Richardson, 1997 for a review). Experience is the only measure of scientific theories. However, logical positivists have been, and continue to be, aware that scientific knowledge does not rise exclusively from the experience; scientific theories are genuine hypotheses that go beyond the experience. Embedded in inductive logic, social scientific research is grounded in probability and degree of confirmation instead of absolute certainty. Furthermore, most social science scholars currently subscribe to the neopositivistic approach that takes into

account historical realism (Anderson, 1996). Historical realism is the recognition that social, cultural, and historical factors do affect science and its ontological and epistemological assumptions; however, this does not negate all that logical empiricism stands for and attempts to achieve. Instead, "truths" are not seen as relative only to a specific time and place but as working toward a better understanding of human behavior.

Some scholars (e.g., Farrell, 1987) argue that reducing human experience to the functions and formal properties necessary to do empirical investigation omits examination of the richer phenomena of human experience. Also, others would problematize the focus on theoretically derived knowledge whereby the observer is removed from the lifeworld he/she is observing. Logical empirical studies lead us to generalizations only of groups; we cannot say the findings are true of any one individual.

Phenomenological-Hermeneutical Methodological Tradition

Phenomenology centers on the examination of human experience the way that it is lived and occurs within the "lifeworld." This process involves free variation—basic description and intentional analysis—in order to explain how a particular object is constituted. Weber (1964) proposed a social re-construction of the life-world that was grounded in the mental schemata we hold. We see this today in social construction and constructivism.

However, a major criticism of this approach is that it does not allow us to make generalizable statements about human behavior and the world. It is descriptive in nature only. Also, according to Dilthey (1976) we cannot ever know

the full human experience. Yet, both of these methodological traditions provide the means necessary for a full, rich, and detailed examination of personal and social experience. Therefore, it behooves the researcher to consider both traditions when constructing the current study.

Incorporating Multiple Methodologies and Methods

Whereas Chaffee and Berger (1987) discuss "what communication scientists do" (and it should be noted that they concede that not all communicative experience and phenomena are best investigated from a scientific model), Farrell (1987) suggests that "non-scientific" methods of investigating communication are often more appropriate. Farrell suggests that because each approach--philosophical, structural, and empirical--has something useful to offer, and because many approaches are fundamentally linked with others, we should cease searching for differences and thus reifying methodological dichotomies and instead strive for methodological pluralism.

Denzin (1978) also argues for what he terms "synchretic research." He posits that no one method is best and each has its own strengths and weaknesses; therefore, triangulation is necessary for good research and theory. Pearce (1985) argues for a pragmatic approach in which multiple methods are used to help correct researchers' "guesses" about reality. Methods are just different means of trial and error. Concurrently, Polkinghorne (1983) notes that pragmatic science, systems theory, and phenomenology are alternatives to, not replacements for, the neo-positivistic approach. It is not a matter of choosing a methodological perspective that seeks to overturn the neo-positivistic one or its

search for "truth," rather that researchers admit knowledge is varied in nature. He insists that scholars should move toward a synchretic approach in which we blend all methods; this is methodological pluralism, or post-positivism.

This is an important issue because research and ensuing methodologies are intricately linked to theory building. The goals of science, according to Dubin (1978), are to predict and understand. Although each may be attained without the other, ideally scholars desire both in a good theory. In order to accomplish this, multiple methodologies are necessary. Furthermore, two problems that may stem from using a singular method are the precision paradox and the power paradox (Dubin, 1978). The precision paradox is when a high precision in predicting changes in system states will occur and in what order without knowing how this happens. It is making (with accuracy) predictions about variables without understanding the connection. The power paradox is when there is a strong focus on process and understanding the interaction but there is little power of prediction. Ideally, we would strive for both in our theories and because theories are inductively formed from data, therefore, triangulation is the best procedure to follow.

Triangulation can be defined as the "locating of a point in relation to two other fixed positions" (Hammersley & Atkinson, 1983). In research, triangulation references using a blend of many methodologies, data analysis, and measurements. Frey, O'Hair, and Kreps (1990) remind us that communication and human behavior are so complex that one method alone cannot explain fully and predict this behavior, therefore, we may want and need to incorporate

numerous means into our ongoing investigation of the communicative experience.

Cahn and Hanford (1984) examine the differences between phenomenologists and behaviorists and recommend a more integrated approach to research. This integration, they say, involves four points: (1) subject matter under study must take into consideration subjective experience and human action/behavior, (2) the method must have reliable and valid measures for intersubjective experience and objective phenomena, (3) the method should fit the phenomena and the question being asked, and (4) researchers must attempt to gain not only explanation, prediction, and control, but also understanding.

The current study will include theory triangulation (use of more than one theoretical perspective), investigator triangulation (use of more than one person to code qualitative data in an effort to avoid bias), and methodological triangulation (Denzin, 1978), specifically "between-method" triangulation (use of more than one method to study the same participants). The following section explains how methods and methodologies are triangulated in this study.

Online Research Methods and Data Collection

Although Internet research can be a bit frustrating, as the Internet is constantly in a state of flux, the benefits of doing Internet research have been repeatedly heralded by those who have embarked down this path of social scientific work (e.g., Jones, 1999; Sell, 1997). Costigan (1999) notes, "There are [sic] many things right about it. The continuing discourse allows academics and researchers to build multiple perspectives, and this diversity is appropriate to the

reality of the Internet" (p. xviii). This "reality" should be of the utmost importance to communication scholars. As Jones (1999) explains, "The Internet is a social space, a milieu, made up of, and made possible by, communication (the cornerstone of community and society)" (p. 2).

Practicality

Online research methods and online data collection are quickly becoming the "way of the future." Regarding survey research specifically, this concept is explained well by Schmidt (1997), a psychologist who has been conducting online research:

> The World Wide Web presents survey researchers with an unprecedented tool for the collection of data. The costs in terms of both time and money for publishing a survey on the web are low compared with costs associated with conventional surveying methods. The data entry stage is eliminated for the survey administrator, and software can ensure that the data acquired from participants is free from common entry errors....Although the potential for missing data, unacceptable responses, duplicate submissions, and web abuse exist, measures can be taken when creating the survey to minimize the frequency and negative consequences of such incidents. (p. 274)

Access

Carver, Kingston, and Turton (1999) note the importance of the ability to access particular populations who are interested in particular issues or who embody specific characteristics. Additionally, Sell (1997) advocates that online

research allows researchers to access "rare, hidden, and geographically dispersed populations" (p. 297). This point is central to the current study of online romantic relationships because those persons engaging in online romantic relationships must be accessed and where better to do so than in their environment, online? Furthermore, target populations that are difficult to locate or those that are of a "sensitive nature," meaning that they may be less inclined to come forward and identify themselves as a member of the population for any number of social or personal reasons (i.e., abuse survivors, teen mothers, gay and lesbian persons), may be more easily tapped into online (Coomber, 1997). Because prior research has indicated that there is a strong negative perception of persons involved in online romantic relationships (Anderson, 1999), the population under investigation in this study is one that can be best accessed online, in part because participants can remain anonymous.

Anonymity

It is possible for participants who complete online questionnaires to remain completely anonymous. Whereas most pencil-and-paper questionnaires are conducted under the claim that participants' responses will remain confidential--as complete anonymity is difficult to guarantee--online questionnaires can provide the total anonymity that many potential participants desire when considering whether or not to participate. Although an Internet Protocol address may be tracked to assess from whom a particular email came, online questionnaires that are constructed so that responses are posted to a website and not returned to a researcher via email ensure that Internet Protocol

addressed are not accessible. Additionally, this anonymity may lead ultimately to the collection of data that is higher in accuracy and less affected by social desirability. Certainly people may be skeptical of online surveys due to the prevalence of Internet fraud and privacy violations often highlighted in the popular press. However, numerous studies have shown that people are more likely to respond more openly and honestly online than in paper-and-pencil questionnaires (CNN, 1998; Read, 1991; Sell, 1997).

Power Analysis

"All null hypotheses, at least in their two-tailed forms, are false," according to Cohen (1992). For social scientists, this means that an effect always exists within a given population although the effect may be so small that it remains undiscovered and/or does not warrant investigation. Power analysis provides for scholars the means necessary by which to both find the effect and decide if it should be pursued. The size of the examined effect in the target population should be easier to find the larger it is.

Power analysis should be done a priori to the actual study. If no effect is found, the researcher then does post-hoc analyses to determine why no effect was discovered. Commonly, a statistical power analysis takes into account alpha, power, effect size, and finally sample size.

Significance Criterion

The significance criterion, or alpha (α), is set commonly at .05 (as standardized by Fisher in 1934) and will be for this study, as well. The alpha level, which represents Type I error, is the probability of rejecting the null

hypothesis given that the null hypothesis is true. Thus, the researcher can be 95% confident that the effect was discovered because it truly exists and not discovered due to chance. As the alpha decreases, power also decreases. The "tailedness" of a statistical test, whether it is one- or two-tailed, can affect power. If appropriate (as in the case of univariate tests), one-tailed tests should be used which will increase power given that the null hypothesis is false.

Power

According to Cohen (1992), the power of a statistical test is the probability that it will provide statistically significant results. Power (1 - β, β representing Type II error, the probability of incorrectly accepting the null hypothesis), then, is the likelihood of correctly rejecting the null hypotheses and finding a desired effect (although it should be noted that this does not allow a direct test of the null hypothesis). A standard criterion for power within the social sciences is 80% (β = .20) (Cohen, 1975, 1992; Heyes & Steidl, 1997). The rationale for this criterion is that the probability of Type II error would be too great if power were lower than .80, and a large sample size (N) would be needed to detect effect sizes if power were higher than .80. Therefore, the sample size for this study was determined using a power level of .80 (β = .20).

Effect Size

There is some debate concerning how to estimate a desired effect size. The researcher must determine what effect size he or she is interested in finding, which is dependent upon the phenomenon being studied. The desired effect size may be determined by (1) examining prior research, that is, what have other

researchers found in studies of similar phenomena, (2) using substantive knowledge of the topic, and (3) using conventions of effect size. It should also be noted that in social science research small and medium effect sizes are common, therefore, desired effect size should be established with this in mind.

Cohen (1992) established a guideline for determining the small, medium, and large effect sizes dependent upon the researcher's use of statistical test and alpha level. Because the research questions are concerned with relationships among variables and the line of best fit with regard to a set of variables, the researcher will employ Pearson's correlations and multiple regression analyses to answer the questions posed. According to Cohen (1992), effect sizes for Pearson's correlation (r) are: small = .10; medium = .30; and large = .50. Effect sizes for a multiple regression (R^2) are: small = .0196; medium = .1304; and large = .2592.

Sample Size

Taking into account the alpha level, desired power, and desired effect size, the researcher may establish the sample size (N) that is necessary for any given statistic test. The multiple regressions necessary to test what best predicts interpersonal communication satisfaction and relationship satisfaction online include seven and eight predictor variables, respectively. For a multiple regression with seven (7) predictor variables, an alpha of .05, a power level of .80, and a desired large effect size of .2592, the sample must consist of 45 participants. For a multiple regression with seven (7) predictor variables, an alpha of .05, a power level of .80, and a desired medium effect size of .1304, the

sample must consist of 107 participants. For a multiple regression with eight (8) predictor variables (as communication satisfaction will be added to the list of predictor variables for subsequent analyses), an alpha of .05, a power level of .80, and a desired large effect size of .2592, the sample must consist of 51 participants. For a multiple regression with eight (8) predictor variables, an alpha of .05, a power level of .80, and a desired medium effect size of .1304, the sample must consist of 122 participants. For a Pearson's correlation with an alpha of .05, a power level of .80, and a large effect size of .50, the sample must consist of 65 participants. Similarly, for a Pearson's correlation with an alpha of .05, a power level of .80, and a medium effect size of .30, the sample must consist of 68 participants.

Participants

The following section provides a detailed description of how the researcher obtained a sample of persons involved in online romances, and a characterization of the sample.

Recruitment of Participants

One hundred-fourteen (N = 114) voluntary participants were recruited for this study. These individuals (not dyads) were Internet users who have formed online relationships. Qualifications for participation in the study included that respondents (1) had been engaged in an "online romantic relationship" for a minimum of one month, (2) were at least 18 years of age, and (3) had not met their romantic partner in person nor spoken to them.

The researcher solicited for participants online. Specifically, the researcher entered chat rooms chosen randomly from a list of chatrooms obtained on the Internet, identified herself, and following a structured script, asked for volunteers who were willing to visit a website constructed for the purpose of the study. In addition, the researcher posted messages in Internet romance related newsgroups requesting volunteers. The script used in chatrooms and posted in newsgroups is found in Appendix A. For a list of the newsgroups in which the call for participants was posted, see Appendix B. Interested persons were told their participation would involve completing an anonymous online survey designed to investigate online romantic relationships. They were then provided with the URL, or website address, of the survey and asked to access the site at their leisure and then decide if they would like to continue with participation.

This method of sampling yielded a non-random, and possibly a network, sample of Internet users. However, due to the fact that it is impossible to obtain a list of all persons who have formed online romantic relationships, and due to the extraordinary costs of mass emailing Internet users in the hope of contacting those who have formed online romantic relationships, this procedure for securing a sample in an exploratory study was deemed most appropriate. Additionally, for the purpose of answering the open-ended questions, in adherence to the principles of grounded theory, this sample is arguably adequate because grounded theory method is aimed at the development of a substantive-level theory that centers on a specific phenomenon or a specific population of people

(Creswell, 1994). Finally, due to the nature of the phenomenon being explored it is assumed that a network sample by necessity involved a theoretical sample because those persons experiencing online romance likely forwarded the survey site link to their friends (online or offline) who are also experiencing online romance, in fact, some participants mentioned this in emails sent to the researcher.

Description of Participants

As anticipated due to the results of prior research (Anderson, 1997) respondents were demographically diverse. One hundered-fourteen (N = 114) persons responded to the online questionnaire. Of the 114 respondents, 32 were male (28.1%) and 82 were female (71.9%), with ages ranging from 18 to 62 (M = 31.491, SD = 9.882). Participants' levels of education ranged from some high school to doctorate or equivalent, with the mode for level of education at 4.00 (bachelor's degree). Household income for participants ranged from less than $14,000 to between $75,000 and $84,999 (M = 3.307 [approximately $25,000 to $34,999], SD = 2.545). Participants represented many countries, including the United States (n = 77, 67.5%), Canada (n=14, 12.3%), Australia (n=8, 7%), France (n=3, 2.6%), Germany (n=2, 1.8%), Italy (n=1, .9%), the Netherlands (n=3, 2.6%), New Zealand (n=1, .9%), and the United Kingdom (n=3, 2.6%)

Current "offline," or in-person, relationship status of participants was as follows: 29 (25.4%) of participants were "seeing no one or seeing no one in particular," 22 (19.3%) of participants were "casually seeing someone," 18 (15.8%) of participants were "casually seeing several people," 12 (10.5%) were

"exclusively seeing one person," 24 (21.1%) were "engaged or married," and 9 (7.9%) were "separated or divorced." Thus, the majority of the sample was not involved in a serious, committed relationship offline.

Regarding participants, experience with online environments, they reported being online from three months to more than four years (M = 35.166 months, mode = 49.00, SD = 16.028). Fifty participants (43.85%) reported this was not their first online romantic relationship, whereas 64 (56.14%) reported they had not been involved romantically online in the past.

Ninety (78.9%) participants met their online romantic partners serendipitously in a synchronous communication environment (such as a chatroom, Internet Relay Chat channel, MUD, or similar virtual environment), 10 (8.8%) participants met their online romantic partners serendipitously in an asynchronous communication environment (such as a listserve or bulletin board service), and 14 (12.3%) participants met their online romantic partners through an online dating service (see Figure 1). Additionally, 94 (82.5%) of the relationships in which participants were involved online were heterosexual, 12 (10.5%) were lesbian relationships, and 8 (7%) were male homosexual relationships.

Regarding specific communication behaviors between participants and their online romantic partners, participants had been involved with their romantic partners for three to more than 52 weeks (M = 27.166, SD = 20.031, see Figure 2) and communicated with their online partners 3 to 7 days per week (M = 5.956, SE = 1.404, median = 7.00, mode = 7.00). As shown in Figure 3, sixty-seven

(58.8%) of participants reported using chat based programs to communicate with their online partners, chatting an average of 5.219 (SD = 2.276, range = 1 to 7) days per week for anywhere from one to over 180 minutes (M = 7.236 [7 representing 91 to 105 minutes], SD = 4.630). Only three participants reported using MUDs, MOOs, or similar virtual environments, MUDDing 31 to 45 minutes (M = 3.000, SD = .00). For email use, 111 (97.36%) participants reported using email from two to seven days per week with an average of 5.405 (SD = 1.889), sending one to six email messages per day with an average of 2.008 (SD = 1.353) per day. The average amount of time participants reported communicating with their online partners in total (all forms of online communication combined) was 17.640 hours (SD = 14.197) and ranged from one to 40 hours or more a week (see Figure 4). There were no participants who reported using telephony or other Internet camera programs with which to chat with their online partners.

Procedure

This section describes the research design for the study, the online data collection method, measurement instruments employed in the online survey, and data analyses performed on the completed data set.

Research Design

The researcher used survey methodology for this study. The survey consisted of both closed- and open-ended questions. Specifically, a questionnaire was placed on a website (http://www.ou.edu/deptcomm/research/traci) which potential participants were asked to visit and complete at their convenience. A survey method was deemed most appropriate for this

research project for two reasons. First, it was impossible to adequately observe any component of an online relationship. Second, prior literature suggests that relationship satisfaction is based on one's own assessment and perception. Because perception is an entirely individual and subjective experience, the only way to tap into perception is to ask respondents to self-report their feelings and beliefs.

The open-ended questions were included in order to aid ultimately in the inductive development of a theory of online romantic relationship development. In this vein of grounded theory (Glaser & Strauss, 1967; Glaser, 1992), qualitative data was collected and analyzed in a scientific and methodological manner. The central premise of grounded theory is that the theory be allowed to emerge from the data instead of forcing the data into preconceived models and categories as is often the case in other methods of inquiry. This is achieved with the constant comparative (or the constant comparison) method through the collection of data that is (1) rich in information with regards to the specific phenomenon under investigation and (2) comprised of interactions, communication, and actions of the people in question.

Online Survey Format

Traditional methods of questionnaire design (e.g., Babbie, 1990) were employed for the survey that was placed on the World Wide Web. However, due to the specialized nature of the online environment, technology-specific precautions and formatting procedures were used to ensure the collection of the most useful and accurate data possible. Following the procedures for online

survey research developed by Witmer, Colman, and Katzman (1990), the online survey included: (1) response scale choices listed after each item to keep the response options fresh in participants' minds and to minimize continual scrolling back and forth which can be troublesome, (2) response boxes aligned so that participants can use minimal keystrokes, and (3) explicit rules and a good deal of "white space" for ease of readability.

Instruments

Intimacy. Feelings of intimacy were assessed using Miller's Social Intimacy scale (Miller & Lefcourt, 1982). Baxter (1988) reported that this scale had been found to yield high reliability scores and in the current study the scale yielded a coefficient alpha of .90. The measure contains 17 items measured on a 10-point Likert-type scale that assess degree and frequency of perceived closeness as achieved through behaviors and communication interactions. Whereas some measures of intimacy are concerned with physical closeness or a combination of physical and psychological closeness (e.g., the Berscheid et at. Relational Closeness Inventory, 1989), the Miller Social Intimacy scale taps into only the dimension of psychological intimacy which is most appropriate for this study given that participants are not physically (geographically) close to their online relational partners. As shown in Figure 5, the mean score for the Miller Social Intimacy scale was high (M = 8.997, SD = .844), thus, the respondents reported high intimacy with their online partners.

Physical attraction. To establish respondents' perceived physical attractiveness of the interpersonal partner, the 7-point Likert-type Physical

Attraction subscale of McCroskey and McCain's (1974) Interpersonal Attraction measure was used. The five items read as follows: "I think he/she is quite handsome/pretty," "I think he/she is very sexy looking," "I think he/she is very attractive physically," "I don't like (or don't think I would like) the way he/she looks," and "I think he/she is somewhat ugly." This subscale has been used previously to tap into physically attraction only; high internal reliability for the subscale (.86) has been reported (McCroskey & McCain, 1974). In this survey, the coefficient alpha was .974. As displayed in Figure 6, the mean score on the measure of physical attraction was 6.377 (SD = 1.003) indicating that respondents perceive their online partners as being highly attractive.

Similarity. The Perceived Homophily (McCroskey, Richmond, & Daly, 1975) measure was used to assess the degree to which the respondents perceive they are similar to their respective online relational partners. The 8 item, 7-point semantic differential scale has shown reliabilities ranging from .71 to .88 (Elliot, 1979). The measure yielded a coefficient alpha of .792 in this study. The mean score on similarity was 4.964 (SD = 1.204), thus, the respondents reported higher than average levels of perceived similarity between themselves and their online partners (see Figure 7).

Trust. The Dyadic Trust Scale (Larzalere & Huston, 1980) was used to measure the participants' degree of trust for their respective partners. The measure contains eight, 7-point Likert-type items. Larzalere and Huston reported an alpha reliability of .93, and Tardy (1988) has argued that, based on evidence from prior studies, the Dyadic Trust Scale has greater construct validity and

internal reliability than other trust measures. The scale was shown to be reliable with a coefficient alpha of .896. The distribution of scores for trust are found in Figure 8; the mean trust score was 6.110 (SD = 1.088); respondents reported having high levels of trust for their online partners.

Certainty/Uncertainty. The short version of the Attributional Confidence Scale (CL7) (Clatterbuck, 1976, 1979) was used to assess respondents' perceived level of uncertainty. This short (proactive) version of the scale is preferred to the longer version of the scale (CL65) due to ease of administration. Prior research has yielded reliabilities of .76 to .97 (Clatterbuck, 1979; Gudykunst, Yang, & Nishida, 1985; Kellerman & Reynolds, 1990), and this study yielded a coefficient alpha of .893. Certainty is measured on a 0% to 100% scale, therefore, if someone were almost completely certain he or she would likely respond with a score of 99%. As shown in Figure 9, the mean score for attributional confidence (certainty) in this study was 85.672 (SD = 13.245), which indicates that respondents had fairly high levels of certainty about their online partners.

