

12-1-2006

Maintaining Online Friendship: Cross-Cultural Analyses of Links among Relational Maintenance Strategies, Relational Factors, and Channel-Related Factors

Jiali Ye

Follow this and additional works at: http://digitalarchive.gsu.edu/communication_diss

Recommended Citation

Ye, Jiali, "Maintaining Online Friendship: Cross-Cultural Analyses of Links among Relational Maintenance Strategies, Relational Factors, and Channel-Related Factors" (2006). *Communication Dissertations*. Paper 7.

This Dissertation is brought to you for free and open access by the Department of Communication at Digital Archive @ GSU. It has been accepted for inclusion in Communication Dissertations by an authorized administrator of Digital Archive @ GSU. For more information, please contact digitalarchive@gsu.edu.

MAINTAINING ONLINE FRIENDSHIP: CROSS-CULTURAL ANALYSES OF
LINKS AMONG RELATIONAL MAINTENANCE STRATEGIES, RELATIONAL
FACTOR, AND CHANNEL-RELATED FACTORS

by

JIALI YE

Under the Direction of Jaye Atkinson

ABSTRACT

Computer-mediated communication (CMC), such as electronic mail and newsgroups, is quickly becoming a pervasive interpersonal communication means. The general research purpose of the present study is to investigate the communicative strategies individuals use to maintain exclusively Internet-based friendships and the extent to which cultural, relational and channel-related factors may affect the use of these strategies.

A total of 136 Chinese Internet users and 134 American Internet users completed an online survey that measured maintenance strategies that they used for sustaining a friendship that they had developed on the Internet, their online friendship relational experience (relational and partner certainty and relational equity), and communication channel-related variables (perceived social presence of the Internet and anticipation of face-to-face interactions in the near future). Participants were also asked to think of an offline “real-life” friendship and to answer questions about relational maintenance strategies used for sustaining this friendship.

The results suggested that overall people use more prosocial relational maintenance strategies in their offline friendships than in their online friendship. However, this pattern was moderated by friendship status. The gap of frequencies of relational maintenance strategies in online and offline friendships was particularly large for casual friendships.

With regard to antisocial maintenance strategies, participants reported more coercion/criticism in offline friendships but more deception in online friendships.

Consistent with the prior findings concerning cultural variations in relational maintenance, the current study found that the American participants more frequently used prosocial maintenance strategies than did the Chinese participants in both online and offline friendships. On the other hand, the Chinese participants were more likely to use all types antisocial maintenance strategies than their American counterparts in both online and offline friendships. The result of the current study confirmed that varied degrees of relational uncertainty and relational equity are associated with the use of relational maintenance strategies. The findings also indicated the impact of communication channel-related factors on online friendship maintenance strategies.

In sum, the findings of this cross-cultural study lent credence to the view that meaningful relationships are maintained via CMC. This study has added knowledge about ways this new technology used in sustaining relationships across different national cultures.

INDEX WORDS: computer-mediated communication, friendship maintenance, relational uncertainty, relational equity, social presence

MAINTAINING ONLINE FRIENDSHIP: CROSS-CULTURAL ANALYSES OF
LINKS AMONG RELATIONAL MAINTENANCE STRATEGIES, RELATIONAL
FACTOR, AND CHANNEL-RELATED FACTORS

By

JIALI YE

A Dissertation Submitted in Partial Fulfillment of the Requirements of the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2006

Copyright by
Jiali Ye
2006

**MAINTAINING ONLINE FRIENDSHIP: CROSS-CULTURAL ANALYSES OF
LINKS AMONG RELATIONAL MAINTENANCE STRATEGIES,
RELATIONAL FACTOR, AND CHANNEL-RELATED FACTORS**

By

JIALI YE

Major Professor: Jaye Atkinson
Committee: Cynthia Hoffner
Yuki Fujioka
Merrill Morris
Elisabeth Burgess

Electronic Version Approved:

Office of Graduate Studies
College of Arts and Sciences
Georgia State University
December 2006

DEDICATION

This dissertation is dedicated to my husband, Zhiheng, whose love and encouragement has meant so much to me during the pursuit of my Ph.D. Degree.

ACKNOWLEDGMENTS

The writing of this dissertation is one of the most significant academic challenges that I have ever faced. It would be impossible to finish this project without the support, encouragement and selfless help from many people. It is to them I owe my deepest gratitude.

First of all, I would like to express my heartfelt gratitude to my advisor, Dr. Jaye Atkinson, for supervising and guiding this research from the beginning. She is always there to listen and to give advice. Her patience, generosity, and dedicated assistance have contributed to my doctoral degree and helped my readiness for future research and career. I have learned from her more than research techniques, but her vision and enthusiastic approach to work and life. I greatly value the relationship we have formed which has been educational, inspirational, and enriching.

I also need to thank Dr. Cynthia Hoffner, my research supervisor and committee member. I have been so fortunate to work with her as a graduate research assistant since I started my Ph.D. program. She introduced me to the beauty of social science. She has taught me innumerable lessons and insights on the academic research. I enjoyed every moment that we had worked together. I am deeply indebted to Dr. Hoffner for her encouragement, advice, mentoring, and research support throughout my doctoral studies.

Special thanks also go to my other committee members, Dr. Yuki Fujioka, Dr. Merrill Morris, and Dr. Elisabeth Burgess for the assistance in the development of this

investigation and for their support of the project as a whole. Their diverse perspectives and expertise have added immeasurably to the substance, form and structure of this study.

Many thanks to Amal Ibrahim, Rhadika Seith, Dana Gabrielle, Zhen Xu, Hongxin Wang, Yue Cui for helping me collecting data and to Guohui Zhou for providing me with technical support.

I would like to thank the Department of Communication at Georgia State University for giving me wonderful opportunities not only to develop research skills and capabilities but also to understand the American society and get to know many nice people.

I am so indebted to my parents and my brother who give me endless love and support from China. I also would like to thank my husband Zhiheng for his understanding and love during the past few years. He had shared with me every tough moment. I cannot imagine my academic achievement without him.

TABLE OF CONTENTS

ACKNOWLEDGEMENT.....	v
TABLE OF CONTENT.....	vii
LIST OF TABLES.....	xi
LIST OF FIGURES.....	xii
CHAPTER	
I. Chapter One – Introduction	1
II. Chapter Two – Literature Review.....	8
Friendship Maintenance.....	8
A. Friendship Relationships.....	8
B. Defining Relational Maintenance.....	9
Relational Maintenance Strategies.....	11
A. Types of Relational Maintenance Strategies	11
1. Prosocial Maintenance Strategies	12
2. Antisocial Maintenance Strategies	14
B. Culture Factors in Relational Maintenance.....	16
1. Individualism-Collectivism Distinction in Interpersonal Relationships..	17
2. Chinese Communication Styles.....	19
3. Relational Maintenance in China and other East-Asian Cultures.....	21
C. Relational Experiences and Use of Maintenance Strategies	24

1. Relational Uncertainty.....	24
2. Relational Equity.....	26
3. Friendship Status.....	27
Computer-Mediated Communication.....	28
A. Internet as a Social Medium.....	28
B. Communication Dynamics in Online Friendships.....	30
C. Links between Culture and CMC.....	32
Relational Maintenance in Online Friendships.....	34
A. Types of Online Relational Maintenance Strategies.....	34
1. Online Prosocial Strategies.....	35
2. Online Antisocial Strategies.....	37
B. How are Cultural Values Related to Online Friendship Maintenance?.....	38
C. Relational Experiences.....	41
1. Partner and Relational Uncertainty.....	42
2. Relational Equity.....	44
D. Channel-Related Factors.....	44
1. Perception of the Internet.....	45
2. Anticipation of Face-to-Face Interactions.....	47
III. Chapter Three – Method.....	49
Overview of Methodology.....	49
Pilot Study.....	50
Main Study.....	51
A. Recruiting and Procedure.....	52

B. Sample	53
C. Translation.....	53
D. Measurement.....	54
1. Individualism-Collectivism Value.....	54
2. Strategic Maintenance Behaviors for the Online Friendship	54
3. Online Partner Uncertainty	56
4. Online Relational Uncertainty	56
5. Online Relational Equity	56
6. Strategic Maintenance Behaviors for the Offline Friendship.....	57
7. Perception of Social Presence	58
8. Anticipation of a Face-to-Face Meeting with the Online Friend	58
E. Statistic Analyses.....	58
IV. Chapter Four – Results	61
A. Preliminary Results.....	61
B. Data Normality	62
C. Research Question 1.....	63
D. Research Question 2a,b.....	66
E. Research Question 3	72
F. Hypothesis 1a,b	72
G. Hypothesis 2a,b	74
H. Hypothesis 3a,b.....	76
I. Hypothesis 4a,b.....	80
J. Hypothesis 5a,b.....	81

K. Summary.....	82
V. Chapter Five – Discussion	84
A. Online vs. Offline Friendship Maintenance	84
B. Cultural Differences in Using Friendship Maintenance Strategies.....	86
C. Partner/Relational Uncertainty and Online Friendship Maintenance.....	88
D. Relational Equity and Online Friendship Maintenance	91
E. Social Presence and Online Friendship Maintenance	93
F. Anticipation of a Face-to-Face Meeting and Online Friendship Maintenance	94
G. Limitations.....	94
H. Conclusion	97
NOTES	100
REFERENCES	101
APPENDICES.....	122
A. Pilot Study Consent Form	122
B. Pilot Study Questionnaire	124
C. Main Study Consent Form	127
D. Recruiting Message	129
E. Main Study Questionnaire	130

LIST OF TABLES

Table 1.	Scale Items and Factor Loadings for Antisocial Maintenance Strategies	51
Table 2.	Relational Maintenance Means for Offline and Online Friendships...	65
Table 3.	Relational Maintenance Means and Standard Deviations of the Two National Groups in Offline and Online Friendships.....	69
Table 4.	Relational Maintenance Means and Standard Deviations in Offline Friendships	70
Table 5.	Relational Maintenance Means and Standard Deviations in Online Friendships	71
Table 6.	Means, Standard Deviations, and t-Test Results of Uncertainty across Cultures.....	73
Table 7.	Correlation Coefficients between Relational Maintenance Strategies and Partner Uncertainty	74
Table 8.	Correlation Coefficients between Relational Maintenance Strategies and Relational Uncertainty	75
Table 9.	Number and Percentage of Individuals in Different Equity Level.....	77
Table 10.	Adjusted Means Associated with an Interaction between Relational Equity and Culture	79
Table 11.	Correlation Coefficients between Relational Maintenance Strategies and Perceived Social Presence.....	80
Table 12.	Correlation Coefficients between Relational Maintenance Strategies and Anticipation of a Face-to-Face Meeting	82

LIST OF FIGURES

Figure 1.	Means for positivity for casual and close offline and online friendships	65
Figure 2.	Means for Openness for casual and close offline and online friendships	66
Figure 3.	Means for Interaction for casual and close offline and online friendships	66

Chapter One

Introduction

The “Information Superhighway” is clearly not just a road for moving data from one place to another, but a road side where people pass each other, occasionally meet, and decide to travel together.

Joseph Walther & Lisa Tidwell, 1996

As the fastest growing communication technology, the Internet has dramatically altered global communication, opening up more opportunities for people to seek out information and connect with each other. The social nature of the Internet has been increasingly evident. Computer-mediated communication (CMC), such as electronic mail and newsgroups, is quickly becoming a pervasive interpersonal communication means. It typically involves communication between two or more parties, who are usually not physically proximal, using personal computers to convey messages—primarily, but not limited to text. Although the computer technology keeps advancing (e.g., using streaming video for interpersonal communication), conversation styles used on the Internet today are still based on earlier text-based interaction (Barnes, 2003a; Wright, 2004). As Walther and Burgoon (1992) note, “For many of us, CMC is no longer a novelty but a communication channel through which much of our business and social interaction takes place” (p.51).

The Internet has become a new way to meet people and build new relationships. According to McKenna (1998), “It is the only existing and widely available medium through which one can meet, communicate and bond with people from all over the world without leaving the privacy of one’s home” (p.1). Despite the primary vision that CMC is a cold and lean communication medium, the Internet is emerging as a virtual

community where people can develop deep and genuine interpersonal relationships (Parks & Floyd, 1996).

While much research attention on CMC has been placed on the characteristics of online relationships (e.g., intimacy, closeness) and various online communication behaviors (use of emoticons, self-disclosure), little is known about the process used to maintain an online relationship when only CMC is used as a means for communication. In the traditional face-to-face world, relational maintenance has been repeatedly emphasized and extensively examined (Dindia, 2003). According to Duck (1988), although the processes and strategies of initiating and terminating relationships are important, people spend more time maintaining relationships.

The study of maintenance of online relationships holds the promise of extending previous relational maintenance literature and adding new insights into the role of new media in our social lives. As O'Sullivan (1996) has noted, studying how relationships are formed and maintained on the Internet brings into focus the implicit assumptions and biases of our traditional relationship and communication research literature. Rabby and Walther (2003) also argue that research on relationship formation and relational maintenance via CMC "will reform not only the study of contemporary relationship dynamics, but help to extend our understanding of CMC across a variety of domains" (p. 158). Meanwhile, they admit the lack of theoretical basis and empirical evidence that describe CMC relationships, particularly "insofar as relationship maintenance is concerned" (p.158). Thus, the general research purpose of the present study is to investigate the communicative strategies individuals use to maintain exclusively Internet-

based friendships and the extent to which cultural, relational and channel-related factors may affect the use of these strategies.

Many cross-cultural studies have indicated that culture determines an individual's overall communication style and belief about interpersonal relationships (e.g., Ting-Toomey, 1991; Ting-Toomey et al., 1991), and this influence is often reflected in relational development and maintenance. Nicotera (1993) points out, "Different cultures define the character, function, and form of interpersonal relationships differently" (p.11). In recent years, scholars have increasingly emphasized the importance of uncovering culture-bound values and communicative preferences inherent in CMC technologies (e.g., Amant, 2002; Hanna & Nooy, 2004). However, most CMC studies have been conducted either in the United States or in Western Europe, which are usually considered individualistic cultures. There is a striking absence of CMC studies, particularly interpersonal CMC relationships studies, in collectivistic cultures (Qiu & Chan, 2004). Meanwhile, very few cross-cultural comparisons of online communication behavior exist to address the role of culture in CMC. As an exploratory study, the current research will include both American and Chinese participants in the examination of online friendship maintenance, aiming to fill in the gap and provide some insights into cultural differences in communication patterns in electronic settings. In addition, for the purpose of comparison, this study will examine the maintenance strategies for both online and offline friendships. Such a design will allow the researcher not only to examine the differences of relational maintenance in online and offline settings within each culture but also to make a comprehensive cross-cultural comparison of relational maintenance in different settings.

The Internet users in the United States and Mainland China were selected because of two reasons. First, these two countries represent the two sides of individualism-collectivism dimension (Hofstede, 1980). An individualistic culture is one where an individual is expected to base their self-understanding on their actions, which are usually taken independently of the reactions of others, whereas a collectivistic culture is one where an individual is expected to integrate him/herself into cohesive groups and base their self-understanding on what others think. As representatives of these two cultures, the United States and China have been repeatedly chosen in the examinations of everyday communication patterns and relationship features in the face-to-face context (e.g., Chen, 1995; Gao, 2001; Pratt, 1991).

Second, the United States and China are two leading countries of Internet development in terms of the number of Internet users and the increase of Internet users annually (Zhu & Wang, 2005). The United States ranks first in the number of Internet users. The Pew Internet & American Life Project conducted surveys at the end of 2004 and found that 128 million (63%) of the Americans age 18 or older use the Internet. Social use of the Internet is a critical component of online activities. Some 84% of the Internet users or close to 100 million people belong to online groups, where they can interact with people outside their social class, racial group or generational cohort. University of California at Los Angeles (UCLA) International Institute conducted World Internet Project to study Internet usage in 14 countries. Internet users in the United States reported that they had an average of 2.6 online friends (World Internet Project, 2003).

While the Internet population is steadily increasing in the United States, the Internet is booming in China. Ever since the start of the Internet connection in 1994, China has seen

tremendous growth in the number of the Internet users. According to the China Internet Network Information Center (CNNIC), in 2000, there were only 2.2 million Internet users in China, while by December 2004, 94 million Chinese (about 7 percent of total population of Mainland China) had gone online, making China the second largest Internet-user market in the world, behind only the United States (Zhu & Wang, 2005). CMC has become one of the most significant areas in Chinese communication (Shen, 2002). The Internet is used primarily as an interpersonal communication medium (e.g., email, peer-to-peer and group interaction) and secondarily as an information medium (e.g., search, browsing). It is extremely popular among Chinese Internet users to make friends via the Internet. According to the World Internet Project report (2003), Internet users in China reported an average of 7.7 online friends whom they had never met in person, more than twice as many as any of the other 13 surveyed countries, including the United States. However, as acknowledged before, compared to the systematic CMC studies in the United States, much less research effort has examined online communication behaviors of Chinese Internet users. By including Chinese samples, the present study will expand our understanding of Internet-based relational behaviors in non-western cultures.

In addition to culture, the use of relational maintenance strategies is associated with a variety of relational factors and contextual factors. It remains to be seen if and how these strategies will differ in relationships developed online. Another purpose of this project, therefore, is to examine how relational factors and the uniqueness of the online context may affect the use of relational maintenance strategies in online friendships.

First, drawing upon relational equity theory (Canary & Stafford, 1994) and relational uncertainty theory (Knobloch & Solomon, 1999), the study intends to explicate the relationships among people's strategic communication behaviors used to preserve online friendships, perceived equity, and relational and partner uncertainty. Furthermore, based on CMC literature, this study explores how channel-related factors, including perception of social presence of the Internet and anticipation of face-to-face interaction in the near future, are linked to online friendship maintenance. As this project will examine these relationships across both Chinese and American samples, it can effectively assess the cross-cultural generalizability of the results and detect similarities and differences between cultures.

Participants from the China and the United States completed an online survey that measured maintenance strategies that they used for sustaining a friendship that they had developed on the Internet, their online friendship relational experience (relational and partner uncertainty and relational equity), and communication channel-related variables (perceived social presence of the Internet and anticipation of face-to-face interactions in the near future). Participants were also asked to think of an offline "real-life" friendship that was initiated and primarily maintained in offline settings and to answer questions about relational maintenance strategies used for sustaining this friendship.

This cross-cultural study of friendship maintenance in both online and offline settings can offer us a comprehensive understanding about individualism-collectivism impacts on relational interaction in various contexts. Since little literature has focused on online relationship maintenance, this study represents an initial exploration of the important issues of relationships developed in cyberspace. It will not only expand the research on

friendship maintenance and enhancement but also contribute to the growing body of literature on CMC.

Chapter Two

Literature Review

This chapter surveys previous literature in relational maintenance and factors that may affect the use of maintenance strategies. It starts with reviewing the nature of friendship relationships and strategies that have been identified to maintain a friendship at a level satisfactory level, followed with culture differences in relational interaction, particularly in relational maintenance. The next section addresses the links between relational maintenance and two key aspects of relational experiences, relational uncertainty and relational equity. In the second half of the literature review, the focus is shifted from friendship in general to online friendships. Specifically, this part of literature review will be devoted to the dynamics of online friendships, online relational maintenance strategies, and the role of culture, relational experiences, and channel factors in maintaining online friendships. It also presents the research questions and hypotheses of the current study.

Friendship Maintenance

Friendship Relationships

Friendships are unique relationships between two people. Scholars from various disciplines have explored the definition of friendship. For example, Hartup (1978) believes that friendship is a dyadic, reciprocal relationship that may be fragile. According to Wright (1984), friendship is “a relationship involving voluntary or unconstrained interaction in which participants respond to one another personally....” (p. 119). Hays (1988) defines friendship as a “voluntary interdependence between two persons over time, that is intended to facilitate social-emotional goals of the participants, and may

involve varying types and degrees of companionship, intimacy, affection, and mutual assistance” (p.395).

One way to understand the nature of a friendship is through comparing friendships with other relationships (Fehr, 1996). Rawlins (1994) acknowledges that friendships differ from relationships where people are connected by blood-ties or legal arrangement. Friendships are chosen rather than inherited or otherwise assigned. Without social or biological boundaries and increased vulnerability to dissolution, friendships require relational maintenance in order to last (Dainton, Zelley, & Langan, 2003). Friends are responsible for defining, refining and sustaining the parameters of their relationships. As Bassaro (1990) writes, “Friendship is never simple. It demands much of us: time, self-discipline, commitment, and the patience to be understanding even when we have problems of our own” (p.12).

In sum, scholars have identified the following key conceptual components of friendships (Cichocki, 1995): (a) it is a relationship developed through the voluntary interaction of particular persons, (b) the foundation of friendship is based on interdependence between two individuals, (c) for a friendship to exist, there must be interaction over a period of time, (d) an individual should feel an overall enjoyment of the other person’s company.

Defining Relational Maintenance

Over decades, researchers have developed a wide range of theoretical perspectives of relational behaviors in an attempt to explicate the process of relationship formation, development, and deterioration. For instance, uncertainty reduction theory examines the potential influences of uncertainty and uncertainty reduction during beginning

acquaintance (Burger & Calabrese, 1975). Social penetration theory focuses on how relationships develop through time in a systematic and predictable fashion (Altman & Taylor, 1973). However, few theories have centered on relational maintenance. As Dainton (2003a) asserts, empirical studies of relational maintenance tend to borrow or adapt theories that were developed for other relational processes. Research evidence has demonstrated that theories such as social exchange approaches and uncertainty reduction theory also have significant implications for understanding relational maintenance (e.g., Canary & Stafford, 1992; Dainton, 2003b).

Relational maintenance is an important component of interpersonal relationships. Between the initiation and termination of a relationship, partners must engage in behaviors that continue this relationship. Hendrick (2004) claims, “It is not enough for human beings to connect with one another; they must also maintain that connection” (p.120). Thus, relational maintenance has been a focus of relationship research in the last three decades (Dindia, 2003).

According to Dindia and Canary (1993), four definitions of relational maintenance emerge in previous literature. To maintain a relationship may mean “to keep a relationship in existence, to keep a relationship at a specific state or condition, to keep a relationship in satisfactory condition, and to keep a relationship in repair” (Dindia & Canary, 1993, p.163). Dindia (2003) argues that since the definition of relationship maintenance varies across studies, researchers need to explicitly state whether they are studying maintenance of the existence of the relationship or maintenance of certain qualities of the relationship, such as relational satisfaction. The definition adopted in this

research is the one offered by Stafford and Canary (1991): maintenance strategies serve to sustain “the nature of the relationship to the actor’s satisfaction” (p.220).