Information seeking. To measure information seeking, the six item 7-point Likert-type information-seeking measure constructed by Kellerman and Reynolds (1990) was used. The items were re-worded to represent past tense situations. The items used were as follows: "I have asked the person a number of questions about him/herself," "I have not sought out information about the person," "I have tried to find out more about the person," "I have asked the person for more information about him/herself," "I have asked others about the person," and "I

haven't encouraged the person to tell me about him/herself." In their three studies, Kellerman and Reynolds reported alphas ranging from .78 to .85 for this measure; in the current study the alpha was .591. Because of the relatively low coefficient alpha, the data set was examined for anomalies (such as outlier scores); none were found. Additionally, item deletion would not have yielded a higher reliability score. Closer inspection of the individual items and scores lends itself to the possibility that this scale may have low reliability for assessing information seeking specifically in an online context. However, respondents reported high information seeking in regard to their online partners (M = 5.769, SD = .882) (see Figure 10 for distribution of scores).

Commitment. Relational commitment was measured using eight Likert-type scale items adapted from Rusbult's (1980) tests of her investment model. Previous research for these items has shown a reliability of .90 (Cloven & Roloff, 1993) and these items yielded an alpha of .916 in this study. Four of these 7-point (1 = very strongly disagree to 7 = very strongly agree) items tap into dedication to the relationship. These items are: "I want this relationship to last as long as possible"; "I am committed to maintaining this relationship"; "I think that it is unlikely that this relationship will end in the near future"; and "I feel very attached to my partner." The remaining four items tap into perceived relational alternatives, which are fundamental to the notion of commitment.

Perception of both online and offline relational alternatives is conceptualized as the degree to which one possesses alternative to the current relationship, that is, other potential relational partners. The two items used to

measure this dimension of commitment will be worded differently for online and offline alternatives (thus resulting in four items total). These items are as follows: "There are no others I want to get to know romantically online [offline]" and "I do not want another online [offline] romantic partner." As displayed in Figure 11, the mean score on the commitment measure was 5.860 (SD = 1.487), thus, respondents were strongly committed to their online partners and relationships.

Romantic beliefs. Romantic beliefs were measured using Sprecher and Metts' (1989) Romantic Beliefs Scale (see Appendix M). The 7-point, 15-item Romantic Beliefs Scale (RBS) measures four factors of the "ideology of romanticism": (1) love finds a way, (2) one and only, (3) idealization, and (4) love at first sight. The RBS has shown evidence of reliability through obtained Cronbach alpha coefficients of .81 for the scale in its entirety and .57 to .80 for the subscales (Sprecher & Metts, 1989). In this study, the scale had a reliability of .876. The RBS also appears to be valid; there are moderate to high positive correlations between the RBS and the Spaulding (1970) Romantic Love Complex Scale, Rubin's (1970) Liking and Love scale, and the eros and agape dimensions of Hendrick and Hendrick's (1986) Love Attitudes Scale (Sprecher & Metts, 1989). The mean score for the Romantic Beliefs scale was 5.012 (SD = 1.193). See Figure 12 for a distribution of scores.

Desire for future interaction. Expectations, or desire, for future interaction was conceptualized as the degree to which one anticipates the relationship will continue and progress. This concept was operationalized using four 7-point Likert-type items (1 = very strongly disagree to 7 = very strongly agree) that were

designed to tap into whether one wants an online romantic relationship to continue and, if so, to what degree (or stage). Because these items had been constructed for the purpose of this study no prior information concerning reliability and validity was available, however, in order to assess these items the researcher ran a principal components analysis and examined the alpha level for scale reliability. Three criteria were examined when interpreting the principal components analysis: the assumption that the four items composed a unidimensional scale, the scree plot, and the eigenvalues of each item, taking into account the Kaiser rule whereby only those items with eigenvalues over 1.00 are included. Table 2 shows the scree plot and model summary of the analysis. Interpretation of the scree plot and eigenvalues (2.667, 1.00, .210, .124) indicated that the four items were representative of a multidimensional scale. Specifically, the first item, "I want my online relationship to continue," which focused on an overall, general desire for future interaction, accounted for 66% of the variance and appeared to be distinguished from the other items which focused on specific aspects of desire for future interaction and relational progression. A reliability analysis revealed that the scale had an alpha of .823. The remaining three items read as follows: "I want my online romantic relationship to progress to phone conversations"; "I want meet my online romantic partner in person"; and "I am hoping/feeling that my online romantic relationship will progress and develop into a serious, committed, salient 'real life' relationship." Expectations for future interaction had a mean score of 6.250 (SD =

1.262), indicating that participants had a strong overall desire to continue their online relationships. Figure 13 highlights the distribution of scores.

Communication satisfaction. Interpersonal communication satisfaction was conceptualized as "the emotional reaction to communication which is both successful and expectation fulfilling" (Hecht, 1984, p. 201). This predictor as well as criterion variable of interpersonal communication satisfaction was assessed using a shortened version of Hecht's (1978) Likert-type measure of communication satisfaction. This eight item abridged version has been factor analyzed and shown to be reliable (α = .93) in previous cross-sectional and longitudinal studies (VanLear, 1988, 1991) and had an alpha of .964 in the current study. The eight items, measured on a scale of 7 = very strongly agree to 1 = very strongly disagree, were as follows: "I enjoy our conversation online"; "We each get to say what we want"; "I feel my partner values what I say"; "We are attentive to each other's comments"; "I feel accepted and respected during when we communicate online"; "My partner shows me that she/he understands what I say"; "Our online conversation flows smoothly"; and "My partner expresses a lot of interest in what I have to say." As displayed by the distribution of scores (see Figure 14), the mean score for communication satisfaction was 6.642 (SD = .677), therefore, participants reported high communication satisfaction with their online partners.

Relationship satisfaction. Relationship satisfaction is the degree to which an individual is content with his or her current relationship. To assess relationship satisfaction the researcher used a version of Norton's (1983) Quality Marriage

Index adapted for persons in (non-marital) online romantic relationships. The QMI is a six item Likert-type scale. Norton's measure is considered by many to be an improvement on early measures of relationship satisfaction and has yielded Cronbach alpha scores ranging from .88 to .96 (Baxter, 1990; Baxter & Bullis, 1986; Perse, Pavitt, & Burggraf, 1990; VanLear, 1991). Additionally, the measure has remained reliable in previous studies in which it was adapted for non-married persons (Baxter & Bullis, 1986; VanLear, 1991). The alpha in this study was .956. Finally, researchers have reported that the Quality Marriage Index has construct validity (Norton, 1983), criterion validity (Baxter & Bullis, 1986) and concurrent validity (Schumm, Paff-Bergen, Hatch, Obiorah, Copeland, Meens, & Bugaighis, 1986). The mean score for relationship satisfaction was 6.483 (SD = 1.228). Therefore, as evidenced in Figure 15, participants were highly satisfied with their online romantic relationships.

Open-ended items. Participants responded to two open-ended items designed to elicit rich data and tap into issues pertaining to online relationship satisfaction that may not present themselves in the survey instruments. These items read as follows: "Explain what has led you to feel satisfied with your online romantic relationship?", and "What has led you to feel dissatisfied with this relationship?" In addition to the collection of rich data, these items helped to provide for a reliability check of the closed-ended relationship satisfaction measure.

Data Collection

Once at the website, respondents read an introductory page that explained the nature of the study and listed the researcher and university affiliation. To aid in filtering out persons who accidentally discover the website, potential respondents were asked whether they are involved in an online romantic relationship. If they answered "yes" they were then linked to the informed consent page (Appendix C) that explained all of the criteria, potential risks, and potential benefits of participation. At this web page participants were given the option of agreeing to voluntarily participate in the study by clicking on a link to the survey. Clicking on the link to the survey indicated that the participant had read and agreed to the information provided on the informed consent form and was at least 18 years of age. Therefore, clicking on the link served as an indication of consent.

Software was used for the construction of the website that enabled sets of data to be extracted from the site and returned to the researcher in string format. At the end of the survey respondents had the opportunity to e-mail the researcher with questions, comments, or requests for project results. They were reminded that if they chose to voluntarily send the researcher an email, their anonymity could not be guaranteed unless they forwarded the email through an anonymous server (Appendix D). Participants also, however, were informed that if they chose to send the researcher an email—although anonymity could not be guaranteed—confidentiality was assured. Respondents were also encouraged to print the information page and keep a copy for their records. Finally, participants

were informed that after the project was completed, the results would be posted on the website so that the respondents can see how their participation aided in the understanding of online relationship dynamics.

Analysis of Data

Preliminary statistical analyses. The researcher conducted various preliminary analyses in order to prepare the data for further analyses and address important statistical issues. First, the researcher ran frequencies on all items to ensure the data was "clean" (e.g., no data entry mistakes) and determine whether outliers existed which might affect analyses. Second, summary scores were computed for all descriptive, predictor, and criterion variables. These summary scores were computed for each variable by averaging all participants' scores across each variable. Third, the researcher ran frequencies and descriptive tests (e.g., measures of central tendency, deviation scores, correlations) on all scales and demographic items. Table 3 presents a summary of all scale reliability scores. Fourth, the researcher ran necessary factor analyses (the results of which can be found in the above instruments section) for those variables whose dimensionality were in question and then assessed scale reliabilities using chronbach's alpha. It was at this stage that primary statistical analyses were run.

Primary statistical analysis. To answer the research questions "Of the following variables-- intimacy, physical attraction, similarity, trust, certainty, information-seeking, and commitment--what are the best predictors of communication satisfaction in online romantic relationships?" and "Of the

following variables-- intimacy, physical attraction, similarity, trust, certainty, information-seeking, and commitment--what are the best predictors of relationship satisfaction in online romantic relationships?", the researcher used two multiple regression tests (α = .05).

Prior to conducting these multiple regression analyses, steps were taken to assess whether multicollinearity was occurring among the predictor variables. In cases where multiple independent or predictor variables are utilized multicollinearity will always be present to some degree, therefore, no test can prove that multicollinearity does not exist (Berry & Feldman, 1985). However, researchers can take certain steps to determine if high multicollinearity is present, thus affecting subsequent statistical analyses and interpretation of results. In these preliminary analyses, the researcher used criteria established by Stevens (1996) to test for high multicollinearity. These criteria include the examination of a correlation matrix for any bivariate correlation over .80 and the examination of the predictors' variance inflation factors for any VIF over 10.00.

Initial examination of the correlation matrix (see Table 4 for review of the matrix) showed one correlation higher than .80; trust and intimacy were correlated at .842 ($p < .001$). Examination of the variance inflation factors (VIFs), however, showed that neither variable were above ten (intimacy VIF = 7.246; trust VIF = 3.302). Although trust and intimacy were correlated above .80, Meyers (1990) states that "Though no rule of thumb on numerical values is foolproof, it is generally believed that if any VIF exceeds 10, there is reason for at least some concern; then one should consider variable deletion or an alternative

to least squares estimation to combat the problem" (p. 369). Because the VIFs were under 10.00 it was determined that high multicollinearity was not a concern and no additional steps were taken at that time.

To test the six research questions that were concerned with the relationships between expectations for future interaction (continue online, progress to telephone, progress to in-person) and (1) relationship satisfaction and (2) communication satisfaction, the researcher conducted Pearson's product moment correlations.

In order to answer the remaining two research questions, "What is the relationship between romantic beliefs and communication satisfaction in online romantic relationships?" and "What is the relationship between romantic beliefs and relationship satisfaction in online romantic relationships?," the researcher again conducted Pearson's product moment correlations.

Additional statistical analyses. For additional analyses, in order to assess whether any sex differences were present that may have affected the results, t-tests were run on romantic beliefs, communication satisfaction, relationship satisfaction, and both the composite measure and individual items for desire for future interaction.

Additionally, in an effort to assess whether any other group differences were present in communication satisfaction, relationship satisfaction, or desire for future interaction, one-way analyses of variance were conducted to examine differences among scores on these variables according to offline relationship status, couple type, and method from which the online partner was met. Lastly, a

t-test was run to examine any differences in these same variables between those participants who had prior online relationships and those who had not.

Coding of open-ended items. The open-ended data were analyzed and coded into categories that form a model with the main category—the phenomenon being examined—at the center of the model. Strauss and Corbin's (1990, 1994) constant comparative method was used for this process because it provides strong validity and verification of findings.

According to the standards set by Strauss and Corbin (1990), the procedure for analyzing data adhered to the following coding process in which the data were examined as units established by the researcher (such as sentences or pages, individual behaviors or entire interactions). First, using open-coding the data were labeled or conceptualized. This included the examination and thoughtful reflection of data collected (i.e., conversations, ideas, events, sentences, etc.) to ascertain what exactly each unit is and what it represents. Second, categories were discovered and identified; this was the quintessential process of categorization keeping in mind that categories were provisional changed as new data were added. Third, categories were named; naming is somewhat arbitrary in that although a name should represent the idea (or theoretical construct) present in the category, names are ultimately a result of the creativity of the researcher. Fourth, using axial-coding, the researcher further developed categories in terms of their properties, or dimensions, that represent the locations along a category's continuum. These properties are important when assessing relationships between categories. Fifth, progressing to selective-

coding, the researcher formed a narrative or story in which all the previously discovered categories were woven. It is this stage that helped to inform the development of propositions or hypotheses for use in further investigation of online romantic relationships, which will be discussed in the final chapter.

Chapter IV

Results

Overview

This chapter presents the results of the data analyses. Primary data analyses, such as scale reliabilities, descriptive statistics, and correlation matrices will not be covered here as they were reported in the previous method chapter. Specifically, this chapter includes results of analyses conducted to answer the research questions, as well as results conducted for additional analyses deemed relevant by the researcher based on the results of primary analyses.

Research Question One

To answer Research Question 1, "What are the strongest predictors of communication satisfaction in online romantic relationships?," a multiple linear regression analysis was conducted. The overall regression model indicated that the combined set of predictor variables accounted for a significant proportion of variance (67%) in online communication satisfaction (R^2 = .67, adjusted R^2 = .65, F (7, 106) = 30.73, p < .001). Of the seven predictor variables--similarity, commitment, information seeking, perceived physical attraction, attributional confidence (certainty), intimacy, and trust--five were significant predictors of communication satisfaction: trust, intimacy, physical attraction, similarity, and commitment. Standardized beta coefficients, t-values, and partial correlations (holding the effects of all other predictor variables constant) are listed here.

	Beta	t value	Sig.	Partial r
Intimacy	-.552	-4.522	.000	-.402
Trust	.519	3.452	.001	.318
Physical attraction	.466	4.597	.000	408
Similarity	.173	2.569	.012	.242
Commitment	.153	2.003	.048	.191
Information seeking	.114	1.840	.069 (ns)	.176
Attributional confidence	.107	1.325	.188 (ns)	.128

The t scores for the first five variables in the above table indicate that they each significantly account for a reduction in error when predicting a person's communication satisfaction with their online romantic partner. Additionally, the beta coefficients indicate a positive relationship among trust, physical attraction, similarity, commitment, and communication satisfaction, therefore, communication satisfaction is greater the higher the levels of these predictors. However, the beta score for intimacy indicates a negative relationship between intimacy and communication satisfaction indicating that as intimacy decreases, communication satisfaction increases. This latter finding is inconsistent with both the theoretical model and with the positive bivariate correlation between intimacy and communication satisfaction. Because multicollinearity not only affects individual beta weights of highly correlated variables in a regression model but, more specifically, results in a high, negative relationship between their slope coefficient scores, it was at this point that the issue of multicollinearity was reconsidered as a potential serious concern.

As another means of attempting to assess high multicollinearity, following the recommendation of Berry and Feldman (1985), the researcher examined the overall regression models to see if none of the predictors' t-values for their

respective regression coefficients were significant at the .05 level. Indeed, many of the predictors were significant at the .05 level, therefore, regression equations for each predictor variable were conducted and assessed. Although regression analysis for each predictor variable may appear redundant due to prior examination of the correlation matrix, Berry and Feldman (1985) make a case for the use of these multiple linear regression tests.

> The most reasonable test for multicollinearity is to regress each independent variable in the equation on all other independent variables, and look at the R^2s for these regressions; if any are close to 1.00 there is a high degree of multicollinearity present. This test is superior to the examination of bivariate correlations, as the user will never mistakenly reject the possibility of severe multicollinearity because the pattern of intercorrelation is not reflected in the bivariate correlations. Also, when high multicollinearity turns out to be present, the R^2 technique clearly identifies the source of the problem, by pinpointing which independent variables are approximately linearly related to others. (p. 43)

Thus, a multiple linear regression was run on each of the predictor variables. Of the seven regression models conducted, three yielded a relatively high R^2: intimacy (R^2 = .791, F [6,107] = 67.401, p = .000), trust (R^2 = .862, F [6,107] = 111.379, p = .000), and physical attraction (R^2 = .697, F [6,107] = 41.043, p = .001). However, because Berry and Feldman (1985) claim that only those R^2 values approaching 1.00 should be considered as contributing to high multicollinearity, it was concluded that trust was the variable holding the most

potential concern. Closer examination of the regression for trust revealed that physical attraction and intimacy were significant in predicting trust. Summary statistics are listed here and the full model summary can be found in Table 5.

	beta	t value	Sig.	Partial r
Intimacy	.476	10.390	.000	.586
Physical attraction	.478	7.474	.000	.709

Although the trust variable appeared to be a source of high multicollinearity in combination with intimacy and trust, a decision was made to not combine any of these variables into one composite variable as suggested by some scholars (e.g., Stevens, 1996). Berry and Feldman (1985) state: "...this approach is only appropriate when the variables combined into a composite are multiple indicators of the same underlying theoretical concept" (p. 48). The authors then argue that if the independent variables are simply multiple indicators of the same concept (as opposed to theoretical concept), computing a composite variable is inadvisable. Lastly, Berry and Feldman (1985) conclude by saying that "When it is impossible to obtain more information [more data], the most reasonable course when faced with high multicollinearity is to recognize its presence, but live with its consequences" (p. 49). Thus, the above findings taken from the regression on trust are important when interpreting later regression analyses that include this variable.

Further examination was deemed necessary of the initial regression on communication satisfaction. Five predictor variables—trust, intimacy, physical

attraction, similarity, and attributional confidence—had significant beta coefficients. However, researchers argue that examination of the beta coefficients and t values is not a sufficient method of assessing the relative importance and predictive power of any one independent variable (e.g., Berry & Feldman, 1985; Stevens, 1996). Other factors should be taken into consideration such as the partial correlation which explains how much variance in the dependent variable is accounted for by an independent variable while holding constant the effects of all other independent variables. Also, it is important to examine the unstandardized (beta) coefficients to assess the theoretical power of a variable (opposed to standardized coefficients which measure the influence of an independent variable on the dependent variable within the given sample). Finally, it is imperative to examine the confidence interval to determine, with a set level of certainty (95%, $\alpha = .05$), whether a significant finding occurred due to an actual change in the dependent variable opposed to chance. When using SPSS to analyze date, the confidence interval is drawn around the unstandardized coefficient (or β). If the confidence interval includes zero, or is very close to it, this could indicate an occurrence of Type I error. When taking into account these factors it became clear that when regressing communication satisfaction on the seven predictor variables, not all variables were equal. Two nonsignificant predictor variables (information seeking and attributional confidence) had confidence intervals that included zero; this strengthened the position that these variables should be dropped from the model. In addition, two significant predictor variables, commitment and similarity, had confidence interval not far to the right

of zero (.001 and .022, respectively), therefore, a decision was made to drop these variables from the model as well. Unstandardized beta coefficients and confidence intervals for each of the seven variables are shown below.

	β	Lower Bound Conf. Interval	Upper Bound Conf. Interval
Intimacy	-.443	-.673	-.249
Trust	.323	.138	.509
Physical attraction	.315	.179	.451
Similarity	.097	.022	.173
Commitment	.069	.001	.139
Information seeking	.087	-.007	.182
Attributional confidence	.054	-.003	.014

Based on the standardized beta weights, the undstandardized beta weights, t values and their respective significance levels, and confidence intervals, three variables were selected from the overall model for further analysis. The multiple regression with three predictor variables was significant (F [3,110] = 56.217, $p < .001$) with slightly more than 60% of the variance in communication satisfaction explained by intimacy, trust, and physical attraction ($R^2 = .605$, adjusted $R^2 = .594$). The t values in this corrected model indicate that each of the three variables significantly accounts for the reduction in error when predicting a person's online communication satisfaction.

	Beta	t value	Sig.	Partial r	Lower CI	Upper CI
Intimacy	-.323	-2.827	.006	-.260	-.441	-.077
Trust	.497	3.284	.001	.299	.123	.497
Physical attraction	.548	5.400	.000	.458	.234	.506

Therefore, the more a person perceived his or her online romantic partner to be trustworthy and physically attractive, the more communication satisfaction he or she reported. Although the negative beta and t value for intimacy would appear to suggest that the less intimate a person feels with his or her online romantic partner the more communication satisfaction he or she reports, due to the positive bivariate correlation between intimacy and communication satisfaction it is likely that the negative values are only a result of multicollinearity and/or suppression effects, and that intimacy predicts higher communication satisfaction. The model summary for this regression is listed in Table 6.

Research Question Two

A multiple linear regression was also conducted to answer Research Question 2, "What are the strongest predictors of relationship satisfaction in online romantic relationships?" The regression model indicated that the set of eight predictor variables (trust, intimacy, physical attraction, information seeking, attributional confidence, commitment, similarity, and communication satisfaction) accounted for a significant proportion of variance (85%) in online relationship satisfaction (R^2 = .85, adjusted R^2 = .84, F (8, 105) = 76.52, p < .001). Results of the multiple regression indicate that only three of the predictors were significant at an alpha of less than .05. The statistically significant predictors were trust, communication satisfaction, and intimacy. Standardized beta coefficients, t-values, and partial correlations (holding the effects of all other predictor variables constant) for these three variables are listed below.