Relational Maintenance Strategies

All relationships require maintenance behaviors (Canary & Stafford, 1994).

Behaviors that help maintain a relationship at a satisfactory level can be strategic or routine (Dindia, 2003). Strategic behaviors refer to those that individuals enact with the conscious intention of maintaining the relationship (Canary & Safford, 1992). Routine behaviors, on the other hand, are those that people perform that serve to maintain a relationship more in the manner of a “byproduct.” Although scholars acknowledge that both types of maintenance behaviors may play a role in sustaining an existing relationship, most studies on romantic relationships and friendships still conceive of relational maintenance primarily as strategic behaviors (e.g., Dainton, 2003a; Guerrero, Eloy, & Wabnik, 1993; Oswald, Clark, & Kelly, 2004). As summarized by Canary Stafford, and Semic (2002), maintenance strategies help prevent relationships from decaying, sustain existing levels of relational intimacy, and uphold desirable relational features that are essential to close relationships.

Types of Relational Maintenance Strategies

Most previous research has focused on the bright side of relational maintenance, but literature also demonstrates that people may use undesirable behaviors to remain in a current relationship in the face of dissatisfaction or problems. Thus some scholars suggest that relational maintenance strategies may be divided into prosocial strategies and antisocial strategies (e.g., Nix, 1999; Stafford, 2003).

Prosocial maintenance strategies. Prosocial behaviors are those that provide positive experiences and express positive emotions and reassurance about the relationships. Most studies on relational maintenance examined exclusively prosocial maintenance behaviors because the ongoing use of these behaviors has been repeatedly identified as critical for relational well-being (e.g., Canary & Stafford, 2001; Canary Stafford, & Semic, 2002).

The bulk of research on relational maintenance has aimed to develop a repertoire of prosocial maintenance behaviors. Using responses from dating and married individuals, Stafford and Canary (1991) derived five relational maintenance strategies: positivity (being positive and cheerful), openness (open discussion about the relationship), assurances (emphasizing commitment and faithfulness), network (spending time with common friends and affiliations), and sharing tasks (performing instrumental activities). Stafford, Dainton, and Haas (2000) refined this typology of maintenance behaviors by developing a seven-factor measure. In addition to the original five strategies, they identified two additional maintenance strategies: advice, which refers to an individual's expression of opinion and support to the partner, and conflict management, which is defined as using integrative conflict management strategies, such as cooperating and apologizing.

Just recently, Oswald et al. (2004) developed a scale measuring strategic behaviors to maintain friendships. Friendship maintenance behaviors of positivity, supportiveness, openness, and interaction were identified as key factors. The friendship maintenance scale was developed and represented relational maintenance behaviors identified in previous measures but it was tailored specific to friendship relationships. These are

prosocial maintenance behaviors that have consistently emerged in the friendship maintenance literature (Dainton et al., 2003; Fehr, 1996).

Positivity implies “acting cheerful, being courteous and polite in conversation, and avoiding criticism of the partner” (Canary & Stafford, 1994, p. 11). These are the behaviors that can make friendship rewarding and enjoyable (Oswald et al., 2004). Fehr (1996) suggests that positivity is a reward strategy, a type of strategy that aims to keep up levels of rewards in a friendship. Remarks or activities characterized with mutual affection have high social reinforcement values and serve to maintain a relationship. Messman, Canary and Hause (2000) found that positivity is particularly useful for maintaining cross-sex friendships.

Supportiveness implies the provision of social support and includes such behaviors as providing comfort and helping solve problems (Oswald et al., 2004). According to Dainton et al. (2003), social support offers a central means by which friendships are maintained. Burleson and Samter (1994) also note that most young adults tend to perceive their close friends as a source of social support.

Openness involves self-disclosure and open discussion of life events (Oswald et al., 2004). Self-disclosure is often perceived as “what individuals verbally reveal about themselves to others” (Derlega, Metts, Petronio, & Margulis, 1993). The content of self-disclosure may include thoughts, feelings, and experience. Within Western Anglo-American communication paradigms, it is viewed as central to communication competence. The amount and depth of self-disclosure in a relationship is frequently used as a measure of intimacy.

Interaction is the fourth important factor in maintaining friendships. To maintain a relationship individuals must maintain communication (Dindia, 2003). Researchers have emphasized the need for ongoing interaction and shared activity in order to sustain a relationship. Hays (1988) asserts, "To continue to exist, a friendship requires ongoing interaction between the partners" (p.402). Similarly, Berndt (1986) argues that friends are expected to spend a lot of time with each other, and absence of interaction tends to be a basis for termination of a friendship. In his study of children's conception of friendship, Berndt found that over a six-month period, children who remained friends were more likely to comment on their frequent interaction than children whose friendships ended. In a study of middle-aged adult friendship, Rawlins (1994) also concludes that visitation and interpersonal contact afford the greatest chances for sustaining friendship.

Antisocial maintenance strategies. In contrast to the prevalent studies on prosocial maintenance behaviors, antisocial behaviors have received much less attention (Stafford, 2003). These behaviors usually violate social norms underlying the interpersonal interaction. Canary et al. (1993) found that when asked about relational maintenance behaviors, some people reported that "I am not completely honest with him or her" or "I act badly so she or he doesn't want to get closer."

Antisocial maintenance strategies are used to keep a relationship at a certain state. For example, antisocial strategies among friends may be used to keep the relationship from escalating to romantic relationships or closer friendships. In some cases, when the actor feels that he or she does not attain a desirable status in an interpersonal relationship, antisocial strategies, such as coercion, may also be used to restore interactional justice (Tedeschi & Bond, 2001). People may convey that they are tough and uncompromising

in bargaining settings when they want to discourage their relational partner from asking for too much (Pruitt & Smith, 1981). People may also employ certain deceitful behaviors for various purposes such as protecting themselves, avoiding rejection or conflict, manipulating others, or gaining favor, attention, or rewards (Saarni & Lewis, 1993).

To a limited extent, researchers have examined the antisocial strategies for maintaining a relationship. Contrary to the general agreement on the factors in prosocial maintenance strategies, little consensus has been reached with respect to what antisocial activities are mostly used for relationship maintenance. Identified antisocial strategies include avoidance, indifference, manipulation, and verbal aggressiveness (e.g., Canary, Stafford, Hause, & Wallace, 1993; Dainton & Stafford, 1993; Simon & Baxter, 1993).

In previous studies, antisocial maintenance behaviors often appear as a single strategy. Davis (1973) developed a typology of relational maintenance. As one of the superordinate categories, antisocial strategies include coercive attempts to change the partner in some way, such as fighting or threats, breaking contact, acting cold or rude. In Simon and Baxter's (1993) study on attachment-style differences in relationship maintenance strategies, antisocial strategies were treated as one factor of relational maintenance strategies and consisted of five items that represented a variety of antisocial strategies that parties could potentially use in exchanges with their partners. In a more recent study, Nix (1999) studied friendship maintenance strategies employed in the context of third party (a romantic partner) infiltration. Again, the antisocial strategies are treated as a single factor. However, due to the specific nature of that study, antisocial maintenance strategies included a variety of negative interpersonal strategies geared

toward sabotaging a friend's dating relationship and/or making it hard for the friend to spend enjoyable time with his/her partner.

Some researchers have realized that to put a wide range of behaviors under the same index, "antisocial strategy," may have limited profound understandings of personal and relational differences in maintaining relationships. Simon and Baxter (1993), for example, suggest that future research use the approach-withdrawal dimension of antisocial strategies. Some antisocial behaviors are oriented toward withdrawal, such as sulking and breaking contact; other antisocial behaviors are approach-based, such as initiating a fight or using ultimatums.

Although differences exist in opinions regarding types of antisocial strategies, it is consistently recognized that antisocial strategies may be effective in maintaining the friendship in a condition that an individual desires, but, in the long run, they may disrupt rather than enhance the friendship. For instance, Clark and Grote (1998) found that relationship costs such as negative behaviors imposed on the other, whether intentionally or unintentionally enacted, are negatively correlated with friendship satisfaction.

Cultural Factors in Relational Maintenance

Relational maintenance research has been primarily conducted in the U.S., thus it is not clear to what extent the findings may be generalized to other cultures (Yum & Canary, 2003). Studies on culture and interpersonal communication have consistently found that people in individualistic and collectivistic culture differ greatly in beliefs about friendships and relational interaction (e.g., Gudykunst & Nishida, 1983; Gudykunst & Ting-Toomey, 1988). As Korn (1993) states, despite the universal importance of

friendship, friendship patterns emerge as culturally specific. Cultural norms regulate and govern such relationships.

Individualism-collectivism distinction in interpersonal relationships. Cross-cultural scholars often employ the dimension of Hofstede's (1980) cultural value system as their theoretical framework to explain variations in communication behaviors. Hofstede created an individualism index to evaluate a culture's relative location on the individualism-collectivism dimension. The United States and some other Western countries are at the extreme of individualism, while most Asian countries (e.g., Pakistan, Indonesia, South Korea and China) show a strong collectivistic orientation (Lustig & Koester, 2003).

This dimension indicates that there are basic differences in cultural values (Hofstede, 1980). In collectivistic cultures people are interdependent within their in-groups (e.g., family, nation), giving priority to the goals of their in-groups. The self is defined in terms of in-groups and relationships. People are especially concerned with in-group harmony. Interpersonal patterns associated with these values embody use of implicit and indirect messages and heavy reliance on nonverbal and environment cues. On the other hand, in individualistic societies, people are autonomous and independent from their in-groups. They give priority to their personal goals over the goals of their in-groups, and interpersonal patterns associated with these values embody open expressiveness and interpersonal assertiveness (Trandis, 1995).

The distinctive differences in cultural values are often reflected in people's attitudes toward interpersonal relationships. When facing conflict situations, collectivists are primarily concerned with maintaining their relationship with others and regaining

harmony, whereas individualists are primarily concerned with achieving justice (Ohbuchi, Fukushima, & Tedeschi, 1999). Ting-Toomey (1995) argues that people in collectivistic cultures are more concerned with face-saving of themselves and others as compared to those in individualistic cultures. In addition, people in different cultures tend to have different perception of reciprocity in a relationship. In his cross-cultural study of three individualistic and two collectivist cultures, Ting-Toomey (1986) found that individualists saw returning a favor as a matter of free will, while the collectivists saw it as a moral obligation.

Cultural variation can also influence people's general communication styles. According to Hall (1976), people in individualistic cultures tend to cultivate a low-context style of communication where great emphasis is placed on verbal expression. Interactants are expected to be verbally explicit in conveying their messages. More talk implies better communication and a better relationship. In collectivistic cultures, people cultivate a high-context style of communication, where much of what is important to communicate is already well imbedded in the relationship of interactants and does not need to be expressed verbally. Information is implicit in the social and relational context. Interactants are expected to intuitively get what is meant by the other person without the other person having to say directly what she/he means to say. Research evidence has shown that assertiveness behavior, which is generally preferred in individualistic cultures, is perceived as socially inappropriate in many collectivistic cultures (e.g., Kim, Aune, Hunter, Kim, & Kim, 2001).

As a typical collectivistic culture (Gao, 2001), the Chinese culture stresses the interdependent self—as opposed to an independent self. The Chinese self needs to “be

recognized, defined, and completed by others” (Gao, 1996, p.84). Chinese conceptions of the self set boundaries for appropriate interactive behaviors in interpersonal relationships. As Yang (1981) notes, the importance of others in defining the self in the Chinese culture “represents a tendency for a person to act in accordance with external expectations or social norms, rather than with internal wishes or personal integrity, so that he (or she) would be able to protect his (or her) social self and function as an integral part of the social network” (p. 161).

Chinese communication styles. The conceptions of the Chinese self helps to shape Chinese communication styles and Chinese relational transactions (Gao & Ting-Toomey, 1998). Two prominent features of Chinese communication are *hanxu* and *mianzi* maintenance.

One important feature of Chinese communication is *hanxu*, which refers to “a mode of communication (both verbal and nonverbal) which is contained, reserved, implicit, and indirect” (Gao, 2001, p.283). The practice of *hanxu* is compatible with the conceptualization of self in a relational context. It is a means by which one can negotiate meanings with others in interpersonal relationships. This belief is reflected in many Chinese proverbs, such as “Talking a lot will lead to personal loss (yan dou bi shi),” and “mutual understanding lies in heart not in words (xin zhao bu xuan).” When there are things unsaid, there is more flexibility for relational advance or retreat.

Hanxu also implies constraining from expressing one's feelings, especially strong positive and negative ones, such as anger and joy. To a Chinese person, moderation in emotional expressions is essential to achieve one's internal balance. This implicitness applies to both verbal and nonverbal communication. It is rare to see a Chinese person

loudly expressing his/her happiness or jumping up and down when receiving good news. Concealing their strong feelings of anger, joy or sadness is a means by which Chinese avoid imposing their feelings on others and thereby maintain harmony of the existing relationships.

Although the belief of *hanxu* influences the Chinese communication styles in general, it is a principle most likely is applied in interactions with people outside the family, as reflected in the friendships and acquaintances. In the Chinese culture, a true friendship does not require open expressions of internal feelings; actions are more important than words. An interdependent relationship is cultivated and nurtured by means of mutual aid and mutual care (Gao, 1996).

Another important characteristic of the Chinese communication is *mianzi* (face-directed communication strategies). The notion of "face" has been extensively studied in Western cultures. According to Goffman (1967), face is related how individuals actively manage verbal interactions with each others so as to take into account personal needs of others and self. Research on face in the East, particularly among Chinese communities, has shown that it has special characteristics in a Chinese context. In Chinese culture, face can be classified into two types, *lian* and *mianzi*. *Lian* is associated with moral integrity and social conduct and implies the respect for a righteous person. The loss of *lian* makes it impossible for the individual to function properly within a community. *Mianzi*, on the other hand, refers to a reputation or status achieved through getting on in life (Hu, 1944). It concerns the projection and the claming of public image (Ting-Tommey, 1988). Not losing *lian* does not equate with gaining *mianzi*, because *mianzi* can only be achieved

through the recognition and respects from others (Bond, 1996). Thus, in China, the social practice of face-management is largely about saving, negotiating and maintaining *mianzi*.

Given the relational nature of self in Chinese interpersonal relationships, how face is negotiated and managed permeates every aspect of personal interactions. In personal interactions, individuals need to consider the needs of face-protection of both themselves and their relational partners. Face management is essential to maintain the existing relationships and preserving interpersonal harmony. Ting-Toomey (1988) has suggested that people in more individualistically oriented societies would be more concerned with maintaining their own face compared to those in collectivistic culture where individuals are concerned with mutual or other face. For instance, when trying to avoid conflict, Chinese in general will avoid causing another person to lose *mianzi* by bringing up embarrassing facts in public.

Both *hanxu* and *mianzi* contribute to our understanding of Chinese communication styles. These fundamental concepts of interpersonal relationships in the Chinese culture, along with cross-cultural research evidence regarding communication behaviors, have some implications for unique Chinese relational maintenance styles in face-to-face contexts.

Relational maintenance in China and other East-Asian cultures. Research pointing to cross-cultural differences in strategic maintenance has shown that the frequently used strategies for maintaining relationships in U.S. society are not readily applicable to East Asian countries.

One of the most frequently mentioned maintenance strategy listed in relational studies in the United States is openness, with self-disclosure as its crux (Fehr, 1996). Within

Western Anglo-American communication paradigms, it is often viewed as a central component of communication competence. However, it is not a favorable communication behavior in China and other collectivistic cultures. Personal self-disclosure is inconsistent with general Chinese communication styles as characterized by *hanxu* and *mianzi* protection. To be *hanxu*, individuals do not spell out everything in their relational communication, but leave the “unspoken” to the listeners (Gao, 1996). Overt communication may place them in an unmanageable situation and thus hurt their relationships. Moreover, exposure of intimate information may lead to critical comments and thus open up possibility of public loss of face. Cross-cultural investigations have demonstrated differences in openness in relational maintenance. Chen (1995) found that self-reported disclosure among Taiwanese was much lower than that among North Americans.

In addition to openness, people in collectivist cultures seem to be less likely to use other active prosocial communication behaviors for relational maintenance as well. Given the emphasis on implicit understandings of how other feel, Chinese are restrained from stating strong likes even if they are overwhelmed by somebody (Gao, 1998). While Westerners prize verbal assurance and validation, Chinese tend to feel uncomfortable and awkward to overly express caring, affection, and appreciation. Potter (1988) notes that Chinese rarely verbalize their emotional affection; instead, affection is often expressed through actions, such as helping each other.

Similar patterns were found in other Eastern Asian countries. Ting-Toomey (1991) examined relationship maintenance in three countries and found that Japanese scored lower on several measures of relationship maintenance, including self-disclosure,

assurance and expressing trust. Yum and Canary (1997) compared Koreans and Americans involved in a romantic relationship. The results showed that American participants reported the use of all five prosocial strategies significantly more than did their Korean counterparts. In another comparative study, Yum (2000) also found that Americans displayed constructive communication behaviors significantly more than did Koreans.

Even less research evidence exists on cross-cultural differences in the use of documented antisocial relational maintenance strategies. However, literature on Chinese communication styles may offer some relevant insights. Certain antisocial strategies such as coercion and criticism are inconsistent with the nonconfrontational way of life in Chinese culture. To Chinese, listening is more important than talking, because when people focus on listening, direct confrontation or argument can be avoided (Gao & Ting-Toomey, 1998). To “give others face” requires individuals not to argue or disagree overtly with others. When one is unavoidably involved in an argument with a friend, it would be difficult for them to remain friends. According to Bond (1991), argumentative and confrontational modes of communication are avoided among Chinese relational partners. The initiation of any dispute is considered an invitation to chaos, which can lead to the disruption of the harmonious fabric of personal relationships. Chinese tend to adopt an unassertive style of communication in interpersonal interactions. In order to protect face and to preserve interpersonal harmony, Chinese have learned to be strategically unassertive by articulating their intentions in an indirect manner and leaving room for future negotiations.

On the other hand, withdrawing-oriented relational behaviors may be easier for Chinese to perform, since it is a more indirect approach to conveying feelings and ideas. When Chinese are dissatisfied with a current relationship, they are more likely to use passive-withdrawing forms of criticism such as reducing contact or delaying response rather than directly talking about their negative emotions. Ting-Toomey et al. (1991) found that Mainland Chinese and Taiwanese reported a higher degree of avoiding styles of conflict management than did their American counterparts. To Chinese, actions will speak for themselves (*bu yan er yu*) (Gao & Ting-Toomey, 1998).

According to Yum (2000), culture is not the only factor that may influence the use of maintenance strategies; a number of relational and contextual variables may play a role as well. Thus, the following section reviews the links between relational experiences and use of maintenance strategies.

Relational Experiences and Use of Maintenance Strategies

A substantial amount of literature on interpersonal relational maintenance has shown that people's relational experiences are powerful in describing and predicting maintenance behaviors. Theories such as relational uncertainty theory and social exchange theory have attempted to link people's feeling about their current relationships with their use of strategic relational maintenance behaviors. The current study focuses on two aspects of relational experiences: relational uncertainty and relational equity.

Relational uncertainty. Recently, relational uncertainty has emerged as an explanatory mechanism for the maintenance process. This perspective is grounded in uncertainty reduction theory (Berger, 1987; Dainton, 2003b). In studies of established face-to-face relationships, relational uncertainty is more of concern than partner uncertainty. Rather

than experiencing general uncertainty about the other person and how to behave, individuals are likely to experience relational uncertainty, which can be defined as the degree of confidence people have in their perception of involvement within a relationship (Knobloch & Solomon, 1999). As Berger (1987) notes, uncertainty about the relationship may be particularly detrimental to relational stability since it involves whether or not people have confidence in the relationship.

Four distinct forms of relationship uncertainty have been identified, including behavioral norms uncertainty, mutuality uncertainty, definitional uncertainty, and future uncertainty (Knobloch & Solomon, 1999). Behavioral norms uncertainty refers to uncertainty over what are perceived as acceptable or unacceptable behaviors within a relationship. Mutuality uncertainty refers to uncertainty over the reciprocity of feelings between individuals involved in a relationship. Definitional uncertainty refers to uncertainty about the current status of the relationship. Finally, future uncertainty concerns uncertainty over the long-range outcomes of the relationship.

Relational uncertainty may be particularly salient for long-distance relationships. According to Rohlfsing (1995), one of the unique challenges for those in distance relationships is the difficulty assessing the degree and state of the relationship from a distance. The restricted communication and geographic separation lead partners to rely more on mediated communication, such as phone calls. In fact, physical separation alone may increase uncertainty about a relationship.

One way to manage uncertainty is through the use of relational maintenance behaviors. Studies have indicated that prosocial maintenance strategies may serve as a means to overcome uncertainty. Ficara and Mongeau (2000) used an uncertainty

reduction framework in the examination of maintenance in long-distance relationships and found that uncertainty is negatively associated with the use of assurances, openness, and positivity. Similarly, Dainton and Aylor (2001) reported negative relationships between uncertainty and all of the five of Stafford and Canary's (1992) maintenance strategies, including assurance, openness, assurance, social network, and sharing tasks.

Relational equity. Relational equity has emerged as another important explanatory mechanism for the relational maintenance process. Relational equity refers to the degree of similarity in inputs and outcomes for relational partners. Equity theory is often considered the most common theoretical approach used to explain friendship maintenance (Dainton et al., 2003). According to this theory, a balance of rewards and costs is necessary to continue a relationship over time. An equitable relationship is the one in which both partners perceive that their ratios of inputs to outputs are equal. There are two types of inequity: overbenefitedness and underbenefitedness. Individuals who receive more rewards relative to inputs as compared to their partner are said to be overbenefitted, while individuals who receive fewer rewards relative to inputs as compared to their partner are said to be underbenefited. Predictably, relational partners feel distressed when either type of perceived inequity persists over time and report lower level of relationship satisfaction (Canary & Stafford, 1994; Dainton, 2003b). Individuals are more motivated to maintain equitable as opposed to inequitable relationships (Dainton et al., 2003).

Research also indicates that maintenance behaviors are linked to equity. Findings have shown that underbenefited and overbenefited partners are generally less likely to perform prosocial maintenance behaviors than are individuals who perceive their relationship as

equitable (Canary & Stafford, 1992). Messman, Canary, and Hause (2000) studied motivations for maintaining cross-sex, platonic friendships and found that individuals in equitable relationships reported more positive and proactive maintenance behaviors than did those in either overbenefited or underbenefited relationships, with underbenefited individuals using the least maintenance strategies.