	Beta	t value	Sig.	Partial r
Trust	.261	2.460	.016	.184
Intimacy	.337	3.784	.000	.233
Communication satisfaction	.405	6.228	.000	.519

The t scores for these three variables indicate that they each significantly account for a reduction in error when predicting a person's relationship satisfaction with their online romantic partner. Additionally, the beta coefficients indicate a positive relationship among trust, intimacy, communication satisfaction, and relationship satisfaction, therefore, relationship satisfaction increases as any of the predictor variables increase.

Due to the prior decision rules established concerning the detection of and means of dealing with multicollinearity, variables were kept as distinct entities and not combined into any composite variables. In addition, based on criteria argued for and utilized when answering Research Question 1, the researcher examined the unstandardized beta coefficients and the confidence intervals of the three significant predictor variables in this model. One significant predictor variable, trust, had a lower bound confidence interval that was approaching zero (.057); For this reason, trust was dropped from the model. Unstandardized beta coefficients and confidence intervals for each of the seven variables are shown here.

	β	Lower Bound Conf. Interval	Upper Bound Conf. Interval
Trust	.294	.057	.532
Intimacy	.491	.234	.748
Communication satisfaction	.733	.500	.967

Based on the unstandardized beta weights and confidence intervals of the three variables with significant t values, a decision was made to select intimacy and communication satisfaction for inclusion in a revised model in an effort to account for the most variance in relationship satisfaction with the fewest number of predictor variables. The second multiple regression was significant (F [2,111] = 238.324, $p < .001$) with slightly more than 81% of the variance in relationship satisfaction explained by intimacy and communication satisfaction ($R^2 = .811$, adjusted $R^2 = .808$). The t values in this corrected model indicate that both intimacy and communication satisfaction significantly account for the reduction in error when predicting a person's online relationship satisfaction.

	Beta	t value	Sig.	Partial r	Lower CI	Upper CI
Intimacy	.514	11.309	.000	.732	.617	.880
Communication satisfaction	.554	12.108	.000	.757	.841	1.167

The t values and beta scores were positive, indicating a positive linear relationship between intimacy and relationship satisfaction, and communication satisfaction and relationship satisfaction. Thus, the more a person perceived his or her online romantic relationship to be characterized by intimacy and satisfactory communication, the more relationship satisfaction he or she reported.

Research Question Three

Research Question 3 focused on the relationships between online communication satisfaction and desire for future interaction, specifically, desire for the online relationship to continue (in general), continuation with progression

to phone contact, and continuation with progression to a physical meeting. See Table 8 for a summary correlation matrix.

Research Question 3a

Research Question 3a asked, "How is communication satisfaction in online romantic relationships related to expectations for continuing the relationships?" A Pearson correlation was conducted and revealed a positive significant linear relationship, $r = .202$, $p < .01$.

Research Question 3b

Research Question 3b was stated as "How is communication satisfaction in online romantic relationships related to expectations for/motivation to advance the relationship to telephone contact?" A Pearson correlation was conducted on these two variables showed a nonsignificant, almost non-existent relationship ($r = .008$, $p = .931$).

Research Question 3c

Research Question 3c was stated as "How is communication satisfaction in online romantic relationships related to expectations for advancing relationships to face-to-face contact?" A Pearson correlation was conducted and a slight negative (but nonsignificant) relationship was found ($r = -.029$, $p = .763$)

Research Question Four

Research Question 4 focused on the relationships between online relationship satisfaction and desire for future interaction, including the desire for online relationships to continue, continuation with progression to phone contact,

and continuation with progression to a physical meeting. See Table 9 for a summary correlation matrix.

Research Question 4a

Research Question 4a was stated as "How is relationship satisfaction in online romantic relationships related to expectations for continuing online relationships?" A Pearson correlation was conducted and revealed a high, significant, positive linear relationship, $r = .620$, $p < .001$.

Research Question 4b

Research Question 4b was stated as "How is relationship satisfaction in online romantic relationships related to expectations for advancing online relationships to telephone contact?" A Pearson correlation was conducted and a nonsignificant, negative linear relationship was found ($r = -.048$, $p = .611$).

Research Question 4c

Research Question 4c was stated as "How is relationship satisfaction in online romantic relationships related to expectations for advancing online relationships to face-to-face contact?" A Pearson correlation was conducted and revealed no relationship between the online relationship satisfaction and motivation to advance the relationship to face-to-face contact ($r = .000$, $p = .999$).

Research Question Five

Research Question 5 was posited to assess the effect of romantic beliefs on both communication satisfaction and relationship satisfaction in online romantic relationships. To summarize the findings of this question, a correlation matrix is presented in Table 10.

Research Question 5a

Research Question 5a was stated as "What is the relationship between romantic beliefs and communication satisfaction in online romantic relationships?" A correlation was conducted and revealed a small, significant, positive linear relationship, $r = .186$, $p < .05$.

Research Question 5b

Research Question 5b was stated as "What is the relationship between romantic beliefs and relationship satisfaction in online romantic relationships?" A correlation was conducted and revealed a significant, moderate, positive linear relationship, $r = .332$, $p < .001$.

Open-Ended Questions

In addition to the scale items designed to measure online relationship satisfaction 34 participants (27 females, 7 males) responded to the following two questions: "What has led you to feel satisfied with your online romantic relationship?" and "What has led you to feel dissatisfied with your online romantic relationship?" Using the constant comparative method, the responses for each of these questions was analyzed separately and for each question the free response answers were examined repeatedly by the researcher in order to identify common themes among the responses. Once themes were identified, categories were formed by grouping participants' like responses; if a response could not be categorized it was placed into a new category. Categories were named and, when relevant, categories were broken down into multiple dimensions.

For the first open-ended question, "What has led you to feel satisfied with your online romantic relationship?," six categories emerged: (1) Communication, (2) Emotional closeness, (3) Compatibility, (4) Unconditional acceptance, and (5) De-emphasis of the Physical Body.

The first category, communication, represents those aspects of the online relationship that center on computer-mediated interaction between partners. Dimensions of communication include attentive listening, frequency of self-disclosure, amount of self-disclosure, and reciprocity. Many participants' comments reflected many, or not all, of these dimensions. Examples of their comments are, "I can tell him anything and he can tell me anything" and "We spend so much time talking and relating to each other that it just satisfies me." In Table 11, all responses are shown for this category.

The second category, emotional closeness, represents the strong feelings of intimacy and bonding that were evident in participants' responses. Particularly, participants seemed to express the sentiment that they could be their "true selves" with an online partner with whom they share so much intimacy. Participants responded with comments such as "I can share my feelings with love and be loved by without the baggage that a real life romance has" and " He understands me. He loves me for who I am." Table 12 indexes the full list of comments representing this theme of emotional closeness.

The third category, compatibility, references the sense of connection that participants reported feeling regarding the similarity between themselves and their respective online partner. Participants often seemed amazed at the degree

of compatibility they shared with their online romantic partners. Two comments that exemplify this sentiments are as follows: "I love how we match so closely and how comfortable we are together after such a short time," and "From the beginning I felt a connection to him. We feel the same way about most things, like the same things." Table 13 indexes all comments for this category.

The fourth category, unconditional acceptance, referenced the feeling held by participants that their online partners truly appreciated and respected them for who they really are, such as this comment by a women who felt very comfortable with her online partner: "My on-line partner is always interested in what I am thinking and feeling... he never judges me." All comments for this category are found in Table 14.

The fifth category regarding reasons for satisfaction in online romantic relationships is de-emphasis of the physical body and was mentioned numerous times by participants. They spoke of not being evaluated physically and of the sense of freedom gained without mediating physical constraints and cues. One woman wrote, "We haven't had the usual physical stuff get in the way, so I know he loves me for me and not because I'm good in bed, or whatever." Another wrote, "He has taken the time to get to know me without the distraction of sexual tension." Table 15 shows participants comments regarding satisfaction gained from a de-emphasis of the physical body in online relationships.

For the second open-ended question, "What has led you to feel dissatisfied with your online romantic relationship?," five categories emerged: (1)

Distance, (2) Societal negativity, (3) Disconnection, (4) Lack of Physical Contact, and (5) Not specific to Online.

The first and most frequently occurring category to emerge among participants' responses to what dissatisfied them in their online relationships was distance. Nearly every participant who responded to the open-ended questions referenced the problem of distance and how it is difficult to overcome with comments such as, "The distance between the UK and Australia, and the 11 hour time difference," and "I know that the more advanced this kind of relationship is the harder it is to accept the distance in MILES." One participant alluded to a comparison of her relationship to that of two people dating offline: "We can't be near each other and go out like a normal [sic] couple." Another participant expressed concern about distance being a problem in the future: Worrying that even if we were to hit it off we have this distance issue. All of the participants' comments are listed in Table 16.

Another theme that emerged was social negativity, or the negative perception of online dating and online relationships held by other people. Although this was not mentioned often it did appear to have an impact on those participants who reported it in the survey such as in the cases of the participants who wrote these comments: "Having people think you're insane because your [sic] engaged in this kind of relationship" and "There's a certain social taboo about this type of relationship." Perhaps the comment that indicated best the negative social attitude about online relationships, and people involved in them, was this: "I've heard enough stalker stories [from people] to last forever." For this

woman, numerous friends and acquaintances had taken it upon themselves to warn her of the less than desirable type of person they believe would seeks out an online partner. Comments for this category are found in Table 17.

The third category, disconnection, references the notion expressed by participants that they are "out of touch" with their online partners. Participants expressed dissatisfaction with "The daily life chores not being shared," and " No possibility for a real fight, if you're mad turn off the computer and it is gone," and one participant responded, "Well sometimes I feel lonely or disconnected from him especially if for any reason we skip a few days." These comments are indexed in Table 18.

The fourth category that appeared, lack of physical contact, references all aspects of the physical world that are missing in a computer mediated environment including nonverbal behaviors, paralinguistic cues, and perhaps most importantly, touch. Two primary dimensions emerged within this category: uncertainty, which comes primarily from a lack of nonverbal signals, and general dissatisfaction, which comes from being able to personally see, hold, hear, and touch one's romantic partner. One participant expressed how uncertainty can be a problem due to lack of physical presence: " I don't like how I can't wake up next to him in the mornings and sometimes our wires are crossed because a comment is taken out of context (due to no visual/facial clues), so misunderstandings can sometimes occur." Other participants commented exemplify the latter issue, simply being unable to experience one's partner via tactile, visual, and aural senses: "I want to meet her, and touch her, and hug her,

and feel the physical things that I see happening in the world around me," and " We haven't been physical with each other and I would love to kiss him and hold his hand and be really close with him and spend time in 3D with him. Basically, any dissatisfaction I may feel is a direct result of not being together in person." Participants' comments concerning the problems of the lacking physical contact are highlighted in Table 19.

The fifth category to emerge was that of non-Internet constraints, or those factors that caused participants to feel dissatisfied but are not related solely to computer-mediated relationships. Thus, responses in this category constitute a sort of "other" category because although they indicate sources of dissatisfaction, they are oftentimes personal issues and/or problems that could occur in a face-to-face relationship as well. Two examples are, "I'm afraid of what he may really be like, or if he is leading me on," and "Her jealousy (she thinks I chat to others), are the only times we have disagreed." Although these comments about dissatisfaction are not directly related to computer mediated romantic relationships, they were included nonetheless as they may have ultimately affect participants' levels of satisfaction. These responses can be found in Table 20.

Finally, it should be noted that a large number of participants who responded to the open-ended questions (n = 34) appeared to have no dissatisfactory experiences. The researcher drew this conclusion on the basis of two factors: (1) Five participants responded to the satisfaction question only and left the dissatisfaction question blank and (2) four persons who answered the

dissatisfaction question wrote simply; "Nothing," when asked to report what they found dissatisfactory about their online romantic relationships.

Additional Analyses

Because prior literature on romantic beliefs has indicated that men tend to report stronger romantic beliefs than women do, an independent sample t-test was run to test any sex difference in the current sample. The test was not significant (t [112] = -1.369, p = .174), therefore men and women in this study did not significantly differ in their strength of romantic beliefs. Additionally, t-tests were conducted to examine whether sex differences existed with regard to communication satisfaction, relationship satisfaction, and desire for future interaction. Results reveal that women and men did not differ in their mean scores on communication satisfaction (t [112] = 8.64, p = .389) or relationship satisfaction (t [112] = 1.685, p = .095), but men (M = 5.703) did differ significantly from women (M = 6.46) on desire for future interaction (t [112] = -2.990, p = .003) indicating that men have less of a desire to continue/advance the online relationship than do women. Further examination of desire for future interaction indicates that men and women differed significantly on desire to advance the relationship to telephone contact (M [males] = 5.437, M [females] = 6.435, t [112] = -3.254, p = .002), desire to advance the relationship to a face-to-face meeting (M [males] = 6.000, M [females] = 6.646, t [112] = -2.261, p = .026), and desire to progress the online relationship to an in-person, committed relationship (M [males] = 5.000, M [females] = 6.036, t [112] = -2.431, p = .017). The t-tests are summarized in Table 21.

Although it was not specified among the original research questions, differences in communication satisfaction, relationship satisfaction, and desire for future interaction were assessed among persons in different relationship "offline" status groupings. Twenty-nine participants were seeing no one/seeing no one in particular, 22 were casually seeing someone, 18 were casually seeing several people, 12 were exclusively seeing one person, 24 were engaged or married, and 9 were separated or divorced, thus, it should be noted the group sizes were unequal. A one-way ANOVA was conducted and found to be significant for differences in relationship satisfaction (F [5, 108] = 2.503, p = .035) and desire for future interaction (F [5, 108] = 4.114, p = .002) but the model was not significant for communication satisfaction. An examination of the η^2 revealed that offline relationship status accounts for approximately 10% of the variance in relationship satisfaction and 16% of the variance in desire for future interaction. Although the test for homogeneity of variances was non-significant, due the small numbers of participants in two of the groups (exclusively seeing one person and separated/divorced) a Dunnet's C test was used for multiple pairwise comparisons among the means because it is more stringent when controlling for Type I error across multiple comparisons than other tests which may yield more readily significant differences among unequal groups. No significant differences were found in relationship satisfaction, however, significant differences were found in the mean scores for desire for future interaction among those persons "seeing no one/seeing no one in particular" and "exclusively seeing one person, " and in the mean scores for those persons "exclusively seeing one person" and

"engaged or married." Specifically, participants who were exclusively seeing one person reported significantly greater desire for future interaction than participants who were seeing no one/seeing no one in particular, and participants who were engaged or married. The mean differences among groups are listed below.

		Mean diff.	SD	Sig.
exclusively seeing one person	seeing no one/seeing no one in particular	.744	.406	.05
	engaged or married	1.447	.408	.05

Concurrently, differences in communication satisfaction, relationship satisfaction, and desire for future were assessed among types of relationships (heterosexual, homosexual/female-female, and homosexual/male-male). A one-way ANOVA revealed no significant differences among the three groups' mean scores on communication satisfaction (F [2, 111] = .950, p = .390), relationship satisfaction (F [2, 111] = 1.198, p = .306), or desire for future interaction (F [2, 111] = .426, p = .654).

Finally, differences in communication satisfaction, relationship satisfaction, and desire for future were assessed according to how a participant met his or her online romantic partner (chatroom/MUD, listserve/BBS, or online dating service). As summarized in Table 22, a one-way ANOVA revealed significant differences among the three groups' mean scores for communication satisfaction (F [2, 111] = 16.401, p < .001) and relationship satisfaction (F [2,111] = 12.260, p < .001), but not for desire for future interaction (F [2,111] = 1.763, p = .176). The η^2 reveals that offline relationship status accounts for approximately 23% of the

variance in communication satisfaction and 18% of the variance in relationship satisfaction. Although the test for homogeneity of variances was nonsignificant, due the largely unequal group sizes (and in the rationale provided for the aforementioned ANOVA) a Dunnet's C test was used for multiple pairwise comparisons among the means.

Significant differences were found in the mean scores on communication satisfaction for those persons who met in a listserve or BBS and those who met via an online dating service. Thus, participants who met via an online dating service reported significantly higher communication satisfaction than did participants who met through a bulletin board service or listserve. Additionally, significant differences in the mean scores on relationship satisfaction were found for those persons who met in a listserve or BBS and those who met via an online dating service, and for those persons who met in a chatroom or MUD and those who met via an online dating service. This indicates that participants who met via an online dating service reported significantly higher communication satisfaction than those who met via a bulletin board/listserve and higher relationship satisfaction than those persons who met in a chatroom or MUD. The means and standard deviations among groups for both communication satisfaction and relationship satisfaction are listed here.

	Communication Satisfaction		Relationship Satisfaction	
	Mean	SD	Mean	SD
BBS/Listserve	5.612	1.319	4.950	1.992
Online Dating Service	6.857	.201	7.190	.234
Chat or MUD	6.724	.063	6.544	.118

Separate, independent sample t-tests were run to assess whether there were any differences in communication satisfaction, relationship satisfaction, and desire for future interaction among participants who had prior online romantic relationships and those who did not. All three tests were significant. People who had been previously involved romantically online (n = 50) had significantly lower levels of communication satisfaction than those had not (n = 64) (t [112] = 2.047, p = .043) and significantly lower levels of relationship satisfaction than those who had not (t [112] = 2.246, p =.027). However, people who had been previously involved romantically online had more desire for future interaction and progression of the relationship than those who had not had a prior online relationship (t [112] = -2.256, p = .013). Group means for each variable are listed below.

	Had a prior online relationship?	Mean	SD
communication satisfaction	no	6.7559	.4737
	yes	6.4975	.8562
relationship satisfaction	no	6.7083	1.0587
	yes	6.1967	1.3742
desire for future interaction	no	5.9922	1.5269
	yes	6.5800	.6915

In a further attempt to determine what was related to desire for future interaction, a correlation matrix (see Table 23) was examined for each of the four individual items in the desire for future interaction measure, the overall measure, and each of the eight remaining predictor variables. Results reveal that overall desire for future interaction was significantly, positively related to information

seeking (r = .375, p = .001), intimacy (r = .375, p = .001), romantic beliefs (r = .530, p = .001), trust (r = .273, p = .001), and commitment (r = .644, p = .001), and inversely related to similarity (r = -.191, p = .01). Desire for future interaction online was significantly, positively related to attributional confidence (r = .333, p = .001), intimacy (r = .737, p = .001), romantic beliefs (r = .447, p = .001), physical attraction (r = .361, p = .001), trust (r = .644, p = .001), and commitment (r = .717, p = .001). Desire to progress the relationship to telephone contact was significantly, positively related to information seeking (r = .324, p = .001), romantic beliefs (r = .440, p = .001), and commitment (r = .483, p = .001) but inversely related to similarity (r = -.288, p = .001). Desire to progress the relationship to a face-to-face meeting was significantly, positively related to information seeking (r = .418, p = .001), romantic beliefs (r = .245, p =.001), and commitment (r = .437, p = .001) but inversely related to similarity (r = -.301, p = .001). Lastly, desire to progress the relationship to an offline, salient, committed relationship was significantly, positively related to information seeking (r = .399, p = .001), intimacy (r = .458, p = .001), romantic beliefs (r = .609, p = .001), trust (r = .325, p = .001), commitment (r = .658, p = .001), and relationship satisfaction (r = .275, p = .001), but inversely related to similarity (r = -.093, p = .001).

Chapter V

Discussion

Conclusions, Implications, and Recommendations

This chapter summarizes the current study and its findings, and lists recommendations for further investigation into the phenomena of online romance. Specifically, this chapter provides (1) a review of the rationale for this study, (2) a discussion of the results of the research questions posed in this study, (3) a summarization of important findings, (4) limitations of this study, and (5) recommendations for future research in this area.

Review of Purpose and Rationale

As technological advances have taken a larger hold on society, and as people have become busier with less leisure time to spend in social situations, the number of persons who have turned to online settings for social interaction has grown exponentially (Taylor, 1999). Many of these people who engage in social activities online have—either by design or quite serendipitously—developed online romantic relationships.

Social scientists have turned their attention to this phenomenon, approaching it with conflicting world views about the nature of online reality, reporting primarily descriptive, oftentimes inconsistent results. Many researchers have begun to report that social and personal relationships online are a definite and growing trend (e.g., Parks & Floyd, 1996), which appears to be validated by the proliferation of popular books, magazine articles, and television news and entertainment programs devoted to reviewing, discussing, and dissecting the

issue of "online love." Although initial studies of online interaction focused primarily on task related interactions, results indicated numerous "negative" consequences of online communication such as verbal aggressiveness and lack of converging points of view. Thus, initially many scholars and laypersons alike doubted the plausibility of a meaningful, genuine online relationship. Scholars argued that computer-mediated interactions are impersonal, lack social context and nonverbal cues necessary for meaningful interaction, and have too few channels through which to engage in rich communication (e.g., Culnan & Markus, 1987, Rice & Love, 1987, Sproull & Kiesler, 1991). This viewpoint was (and still is) echoed by the general public which--as is consistent with other "nontraditional" relationships—was grounded in conventional and bounded beliefs about the nature of communication, relationships, love, and reality in general.

However, other scholars had different ideas about online communication (e.g., Parks & Floyd, 1996, Walther & Burgoon, 1992). Embarking on a path that has paved the way for what has since become a research topic embraced with fervor by many social scientists in psychology, communication, sociology and anthropology, scholars began to investigate non-task related, or social and personal, online interactions. These studies have provided evidence that numerous scholars are indeed involved in online friendships and romances (e.g., Parks & Floyd, 1996) and have attempted to develop theories and models about how precisely online relationships develop (either independently of, or in contrast

to, face-to-face relationships) (e.g., Walther, 1992, 1993, 1994; Walther & Burgoon, 1991).

Because this is an area of research still in its early stages, little is known about online communication and online romantic relationships. However, what is known is that computer mediated relationships are characterized by aspects unique to interactions that occur in a technologically mediated environment, such as decreased contextual cues, physical presence, and proximity. Furthermore, these relationships involve high levels of anonymity and an increased potential for self-presentation manipulation on the part of the relational partner or the self. Therefore, drawing primarily from uncertainty reduction theory, it was considered that people in online relationships might have varying levels of uncertainty brought about by the computer medium and that could affect levels of communication and/or relationship satisfaction.