Although few studies on relational maintenance have thus far focused on antisocial maintenance activities in relation to equity, the literature suggests that inequity may be related to antisocial strategies. According to Sprecher (1986), inequity is associated with negative emotions such as anger, frustration, and guilt. These negative emotions are likely to make it difficult to enact prosocial acts such as being cheerful and apologizing (Dainton, 2003b). Thus it has been suggested that underbenefited individuals tend to feel dissatisfied and distressed and thus use more antisocial strategies, such as criticizing the partner or threatening to leave (Dainton, 2003b).

Friendship status. The degree to which individuals engage in maintenance behaviors depends on the status of the relationship. Hays (1989) found that close friends maintain more frequent interaction than casual friends. Close friends also provide greater emotional and informational support than casual friends. Rose and Serafica's (1986) study also reported that best friendships were described as more affectionate, engaged in more positive relationship maintenance behaviors, and were not as reliant on contact or proximity as close friendships. In a recent study, Oswald et al. (2004) found that as the friendship became higher in status, the frequency of prosocial maintenance behaviors such as supportiveness and openness increased.

Friendship status may also affect the use of antisocial maintenance strategies. For example, deception is more likely to be used in casual friendships than in close friendships. Depaulo and Kashy (1998) conducted two diary studies in which participants recorded their social interactions and lies for a week. The results showed that participants told fewer lies per social interaction to the people to whom they felt closer. Their interpretation was that because lying violates the openness and authenticity that people value in their close relationships, people tend to feel more uncomfortable lying to their close friends than their casual friends.

Computer-Mediated Communication

The Internet as a Social Medium

Undoubtedly, increased access to the Internet has greatly expanded people's informational and social capacity. As an interactive medium, it allows people to overcome great distances to communicate with others almost instantaneously (Bargh & McKenna, 2004). A recent Pew Internet & American Life Project study showed that the Internet supplements, rather than replaces, social interactions (2006a).

The nature of online communication may differ substantially from that of the interactions in face-to-face channels. Bargh and McKenna (2004) suggest that there are four novel aspects of online interactions. First, the Internet allows for greater anonymity. In the electronic realm, individuals can meet new people but choose not to reveal their personal information, such as name, age, appearance, and sex. Second, owing to the text-based nature of the typical online interaction, physical appearance is far less important than in face-to-face forms of communication. This feature allows people to meet others in the comfort of their own home without worrying about differential treatment because of

their physical characteristics. Third, physical distance is no longer a barrier for interaction. People who are geographically separated can maintain interaction on the Internet. With the Internet, people have also broader access to new friends. Finally, individuals have greater control over such traditional constraints as time and place. The line between work and home or day and night blur due to the ubiquity of the Internet.

The Internet provides fertile ground for people to meet others and start relationships (Rabby & Walther, 2003). On the Internet, people are exposed to tremendous opportunities to interact with new, funny, and like-minded individuals whom they would unlikely to meet under normal circumstances (Stritzke, Nguyen, & Durkin, 2004). In recent decades, online communities or social groups have been established for people to share experiences, advice, and support. Unlike traditional communities, virtual communities do not depend on physical closeness. These communities are “gathering points for people with common interests, beliefs, and ideas and are supported by a variety of CMC genres” (Barnes, 2003a, p.227). For example, fans of *Star Wars* can get together in an online fan group to share information and opinions.

The Internet also helps people who are physically disabled or socially anxious to expand their social networks. For example, on-line communication may enable socially reticent individuals to develop interpersonal skills because it reduces social pressure embedded in face-to-face interaction such as concerns about the judgment of others (Barnes, 2001). Morahan-Martin and Schumacher (2003) found that lonely individuals, who were more likely to be socially inhibited and anxious, were drawn online because of the increased potential for companionship, different social interaction patterns online, and the ability to modulate negative moods associated with loneliness.

Communication Dynamics in Online Friendships

Traditionally, physical exposure and co-presence are necessary elements in the process of friendship initiation in face-to-face context. As for online friendships, questions that frequently arise are how people get to know one another in an electronic setting and whether the mechanisms by which they do so affect their relationships in unusual ways (Rabby & Walther, 2003).

Earlier theories of CMC assumed that CMC would be less socially oriented and personal than face-to-face communication (Rabby & Walther, 2003). From the perspective of the cues-filtered-out approach, the use of a computer as a channel of communication eliminates important paralinguistic cues and other nonverbal behaviors that are often important regulators of intimacy. CMC is regarded as an extremely "lean" medium, compared to face-to-face interaction, which has multiple cues and a high degree of personalization (Valacich, Paranka, George, & Nunamaker, 1993). Without sufficient regulatory social cues, Internet-based interaction, therefore, tends to be impersonal.

Walther (1994, 1996) challenges these filtered-cues arguments and characterizes CMC as, in some cases, "hyperpersonal" rather than impersonal. His hyperpersonal model argues that the absence of nonverbal cues, as well as editing capabilities, identity cues and temporal characteristics may prompt CMC users to engage in selective self-presentation and partner idealization, enacting exchanges more intimate than those of face-to-face counterparts. According to Walther, CMC receivers may inflate the perceptions they form about their partners. Lacking social context and previous personal knowledge, people build stereotypical impressions based on meager information such as misspellings and typographical errors. The Internet context actually enables people to

present a favorable impression by accentuating some aspects and concealing other aspects of themselves. As senders, people can take advantage of the limitations of the medium to mask physical and behavioral cues and present a favorable impression by accentuating some desirable aspects of themselves. In addition to the selective self-presentation of the sender and idealization of impressions formed by the receivers, certain features of message management and coordination in asynchronous CMC can further lead to hyperpersonal communication (Walther & Tidwell, 2001). Asynchronous CMC refers to the interaction means, such as email and conferencing systems, that allow participants to plan, contemplate and edit their comments. The conversational relaxation that results from this type of communication provides the capacity to construct more socially desirable and effective messages.

In addition, higher level of perceived similarity may facilitate online friendships. Brehm (1992) argues that individuals are more attracted to someone they believe has attitudes similar to their own than to someone whose attitudes differ: the greater the proportion of shared attitudes, the greater the attraction to that person. According to Walther (1996), because many online communicators share a social categorization (e.g., online community members, people with shared interests), they will also perceive great similarity between themselves. Levine (2000) asserts that on the Internet, commonality is often presented in the fact that people “like the same chat room, message board, software or Internet service provider” (p.569).

Recent studies have provided support for the hyperpersonal model, suggesting that people can make connections, even close and intimate relationships, on the Internet. Henderson and Gilding (2004) interviewed 17 chat room users and found that majority of

the participants emphasized that distinctive characteristics of CMC presented opportunities that facilitated communication, self-disclosure, and risk-taking. These characteristics included limited cues, asynchronous communication, and lack of accountability. Some participants indicated that they were more likely to disclose online than in “real life” because online friends “supposedly” lived far away. In Parks and Floyd’s (1996) study of Internet newsgroups, nearly two thirds of participants reported that they had formed online personal relationships (e.g., acquaintances and friendships) with people whom they met in newsgroups. Similarly, McKenna, Green and Gleason’s (2002) studies suggested that real, deep, and meaningful relationships do form on the Internet and these online relationships are stable over time.

With the fast and constant diffusion of online communication technologies, more people from different cultural backgrounds have been able to communicate with each other directly. Most of CMC studies have been done either in America or in Western Europe, which are usually considered individualistic cultures. Much less similar research has been carried out to explore whether the findings can be applied to collectivistic cultures. The following section thus will focus on literature on culture and communication technology.

Links between Culture and CMC

CMC has been increasingly used by people from different cultures and cross-cultural encounters on the Internet are an everyday occurrence. Yet, the understanding of the interrelationships between culture and CMC is still largely based on two opposing assumptions and expectations (Hanna & Nooy, 2004).

One assumption is that the values shaping our discourse about CMC technologies may be culturally limited. Some scholars argue that cyberculture originates in a well-established social and cultural matrix and, therefore, the cultural differences still exist or even run deeper in CMC. Some studies support this assumption by having found that certain culture-related communication phenomena persist online. For instance, Gunawardena et al. (2002) interviewed participants representing six cultural groups in order to examine negotiation of “face” of in an online learning environment. The result indicated that cultural differences exist in presentation and negotiation of “face” on the Internet.

On the other hand, the opposing assumption is the Internet is a borderless world which reduces or removes cultural differences. This universality argument focuses on the fact that the communication technology has a world-wide reach and appears to be used in similar ways independent of cultural conventions. Anderson (1995) contends that cyberculture values are “speed, reach, openness, quick response” (p.13). Thus, on the Internet, certain communication practice is preferred over others. Ulijin and Verweij (2000) argue the Internet tends to facilitate explicit communication style regardless the cultural background of the communicators. Their contention is consistent with the findings of several empirical studies (e.g., Ma, 1996; Warschauer, 1996).

The debate on the links between culture and CMC is largely due to lack of research evidence. Most previous studies in this area tend to focus on one specific communication genre (e.g., distant learning discussion groups) or one particular online communication mode (e.g., email, discussion boards). Moreover, these studies tend to look exclusively at the practice in English in online environment. While their findings are helpful in our

understanding of online intercultural communication between and within selected populations, they cannot offer a large picture of the role of cultural values and communication preferences in the use of CMC technologies. As Amant (2002) suggests, researchers in both intercultural communication and in CMC need to adopt new research agendas to test culture-based communication models in CMC context.

A review of literature related to culture and the Internet shows few studies have linked online communication behaviors to relational factors. It is unclear to what extent cultural factors may influence the relational communication in Internet-based relationships, including communication behaviors used for sustaining an online friendship at a satisfactory status. The following section will outline the online relational maintenance strategies and their potential links to culture-based values and beliefs.

Relational Maintenance in Online Friendships

Types of Online Relational Maintenance Strategies

Although few studies have directly linked the concept of relational maintenance with online relational behaviors, research on CMC has identified many forms of online communication that are related to maintaining relationships developed on the Internet. As the hyperpersonal model suggests, the Internet gives people the ability to communicate in an intentional way that highlights intimacy. The unique features of CMC, such as absence of nonverbal and contextual cues, may not only promote communicative behaviors that help relationships persist, but also generate more antisocial behaviors. Parallel to the previous review of relational maintenance strategies in face-to-face contexts, the following discussion on maintenance strategies in online friendships will focus on prosocial and antisocial maintenance strategies.

Online prosocial strategies. Many types of prosocial behaviors are used by Internet users to develop and sustain their online friendships. Similar to the four key factors of friendship maintenance strategies highlighted in the scale developed by Oswald et al. (2004), the online prosocial relational maintenance strategies can be largely categorized as positivity, social support, openness, and interaction.

Positivity in cyberspace is often reflected by nice and cheerful verbal expressions. According to Mantovani (2001), on the Internet, people use various methods to show they like someone and are interested in continuing the relationship. For example, they may send nice complimentary messages to someone through email or use a multimedia device to send virtual flowers. In addition, to present their cheerful expression, people may skillfully use emoticons, ASCII glyphs designed to show an emotional state in plain text messages. Emoticons are seen by online friends as helpful in expressing socioemotional contents. The use of emoticons may enhance desired relational characteristics of online friendships (Riva, 2001).

Online social support is a second critical strategy for maintaining Internet-based friendship. On the Internet, many friendships start by sharing social support in online groups. Internet social groups have greatly increased the possibility for individuals to communicate with others about their common interests and concerns. An investigation of online mutual-help groups suggested that participants in these groups communicate in ways that resemble face-to-face groups, such as high levels of support, acceptance, and positive feelings, but they tend to engage in more emotional support and self-disclosure (Salem, Bogat, & Reid, 1997). By exchanging social support, members of the group develop and maintain deep and genuine friendships (Wellman & Wortley, 1990). These

friends are willing to listen to the concerns of each other and be supportive of each other's needs. People often report that they obtain emotional and informational support from their online friends in face of various life hardships (Rheingold, 1993). For instance, Gross, Juvonen and Gable (2002) found that among adolescents who made new friends on the Internet giving and receiving social support was an important component in their online social interaction.

Openness represented by self-disclosure is frequently identified as a key to the success of online relationships. Parks and Floyd (1996) found that self-disclosure is an important component of online friendships. Generally, participants agreed with the statements "I usually tell this person exactly how I feel" and "I have told this person things about myself that he or she could not get from any other source." In 1998, Parks and Roberts conducted an online survey to explore relational topography in real-time text-based virtual environments known as MOOs. Their findings confirmed the report in Parks and Floyd's (1996) newsgroup study. There was no significant difference between online relationships and offline counterparts in dimensions of relationship development. MOO relationships were characterized as intense and involving high rates of self-disclosure. McKenna and her colleagues (2002) found that those who were willing to express more facets of the self on the Internet were more likely to form strong attachment to the people they met online.

Interaction is another important relationship maintenance strategy in online friendships. Online friends use their favorite Internet communication tools regularly to maintain their interaction (Levine, 2000). Through virtual conversations they can achieve understanding of each other and maximize the potential for attraction. Many new features

of the CMC environment facilitate people's ability to keep in touch. For example, the insertion of "buddy lists" in the Instant Messenger allows people to know whether their friends are online, making it much easier to keep in touch (Mantovani, 2001). As Wellman and Gulia (1999) argue, even though most relationships formed through the Internet are specialized weak ties, strong ties do emerge online. These ties are strengthened through frequent companionable contacts. Interaction is also reflected through joint online activities. Internet friends play online games together, participate in the same discussion groups, collaborate in building blogs, or celebrate significant events online (Barnes, 2003). People engaged in cyber romance may link their homepages with each other's or even offer a joint homepage (Döring, 2002).

Online antisocial strategies. While prosocial behaviors in online friendships are important in studying the social life on the Internet, antisocial behaviors online also deserve research attention. The lack of nonverbal and social cues helps people to use antisocial tactics to obtain rewards from an online relationship (Barnes, 2003a). Thus, CMC has been reported to be associated with a number of antisocial behaviors.

Deception is very common in Internet relationships (Bowker & Tuffin, 2003; Whitty, 2002). According to Miller (1983) deceptive communication is defined as "message distortion resulting from deliberate falsification or omission of information by a communicator with the intent of stimulating in another, or others, a belief that the communicator himself or herself does not believe" (pp. 92-93). The elimination of physical appearance and gestures makes it much easier to create a false image of self on the Internet than in a face-to-face situation. As a joking saying goes, "On the Internet, nobody knows you are a dog." Also, people can make up screen names and write false

descriptions of themselves. The Internet context actually enables people to present a favorable impression by accentuating some aspects and concealing other aspects of themselves (Walther, 1996). Eventually, people can use deceptive communication to manipulate their online relational partners and achieve their relational goals.

Another recognized antisocial behavior on the Internet is flaming. According to Thompsen and Ahn (1992), flaming is composed of CMC behaviors that are interpreted as inappropriately hostile. These behaviors are often characterized by coercion, criticism, and aggressiveness. Many users of news groups and chat rooms have some experience of flamewars, which consist of insulting messages and hot retorts (McKenna, 1998; McLaughlin, Osborne, & Smith, 1995). Although studies have suggested that flaming is one aspect of the dark side of the CMC interaction in online communities, the verbal aggression in an online interpersonal relationship may also hurt the feeling of the partner and jeopardize the stability of the relationship (Riva, 2001).

The Internet environment also makes it easier to perform withdrawal-orientated antisocial behaviors. In addition to being verbally cold to their online friends, people can simply log off from a chat room, ignore an email, or delay replying to an email. These strategies allow people to intentionally arrange the social distance they have with their friends. For instance, Poster (1996) argues that time lags in email response gives the sender time to think, enhances power of reasoning, and increases autonomy.

How are Cultural Values Related to Online Friendship Maintenance?

Studies on online relational communication are largely western-based. Given the fundamental differences between Chinese societies and Western societies, culturally-comparative research is necessary to examine online friendship maintenance.

Based on the two assumptions about the links between culture and CMC, there are two contrasting propositions. First, if the assumption that cultural differences persist regardless of online or offline holds true, we may speculate that cultural factors still affect people's communication styles and attitude in cyberspace in a similar way. If so, Chinese Internet users will be less frequently engaged in online relational maintenance behaviors in both online and offline friendships than American Internet users.

On the other hand, if the assumption that the Internet erases the mark of culture is correct, we would expect minimized or even no cultural differences in online maintenance strategies. In fact, researchers have found that hyperpersonal communication environment provides people conditions that encourage anti-normative behavior (Kiesler, Siegal & McGire, 1984). When communicating online, people may experience reduced self-regulation and self-awareness. The great concerns for Chinese in revealing their feeling and opinions, such as the negative perception of their identity and bad consequences for future relationships, may be considerably lessened because of the unique features of CMC— anonymity, flexibility to leave, possibility to create an alternative personae. Anecdotal evidence has shown one important attraction of making online friends to many Chinese is that they do not have to follow traditional norm and bear the real-life social pressure when interacting with them (Dong, 2004).

In addition, when a relationship is exclusively maintained online, verbal communication becomes critical. Since visual and audio cues are very limited in online context, an individual has to rely on written communication to convey relational information (Barnes, 2003a). Chan and Cheng (2004) argue that relationships developed through the Internet may be less likely to be subject to the cultural influences reported in

the literature, as these cultural differences are predominantly manifested in offline interaction. However, they also recognize that it is just a speculation that needs to be tested through cross-cultural studies.

Studies have shown that the friendship status (i.e., close vs casual friendships) may mediate the effect of culture on interpersonal interaction. Some relational maintenance behaviors, such as openness, may be subject to the current friendship status. For instance, regarding Chinese friendship styles, Gao (1991) claims, “You need to be an intimate friend before a Chinese will open up and tell you embedded stories” (Gao, 1991, p.103). In previous studies, the friendship status was often operationalized as casual friends and close friends (e.g., Hays, 1989; Oswald et al., 2004). For the purpose of equivalent comparison of online and offline friendships, this study will also adopt this operationalization.

Based on the above literature, the following research questions are proposed:

RQ1: Will people use relational maintenance strategies differently in online friendships and offline friendships at each level of friendship status?

RQ2a: Will the Chinese and the Americans differ in using relational maintenance strategies in offline friendships at each level of friendship status?

2b: Will the Chinese and the Americans differ in using relational maintenance strategies in online friendships at each level of friendship status?

RQ3: Will the cultural differences in relational maintenance strategies be greater for offline settings than for online settings?

Relational Experiences

According to Baym (2001), “One of the wonderful things about CMC is that it gives an opportunity to rethink theories of communication” (p.68). CMC is a relatively young area, thus it is hard to make confident claims about whether interpersonal theories will hold true or not for online relationships. Some studies on online relationships have suggested that relationships formed in cyberspace do not seem to differ radically from those formed face-to-face (e.g., Chan & Cheng, 2004; Ribarsky & Hinck, 2000; Wellman & Gulia, 1999). For example, Ribarsky and Hinck (2000) found that Internet relationships also go through a step-by-step process in which each stage results in an increase in attachment. Furthermore, online relational interactions are also subject to certain relational features, such as commitment and understanding (e.g., Bakardjieva, 2003; Park & Floyd, 1996). On the other hand, some scholars stressed that we cannot ignore the subtle differences between communicative behaviors in online and offline relationships. For instance, Chan and Cheng (2004) found that the development of both online and offline friendships supports Knapp’s (1984) model of five stages of relationship development, but that reported friendship qualities for each type of friendship differed significantly.

The research of face-to-face relational maintenance has indicated that relational experience, including relational uncertainty and relational equity, may shed light on the use of prosocial and antisocial maintenance strategies. These relational experiences are also frequently reported in studies on CMC relationships. However, few efforts have been made to link them with maintenance behaviors.

Partner and relational uncertainty. Uncertainty about the relational partner is often ignored in face-to-face relational maintenance studies because of the assumption that after the initial phases of interaction various verbal expressions and nonverbal cues have enabled individuals involved in a relationship to establish predictability and certainty. However, this assumption is not necessarily true for Internet-based relationships. Parks and Floyd (1996) found that even though most participants in the survey reported making friendships online, the perception of predictability and understanding of the online partner fell slightly below the theoretic midpoint.

First, limited nonverbal cues do not allow people to actually observe an online individual's behaviors and reactions. On the Internet, where it is more difficult and time consuming to learn how people think about multiple issues compared to face-to-face contexts, the law of attraction may cause many "false starts" in friendship. In an online context, people may have to take a longer period of time to form impressions (Walther, 1993) and develop relational trust and intimacy with their partners (Walther & Burgoon, 1992).

Second, CMC can make understanding the other difficult because people who present themselves on the Internet are not always who and what they seem to be (Barnes, 2003a). The Internet has been described as a playground where people can try on different personalities (Rheingold, 1993). As Turkle (1995) notes, the Internet allows the exploration of alternative identities.

The two reasons given above can also be used to explain the relational uncertainty present in online friendships. As noted before, relational uncertainty focuses on perception of involvement within a relationship. According to Ben-Ze'ev (2003), online

relationships may involve some imaginary elements, “as they lack some fundamental characteristics of face-to-face relationships” (p.457). Internet-based friends often have different opinions regarding such relational issues as whether they are just casual friends or close friends, or whether they need to go offline and meet each other (Barnes, 2003b). In addition, the uncertainty about whether an online friendship is sincere also bothers many individuals involved in such relationships. In some extreme cases, people who believe that they have known their online friends well enough to meet in person may still experience some devastating betrayals (Henderson & Gilding, 2004).

Some evidence has demonstrates the role of prosocial maintenance strategies in keeping quality of online relationships. For example, openness may be particularly useful for reducing uncertainty in online relationships (Tidwell & Walther, 2002). Although findings with respect to the associations between relational experiences (partner/relational uncertainty and relational equity) and maintenance behaviors in online friendships are very limited in previous literature, one can speculate that the relationships between variables are approximately the same as in face-to-face relationships. Thus, the following hypotheses are advanced:

- H1a: Partner uncertainty will be negatively associated with use of prosocial maintenance strategies across Chinese and American Internet users.
- H1b: Partner uncertainty will be positively associated with use of antisocial maintenance strategies across Chinese and American Internet users.
- H2a: Relational uncertainty will be negatively associated with use of prosocial maintenance strategies across Chinese and American Internet users.
- H2b: Relational uncertainty will be positively associated with use of antisocial

maintenance strategies across Chinese and American Internet users.

Relational equity. Building successful relationships using CMC requires reciprocity, which is based on equity theory (Barnes, 2003a). In an online relationship, individuals attempt to maintain a balance of rewards to costs. Equity theory is very useful in interpreting reciprocal online interaction. Individuals engaging in various online activities such as exchanging emails or participating in a chat room must perceive that they receive a benefit from the interaction in order for them to continue. On the Internet, relational partners look for an equal amount of exchange (Levine, 2000). People tend to judge by who sends more emails, how long each email is, how often and how quickly one responds to instant messages, etc. If an individual cannot perceive a benefit from online interaction, he or she may lose motivation to exchange e-mails, participate in discussion lists, or engage in other online activities. In some other cases, an underbenefitted individual may use coercive behaviors to regain a balanced relationship.