This study examined predictors of communication satisfaction and relationship satisfaction in online romantic relationships, as well as the relationship between communication satisfaction and relationship satisfaction in online romantic relationships. In the same vein, this study sought to identify issues that are fundamental to the perceived satisfaction of online romantic relationships through the analysis of open-ended responses. A secondary goal of this study was to present information that would support the critical examination of existing theoretical positions that drive most studies of relationships in order to ascertain the utility and heuristic value of these positions in the future

examination of, and theorizing about, computer mediated interactions and relationships.

Existing theories of relationships, such as—but not limited to—uncertainty reduction theory, cannot be adapted blindly and without critical examination to the phenomena of online relationships. Not only do scholarly investigations involving these theories tend to manifest themselves as studies of primarily heterosexual, homogeneous, married or college-aged couples, but they do not involve couples characterized by the unique and little understood dynamics of the virtual world. Thus, theories of relationships developed prior to the current technology, and which have examined solely relationships unmediated by this technology, need to begin to be re-evaluated in the online context.

The heuristic and applied need for a study such as this hinges on three key factors: (1) the need to better understand the growing number of online relationships which, as they begin to move offline, will present new theoretical issues for scholars of social and personal communication and relationships, (2) the timeliness of taking to task existing theories used to explain relational phenomena and, more specifically, those persons who use these theories to argue the invalid nature of online relationships, and (3) the desire to aid in the understanding of a unique and intriguing type of relationships that has implications for scholars, mental health practitioners and, perhaps most importantly, those persons involved in online relationships seeking insight about and validation of their very real and meaningful experiences.

Based on the goals of this study, numerous research questions were posited to aid in the understanding of what predicts and influences communication satisfaction and relationship satisfaction in online romantic relationships. Because so little is known about these relationships and the people who are involved in them, the literature review and rationale for the study were composed largely of studies of face-to-face relationships. Of course, this is yet another reason for the current investigation. The review of literature details some of the widely used theories of relationships and many of the central concepts—proximity, physical attraction, trust, intimacy, uncertainty, commitment, information seeking, similarity--indicative to these theories used to help explain the development and nature of interpersonal relationships. Some of these same concepts, however, have been used in arguments against the interpersonal nature of online relationships. Most importantly, simply not enough is known about these relationships, or other significant factors that may affect the relationships (such as motivation to continue the relationship or romantic belief system), to state whether these theories and concepts are applicable to computer mediated relationships. Therefore, the following research questions were posed in this study:

- What are the strongest predictors of communication satisfaction in online romantic relationships?
- What are the strongest predictors of relationship satisfaction in online romantic relationships?

- How is communication satisfaction in online romantic relationships related to expectations for continuing online relationships?
- How is communication satisfaction in online romantic relationships related to expectations for advancing online relationships to telephone contact?
- How is communication satisfaction in online romantic relationships related to expectations for advancing online relationships to face-to-face contact?
- How is relationship satisfaction in online romantic relationships related to expectations for continuing online relationships?
- How is relationship satisfaction in online romantic relationships related to expectations for advancing online relationships to telephone contact?
- How is relationship satisfaction in online romantic relationships related to expectations for advancing online relationships to face-to-face contact?
- What is the relationship between romantic beliefs and communication satisfaction in online romantic relationships?
- What is the relationship between romantic beliefs and relationship satisfaction in online romantic relationships?

The findings of these questions are addressed in the following section.

Research Questions

This section provides the findings from the current study concerning (a) predictors of communication satisfaction in online romantic relationships, (b)

predictors of relationship satisfaction in online romantic relationships, (d) the effect of desire for future interaction on online romantic relationships, and (e) the effect of romantic beliefs on online romantic relationships.

Predictors of communication satisfaction. Results from research question one, regarding what are the most significant predictors of communication satisfaction in online romantic relationships, indicate that trust, intimacy, and physical attraction are the strongest predictors of communication satisfaction. The significant impact of intimacy is consistent with Hecht's (1978, 1984) findings in which intimacy was found to be closely linked with communication satisfaction in face-to-face relationships. Another finding that supports the significant impact of intimacy on communication satisfaction in online romantic relationships is that communication becomes more personal, efficient, and with greater depth and breadth as intimacy increases (Knapp, Ellis, & Williams, 1980), thus, trust appears to function similarly in online settings as in offline settings. Also, people in various types of online relationships (social and personal) have reported that their online communication is characterized by highly intimate content (Parks & Floyd, 1996) so it would seem that intimacy online may be related to the intimate topics discussed. On a final note about the impact of intimacy on communication satisfaction, it should be explained that although the regression model yielded a negative unstandardized beta weight for intimacy, it was concluded that this negative score was due to suppression effects within the model. Possible effects of dissatisfaction with the channel of communication, the computer, were taken into account as a potential explanatory factor in this case. In other words, it was

considered that perhaps intimacy and communication satisfaction were indeed negatively related and this negative relationship was a result of participants' frustration over being limited to communication via the computer. However, due to the high scores on the communication satisfaction measure, this alternative hypothesis was dismissed.

Another significant factor in predicting online communication satisfaction was trust. This is consistent with trust being a process that develops through reciprocal interchanges, thus, trust affects communication and vice versa. Because online communication provides for a great deal of potential self-presentation manipulation and even deception (e.g., Lea & Spears, 1995), it stands to reason that if a person trusts his or her online partner he or she will be likely to feel comfortable and satisfied with the communication. Walther's (1995) argument that people compensate online for what they lack in nonverbal and social context cues, such as with the use of acronyms and emoticons to convey emotion and nonverbal cues, would also lend support to intimacy and trust significantly predicting communication satisfaction. Perhaps it is through the development of trust and high levels of intimacy that people are able to adapt in such an effective manner, which is certainty consistent with the positive effect trust and intimacy have in face-to-face relationships. In this case, the emotional closeness and faith in the other would transcend the missing cues that people tend to rely on in face-to-face interactions. Furthermore, because computer mediated communication is not affected by physical and context cues, Pool (1983), Rheingold (1993) and others have argued that the interaction is more

genuine than face-to-face and characterized by extreme openness. This sense of freedom to express one's innermost thoughts and wishes could account for the high levels of trust and intimacy reported by participants as both are increased through the disclosures of self and others. Additionally, this would affect the significance of the impact that trust and intimacy had on communication satisfaction. Again, these factors are reciprocal. Finally, it is important to keep in mind that it was argued trust and intimacy posed a threat of multicollinearity in the data analysis so although these predictors appear to be the variables that are mainly affecting online communication satisfaction, the possible impact of other predictors that appeared to be nonsignificant in the current study cannot be ruled out.

An interesting finding is the high predictive power of physical attraction on communication satisfaction. Although numerous studies over the years have emphasized the importance of physical attraction to relationship development, prior examinations of the impact of physical attraction on online relationships have not supported the extreme influence of physical attraction (Anderson, 1997). However, in the Anderson study most participants had not seen a graphical image of their online romantic partners, whereas in the current study most participants had seen a graphical image. Therefore, it may be that the physical ideal an individual has created of his or her online romantic partner is not the same, nor does it have the same effect, as the real physical appearance. This would explain the inconsistency in the findings. Additionally, it is important to note the relatively high ratings given for attractiveness of online romantic

partners. Are all persons online really so very attractive? It is more reasonable to assume a few alternative reasons for the impact of physical attractiveness on communication satisfaction in this case. One, the matching hypothesis may be affecting high favorable impressions of physical attractiveness and thus high communication satisfaction, In other words, one's rating of his or her online significant other may be directly and positively correlated to his or her own respective perceived level of attractiveness. Two, physical attractiveness may be influenced by the high degree of intimacy and trust. Knowing that physical attractiveness does not exist in a vacuum, the personal attraction one feels toward another person can significantly affect the level of physical attraction one feels as well. This would also explain the fairly high correlations among trust, intimacy, and physical attraction, and may be a factor in the previously mentioned issue of multicollinearity if trust and intimacy did indeed affect participants' perceptions of their partners' attractiveness. Third, the halo effect may be influencing participants' levels of communication satisfaction; the more a person perceives his or her romantic partner as physically attractive, the more satisfied he or she is communicating with that partner because positive, fulfilling communication is (subconsciously) attributed to an attractive partner.

Additionally, it should be noted also that there exists the possibility that people are sent fictitious or computer-altered graphic images of their online partners, that is, there is no sure way to determine whether the photograph one sees of his or her online partner is indeed a photograph, or an accurate representation, of the partner.

Level of certainty, degree of information seeking, perceived similarity, and commitment were not significant predictors of online communication satisfaction. Uncertainty, of lack thereof, was not a significant predictor of communication satisfaction although participants did report high levels of certainty. The fact that such high levels of certainty were reported (in excess of 85% on a scale of 100%) indicates that the lacking social context and nonverbal cues online, and heightened opportunity for self-presentation manipulation, do not lend themselves to increased levels of uncertainty. Another possible explanation for level of certainty not significantly predicting relationship satisfaction is that some participants may be high in tolerance for ambiguity overall. Specifically, one's level of global uncertainty (Douglass, 1994)—that level of uncertainty one enters into relationships with—may supercede the impact of relationship specific certainty. Concurrently, if uncertainty is not an issue then information seeking would become increasingly moot, therefore, the low predictive power of level of certainty and information-seeking when assessing their effect on communication satisfaction is consistent with research in the area of uncertainty reduction (e.g., Kellerman & Reynolds, 1990).

Commitment also was not a significant predictor of communication satisfaction. One reason for this may be that it is possible for a person to feel very satisfied with aspects of the communication process independently of any feelings of commitment. Because commitment is characterized by decreased interest in relational alternatives, togetherness, and dedication (e.g., Rusbult, 1980, 1983), it is not necessary for commitment to precede communication

satisfaction. In other words, interaction may be enjoyable and fulfill needs without being couched in a context of togetherness and dedication.

Lastly, similarity was also not a significant predictor of communication satisfaction in online romantic relationships. One potential explanation for this is that perceived similarity may not have been important because of the relatively high degree of certainty people had regarding their relational partners. Perceived similarity has been found to induce uncertainty reduction strategies which lead to self-disclosure and increased certainty (Gudykunst, 1985), however, if a person's global or relationship specific certainty level is high, similarity may become less important to communication. Also, it is not impossible that part of the novelty of the Internet is the ability to access people with whom to communicate who are less similar than one is, therefore communication would not be positively influenced by similarity.

Predictors of relationship satisfaction. Results from research question two, regarding what are the most significant predictors of relationship satisfaction in online romantic relationships, revealed that intimacy and communication satisfaction are the greatest predictors of relationship satisfaction. The high scores on relationship satisfaction are consistent with those who have argued that genuine, meaningful online relationships develop (e.g., Parks & Floyd, 1996; Walther, 1992, 1993, 1994, 1996).

One significant predictor of online relationship satisfaction is intimacy. Because intimacy is reflective of feelings of familiarity and openness, the finding concerning the impact of intimacy on relationship satisfaction is consistent with a wealth of personal relationship research that has indicated intimacy is a key components of marital satisfaction (e.g., Feeney, Noller, & Ward, 1997; Lewis & Spanier, 1979). Although online romantic relationships are not the same as marriages, it is not surprising that similar factors would affect relationship quality and satisfaction across different types and stages of relationships. An additional explanation for the influence of intimacy on relationship satisfaction is that many people have internalized a belief that an "ideal" relationship is characterized by intimacy (e.g., Parks, 1982, 1995). Thus, keeping in mind that the data was gathered via self-report, this finding fits with a socially constructed reality in which people believe intimacy and relationship satisfaction go hand in hand.

A third significant variable in predicting relationship satisfaction in online romantic relationships is communication satisfaction. An explanation for the significant impact of communication satisfaction on relationship satisfaction--and consistent with a wealth of research that supports such a connection between communication satisfaction and relationship satisfaction in face-to-face relationships--is the necessity of communication to the development of relationships (e.g., Hecht, 1978; Guerrero, 1994). Based on research, scholars have argued that communication is a central component of establishing and developing relationships (e.g., Duck & Pittman, 1994), and that rewarding and

satisfying communication should lead to satisfying relationships (e.g., Guerrero, 1994; Hecht, 1978). Such is the case with a study of married persons' relationship satisfaction in which communication was positively related to relationship satisfaction (Richmond, 1995). Furthermore, numerous studies have found communication satisfaction to be not only highly correlated with, but also predictive of, relationship satisfaction in in-person relationships (e.g., Guerrero, 1994). Therefore, the assertion can be made that this finding holds true in online relationships as well as those that exist offline. Because an online relationship is wholly dependent upon communication, communication satisfaction is necessary for relationship satisfaction as there is little else on which to base perceptions of the relationship; if communication ceases, so does the relationship.

Interestingly, commitment did not significantly predict relational satisfaction in this study, as argued in previous studies by scholars such as Sprecher (1999) and Rusbult (1980, 1983). This is worthy of note because commitment levels were high, thus, participants felt invested in their relationships and did not desire relational alternatives to their current relationships. One possible explanation for commitment not having an effect on relationship satisfaction is that this causal relationships may exist in the reverse. Rusbult (1980) has suggested that relationship satisfaction affects level of commitment. Numerous studies that have examined the investment model show relationship satisfaction and commitment are positively correlated whereas they are negatively correlated with relationship alternatives. Therefore, it is possible commitment could be re-evaluated in online relationships as an outcome variable

dependent upon online or offline relational alternative, or lack thereof. Also, commitment was highly correlated with intimacy, desire for future interaction, and romantic beliefs so commitment, along with these other variables, may be moderating factors in relationship satisfaction online. Another possible explanation for commitment not predicting relationship satisfaction is that people involved in online romantic relationships may be highly satisfied in the relationships without any feeling of commitment because they consider these relationships to be somewhat transitory in nature (Wolff, 1997).

Another nonsignificant predictor of relationship satisfaction was attributional confidence, or certainty. Similarly to the explanation provided previously for the insignificant effect of certainty on communication satisfaction, it is possible that level of certainty did not significantly predict relationship satisfaction because participants were high in global certainty (e.g., Douglass, 1994) thus negating the influence of relationship specific certainty. In accordance with the insignificance of certainty, information seeking was also a nonsignificant predictor of relationship satisfaction, which is likely explained due to the high levels of certainty reported by participants. In other words, if certainty is high (and not indicative of relationship satisfaction) then the need for information seeking decreases and thus is likely to be less influential regarding relationship satisfaction.

Physical attraction and similarity were also nonsignificant predictors of online relationship satisfaction. The finding regarding physical attraction was particularly interesting given the significance of this variable in predicting

communication satisfaction. Because physical attraction was highly, positively related to relationship satisfaction, a possible explanation of this finding is that physical attraction is only as important as intimacy and communication satisfaction. Another possible explanation is that the physical attraction and intimacy are intervening variables. As with communication satisfaction, similarity had a negative effect on relationship satisfaction. Because this finding is highly inconsistent with prior research on similarity and relationship satisfaction (e.g., Gottman, 1994), many questions remain unanswered regarding the relationship between similarity and online relationships. It is possible that the perception of similarity to one's online partner is not an accurate measure of actual similarity. Additionally, people who involve themselves in online romantic relationships may not have the same need for similarity with a romantic partner as do people who develop only face-to-face relationships.

Influence of desire for future interaction. Results from research questions three (a,b, and c) and four (a, b, and c), regarding the relationship among desire for future interaction, communication satisfaction, and relationship satisfaction, indicate that, in general terms, desire for future interaction is not strongly related to either communication satisfaction or relationship satisfaction. Specifically, an overall desire to continue the relationship was mildly related to communication satisfaction and moderately related to relationship satisfaction. Virtually no relationships existed among desire to progress the relationship to telephone contact or desire to meet face-to-face and level of communication satisfaction.

Similarly, virtually no relationships existed among desire to progress the relationship to telephone contact or desire to meet face-to-face and level of relationship satisfaction. One explanation for these findings is that people may be satisfied with the communication and/or satisfied with the online relationship and wish to progress the relationship to different stages, but the desire to progress the relationship may be dependent upon other factors that characterize the relationship (e.g., current offline relationship status).

In an effort to explain these findings additional analyses were conducted. These analyses revealed that a fairly strong relationship exists between a desire to progress the online relationship to a salient, committed, offline relationship and both communication satisfaction and relationship satisfaction. Although communication satisfaction and relationship satisfaction were unrelated to continuing the relationship in other, less "serious" contexts, this finding would seem to indicate that for those people who are seeking, and/or hoping for, a "traditional" committed relationship, both communication satisfaction and relationship satisfaction are indeed important. This is consistent with goals based approaches to interpersonal relationships in which it is argued that one's behaviors and attitudes are related to one's ultimate interpersonal goals. That is, for a person whose goal is only to maintain the relationship in an online context, or even just to meet face-to-face to see what the relational partner is really like, communication or relationship satisfaction may not be important whereas for a person whose goal is to establish a meaningful offline relationship, these issues are important.

It was found that participants who reported "exclusively seeing one person" had a significantly greater desire for future interaction (overall) than those participants who reported "seeing no one/seeing no one in particular" and being "engaged or married." At first glance it seems counterintuitive that people who claim to be exclusively seeing one person would express a stronger desire for continuing an online relationship, or progressing it, than would people who were not in an exclusive relationship. However, the issue at hand may be one of semantics. If a person truly perceives his or her online romantic relationship as salient, committed, and satisfactory than he or she may be of the mindset that the online romantic partner is the one being "seen" exclusively. Even though the questionnaire item asked participants to report their "real life (offline)" relationship status, depending on the degree of perceived salience of the online relationship, participants may have disregarded the parenthetical "offline" qualifier and focused on the "real life" description. Alternatively, this same finding also may be explained by a possible desire or need to keep the online relationship going in order to supplement the concurrent offline relationship.

Also, intimacy, romantic beliefs, and commitment were each strongly related to both the desire to maintain the relationship online, and the desire to progress the relationship to a salient, committed offline relationship. These findings are supported in part by research by Rosenblum (1998), who reported that talk of future (online) meetings and accounts of commitment aided in the development of online relationships in MUDs. Thus, people may consider a telephone call or a casual face-to-face meeting to be less significant than

maintaining the relationships in its current state (online) or moving it to a serious, committed offline relationship (both of which directly imply the relationship has a future), and therefore intimacy, romantic beliefs, and commitment would better predict desire for these specific future interactions.

Influence of romantic beliefs. Results from research question five (a and b), regarding the relationships between romantic beliefs and communication satisfaction, and romantic beliefs and relationship satisfaction, indicate that romantic beliefs are only very slightly related to communication satisfaction and relationship satisfaction. Additionally, although participants did report strong romantic beliefs, unlike prior reports that suggest romantic beliefs serve a predictor of relationship satisfaction (Murray & Holmes, 1997), in this study romantic beliefs were not a predictor of either communication satisfaction or relationship satisfaction.

One reason for the lack of influence of romantic beliefs on communication satisfaction may be due to the nature of the communication, that is, computer mediated communication is often characterized by a relatively high degree of suspicion (e.g., Rice & Love,1987; Wolff, 1999). Therefore, even if people do hold relatively strong romantic beliefs, this may be mediated by their concern over being manipulated online. Another reason romantic beliefs may not have been strongly associated with communication satisfaction is that a person may be highly communicatively satisfied online because the interaction is open, disclosure is easy, and the partner embodies effective communication skills (e.g., reciprocation, empathetic "listening"), thus, the communication stands on its own

and need not be affected by an idealistic romantic belief system to be perceived as satisfactory. Also, although there exists strong evidence for a positive association between romantic beliefs and relationship satisfaction, research on romantic beliefs and communication satisfaction has yet to be examined in any detail.

Regarding the lack of effect of romantic beliefs on relationship satisfaction online, this is the first investigation into this issue so there is no prior research on which to draw specific conclusions. However, in more general terms, prior studies have provided evidence that romantic beliefs positively affect face-to-face relationships, therefore, there may be some characterizations of computer mediated interaction (such as level of suspicion) that negate the effect of romantic beliefs online. Furthermore, because no profile exists of online users in general or, more specifically, those who engage in online romances, it is possible that the type of person who allows him- or herself to become romantically involved online is one that is not characterized by as high a degree of romantic beliefs as those persons who do not become romantically involved online. Finally, there may be mediating factors within the romantic belief system itself. Specifically, although certain individual romantic beliefs (e.g., "there will only be one true love for me") may be high and possibly influence the degree of online relationship satisfaction, other individual romantic beliefs (e.g., "the relationship I have with my 'true love' will be nearly perfect") may be lessened by factors unique to a mediated environment (e.g., a "nearly perfect" relationship would involve physical proximity), and therefore function as intervening variables.

Existing Theories of Relationships

With a few exceptions (e.g., Pratt, Wiseman, Cody, & Wendt, 1999), uncertainty reduction has received little exposure in the computer mediated context. One of the second order goals of this study was to evaluate the utility of applying URT to technologically mediated relationships.

Results of this study indicate that in online romantic relationships uncertainty does not function at a higher level than in offline contexts simply because of the technologically specific reduced cues. Furthermore, uncertainty did not affect communication satisfaction or relationship satisfaction. Thus, this study found mixed support for URT. This is not completely surprising given that past research has found that uncertainty reduction theory has low explanatory power for predicting positive relational outcomes, relationship termination, and at times even uncertainty reduction (Kellerman, 1986).

In this study, participants reported quite low levels of uncertainty and engaged in low to moderate levels of information seeking. Additionally, participants reported fairly high levels of similarity, which is consistent with the high levels of certainty they reported feeling. However, uncertainty, or lack thereof, was not a significant predictor of either communication satisfaction or relationship satisfaction for persons engaged in online romantic relationships. Undoubtedly, most of these relationships had progressed past the "initial stages" but nonetheless, according to URT (Berger, 1979) level of certainty should still be an influential factor regarding relationship outcomes in developing relationships.

However, the high levels of certainty were consistent with high levels of trust and high levels of physical attraction (e.g., Berger & Bradac, 1983). One factor that may be influencing the predictive power of URT in this study is intercultural influences. Gudykunst and Nishida (1984) have argued that because uncertainty and information seeking are culturally bounded, culture is a mediating factor when using URT to explain and predict relational outcomes. A fair number of participants in this study were in an online relationship with someone from a different culture than him- or herself.

Because participants noted in the open-ended questions that they were highly disclosive with their online partners and felt free to tell them anything, it is clear that these relationships have transgressed from the impersonal to the interpersonal (e.g., Altman & Taylor, 1973). Judging from participants' responses to the open-ended items, both breadth and depth of communication appeared to be quite high.

Another primary issue that was made clear in this study is the non-importance of the proximity issue. Attraction theory asserts that attraction is largely affected by close proximity. In this study, participants were quite separated geographically from respective online partners, however, not only did participants report high levels of attraction for their online partners but also high levels of relationship satisfaction. What appears to be the case is that proximity is not dependent upon physical factors but rather emotional factors. Thus, participants felt geographically close to their partners when communicating with them online not because a close physical presence existed but because they

shared a close emotional presence. In other words, it was not physically being near a partner that was important but rather a sense of immediacy, a sense of connection that is quite possible in virtual environments. The importance of "emotional proximity," or intimacy, to relationship development is evidenced by a wealth of theory and research (e.g., see Parks, 1982). Therefore, it may be that physical proximity is not a primary factor in the development of relationships but rather a mediating factor in that it allows for higher levels of intimacy to develop more quickly that forms of communication characterized by reduced bandwidth (fewer channels and fewer physical cues). This is consistent with Walther (1992, 1993, 1994, 1995) as well, and his social information processing perspective whereby people develop interpersonally online but at a slower rate than in face-to-face interpersonal contexts.

Based on these key findings, do canonical interpersonal theories, theories that were developed prior to current technological advances and new communication channels, need to be discarded? Obviously, the answer to this question is no. For example, as specified by uncertainty reduction theory, uncertainty was a factor in online romantic relationships, although it was not a significant predictor or either communication satisfaction or relationships satisfaction. Thus, uncertainty may function at different levels and be a result of technology specific factors in computer mediated environments. Proximity--at least in the traditional sense--did not prove to be a strong indicator of the levels of satisfaction in online romantic relationships whereas level of intimacy, and the subsequent amount of disclosiveness and intimate communication as highlighted

by the open-ended responses, were quite high even though physical proximity was lacking. This is a deviation from some of the fundamental assumptions of attraction theory and social penetration theory. Thus, new questions are raised about the role of established predictors of satisfaction in lieu of advancing communication technologies. Therefore, as demonstrated yet again in this study, canonical interpersonal theories have evidenced heuristic value over the years. However, should the value be questioned of utilizing "face-to-face interpersonal theories" to define and examine online relationships? Should these face-to-face theories be revised? Need they be re-evaluated? The answer to these questions is yes.

Summary of Key Findings

The purpose of this study was to determine key predictors of communication satisfaction and relationship satisfaction in online romantic relationships. Specifically, to what extent do attributional confidence, information seeking, similarity, commitment, trust, intimacy, physical attraction, motivation, and romantic beliefs affect and predict the degree to which a person feels communicatively satisfied and subsequently relationally satisfied when involved with another person romantically online. Based largely on uncertainty reduction theory, but on other theories of relationships as well, these factors were chosen as those that are consistently used to characterize relationships and to study them. Furthermore, it was considered that these factors may not function in online relationships in the same manner(s) as in face-to-face relationships, if at

all. Because so little is known about online relational dynamics the larger purpose of this study was an exploratory one.

Results of the study indicate that people involved romantically online report high levels of communication satisfaction, relationship satisfaction, attributional confidence (certainty), trust, commitment, intimacy, perceived physical attraction, desire for future interaction, and romantic beliefs. Also, people report relatively moderate to high levels of information seeking and similarity. These results do not significantly differ from those of similar studies involving people in face-to-face relationships, therefore, it appears that persons in online romantic relationships are not characterized any differently than their offline counterparts in regard to the aforementioned standard relational factors. Furthermore, it the relatively high degree of information-seeking may be a contributing factor the low degree of uncertainty expressed by participants; in the course of the relationship, they may have already reduced a good deal of their uncertainty through information-seeking strategies.

When predicting communication satisfaction in online romantic relationships, the three variables that seemed to be of the highest predictive power were trust, intimacy, and physical attraction. These accounted for slightly more than 60% of the variance on scores of communication satisfaction in online relationships. Because this is still a relatively new area of research, there is no existing research that assesses the relative importance of these factors in online relationships. However, the significant impact of trust, intimacy, and physical attraction in predicting communication satisfaction in general is highly consistent

with existing research. Also regarding communication satisfaction, those participants who met their online partners via an online dating service reported higher levels of communication satisfaction than did those participants who met via a listserve or BBS. Thus, it may be possible that people who were motivated enough to use a dating service through which to find a romantic partner may be more easily communicatively satisfied because of either a strong desire to be satisfied or decreased expectations of the interaction.

When predicting relationship satisfaction in online romantic relationships, the two factors that were the strongest were intimacy and communication satisfaction, accounting for approximately 80% of the variance on scores of relationship satisfaction among persons in online romantic relationships. This is consistent with the current findings of the first research question concerning predictors of communication satisfaction. Also, the findings are consistent with prior research that details the importance of intimacy and communication satisfaction to relationship satisfaction in face-to-face relationships. Interestingly, however, much of this research also points to the extreme positive influence of trust, commitment, attributional confidence, information seeking, and similarity to relationship satisfaction in face-to-face relationships. It is too early to make a claim that these factors have no significant bearing on online relationships, only that in this particular study they did not significantly impact online romantic relationships in the manner they have impacted offline relationships. Additionally, and similar to scores on communication satisfaction, those participants who met their online partners via an online dating service reported higher levels of

relationship satisfaction than did those participants who met via a chatroom or MUD. Again, it may be possible that persons using a dating service to find a romantic partner have lower expectations to begin with, thus, they are more highly satisfied.

The influence of desire for future interaction in this study was mixed. Overall desire for future interaction was high, as was the desire to continue the online relationship and progress it to telephone contact, a face-to-face meeting, and a serious, committed in-person relationship. However, even though the mean scores were high for desire for future interaction, it was not significantly related to either communication satisfaction or relationship satisfaction. Also, although scores for all participants were high for these items, gender differences existed. Women reported a significantly higher desire than men have future interaction in general, to progress the relationship to telephone contact, progress the relationship to a face-to-face meeting, and progress the relationship to a serious committed in-person relationship. This may account for the higher number of women that chose to respond to the open-ended items in the survey. Additionally, desire for future interaction was mediated by the offline relationship status of participants. Participants who were seeing no one or seeing no one in particular offline had a stronger desire for future interaction than those who were exclusively seeing one person offline. Furthermore, participants who were exclusively seeing one person offline had a stronger desire for future interaction than those who were engaged or married. More specifically, people who reported being relatively uninvolved in a current, offline relationship expressed more

desire for future interaction than people who were seriously involved in an a current, offline relationship; these people, in turn, expressed more desire for future interaction than people who were in socially sanctioned, committed, offline relationships. Thus, it appears that, in accordance with social norms concerning relational commitment, those persons who were more "free" to pursue (online) relationships had a greater interest in doing so. Where one ultimately wants the online to head seems to be somewhat dependent on whether he or she is involved offline and, if so, to what degree; the less involved a person is offline, the greater desire he or she has for future interaction.

Results of the influence of romantic beliefs indicate that romantic beliefs are positively, but only minimally, related to communication satisfaction and relationship satisfaction. However, romantic beliefs were highly positively related to desire for future interaction.

Another interesting finding was one involving the influence of prior experience with online romantic relationships. Participants for whom this was not the first online romantic relationship reported lower levels of both communication satisfaction and relationship satisfaction than those who were experiencing their first online romance. This may be a function of being less enamored with the novelty of the medium, having higher expectations than their first-timer counterparts, or having greater expectations of a second (or third) online romance. However, these same participants with prior online experience and lower levels of communication satisfaction and relationship satisfaction also reported greater desire for future interaction than those who were experiencing

their first online romance. Perhaps those people who have had previous online relationships are in search of "the one" (both off- and online) and feel comfortable enough with the idea of Internet romance to want to progress it to another level. Also, it is possible that those people who are new to online romantic relationships are more suspicious, have greater anxiety, and fear the relationship will change for the worse or dissolve completely if it moved to an in-person relationship.

Participants' answers to the open ended questions that were intended to qualify participants' quantitative responses reveal five (5) themes related to online relationship satisfaction: (1) Communication, (2) Emotional closeness, (3) Compatibility, (4) Unconditional acceptance, and (5) De-emphasis of the Physical Body. It is of no surprise that communication emerged as the most recurring theme because the entire nature of an online relationship is contingent upon communication only. Therefore, those aspects of the relationships deemed positive, or satisfying, would be default have to be grounded in the means and intricacies of the communication between relational partners. Emerging as the second most prevalent theme was emotional closeness, which supports the finding of intimacy as a significant predictor of both communication satisfaction and relationship satisfaction. As indicated earlier, intimacy is central to relationship development (be it attained through physical closeness or not), thus, this finding is consistent with both prior literature and the results of the research questions posed in this study. Although compatibility emerged, similarity did not act as a significant predictor of communication satisfaction or relationships satisfaction (although it is consistent with prior literature of offline relationships).

The theme of unconditional acceptance makes sense in light of prior research on the anonymity of online settings and the corresponding lack of physical constraints and judgements. As a final theme of satisfaction, de-emphasis of the physical body marks the decreased importance of proximity, that heretofore essential component of relational development and satisfaction. It would seem that being in close physical proximity is not as necessary for relationship development as has been argued previously.

Participants responses to the open-ended questions concerning dissatisfaction in online romantic relationships yielded four (4) themes indicative of online relationships an "other" theme which included comments about relationship dissatisfaction that in no way relied upon the relationship taking place in a computer mediated environment (therefore, it will not be discussed again here). The four themes of dissatisfaction were: (1) Distance, (2) Societal negativity, (3) Disconnection, and (4) Lack of Physical Contact. Distance, disconnection, and lack of physical contact are all indicative of similar findings involving long-distance relationships and uncertainty-producing events in face-to-face relationships. This lack of physical presence emerged in the open-ended responses as both a means of satisfaction and dissatisfaction in online relationships. This is easy to understand. Although the lack of physical cues allows one to be freer, more comfortable and open with a partner, and prevents him or her from being judged physically, at the same time is leads to a sense of emptiness from the unavailability of simple physical cues and behaviors (e.g., hugs, eye gazing, eating meals together, sexual relations) that help to

characterize and stabilize most romantic relationships. Distance has been found to be a form of problem and form of conflict in face-to-face couples that encounter periods apart, as well (e.g., Emmers & Canary, 1996).

Societal negativity would affect online relationships in the same ways it affects other "non-traditional" relationships, such as gay, lesbian, inter-racial, and inter-faith relationship. Social pressure to adhere to standardized norms can be highly influential and add a great deal of stress to persons in nontraditional relationships. Additionally, support from social networks is highly important in the success of relationships, therefore, this theme represents the pressure felt by participants to avoid online relationships that are romantic in nature because they are perceived as deviant, unreal, and entered into by persons of questionable character (Anderson, 1998).

Disconnection and lack of physical presence are similar in that the two affect one another. Many of participants' comments about disconnection were issues that would likely rectify themselves if there was a physical dimension to these relationships (e.g., "cannot always get a hold of him/her when I want to talk"). As reasons for relationship dissatisfaction, disconnection and lack of physical presence can be tied to literature on long distance relationships (Rohlfing, 1995), that points out the serious, negative effects being separated from one's partner can have on a relationship. Specifically, participants initiated and developed their relationships online and did not have the usual "together" time that other long-distance romantic couples usual have at the beginning stages of their relationships.

The results from this study are largely exploratory in nature and certainly preliminary. Although this study reveals important findings about online romantic relationships that may help to explain further the unique aspects of these relationships, there are may questions that remain to be answered. In addition, it is not surprising that attempting to predict what factors lead to communication satisfaction and subsequent relationship satisfaction in online settings is not a simple task. Many factors, both controllable and uncontrollable, can affect such an investigation. These limitations are provided below.

Limitations

As in any study, a discussion of limitations warranted. In this study, there were limitations presented by the methods and theories utilized for this research. This section covers these limitations.

Although collecting data online has significant advantages, there are disadvantages to collecting data online as well. These disadvantages can be categorized broadly into two areas, which are not independent of one another: sampling and procedures. Sampling issues are always of the utmost importance in social scientific investigations. However, many times an ideal, random, representative sample is literally impossible. Such is the case with the investigation of online romantic relationships, in part because of online data collection and in part because of the population itself. Regarding online sampling, the sample here was limited to those participants who were online at the time the researcher entered chatrooms or who happened to frequent the particular listserves in which the researcher posted the call for participants. Furthermore,

participants were self-selecting and participation was voluntary. Only those people who wanted to answer questions about their online romance completed the online survey. There is no way to know how many people were made aware of the study who, for various reasons, chose not visit the survey site or who did visit the site and chose not to participate in the survey or not to finish the survey once started. This may have affected the results, specifically, the relatively high levels of satisfaction reported by participants. It may have been the case that only those persons who were happy or satisfied with their online relationships to begin with chose to answer the questionnaire whereas those who had bad experiences chose to avoid a questionnaire of this nature. Also, undoubtedly there are countless people who are involved in online romances and were not made aware of the study. It must be considered that those persons who are online at those times, in those particular chatrooms or reading those particular bulletin boards, may embody a set of characteristics that were unidentifiable and therefore affected the findings of this study. For example, the possibility exists that only those persons who were relatively satisfied with their online relationships participated. Also, people may have chosen not to participate due to a concern over decreased anonymity or a suspicion that the researcher was not conducting legitimate business and instead selling a product or service, or luring people into an Internet scam.

It is also difficult to assess the representativeness of the sample. Where does one find the necessary statistics about people in online relationships from which to determine representativeness? Assumptions can be made about

representativeness, however. Although participants from countries other than the United States completed the survey, the sample was heavily weighted in U.S. participants. Also, men and women were not equally represented in the sample, nor were persons in gay or lesbian relationships. One reason why more women than men may have completed the online survey is that women, more than men, may be inclined to reflect upon their intimate relationships and be willing to share their opinions about these issues more so than men. This would be consistent with the propensity of women to be the relational caretakers or to work on relational maintenance. Even more pronounced was the difference in the number of men and women who chose to respond to the open ended questions; over three-fourths of open ended responses came from female participants and this undoubtedly had bearing on the results of the open-ended analyses. Additionally, the lower number of male responses may, in part, be a result of the fact that the principal investigator and sponsor were both women and their names appeared on the online consent form for the survey. Another difference in the sample resulted from persons in various offline relationship statuses (e.g., single versus married). Finally, race or ethnicity was not assessed in this study therefore it is impossible to know how racially representative the sample was. Difficulties of accessing representative samples are great. For example, in this study the researcher attempted to post a call for participants in diverse listserves so as to ensure a heterogeneous sample with regard to sexual orientation. However, this was not always well received by the listserve monitors. One monitor of a listserve dealing with issues of lesbian and bisexual women refused to post the call for

participants on the site, stating that it "failed to have any relevance for lesbian and bisexual women."

Another issue involving procedures is the opportunity for data to be falsified in online surveys. Although there is little reason to support this is likely, and no research to support it as a problem, it is possible that a person could complete the survey numerous times. And of course, as with any survey, participants may have been untruthful, either deliberately or unconsciously as a result of social desirability.

Another limitation of methodology in this study is that although many comparisons are made in the study between online and offline relationships, this study involved a one group, one shot, cross-sectional design. No direct compassion group, then, was accessed from which to make current, direct comparisons. Also, the one time data collection procedure limits the scope of this researcher from being able to assess the longer term impacts of online relationships and how many of these relationships succeed versus failing.

Regarding statistical methods, restriction of range in scores may have affected the results of the regression equations. In the sample, composite scores on some predictor variables (e.g., intimacy, attributional confidence, communication satisfaction) had a narrow range. This may have led to an underestimation of the true relationship between two variables in a the population and, thus, may in part explain the varying results of the two initial regression analyses in which some predictor variables had very little effect and, in some cases, appeared negatively correlated to the criterion variables even though

zero-order correlations indicated a positive, linear relationship. Therefore, had there been greater variance in the scores of these variables, they may have flushed out as stronger predictors of the communication satisfaction and relationship satisfaction.

A final limitation of method was the decision rule to omit variables from subsequent tests if they had a confidence interval that was very close to zero but did not include zero. In these cases, power was ultimately reduced as the alpha was increased from minimizing the number of variables included in the tests.

Limitations of the theory driving this research are also evident as being theory-bounded resulted in measurement and conceptual restrictions. First, in a study such as this is it difficult to take into account the "whole." In grounding this study primarily in uncertainty reduction theory (and secondarily in other theories of relationships) it was made clear to the researcher that these theories are highly individualistic and lack recognition of social, cultural, and historical contexts. For example, in URT communication behaviors are reduced to very distinct entities instead of looking at the larger whole of communication (Douglass, 1991); the structure of the communication (language) process is not considered. Proponents of systems and structure approaches (e.g., Denzin, 1978) would argue that it is impossible to adequately examine these parts without identifying a larger whole (system), setting boundary conditions, and examining how the parts of the system function together when it comes to reducing uncertainty and building relationships. In a related issue, there have been criticisms of the means of measuring uncertainty with the attributional

confidence scale, although no published alternative measures exist. Also, some scholars have suggested that uncertainty should be measured on a more global scale, thus assessing the degree to which one feels uncertainty when entering in to a relationships (similar to a tolerance for ambiguity trait) (Douglass, 1990, 1994). Similarly, a second measurement limitation of the study involves the epistemological assumptions underlying self-report measures: that people know and can report their states of mind and feelings.

Another issue to be taken into consideration is the potential restrictive nature of theory. Although this researcher--as do other communication scholars--strives to ensure that studies are theory driven, the theory or theories chosen may prove to be as limiting as they are illuminating. When examining a relatively new phenomenon, such as computer mediated romantic relationships, relying on existing theory from which to glean explanations and potential causal factors may exclude alternative possibilities from being well thought-out and included in the investigation. Thus, although this study was undertaken in part to identify possible limitations of existing interpersonal theory when examining computer mediated relationships, using those theories that are argued here as warranting a more critical examination may have resulted in being constricted by those very limitations aimed at being overcome.

Two final limitations are evident. One is the issue of crossing levels, that is results presented here are due to an aggregate data set and therefore careful issue must be taken when extending these findings to any individual in an online romantic relationship. Although assertions can be made about what occurs in

online romantic relationships in general, it is too soon to make certain claims about specific online relationships. Lastly, it is important to view these results as preliminary and as a starting point for further research. In no way should the results of this study, or future studies of online relationships, be used to establish standards, norms, and definitive characteristics of online relationships in ways similar to the standardization of theory and research of "traditional" face-to-face relationships (as criticized earlier in this manuscript).

Because of the limitations presented, and because the scope of this study, as with any study, was limited as well, there are directions in which researchers should take the study of online relationships. Some of these suggestions are listed below.

Suggestions for Future Research

Future studies of online romantic relationships should continue the work originated here and further explore the nature of online romantic relationships, predictors and mediating factors of online communication satisfaction and relationship satisfaction, what features characterize online romantic relationships and their participants, and what happens when (and if) these relationships progress to other communication channels and levels.

Because uncertainty and information seeking were not significant indicators of satisfaction in this study, perhaps other factors are influencing the reduction of uncertainty. Parks and Adelman (1983) reported that levels of uncertainty reduction were significant indicators of relationship stability and suggested that communication networks may be a mediating factor in stability.

Thus, it would be interesting and fruitful to investigate whether people in online romantic relationships glean information about their online partners from other sources and, if so, which sources: online others, online "spying," offline sources, or others? Also, whether romantic partners share any social networks, or have network overlap, may affect satisfaction and therefore should be examined.

One area the researcher believes would be particularly interesting is the further investigation of intercultural relationships forged online. Gudykunst and Nishida (1984) have reported that people in low-context cultures self-disclose more than those persons in high-context cultures, which may significantly affect online dynamics as it does in face-to-face interaction. But perhaps more importantly, what role does the Internet play in bringing together people from different states, countries, and continents who would not otherwise have met? How does the computer bridge this geographical gap and what intercultural communication factors influence the initiation and development of these relationships?

Research might also be conducted on the deeper impact of the de-emphasis of the physical body in online relationships. This lack of physical presence emerged in the open-ended responses as both a means of satisfaction and dissatisfaction in online relationships. This issue obviously runs deeper than the researcher was able to assess in the current study. Additionally, there may be a curvilinear relationship between de-emphasis of the physical body and communication satisfaction or relationship satisfaction.

Additionally, although there exists strong evidence for a positive association between romantic beliefs and relationship satisfaction, research on romantic beliefs and communication satisfaction has yet to be examined in any detail and both of these issues could benefit from further exploration. Likewise, due to the unique finding in this study of the negative relationship between similarity and both communication satisfaction and relationship satisfaction, this issue should be explored further. Perhaps it is the novelty of the medium and the relational partner that intrigues those people who get romantically involved online.

Finally, as mentioned previously in this manuscript, this research was conducted as a starting point and preliminary step to investigating online relationships that progress to offline. Obviously researching people or couples as they move from online to offline would be a difficult and long process but undoubtedly worthwhile. Because so little is known about online relationships, it was necessary to first gather information from people currently in online relationships. This was done so as to avoid potential issues linked to the collection of retrospective accounts, and to gather the best possible data about online romantic relationships. Also, while not theoretically supported in the current study, the questions raised here indicate that a path analysis may be useful in helping to explain the complex relationships among communication and relational variables in online relationships that were brought to light by the findings of this study. Finally, there are endless questions to be answered. How do online couples negotiate the move to offline? Which relationships succeed

once they move to a face-to-face context and which fail? How does inducing the physical aspect into relationships that have been purely communicative affect the relationship? Questions such as these will begin to be answered as the number of online to offline relationships grows and scholars take notice of these relationships.

Concluding Remarks

Online communication offers a new opportunity to establish and maintain salient and meaningful relationships. Concurrently, scholars of communication and relational behavior must rethink their role in defining relationships and shaping social norms of relationships. Clearly, relationships are highly complex entities and the results of this study and similar CMC research point toward the constrictive nature of many existing interpersonal theories. This is not to make the claim that these theories are without merit or value, only that they need be expanded and reflected upon if we are to better under the many facets of intimate relationships. Therefore, it is advocated here that one significant way in which to begin re-theorizing interpersonal relationships, and at the same time provide a starting point from which to closely and effectively investigate online relationships, is to establish predictors of communication satisfaction and subsequent relationship satisfaction in online relationships, and to assess whether similarities exist between online relationships and face-to-face relationships.