H3a: People in an underbenefitted online friendship will less frequently use prosocial maintenance strategies than people in an equal or overbenefitted online friendship across Chinese and American Internet users.

H3b: People in an underbenefitted online friendship will more frequently use antisocial maintenance strategies than people in an equal or overbenefitted online friendship across Chinese and American Internet users.

Channel-Related Factors

While building successful relationships using CMC can follow a pattern that is similar to building face-to-face relationships (Barnes, 2003), Internet-based friendships differ from face-to-face friendships due to the uniqueness of CMC features. In addition to

relational features, channel-related factors, especially the perception of the Internet and the use of online communication channels, may also affect an individual's communication behaviors in an online friendship (Hardy, 2002; Rabby & Walther, 2003).

Perception of the Internet. In the investigation of relational aspects of CMC, perception of the interactive channel is often reflected by the amount of social presence that an individual perceives the Internet possesses. Social presence is a dynamic variable. Social presence is defined as the degree of awareness of another person in an interaction and the consequent appreciation of an interpersonal relationship (Rice, 1993). The degree of social presence is based upon the characteristics of the medium and the user's perception. According to Short, Williams, and Christie (1976), social presence is the most important perception that occurs in social context and is an important key to understanding person-to-person telecommunication.

Traditionally, social presence studies focused on how characteristics of a mediated environment affected the degree of person-to-person awareness. Social presence can be projected best when the verbal and nonverbal cues are available and the context is clearly communicated (Rice, 1993). By such criteria, mediated communication formats would be judged low on social presence (Lindlif & Shatzer, 1998). Sproull and Kiesler (1986) compared communication in different channels and found that the lack of social contextual cues in mediated communication to define the nature of a social situation led to uninhibited communication such as hostile and intense language (i.e., flaming), greater self-absorption, and a resistance to defer speaking turns to higher-status participants. Based on their argument, a genuine relationship cannot be established over a computer

due to lack of social context cues like facial expressions, postures, dress, social status indicators and vocal cues (Sproull & Kiesler, 1991).

More recently, researchers placed more attention on an individual's perception of the degree of social presence in an interaction. Walther (1992) argues that social presence theory is not sufficiently defined; rather than being a defining attribute of a medium, social presence is likely a subjective perception of a medium's characteristics and capabilities. Thus, social presence should be considered a subjective quality that depends upon the objective quality of the medium.

Perceived social presence is a strong predictor for satisfaction with CMC environment (Tu, 2002). Perception of social presence is associated with interpersonal uses of the Internet. Garramone, Harris, and Anderson (1986) examined political computer bulletin board systems and found that social presence related positively to personal identity satisfaction which included expressing one's own opinion, knowing others' opinions, and interacting with others. Ma (2003) also found that when the Internet was perceived as a social medium, people were more willing to be open about their personal feelings. Their disclosure tended to be more intimate and honest. Thus, social presence is a key element in establishing and maintaining personal, close and well-adjusted online friendships.

When perception of social presence is higher, people are more likely to use CMC for social interaction and engage in prosocial behaviors. On the other hand, the low perceived social presence may lead to depersonalized communication characterized with less friendly and emotional content (Rice & Love, 1987), causing users to engage in more antisocial behaviors. Thus, the following hypotheses are posed:

H4a: Perceived social presence of the Internet will be positively associated

with use of prosocial maintenance strategies across Chinese and American Internet users.

H4b. Perceived social presence of the Internet will be negatively associated with use of antisocial maintenance strategies across Chinese and American Internet users.

Anticipation of face-to-face interactions. In interpersonal communication research, researchers have long found that the commitment to future interaction may have significant effects on the communication behaviors (Kiesler, Kiesler, & Pallak, 1969). Specifically, when people know that they will engage in more interaction in the future, they may suppress certain behaviors for fear of being evaluated negatively.

In online friendships, in addition to maintaining ongoing communication in cyberspace, commitment to future interaction has a deeper meaning – anticipation of face-to-face encounters (Rabby & Walther, 2003). As Parks and Floyd (1996) claim, although the expansion in the number of interaction contexts is typical of the relational development process in general, it is particularly noteworthy in relationships formed on the Internet. First, anticipation of face-to-face meetings often suggests an expectation of a relationship escalation. Those who believed that their online friendships to be ongoing and possibly lead to future face-to-face interaction are more motivated to maintain their friendships.

Adding face-to-face meetings in the interaction with online friends also indicates that people “give up the safety and control of the interaction afforded by the Internet for the greater physical reality and intimacy—but greater risk and lower personal control—of the real world” (McKenna et al., 2002, p.19). Ribarsky and Hinck (2001) call face-to-face

meeting as “test of the validity of the relationship formed online” (p.26). When antisocial behaviors are frequently present in online interaction, communication via offline channels would be particularly intimidating. As an Internet user revealed in Henderson and Gilding’s (2004) study, she felt unable to meet her online friend in a the real world because she had worked too hard to at impressing him by providing fake personal information. As she reflected, “Online, my hair got blonder, my eyes greener, and my waist smaller. Not a lot different, but different enough. Eventually, I couldn’t meet him, because then he’d just think I was a liar” (p.496). Thus, it has been suggested that when there is an expectation of future interaction between online friends, particularly face-to-face meetings, antisocial behaviors are less likely (Chester & Gwynne, 1998).

Based on the reviews above, it is speculated that in any given culture when individuals anticipate to meet their online friends face to face, they are less likely to use antisocial maintenance strategies but more likely to use prosocial maintenance strategies. Thus, the following hypothesis was posed:

H5a: Anticipation of a face-to-face meeting with the online friend will be positively associated with use of prosocial maintenance strategies across Chinese and American Internet users.

H5b: Anticipation of a face-to-face meeting with the online friend will be negatively associated with use of antisocial maintenance strategies across Chinese and American Internet users.

Chapter Three

Method

The methodology section is organized as follows: overview of methodology, the pilot study, and the sample and procedure for data collection of the main study, instrumentation, instrument translation and back-translation, and data analyses.

Overview of Methodology

The current study included two studies: a pilot study and a main study. A pilot study was utilized to improve the measure of antisocial online friendship maintenance strategies. As has been noted, few studies have systematically examined antisocial maintenance strategies. In order to measure this variable, a scale was composed with items derived from questionnaires used in several studies (e.g., Davis, 1973; Simon and Baxter, 1993). This scale was tested via a pilot study.

The main study used cross-sectional surveys available to the participants via the Internet. According to Babbie (1995), survey methods are particularly appropriate when the constructs have been operationally defined and are measurable and when one is measuring attitudes, impressions, or beliefs in a large population. Therefore, survey methods are effective for the current study. Instead of using traditional paper-and-pencil questionnaires, this study used the format of online survey due to the following reasons. First, the Internet provides the researcher the access to unique populations that would be hard to reach through other channels. This feature was very important for cross-national surveys targeted at Internet users. Second, online data collection is inexpensive. The researcher designed the survey website using the web space assigned by the university. The cost of the survey was virtually none. Third, the online survey allows the researcher

to reach people with certain common characteristics in a short amount of time, despite great geographic distances (Wright, 2005).

Pilot Study

A total of 51 undergraduates were recruited from five introductory communication classes at a large, diverse university in the southeastern United States. All students had an online friendship that was exclusively maintained via the Internet. The consent form of the pilot study appears in Appendix A. Twenty-six of the participants identified themselves as White/Caucasian, 18 as Black/African American, 7 as Asian/Pacific Islander. They ranged in age from 19 to 34 years old, with a mean age of 21.3 years.

The participants completed a draft version of antisocial online relational maintenance strategies composed based on several measures used in previous studies (The pilot study questionnaire is enclosed in Appendix B). This scale consisted of 12 items. Participants read the following, "How often do you [scale item followed]." The responses were measured on a 7-point Likert scale (1=never to 7=frequently). There were also open-ended questions that asked the participants to highlight any questions they had and note items that they found confusing.

A principal axis factor analysis with oblique rotation revealed three factors, but two items ("act unfriendly to him/her" and "act impolitely to him/her") loaded heavily on all three factors. Since these two items were also consistently noted as confusing and vague, they were deleted from the scale. All other factor loadings exceeded .55, and there were no cross loadings over .20. Four items were averaged to form the coercion/criticism scale ("initiate a fight or argument with him/her;" "force him/her to accept your idea;" "act in a stubborn way, refusing to give in or comprise when you disagree;" and "blame him/her

for bad things that happen,” $\alpha=.84$). Three items were averaged to form the deception scale (“lie about your personal information to him/her;” “create false impression of yourself;” and “purposely tell him/her something that is not actually true;” $\alpha=.93$).

Three items were averaged to form withdrawal scale (“break off contact with him/her for a while when this friendship is having a problem;” “purposely delay responding to his/her messages;” and “give him/her ‘the silent treatment’,” $\alpha=.78$).

Table 1. Scale Items and Factor Loadings for Antisocial Maintenance Strategies.

Scale Item	Factor Loading
Coercion/Criticism	
Initiate an argument with him/her	.84
Force him/her to accept your ideas	.75
Act in a stubborn way, refusing to give in or compromise when you disagree	.72
Blame him/her for bad things that happen	.66
Withdrawal	
Break off contact with him/her for a while when this friendship is having a problem.	.88
Purposely delay responding to his/her messages.	.72
Give him/her silent treatment	.65
Deception	
Lie about your personal information to him/her.	.74
Create a false impression of yourself.	.72
Purposely tell him/her something that is not actually true.	.67

Main Study

The main study focused on two national groups, Americans and Chinese. The target population for this study was limited to users of online communities in each country.

According to the research findings by Ridings and Gefen (2004), a main reason for people to join virtual communities was to make new friends, next only to information exchange. Online groups have been used for sampling in many previous online

relationship studies (e.g., Chan & Cheng, 2004; Henderson & Gilding, 2004; McKenna, 1998; Park & Floyd, 1996).

Recruiting and Procedure

In the current study, American participants were recruited from Yahoo American regional newsgroups. The most populous online local group in each state was chosen, making a total of 50 newsgroups. Similarly, Chinese participants were recruited from bulletin boards (BBS) developed on a widely used Chinese website Baidu¹. Fifty-seven regional BBS were selected for the study. These online groups covered four centrally administrative municipalities, two special administrative regions, five autonomous regions, and two major cities in each of the twenty-three provinces. If the group was open to the public, the researcher posted the recruiting message on these online groups. If the group was open only to its members, the researcher first contacted its moderator for an approval before posting the recruiting message. After reading the message, if an individual was interested in the study, he or she could click the provided link and go to a page with a consent form ((The consent form is enclosed in Appendix C). Those who agreed to participate in the study needed to click “I accept,” which then led them to an online survey. The recruiting process lasted for one month for each national group.

The participants were told in both the recruiting message and the consent form that only those who had an online friendship that was initiated and exclusively maintained on the Internet were qualified for participating in the survey. That is, their interaction with the online friends should take place solely in virtual settings. Each participant needed to think of an online friendship and an offline “real-life” friendship which was initiated and developed primarily in offline settings. The criterion was that these two relationships had

to be of the same status (e.g., if he/she chose a casual online friend, he/she should choose a real-life casual friend). The participants finished the online survey written in their native language. The questionnaire appears in Appendix D.