One central issue driving this study was the abundance of researchers, academicians, and laypersons that claim that online relationships are "not real"

and "do not really exist." Relationships are defined by their participants. Relationships are created through shared history, expectations, and relational schemata. However, these relationship definitions do not exist in a vacuum. Relationships are largely shaped by social norms concerning relationships. Thus, social scientific investigations of relationships are bound by social norms and, in turn, how this research manifests itself in the reification of relationships.

Communication scholars and other social scientists studying human interaction are not free from these social definitions of relationships. In fact, a cursory glance over the operationalization of relationships would indicate that studies concern themselves only with prototypical relationships, that is, dyads that adhere to social norms of relationships. In order to participate in many of these research studies people must meet criteria established by the researcher. Whether data from both members of the dyad or only one member of the dyad is called for, the qualifications for participation are usually the same. There is some variation, of course, but common qualifications specified for research participants are: length of time with partner, a classification of one's relationship (i.e., married, "seriously dating," living together, etc.), and heterosexual. Once the criteria are met, participants often self-report information which is then analyzed or coded for all those qualities, or constructs, that we have come to accept as indicative of prototypical relationships. Included in this list, of course, are self-disclosure, close proximity, and physical attraction.

Even with the debate over the inability for laypersons to access scholarly research, over time research findings about relationships are filtered into the

mainstream and aid in shaping social beliefs and practices about relationships. After all, there is no doubt that people are consumed with interest about relationships, how to achieve a (satisfactory) relationship, and how to maintain that relationship. A prime example of the fixation on relationships is the uncanny success of John Gray's Men are from Mars, Women are from Venus, a book that has sold 6 million copies since its publication in 1994 even though it was written by a previously unknown author with suspicious academic and counseling credentials at best (Merano, 1997). Thus, information generated in academia that alludes to what a relationship is, and how to achieve one, is put into practice by those who access this information and in many cases internalized by the general public. This reification of relationships is not without obvious problems.

If the traditional model of a relationship is bought into completely, then in order to believe that interaction with a significant other is indeed a relationship, open and frequent self-disclosure, physical attraction, and propinquity are of necessity. If one of these factors is lacking then it may serve as an indicator that there is a "problem," or that something needs to be overcome or fixed or, in the case of computer mediated relationships, perhaps that the "relationship" is not really a relationship at all. Furthermore, people may fall victim to social sanctions by violating these norms of qualities necessary to relationships. They may be offered advice from well-intentioned friends who warn them of the problems with relationships in which there is not "open communication"; they may be scoffed at or criticized for being involved with someone not considered to be at their own level of physical attractiveness or who does not meet others' perceptions of our

own standards of attractiveness; they may lack social support from friends and family who do not validate their relationship because it is "long distance" or "only online" and, therefore, not really a relationship. The largest implication for re-evaluating theory and conducting research in order to best assess online relationships is the potential for negative effects of not doing so. As people continue to enter into online romantic relationships, more and more they will progress to offline and enter into "traditional" face-to-face relationships. But what are the implications of their having initially formed the relationship online? Do the same factors affect the success or failure of these relationships? Can scholars make the same assumptions about these relationships when theorizing and conducting research? And where do people who are currently involved in online romantic relationships, or have progressed to in-person relationships, turn for support, answers, advice, and validation? If there is any question these relationships are indeed occurring with great frequency and moving to offline, it can be answered by the abundance of email sent to the researcher from people attesting to the seriousness of these relationships. A few are included here.

> Allow me to introduce myself, my name is_____, living in Sydney Australia. I came across mention of your project on a mud i frequent, and must admit to being intrigued.
>
> The subject has always interested me, the validity of online communication and relationships, the inability of modern social mores to 'fit it in' to the accepted forms of relationships. I've had extensive experience with them, for better or worse (I could give you a hell of a case study) and would be extremely interested in hearing more about the results and goals of your research.
>
> I didn't take your survey, for a couple of reasons. The most significant 'online relationship' i was in terminated about 3-4 months ago, broke down for a variety of reasons i'll detail if you express interest. As such, while i still talk to the other party every day, i don't consider it suits

the spirit of your survey. It was quite an exceptional case, as far as online relationships go, lasted about 2-2.5 yrs, involved a trip by myself to the USA, 3 months spent there, and that along with other experiences give me a powerful motivation to know more about your work.
Whatever information you can give me, or any assistance i can provide in your endeavour, please let me know.

I read about your research project on the Internet. I do not qualify to be a participant, but thought I'd tell you about my relationship in case you

do further study on the subject.

I met my boyfriend a little over 3 years ago in a chat-room. We only spoke in the chat room once and did not develop a relationship there, but as pen-pals. We exchanged e-mail addresses and started writing each other. After a year of talking via e-mail, mail and phone, we met in person. It has been a long and sometimes rocky road. After a few visits (I lived in Iowa, he in Virginia) and lots of big phone bills, we decided to have a commitment - something we had been resistant to at first.

Well, now we have been serious for quite some time and I am currently conducting a job search to move to Virginia upon graduation. That will be the real test - if our long distance, technology aided relationship will be able to withstand the reality of being in the same city.

I thought you might be interested in this story if you should ever study what happens to people once they meet for the first time after Internet conversations or if they end up having a successful relationship.

You may contact me by e-mail or by the information listed below if you would like to discuss this further. Just thought I'd reach out a helping hand. I know how difficult research projects can be. Good luck, all the best.

I met my "passion" in the chathouse and within 10 days he flew 6000 miles to meet me..he is coming again in december and i am moving to the USN base in Naples Italy where he is stationed. after we "met"on line on a saturday night we stay on ICQ for 36 straight hours...he flew here without a picture nor did i have one but we had bared our souls to each other and believe that the outward appearance was just a housing for who we really are...by meeting on line we were able to establish a mental and heartfelt relationship without the boundaries of physical love.

We have searched for each other forever...and found our true passion on the www. Hope this helps feel free to contact us.

I found your info on a romance page that I had bookmarked. I am sorry I could not participate in your survey....the man of my dreams, who happens to be an alum of OU, and I met in a chat room and we plan to marry. We are both in our 40s and marvel at this new technology.

Ran across your "on-line relationship research survey" quite by accident, but it is a subject that I am engrossed in since I an currently in the 6th month of an intense relationship with a woman (I'm male) I met in an AOL chat room. I don't qualify for your survey because we also chat a couple of times a week on the phone. But it's an incredible relationship in that our phone chats are warm, friendly,

how's the kid doing kind of stuff, while our on-line chats are hot and nasty cyber sex.

hi - im afraid i dont meet all the requirements so as to be included in your research, as the man i'm emotionally involved with on the net, is someone ive spoken to many times on the phone as well as written and recieved real letters from.

Hi...a little about my relationship and us : I am from Karachi, Pakistan and he is from Wollongong, Australia. I'm 24 , he's 25. I'm divorced, he's single. we met some 4 months ago on irc. Progressed on to icq, kept in constant touch, of course as time went by we got closer. We speak to each other regularly on the phone and write emails and letters. it has come to this point now that we are totally in love with each other despite of the differences of culture and way of life, u must realize I come from a conservative country but yet I'm not like most people here, I'm out-going and very westernized in my thinking. He's someone whose always been lonely and closed up about his feelings. I've seemed to tap into that and I've found in him the kind of love I've been looking for. We plan to meet this year in London, as I'll be there for my masters degree for nearly 2 years. We plan to give this relationship our best shot!

If you are remotely interested in my story for any kind of research let me know, I would love to be of help in anyway . He would be too.

waving
Hi there...

Well My name is Helen I am from the UK, and I qualified for your research, except on the last count, because my net relationship has developed into a real relationship and in 3 weeks (today in fact!*L*) I am flying from my home in the UK to Japan to meet my future husband! (he is actually American, serving in the Air Force in Japan) So although I do not fit this criteria, I hope that you "keep me on file".. hell I sound like I am applying for a job!!*L* If you would like more info you can mail me back..

Met most of your criteria, except the fact that we have been together for almost a year now, and are planning a September wedding. Seems to me when you meet someone online, and you chat for awhile, you get to know the heart and soul, and mind before the physical being! I drove 500 miles just to meet my future wife, and that was sight unseen, and I knew from the minute we shared the first hug, it was meant to be!

Good luck on your paper!

Have looked at your study about cyber romance. Wish I could respond, but since I have talked with my online friend several times on the phone, I am disqualified from your present study. I would, however, wish to be included in a future study, if you will be doing another down the road.

I have been on line since Thanksgiving, 1999, and met my friend either the first or second night online while we were both just "passing through" the chat rooms to see what all the hype was about. We connected instantly and have since become very well acquainted online and also spoken several hours off line (by phone). We do plan on meeting in person in the next month or two.

I am a 49 year old female (in process of divorce after 28 years of marriage) living in the midwest. He is a 35 year old male (recently separated after a 7 year marriage) and living in the south. I have become totally at ease with this gentleman. We have discussed anything and everything imaginable, talking for 2, 3, 4 hours online, 2-3 nights per week, depending on our work schedules. He makes me laugh, lots, and I him. We think very much alike as is evidenced in our simultaneously typing the same thoughts to each other during our private chat room encounters. No topic has been taboo, nor have any questions gone unanswered. Though hesitant at first to link up with a man so much younger than me, I have no qualms about it anymore. Emotionally I feel a very strong bond with him and want to get to know him on a more personal level too.

Though we each have a very strong desire to meet, we realize we could end up losing a wonderful cyber relationship should the real world not compliment the fantasy world we have created. But we are willing to risk it for the potential of having an even better off line relationship. We both feel that the worst that could happen to either of us should the physical chemistry not be present, is that we will minimally have had a nice dinner together. If there is more chemistry there upon meeting, will deal with that later. And if meeting in person does not, for whatever reason, happen, we both feel that we have derived so much from just being online friends that the relationship will have served a purpose in our lives, regardless. This has been an adventure worth having, and a future risk worth taking.

Sorry that I have gotten a little windy here. Would like to hear how your research is going, what your results show, even though I'm not part of the actual study. Please keep me posted if at all possible. Good luck in your doctoral pursuits and wish you a happy future in communication.

These email messages are just a few of many that detail the genuine nature, reality, and pervasiveness of online romantic relationships, as well as the

excitement, trials, and tribulations of those people who have chosen to move the relationship to the next level: face-to-face. It is for this reason that scholars of communication and relationships need to re-evaluate the conceptions of relationships, theories that drive the research of relationships, and perhaps our own beliefs about relationships.

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Table 1

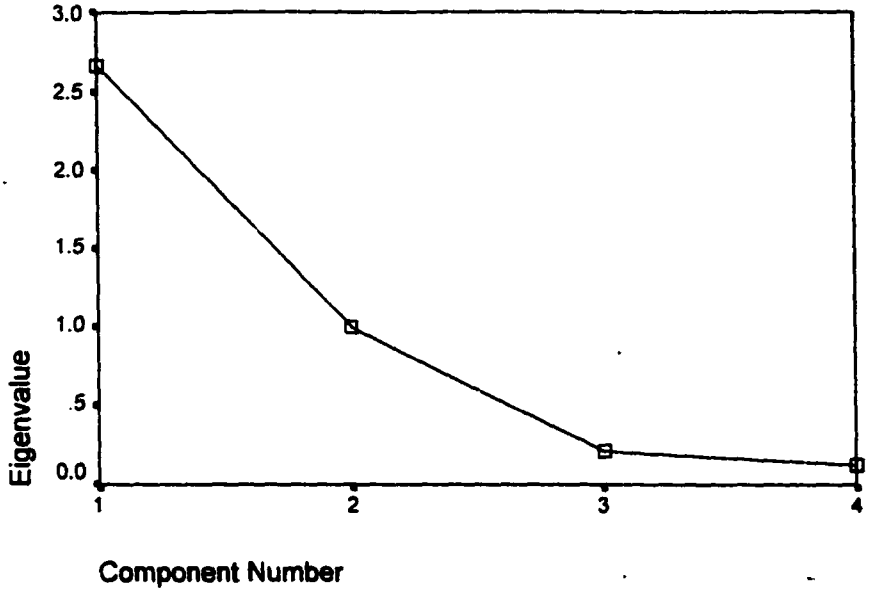
Key Interpersonal Concepts and Corresponding Theories

Uncertainty Reduction Theory	Social Exchange Theory	Social Penetration Theory	Attraction Theory Theory
Self-disclosure*	Intimacy	Self-disclosure	Similarity
Uncertainty	Physical Attraction	Uncertainty*	Commitment*
Similarity*	Proximity*	Information Seeking*	Proximity
Trust*		Intimacy	
Information Seeking		Trust	
Physical Attraction		Commitment*	
Proximity*		Proximity	

* Indicates these concepts are associated to the theory indirectly or as a result of theoretical extension

Table 2

Scree Plot for Future Interaction Items



Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.667	66.667	66.667	2.667	66.667	66.667
2	1.000	24.990	91.656			
3	.210	5.240	96.897			
4	.124	3.103	100.000			

Extraction Method: Principal Component Analysis.

Table 3

Reliability Coefficient Alphas for All Scales

Scale	No. of	Alpha
Intimacy	17	.900
Physical Attraction	5	.974
Similarity	8	.792
Trust	8	.896
Attributional Confidence	7	.893
Information Seeking	6	.591
Commitment	8	.916
Romantic Beliefs	15	.976
Desire for Future Interaction	4	.823
Communication Satisfaction	8	.964
Relationship Satisfaction	6	.956

Table 4

Correlation Matrix for Predictor and Criterion Variables

	attributional confidence	similarity	information seeking	commitment	trust	physical attraction	intimacy	desire for future interaction	romantic beliefs	Comm. satisfaction
similarity	.407**									
information seeking	.310**	.294**								
commitment	.404**	.077	.170							
trust	.628**	.364**	.168	.569**						
physical attraction	.410**	.385**	.251*	.400**	.795**					
intimacy	.651**	.393**	.200*	.648**	.842**	.592**				
desire for future interaction	.135	-.191*	.375**	.655**	.273*	.120	.375**			
romantic beliefs	.265*	.353**	.329**	.674**	.367**	.342**	.582**	.530**		
communication satisfaction	.432**	.414**	.319**	.354**	.661**	.752**	.421**	.102	.186*	
relationship satisfaction	.588**	.377**	.206*	.481**	.871**	.798**	.747**	.215*	.332**	.770**

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 5

Model Summary for Regression on Trust

R	R Square	Adjusted R Square	Std. Error of the Estimate
.928	.862	.854	.4154

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	115.311	6	19.218	111.379	.000
Residual	18.463	107	.173		
Total	133.774	113			

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
att. confidence	.01311	.004	.160	3.224	.002	.628	.298	.116
similarity	-.04365	.039	-.048	-1.119	.266	.364	-.108	-.040
information seeking	-.106	.048	-.086	-2.208	.029	.168	-.209	-.079
commitment	.01716	.036	.023	.477	.635	.569	.046	.017
physical attraction	.519	.050	.478	10.390	.000	.795	.709	.373
intimacy	.613	.082	.476	7.474	.000	.842	.586	.268

Predictors: intimacy, information seeking, similarity, physical attraction, commitment, attributional confidence
Dependent Variable: trust

Table 6

Model Summary for Revised Multiple Regression on Communication Satisfaction

R	R Square	Adjusted R Square	Std. Error of the Estimate
.778	.605	.594	.4317

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	31.432	3	10.477	56.217	.000
Residual	20.501	110	.186		
Total	51.934	113			

COEFFICIENTS

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
intimacy	-.259	.092	-.323	-2.827	.006	.421	-.260	-.169
trust	.310	.094	.497	3.284	.001	.661	.299	.197
physical attraction	.370	.039	.548	5.400	.000	.752	.458	.323

Predictors: intimacy, physical attraction, trust
Dependent Variable: communication satisfaction

Table 7

Regression Model for Relationship Satisfaction

R	R Square	Adjusted R Square	Std. Error of the Estimate
.924	.854	.842	.4876

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	145.536	8	18.192	76.521	.000
Residual	24.962	105	.238		
Total	170.498	113			

COEFFICIENTS

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
intimacy	.491	.130	.337	3.784	.000	.747	.346	.141
trust	.294	.120	.261	2.460	.016	.871	.233	.092
physical attraction	.174	.091	.142	1.914	.058	.798	.184	.071
communication satisfaction	.733	.118	.405	6.228	.000	.770	.519	.233
commitment	-.07798	.043	-.094	-1.809	.073	.481	-.174	-.068
information seeking	-.06858	.059	-.049	-1.167	.246	.206	-.113	-.044
similarity	-.07433	.047	-.073	-1.566	.120	.377	-.151	-.058
attributional confidence	.005057	.005	.055	1.003	.318	.588	.097	.037

Predictors: attributional confidence, information seeking, commitment, similarity, physical attraction, communication satisfaction, intimacy, trust
Dependent variable: relationship satisfaction

Table 8

Correlation Matrix for Communication Satisfaction and Desire for Future Interaction

	communication satisfaction	desire for future interaction	future 1	future 2 (phone)	future 3 (meeting)
desire for future interaction	.102	--	--	--	--
future 1	.202*	.446*	--	--	--
future 2 (phone)	.008	.919**	.184	--	--
future 3 (meeting)	-.029	.844**	.073	.832**	--
future 4 (relationship)	.168	.949**	.436**	.819**	.702**

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 9

Correlation Matrix for Relationship Satisfaction and Desire for Future Interaction

	relationship satisfaction	desire for future interaction	future 1	future 2 (phone)	future 3 (meeting)
desire for future interaction	.215*	–	–	–	–
future 1	.620**	.446**	–	–	–
future 2 (phone)	-.048	.919**	.184	–	–
future 3 (meeting)	.000	.844**	.073	.832**	–
future 4 (relationship)	.275**	.949**	.436**	.819**	.702**

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 10

Correlation Matrix for Communication Satisfaction, Relationship Satisfaction, and Romantic Beliefs

	communication satisfaction	relationship satisfaction	romantic beliefs
communication satisfaction	—		
relationship satisfaction	.770**	—	
romantic beliefs	.186*	.332**	——

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 11

Responses for the Theme of Communication

I can tell him anything and he can tell me anything...
We are able to say things (actually write) to each other that no one can say (or write) because the Internet allows us to be more open and honest than real life.
I believe that he tells me the truth about his feelings for me as I always tell him the truth.
This medium forces u to TALK about all kinds of topics that u wouldn't normally speak about if u had met.
I'm a very shy person in real life, so my on-line relationship has allowed me to really open up and express my true self and feelings.
I can talk to him, and he listens. i enjoy talking to him and listening to him about his problems and his day.
I can be myself; can be open and honest talking about things I don't normally share with other people.
He puts more time into reading and responding to my emails with thoughtfulness and care than my past 'real" partner did in person. in his emails he always mentions things I said in mine and responds. I really feel like he's 'listening'!
We spend so much time talking and relating to each other that it just satisfies me....He listens to me
Constant emails & instant messages, waiting up until all hours off the nite (6 hour time difference) to internet chat

Table 12

Responses for the Theme of Emotional Closeness

He is THERE for me and listens to me, talks to me, makes me laugh especially
I find its easy to get intimate (and I don't mean sexually) online because there is no external interference.
We know each other well enough to quickly slip into a very close conversation no matter how long we have been apart (not that we are apart often).
I can share my feelings with love and be loved by without the baggage that a real life romance has.
Two minds; Two souls in sync with one another.
He is very affectionate and loving and very open about his feelings.
I really like talking to this person. It's rare to find someone who I feel such a strong emotional bond with.
The degree of intimacy that seems to be possible online [satisfies me].
He understands me. He loves me for who I am.

Table 13

Responses for the Theme of Compatibility

We just seem to 'mesh,' similar thoughts, similar feelings, similar desires.
I love how we match so closely and how comfortable we are together after such a short time.
From the beginning I felt a connection to him.
We feel the same way about most things, like the same things.
I believe we each have discovered an underlying basic foundation, with similar qualities and attributes in each other.
He makes me laugh, is always there for me, we share a lot of common interests.
The friendship that we have is a great one...I feel as though I have met an outstanding person.
I really like talking to this person. It's rare to find someone who I feel such a strong emotional bond with.

Table 14

Responses for the Theme of Unconditional Acceptance

I feel completely accepted by her, and loved.
She doesn't judge me and we can talk about anything, and understand each other.
I can tell him anything and he can tell me anything, more sometimes that I feel comfortable telling people in person.
My on-line partner is always interested in what I am thinking and feeling... he never judges me.

Table15

Responses for Theme of De-emphasis of the Physical Body

He has been able to get to know me without physically knowing me.
He truly knows the kind of person I am.
After a violent relationship and depression I gained an extra 129 pounds [of] which I've shed 48 but he knows and even though he's a very athletic fit guy he says my heart and humour mean more...
We haven't had the usual physical stuff get in the way, so I know he loves me for me and not because I'm good in bed, or whatever.
There's no pressure to perform the usual mating rituals (when do we kiss/have sex/say I love you etc).
He has taken the time to get to know me without the distraction of sexual tension.
The distance between us doesn't allow the physical touching that occurs in a "real" relationship, this lends itself to more talking, more getting to know one another.
I know more about him than most that I've met "real-time".

Table 16

Responses for the Theme of Distance

Distance...2,000 miles of it.
The distance between the UK and Australia, and the 11 hour time difference...
The fact that for the moment it is only "virtual" - The physical distance between us and the 6 hour time difference
I know that the more advanced this kind of relationship is the harder it is to accept the distance in MILES.
The distance...not being able to spend time together, not talking...just being together.
Right now, there is a physical distance we have to overcome.
Nothing. I am not dissatisfied at all. Well except for the distance between us in location.
We can't be near each other and go out like a "normal" couple.
We live too far apart!!!
Worrying that even if we were to hit it off we have this distance issue.
After so much time, the only thing that is dissatisfying to me is the distance. We're ready to meet and begin our life together. The distance is the ONLY thing I dont like.
The distance is a real killer.

Table 17

Responses for the Theme of Social Negativity

Having people think you're insane because your engaged in this kind of relationship.
I've heard enough stalker stories [from people] to last forever.
There's a certain social taboo about this type of relationship.
I'd be embarrassed for my friends to know how I really met this person if the relationship progressed to the point of meeting face to face.

Table 18

Responses for the Theme of Disconnection

The daily life chores not being shared.
Well sometimes I feel lonely or disconnected from him especially if for any reason we skip a few days.
No possibility for a real fight, if you're mad turn off the computer and it is gone.

Table 19

Responses for the Theme of Lack of Physical Contact

At times we have had misunderstandings due to server lag....This can be very frustrating because there's no way to see how your partner is feeling or if they are holding something back since you can't see their face.
The only thing I'm dissatisfied with is that I cannot touch him or hear him. The Internet did bring us together, but it also keeps us apart.
I am a very TOUCHING person and I miss his physical presence....Also in a real relationship u can see someone's body language be in tune to it, whereas here sometimes both of us get to feeling that this cant go anywhere!!!
[It is] hard to hug.
We haven't been physical with each other and I would love to kiss him and hold his hand and be really close with him and spend time in 3D with him. Basically, any dissatisfaction I may feel is a direct result of not being together in person.
The fact that it's not a "real relationship." Lack of physical contact is hard.
I don't like how I can't wake up next to him in the mornings and sometimes our wires are crossed because a comment is taken out of context (due to no visual/facial clues), so misunderstandings can sometimes occur.
I want to meet her, and touch her, and hug her, and feel the physical things that I see happening in the world around me.
The distance doesn't allow the physical touching. Touch is an important part of a relationship...
The distance and chat conversations do not replace non verbal communications, or looking deeply into another's eyes and finding the source of troubles.
The restricted range of types of communication available (no face-to-face).

Table 20

Responses for the Theme of Non-Internet Constraints

I am currently in a situation in which there's no way we can meet "in real life".
Her jealousy (she thinks I chat to others), are the only times we have disagreed.
My insecurity and as a result my inability to totally trust when I should.
Pressure to be there mainly created by my not wanting to disappoint her and my RT [real time] commitments
[She's] not always available.
It's difficult to be believe I can trust anyone - especially someone I met online.
I'm afraid of what he may really be like, or if he is leading me on.
No email, not finding him online when I'm on the IRC chat.
[Because of] my past relationships...I will not let others into my soul after being hurt.
I think I fell too hard, too fast.

Table 21

T-Tests for Sex and Romantic Beliefs, Communication Satisfaction, and Relationship Satisfaction

	Sex	Mean	SD	t value	Sig. *
romantic beliefs	male	4.7688	1.4565	-1.369	.174
	female	5.1081	1.0690		
communication satisfaction	male	6.7305	.4795	.864	.389
	female	6.6082	.7409		
relationship satisfaction	male	6.7917	.9255	1.685	.095
	female	6.3638	1.3134		
desire for future interaction	male	5.7031	1.7044	-2.990	.003
	female	6.4634	.9727		
future 1	male	6.3750	1.0701	-1.635	.105
	female	6.6951	.8846		
future 2 (phone)	male	5.4375	2.1692	-3.254	.002
	female	6.4756	1.1990		
future 3 (meeting)	male	6.0000	2.1997	-2.261	.026
	female	6.6463	.8660		
future 4 (relationship)	male	5.0000	2.6396	-2.431	.017
	female	6.0366	1.7669		

* Significance is based on a 2-tailed test
n = 112 (32 men, 82 women)

Table 22

One-way ANOVA for How Participants Met Their Partner and Communication Satisfaction, Relationship Satisfaction, and Desire for Future Interaction

		Sum of Squares	df	Mean Square	F	Sig.
communication satisfaction	Between Groups	11.846	2	5.923	16.401	.000
	Within Groups	40.088	111	.361		
	Total	51.934	113			
relationship satisfaction	Between Groups	30.848	2	15.424	12.260	.000
	Within Groups	139.650	111	1.258		
	Total	170.498	113			
desire for future interaction	Between Groups	5.543	2	2.771	1.763	.176
	Within Groups	174.457	111	1.572		
	Total	180.000	113			

Dunnett C Multiple Comparisons

					95% Confidence Interval	
Dependent Variable	(I) how met	(J) how met	Mean Difference	Std. Error	Lower Bound	Upper Bound
communication satisfaction	chatroom or IRC	listserve or BBS	1.111	.2003	-.0609	2.2832
		online dating service	-.1335	.1727	-.3260	.0589
	listserve or BBS	chatroom or IRC	-1.111	.2003	-2.283	.0609
		online dating service	-1.2446*	.2488	-2.418	-.0710
	online dating service	chatroom or IRC	.1335	.1727	-.0588	.3260
		listserve or BBS	1.2446*	.2488	.0710	2.4183
relationship satisfaction	chatroom or IRC	listserve or BBS	1.5944	.3739	-.1847	3.3736
		online dating service	-.6460*	.3222	-.9628	-.3292
	listserve or BBS	chatroom or IRC	-1.594	.3739	-3.373	.1847
		online dating service	-2.240*	.4644	-4.007	-.4737
	online dating service	chatroom or IRC	.6460*	.3222	.3292	.9628
		listserve or BBS	2.240*	.4644	.4737	4.0073
desire for future interaction	chatroom or IRC	listserve or BBS	-.0083	.4179	-1.101	1.0845
		online dating service	-.6726	.3602	-1.078	-.2672
	listserve or BBS	chatroom or IRC	.0083	.4179	-1.084	1.1011
		online dating service	-.6643	.5191	-1.729	.4005
	online dating service	chatroom or IRC	.6726	.3602	.2672	1.0780
		listserve or BBS	.6643	.5191	-.4005	1.7291

* The mean difference is significant at the .05 level.

Table 23

Correlation Matrix of Desire for Future Interaction Items and Predictor Variables

	future 1	future 2 (phone)	future 3 (meeting)	future 4 (relationship)	att. conf.	similarity	info seeking	commitment	trust	physical attraction	romantic beliefs
future 2 (phone)	.184										
future 3 (meeting)	.073	.832**									
future 4 (relationship)	.436**	.819**	.702**								
att. confidence	.333**	-.048	.043	.184*							
similarity	.115	-.288*	-.301**	-.093	.407**						
information seeking	-.041	.324**	.418**	.399**	.310**	.294**					
commitment	.717**	.483**	.347**	.658**	.404**	.077	.170				
trust	.644**	.017	.043	.325**	.628**	.364**	.168	.569**			
physical attraction	.361**	-.032	.033	.128	.410**	.385**	.251*	.400**	.795**		
romantic beliefs	.447**	.400**	.245)	.609**	.265*	.353**	.329**	.674**	.367**	.342**	
intimacy	.737**	.117	.037	.458**	.651**	.393**	.200*	.648**	.842**	.592**	.582**

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Figure 1

Method of Meeting Online Partners

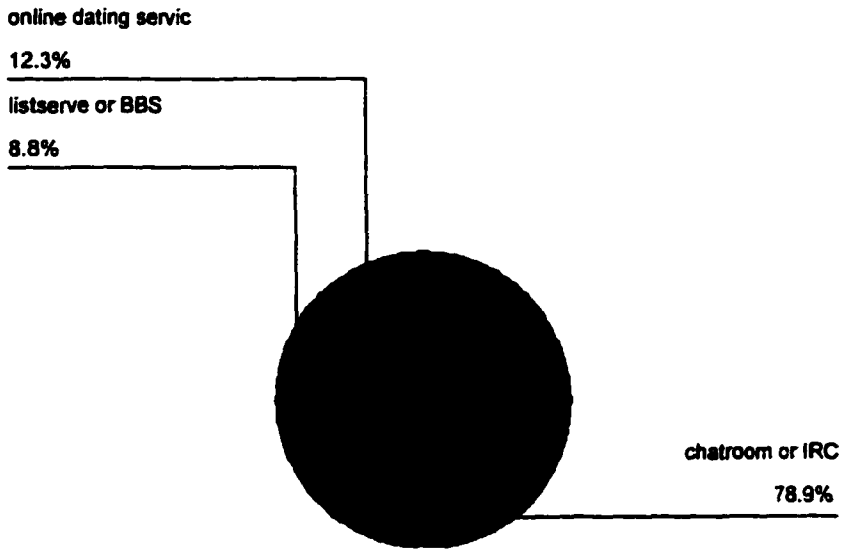


Figure 2

Average Length of Online Relationship

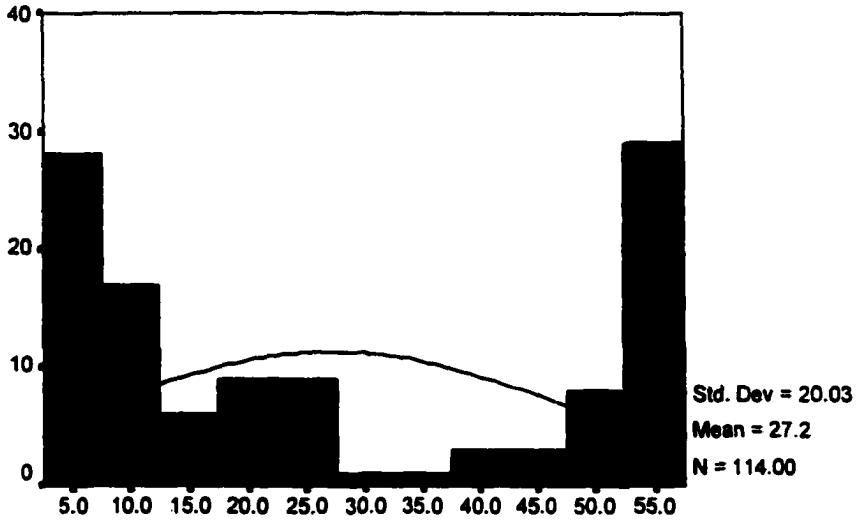


Figure 3

Frequency of Online Methods of Communication

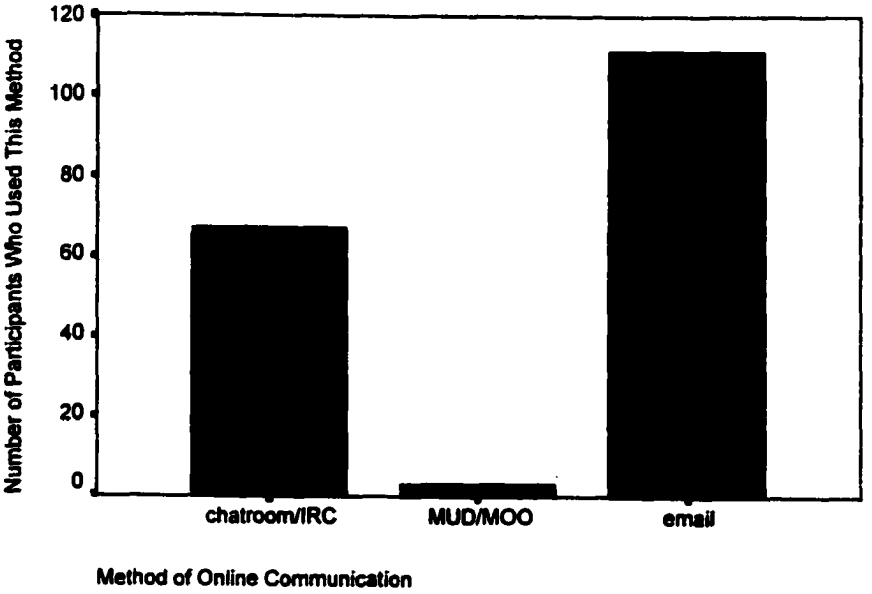
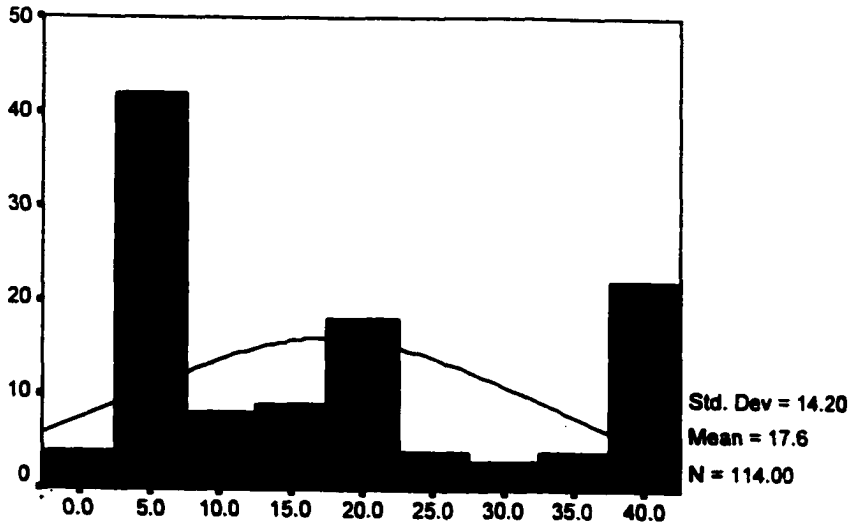


Figure 4

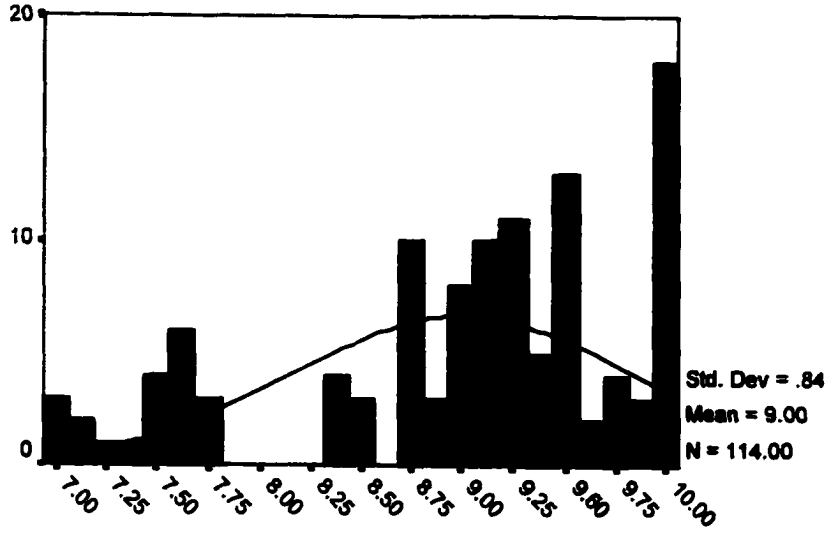
Hours Per Week Communicating With Partner



total hours/week comm

Figure 5

Distribution of Intimacy Scores



intimacy

Figure 6

Distribution of Physical Attraction Scores

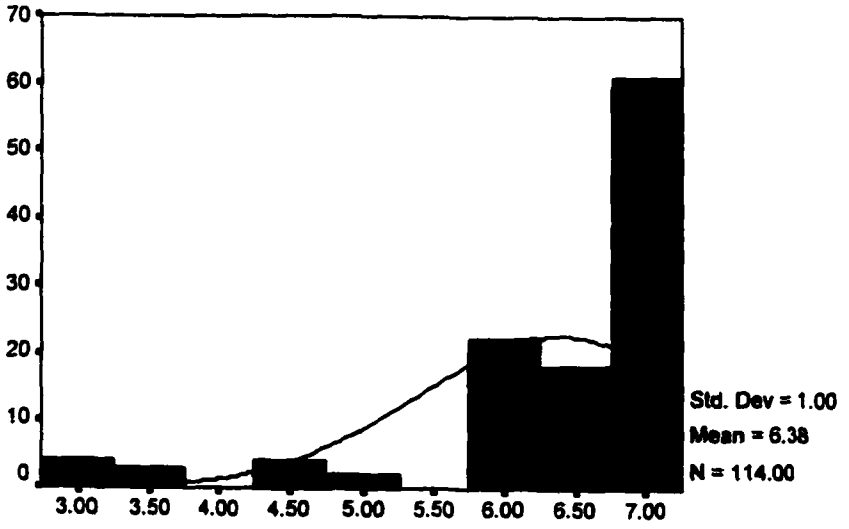


Figure 7

Distribution of Similarity Scores

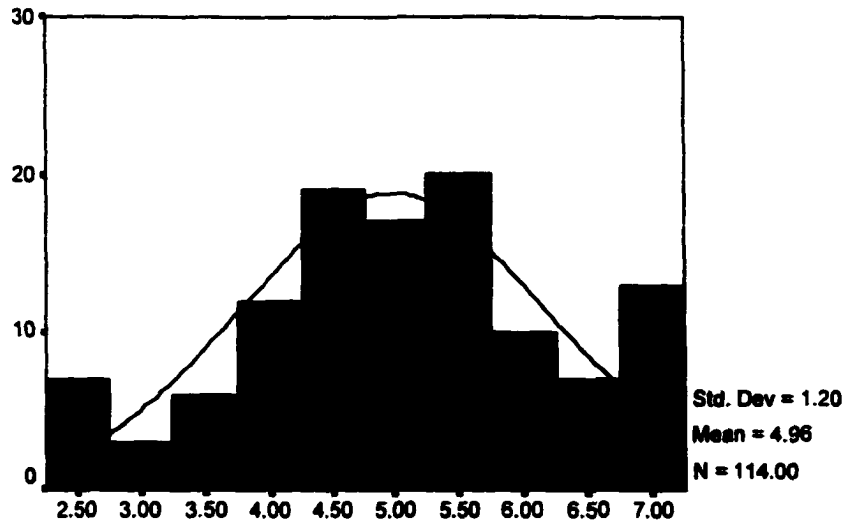


Figure 8

Distribution of Trust Scores

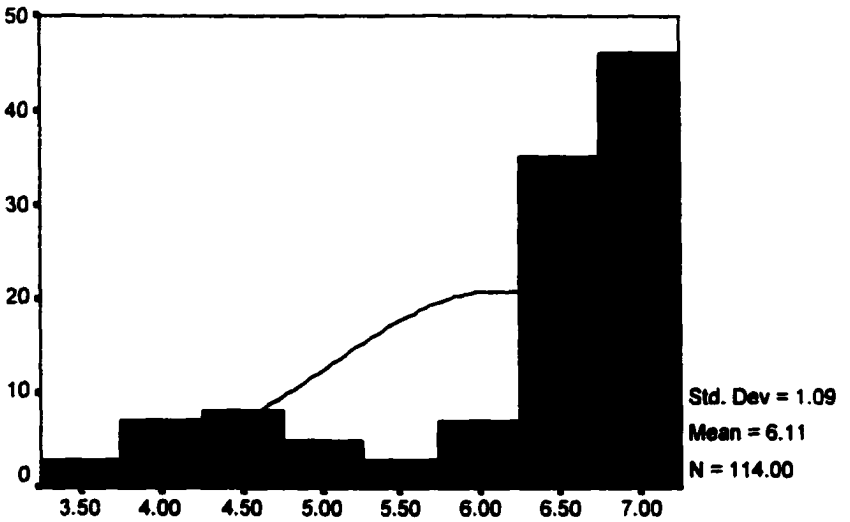


Figure 9

Distribution of Attributional Confidence (Certainty) Scores

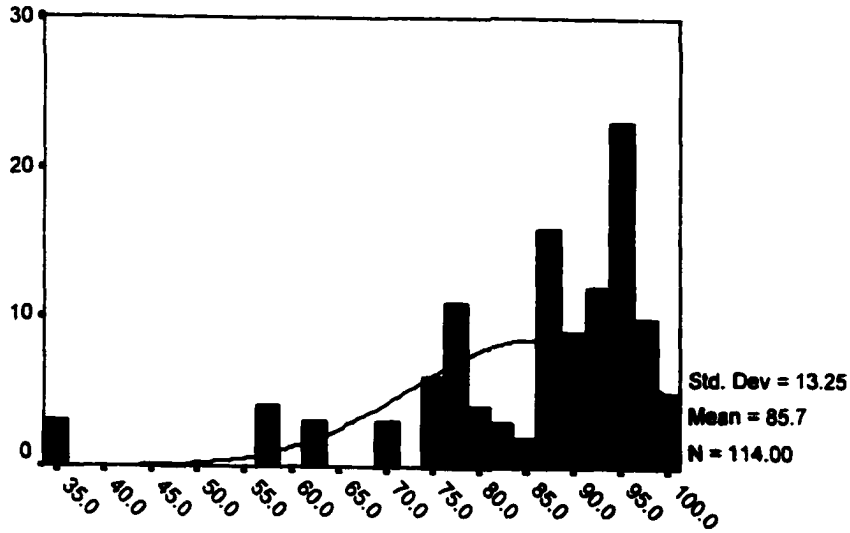
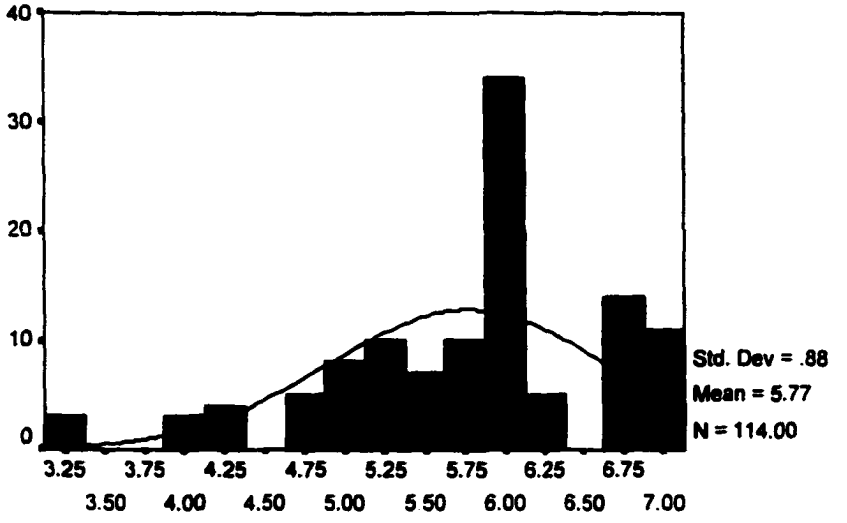


Figure 10

Distribution of Information Seeking Scores



information seeking

Figure 11

Distribution of Commitment Scores

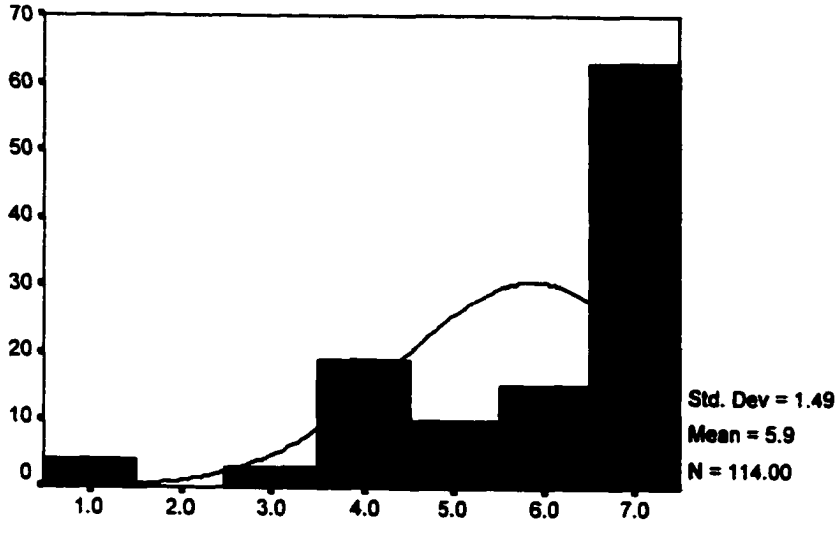
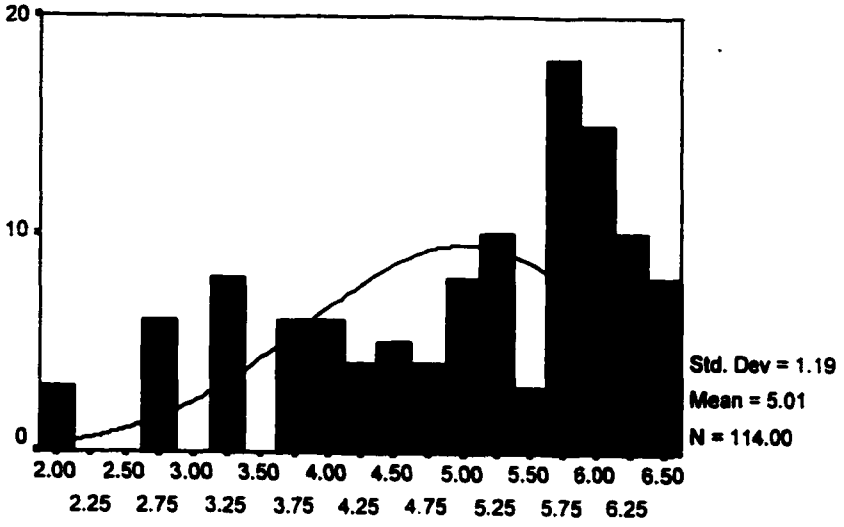


Figure 12

Distribution of Romantic Belief Scores



romantic beliefs

Figure 13

Distribution of Desire for Future Interaction Scores

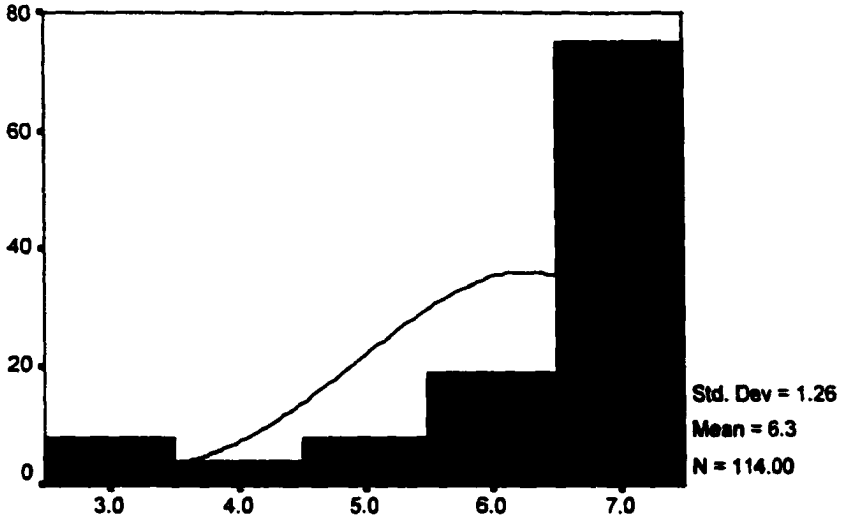


Figure 14

Distribution of Communication Satisfaction Scores

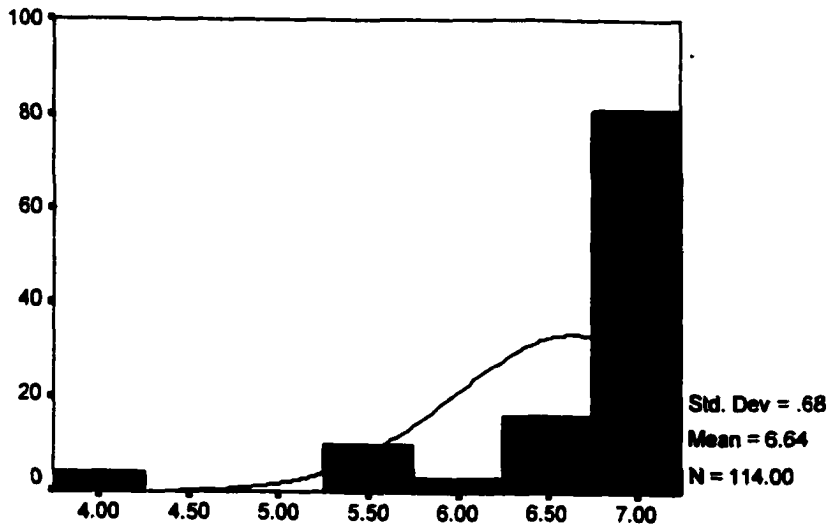
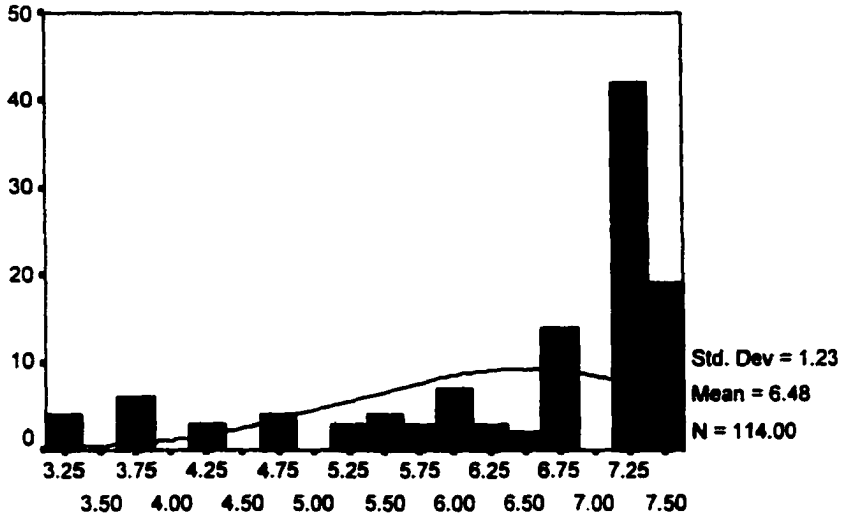


Figure 15

Distribution of Relationship Satisfaction Scores



relationship satisfaction

Appendix A

Script For Soliciting Participants in Chat Rooms and Newsgroups

Hello, my name is Traci Anderson and I am a doctoral student in communication at the University of Oklahoma. Sorry to interrupt, but I am currently collecting data for my dissertation and was hoping some of you might be interested in helping me.

For my dissertation, I am examining online romantic relationships between people who have had NO contact OTHER THAN ONLINE. I am collecting data online at a website on the University of Oklahoma's server. Please note that is a university sanctioned research project being conducted in fulfillment of my Ph.D. I am NOT soliciting personal information such as name, address, or phone number, nor am I selling a product.

If you are involved in an online romantic relationship (or know someone who is) and/or if you would like to verify the legitimacy of this project, please do so by visiting the following URL:

http://www.ou.edu/deptcomm/research/traci

You will also find my email address there should you have any questions.

Thank you for your time!

Appendix B

List of Newsgroups Accessed for Solicitation of Participants

alt.culture.internet
alt.cybercafes
alt.irc.romance
alt.romance
alt.romance.chat
alt.romance.online
alt.support.relationships-longdistance
alt.love
alt.usenet.surveys
de.talk.romance
it.cultura.cybersocieta
soc.men
soc.net-people
soc.women
soc.women.lesbian-and-bi

Appendix C

Individual Informed Consent Form for Research

This survey is part of research being conducted under the auspices of the University of Oklahoma-Norman Campus. This document is intended to provide information so survey respondents can acknowledge informed consent for participation in a research project.

Title: Predicting Communication Satisfaction and Relationship Satisfaction in Online Romantic Relationships
Principal Investigator: Traci L Anderson, Department of Communication
Faculty sponsor: Dr. Tara Emmers-Sommer, Department of Communication

This research is designed to examine online romantic relationships in order to better understand what makes these relationships satisfactory for the participants. Specifically, this study will examine what communication behaviors, beliefs, and perceptions lead to communication satisfaction and overall relationship satisfaction in online romantic relationships. *The time it takes to complete this online survey is approximately 20 minutes.*

I hereby give my consent to participate in this study. I understand that:

1. I am at least 18 years of age.
2. My participation in this study is entirely voluntary. Refusal to participate will involve no penalty.
3. I am entitled to no benefits for participation.
4. I may terminate my participation at any time prior to the completion of this study without penalty.
5. In order to submit my responses upon finishing the survey, the web survey has been designed so I will have to complete each question in order for my responses to be forwarded to the researcher.
6. Any information I may give during my participation will be used for research purposes only. Responses will not be shared with persons who are not directly involved with this study.
7. All information I give will be kept confidential.
8. There are no foreseeable risks for participating in this study.
9. I will be an anonymous participant in this project unless I decide to voluntarily provide my email address at the end of the survey in order to be contacted by the researcher for possible participation in future studies.
10. If I have questions regarding my rights as a research participant I can contact the University of Oklahoma's Office of Research Administration at (405) 325-4757.
11. The investigator is available to answer any questions I may have regarding this research study. If I have any questions, I can reach the investigator, Traci L Anderson by phone at (405) 325-3003 ext. 21123, by e-mail at TraciAnderson@ou.edu, or by contacting the Department of Communication, 101 Burton Hall, University of Oklahoma, Norman, OK, 73019.

PLEASE CLICK HERE TO GO TO THE SURVEY. BY CLICKING ON THIS ICON YOU INDICATE THAT YOU HAVE READ AND AGREE TO THE ABOVE CONDITIONS, AND GIVE YOUR CONSENT TO PARTICIPATE IN THIS STUDY.

I DO NOT AGREE TO THE ABOVE CONDITIONS AND/OR DO NOT WANT TO PARTICIPATE IN THIS STUDY

Appendix D

Attributional Confidence Scale

The questions that follow will ask you to express how confident you are that you know a particular fact about your online partner. On these questions, the answers should be written as a percentage, anywhere from 0% to 100%. **For example**, if you were totally confident you might put a number like 100%. If you were slightly less confident you might put a number like 93%. On the other hand, if you were not at all confident you might place a very low percentage, like 5% in the answer blank.

1. How confident are you of your ability to predict how he/she will behave? ___%

2. How certain are you that he/she likes you? ___ %

3. How accurate are you at predicting the values he/she holds? ___ %

4. How accurate are you at predicting his/her attitudes? ___ %

5. How well can you predict his/her feelings or emotions? ___ %

6. How much can you empathize with (share) the way he/she feels about himself/herself? ___%

7. How well do you know him/her? ___ %

Appendix E

Perceived Similarity Scale

On the scale below please indicate your feelings about your online partner. Click on the number that best represents your feelings. Numbers "1" and "7" indicate a very strong feeling. Numbers "2" and "6" indicate a strong feeling. Numbers "3" and "5" indicate a fairly weak feeling. Number "4" indicates you are undecided or don't know. There are no right or wrong answers.

1. Doesn't think like me	1 2 3 4 5 6 7	Thinks like me
2. From social class similar to mine	1 2 3 4 5 6 7	From social class different than mine
3. Behaves like me	1 2 3 4 5 6 7	Doesn't behave like me
4. Economic situation mine different than	1 2 3 4 5 6 7	Economic situation like mine
5. Similar to me	1 2 3 4 5 6 7	Different from me
6. Status like mine	1 2 3 4 5 6 7	Status different from mine
7. Unlike me	1 2 3 4 5 6 7	Like me
8. Background different from mine	1 2 3 4 5 6 7	Background similar to mine

Appendix F

Information Seeking Scale

Please respond to the following questions on a scale of 1 to 7: 7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 = Undecided/Neutral; 3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. I have asked my online partner a number of questions about him/herself.

2. I have **NOT** sought out information about my online partner.

3. I have tried to find out more about my online partner.

3. I have asked my online partner for more information about him/herself.

4. I have asked others about my online partner.

5. I have **NOT** encouraged my online partner to tell me about him/herself.

Appendix G

Relationship Satisfaction Scale

Please respond to the following questions on a scale of 1 to 7: 7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 = Undecided/Neutral; 3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. We have a good relationship.

2. My relationship with my online partner is very stable.

3. Our relationship is strong.

4. My relationship with my online partner makes me happy.

5. I really feel like part of a team with my partner.

6. The degree of happiness, everything considered, in my online relationship is: [choose one]

Very Unhappy 1 2 3 4 5 6 7 8 9 10 Perfectly Happy

Appendix H

Commitment Scale

Please respond to the following questions on a scale of 1 to 7:

7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 = Undecided/Neutral; 3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. I want this relationship to last as long as possible.

2. I am committed to maintaining this relationship.

3. I think that it is unlikely that this relationship will end in the near future.

4. I feel very attached to my partner.

5. There are no other people online that I want to get to know romantically.

6. There are no other people "in real life" that I want to get to know romantically.

7. I do not want another online romantic partner.

8. I do not want another "real life" romantic partner.

Appendix I

Desire for Future Interaction Scale

7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 = Undecided/Neutral; 3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. I want my online romantic relationship to continue.

2. I want my online romantic relationship to progress to phone conversations.

3. I want meet my online romantic partner in person.

4. I am hoping/feeling that my online romantic relationship will progress and develop into a serious, committed, salient 'real life' relationship.

Appendix J

Communication Satisfaction Scale

7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 = Undecided/Neutral; 3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. I enjoy our conversation online.

2. We each get to say what we want.

3. I feel my partner values what I say.

4. We are attentive to each other's comments.

5. I feel accepted and respected during when we communicate online.

6. My partner shows me that she/he understands what I say.

7. Our online conversation flows smoothly.

8. My partner expresses a lot of interest in what I have to say.

Appendix K

Trust Scale

Please respond to the following questions on a scale of 1 to 7:

7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 = Undecided/Neutral; 3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. My online partner is primarily interested in his/her own welfare.

2. There are times when my online partner **CANNOT** be trusted.

3. My online partner is perfectly truthful and honest with me.

4. I feel that I can trust my online partner completely.

5. My online partner is truly sincere in his/her promises.

6. I feel that my online partner does **NOT** show me enough consideration.

7. My online partner treats me fairly and justly.

8. I feel that my online partner can be counted on to help me.

Appendix L

Physical Attraction Scale

The following items deal with how attractive you perceive your online partner to be or, if you have not seen a photo of your online partner, how attractive you imagine (or think) he/she is. Therefore, please indicate the degree to which you agree or disagree with the following statements as they apply to your online partner. Please respond to the following questions on a scale of 1 to 7:

7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 = Undecided/Neutral; 3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. I think she/he is quite pretty/handsome.

2. I think he/she is very sexy looking.

3. I think she/he is physically attractive.

4. I do NOT think I like the way she/he looks.

5. I think he/she is somewhat ugly.

Appendix M

Romantic Beliefs Scale

Please respond to the following questions on a scale of 1 to 7:

7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 =Undecided/Neutral;
3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. I need to know someone for a period of time before I fall in love with him or her.

2. If I were in love with someone, I would commit myself to him or her even if my parents and friends disapproved of the relationship.

3. Once I experience "true love," I could never experience it again, to the same degree, with another person.

4. I believe that to be truly in love is to be in love forever.

5. If I love someone, I know I can make the relationship work, despite any obstacles.

6. When I find my "true love," I will probably know it soon after we meet.

7. I'm sure that every new thing I learn about the person I choose for a long-term commitment will please me.

8. The relationship I have with my "true love" will be nearly perfect.

9. If I love someone, I will find a way for us to be together regardless of the opposition to the relationship, physical distance between us, or any other barrier.

10. There will only be one real love for me.

11. If a relationship I have was meant to be, any obstacle (e.g. lack of money, physical distance, career conflicts) can be overcome.

12. I am likely to fall in love almost immediately if I meet the right person.

13. I expect that in my relationship, romantic love will really last; it won't fade over time.

14. The person I love will make a perfect romantic partner; for example, he/she will be completely accepting, loving, and understanding.

15. I believe that if another person and I love each other we can overcome any differences and problems that may arise.

Appendix N

Intimacy Scale

Please respond to the following questions on a scale of 1 to 7: 7 = Very strongly agree; 6 = Moderately agree; 5 = Slightly agree; 4 = Undecided/Neutral; 3 = Slightly disagree; 2 = Moderately disagree; 1 = Very strongly disagree

1. When you have leisure time, how often do you choose to spend it with him/her alone online?

2. How often do you keep very personal information to yourself and do NOT share it with him or her?

3. How often do you show him or her affection online?

4. How often do you confide very personal information to her/him?

5. How often are you able to understand his/her feelings?

6. How often do you feel close to him/her?

7. How much do you like to spend time alone online with her/him?

8. How much do you feel like being encouraging and supportive of him/her when he/she is unhappy?

9. How close do you feel to him/her most of the time?

10. How important is it for you to listen to her/his very personal disclosures?

11. How satisfying is your relationship with her/him?

12. How affectionate do you feel towards him/her?

13. How important is it to you that he/she understands your feelings?

14. How much damage is caused by a typical disagreement in your relationship with her/him?

15. How important is it to you that he/she be encouraging and supporting to you when you are unhappy?

16. How important is it to you that she/he show you affection?

17. How important in your life is your relationship with him/her?

Appendix O

Demographic Items and Questions About Internet Use

1. Sex: Male Female

2. Age:

3. Educational status (choose the highest level that you have COMPLETED):

___Some high school
___High school graduate
___Associate's degree
___Bachelor's degree
___Master's degree
___Ph.D/J.D./Ed.D/Etc.

4. "Real life" (offline) relationship status:

___Seeing no one/seeing no one in particular
___Casually seeing someone
___Casually seeing several people
___Exclusively seeing one person
___Engaged
___Married
___Separated
___Divorced

5. Annual household income level (choose one):

_____ up to $14,999
_____ $15,000 to $24,999
_____ $25,000 to $34,999
_____ $35,000 to $44,999
_____ $45,000 to $54,999
_____ $55,000 to $64,999
_____ $65,000 to $74,999
_____ $75,000 to $84,999
_____ $85,000 to $94,999
_____ $95,000 and above

6. In what country do you reside?

Please answer the following questions about your Internet use.

7. How many **months** have you been using the internet? (This includes WWW, chat locations, and educational, organizational, or commercial online providers such as Prodigy or America Online)

8. Is this your first online romantic relationship? yes no

9. How did you meet your online romantic partner?

10. How many weeks have you known your online romantic partner?

11. How many **days per week**, on average, do you communicate online with your online romantic partner?

12. Which of the following methods to you use to communicate with your partner? [check all that apply]

_____ chat room/IRC
_____ MUD/MOO
_____ email
_____ telephony
_____ listserve/BBS
_____ other

13. How many **days per week**, on average, do you communicate with your partner using **chatrooms or IRC**?

14. How many **minutes per day**, on average, do you communicate with your partner using **chatrooms or IRC**?

15. How many **days per week**, on average, do you communicate with your partner using or **MUDs or MOOs**?

16. How many **minutes per day**, on average, do you communicate with your partner using **MUDs or MOOs**?

17. How many **days per week**, on average, do you communicate with your partner using **email**?

18. How many **email messages per day**, on average, do you send to your partner?

19. How many **hours per week**, on average, do you spend communicating with your partner in **TOTAL** (that is, taking into consideration all forms of online communication)?

Please answer a few questions about your online romantic partner:

20. The sex of my online romantic partner is person is: male female

21. In what country does your partner live?

22. How old is your partner?

23. Have you seen a photograph of your online romantic partner? Yes No

Appendix P

Institutional Review Board Approval Letter for the Use of Human Subjects

The University of Oklahoma

OFFICE OF RESEARCH ADMINISTRATION

February 18, 2000

Ms. Traci Lynn Anderson
101 Andover Drive #N8
Norman OK 73071

Dear Ms. Anderson:

Your research application, "Predicting Communication Satisfaction and Relationship Satisfaction in Online Romantic Relationships," has been reviewed according to the policies of the Institutional Review Board chaired by Dr. E. Laurette Taylor and found to be exempt from the requirements for full board review. Your project is approved under the regulations of the University of Oklahoma - Norman Campus Policies and Procedures for the Protection of Human Subjects in Research Activities.

Should you wish to deviate from the described protocol, you must notify me and obtain prior approval from the Board for the changes. If the research is to extend beyond 12 months, you must contact this office, in writing, noting any changes or revisions in the protocol and/or informed consent formS, and request an extension of this ruling.

If you have any questions, please contact me.

Sincerely yours,

Susan Wyatt Sedwick

Susan Wyatt Sedwick, Ph.D.
Administrative Officer
Institutional Review Board

SWS:pw
FY00-156

cc: Dr. E. Laurette Taylor, Chair, Institutional Review Board
Dr. Tara Emmers-Sommer, Communication