Sample

A total of 270 participants were recruited for this study. Those who identified a nationality other than American or Chinese were excluded from this study. Of the participants, there were 134 Americans (90 females, 42 males, 2 unclassified) and 136 Chinese (54 females, 75 males, 7 unclassified). The average age of Americans was 32.61 years ($SD = 12.25$), ranging from 18 to 68 years old; the average age of Chinese was 27.65 years ($SD = 8.24$), ranging from 18 to 53 years old. On average, Americans had used the Internet for 8.95 years ($SD = 4.01$), while Chinese had used the Internet for 4.99 years ($SD = 2.62$).

Translation

In cross-cultural studies, the instrument translation needs to be loyal to the original context of the source instrument, and it should also reflect a cultural understanding of the target language (Bracken & Barona, 1991). The most common applied translation technique is the back-translation technique. The advantage of this technique is that it offers the opportunity for revisions to enhance the reliability and accuracy of the translated instrument (Bracken & Barona, 1991; Geisinger, 1994). Therefore, the back-translation technique was used to obtain consistency by comparing instruments of the Chinese and English versions.

The questionnaire was written in English and then translated and back translated into Chinese. A translator first translated the questionnaire into Chinese. Then, this translation

was given to the second bilingual translator who translated it back into English. The original questionnaire was compared with the English translation and discrepancies were noted. The translators then examined the original and the translation to identify where the problems were that can cause the differences between the original and the back-translation. The translation was revised to solve the identified problems.

Measurement

Individualism-collectivism value. A short version of Schwartz's (see Schwarz & Bilsky, 1987) value items created by Chan (1994) was used to assess individualism-collectivism value orientation. Participants were asked to judge these value items on the extent to which they constituted a guiding principle in their lives on a scale ranging from not at all important to very important. Six items measured collectivist value [e.g., "obedience (fulfilling duties, meeting obligations)"], and seven items measured individualist value [e.g., "freedom (freedom of action and thought)"]. In the present study, Cronbach's alpha values for the scale were as follows: individualism, .73 for Chinese and .79 for Americans; collectivism, .71 for Chinese and .79 for Americans.

Strategic maintenance behaviors for the online friendship. Online strategic maintenance behaviors were categorized into prosocial maintenance behaviors and antisocial maintenance behaviors. Prosocial strategic maintenance behaviors were measured with 16-item scale adapted from the instrument developed by Oswald, Clark, and Kelly (2004). In this measure, four subscales operationalized the four prosocial maintenance strategies: positivity (e.g., "try to be upbeat and cheerful when together"), openness (e.g., "share your private thoughts with each other"), supportiveness (e.g., "try to make him/her 'feel good' about who she/he is"), and interaction (e.g., "celebrate

special occasions together”). Participants read the following “How often do you [scale item followed]. The responses were measured on a 7-point Likert scale (1=never to 7=frequently). In the present study, Cronbach’s alphas were as follows: positivity, .68 for Chinese and .70 for Americans; supportiveness, .68 and .80; openness², .72 and .76; and interaction, .70 and .81.

Antisocial strategic maintenance behaviors were measured with a 10-item scale. The scale was adapted primarily from the antisocial maintenance behavior measures developed by Simon and Baxter (1993) and by Davis (1973). Based on the result of pilot study, some items were revised. Three subscales operationalized three antisocial maintenance strategies: coercion/criticism (e.g., “initiate a fight or argument with him/her”), deception (e.g., “lie about my personal information to him/her”), and withdrawal (e.g., “break off contact with him/her when you are having a problem”). Participants read the following, “How often do you [scale item followed].” The responses were measured on a 7-point Likert scale (1=never to 7=frequently). Cronbach’s alphas of subscales in the current study were as follows: coercion/criticism, .71 for Chinese and .71 for Americans; deception, .80 and .73; and withdrawal, .75 and .68.

Online partner uncertainty. Uncertainty about the online friend is measured with a 5-item scale taken from Parks and Floyd’s (1996) levels of development in online relationship scale. The scale was developed to evaluate the level of perceived predictability and understanding of the partner in an online relationship. Sample items included “I am very uncertain about what this person is really like” and “I can usually tell what this person is feeling inside.” Participants rated the extent to which they agreed with

these statements using a 7-point Likert scale (1=strongly disagree to 7= strongly agree). The scores of the responses to three of the items were first reversed so that higher scores indicated more uncertainty. Then the reliability of the scale was calculated for each national group. Cronbach's alpha was .73 for Chinese and .83 for American.

Online relational uncertainty. Relational uncertainty about the online friendship was assessed with a measure adapted from a scale developed by Knobloch and Solomon (1999). In this measure, four 4-item subscales representing behavioral norms uncertainty (e.g., "What you can or cannot say to each other"), mutuality uncertainty (e.g., "Whether or not you and your partner feel the same way about each other"), future uncertainty (e.g., "Whether or not your friendship will last"), and definitional uncertainty (e.g., "How you and your partner would describe this relationship"). The responses were measured on a 7-point Likert scale (1=completely or almost completely uncertain to 7=completely or almost completely certain). The scores of the responses to all of the items were first reversed so that higher scores indicated more uncertainty. Then the reliability of the subscales was calculated for each national group. Cronbach's alphas of subscales in the current study were as follows: behavioral norms uncertainty, .73 for Chinese and .79 for Americans; mutuality uncertainty, .81 and .88; future uncertainty, .72 and .86; and definitional uncertainty, .75 and .77.

Online relational equity. Following the procedure of Canary and Stanford (2001) and Dainton (2003b), two single-item equity indexes will be used: Hatfield, Utne, and Traupmann's (1979) global equity measure and Sprecher's (1986) equity measure. According to Sprecher, the two measures focus on different sorts of resources and they should be combined in order to provide a more reliable and precise measure of equity.

Hatfield et al.'s measure reads: "How much you and your partner put into this relationship and how much you and your partner get out of it." The response was measured on a 7-point Likert scale (1= "I am getting a much better deal than my partner" to 7= "My partner is getting a much better deal"). Sprecher's (1986) measure states, "Consider all the times when your friendship has become unbalanced and one partner has contributed more for a time. When this happens, who is more likely to contribute more?" The response was measured on a 7-point Likert scale (1= "My partner is much more likely to be the one to contribute more" to 7= "I am much more likely to be the one to contribute more.").

Equity types were calculated by adding scores on the two items. The total scores of the combined equity measures range from 2 to 14. For this study, equitable friendships were categorized as relationships having a combined score from 7 to 9. Equity scores ranging from 2 to 6 were classified as overbenefited. Equity totals ranging from 10 to 14 were classified as underbenefited. Many studies have used this method to categorize participants into overbenefited, equitable, or underbenefited (e.g., Dainton, 2003b; Vogl-Bauer, Kalbfleisch, & Beatty, 1999). Cronbach's alphas of this measure in the current study were .73 for Chinese and .74 for American.

Strategic maintenance behaviors for the offline friendship. The basic content and format of the instrument for measuring relational maintenance for the offline friendship were similar to those of the instrument for measuring relational maintenance for the online friendship. Some wordings of the items, however, were adjusted to fit the face-to-face context. In the present study, Cronbach's alphas were as follows: positivity, .70 for

Chinese and .70 for Americans; supportiveness, .79 and .85; openness, .69 and .72; and interaction, .77 and .82.

Perception of social presence. To assess the perception of social presence, participants were asked how they perceived the Internet in terms of sociability, personalization, sensitivity, warmth, and activity, using a 7-point Likert scale (1 = Not at all to 7= very much). Cronbach's alpha was .80 for Chinese and .81 for American.

Anticipation of a face-to-face meeting with the online friend. The participants rated the degree to which they planned to meet their online friends in person, using a 7-point Likert scale (1 = definitely will not to 7= definitely will).

Statistical Analyses

Descriptive statistics were first performed with SPSS version 12.0. The descriptive data analyses examined the demographic makeup of the sample in terms of age, gender, years of Internet experience, number of online friends. In addition, means and standard deviations on the research instruments were calculated for the entire sample by nationality. These descriptive statistics of the sample in each country were very important for obtaining a sense of the comprehensive characteristics of the participants in this study and helping the researcher to understand the inferential statistical results.

Tests of data normality were conducted for the both prosocial relational maintenance strategies and antisocial relational maintenance strategies across Chinese and American samples. According to Tabachnick and Fidell (2001), data normality affects the validity of the results of subsequent statistical univariate and multivariate data analyses. Usually, analysis of variance (ANOVA) and multivariate analysis of variance (MANOVA) require dependent variables be normally distributed within groups (Gravetter & Wallnau, 2000).

For the current study, data normality was tested by looking at the distribution of relational maintenance strategy uses across Chinese and American samples.

Research questions 1, 2a-b, and 3 explored the effects of culture and friendship type on relational maintenance strategies. To answer these research questions, data analyses involved a 2 (culture: China vs. the U.S.) \times 2 (friendship status: casual friend vs. close friend) \times 2 (friendship type: offline vs. online) mixed factorial multivariate analysis of variance (MANOVA). Culture and friendship status were between-subject factors, and friendship type was the within-subjects factor. Dependent variables were two clusters of relational maintenance strategies: prosocial strategies and antisocial strategies.

Considering the age differences and the differences of the proportion of males to females between the American sample and the Chinese sample, age and gender were entered as covariates. Participants were classified as three age groups: younger group (18-34 years, N=186); middle group (35-50 years, N= 55); older group (51 years and older, N=22).

Hypotheses 1a-2b and 4a-5b sought to uncover the relationships between partner/relational uncertainty relational maintenance strategies, and the relationship between channel-related factors and maintenance strategies for online friendships within each culture. Correlation procedures were first performed for each national group in order to identify the associations between variables. Next, Fisher's z transformation tests were conducted to test the statistical significance of cultural differences in correlation coefficients.

Hypotheses 3a-b also required MANOVA tests to identify the effects of relational equity (overbenefited, underbenefited, and equal friendships) on relational maintenance strategies. A 2 (culture: China vs. the U.S.) \times 2 (friendship status: casual friend, close

friend) \times 2 (relational equity: underbenefited, equal, overbenefited) MANOVA test was conducted for the two clusters of relational maintenance strategies to examine the overall effect of relational equity on relational maintenance. In these analyses both age and gender were entered as covariates.

MANOVA is used when a minimum data set has one or more independent variable, each with two or more levels, and two or more dependent variables for each subject within each combination of independent variables (Tabachnick & Fidell, 1983). It allows simultaneous testing of all dependent variables and considers all the interrelationships among them. That is, MANOVA controls for Type I errors and provides a multivariate analysis of effects by taking into account the correlation between dependent measures. Before each MANOVA test was conducted, Bartlett's tests of sphericity were conducted to test the null hypothesis that the correlation matrix came from a population that were independent.

Chapter Four

Results

This chapter presents the results of the statistical analyses that were conducted to address the research questions and hypotheses. This chapter is organized as follows: data normality tests, results for the research questions and hypotheses, and summary.

Preliminary Results

Using individuals' individualism-collectivism scores, Chinese participants were found to be significantly more collectivism orientated ($M= 5.94$) than American participants ($M= 5.42$), $t(267) = 4.67, p<.01$. However, inconsistent with the results of Hofstede (1980), there was no significant difference between the two national groups in the individualism score.

The participants reported that they got to know their online friends in various contexts such as chat rooms, BBS, newsgroups, and online game rooms. Among the American sample, 63 identified a casual friendship, and 71 identified a close friendship, while among the Chinese sample, 74 participants identified a casual friendship, and 61 reported a close friendship. On average, the American participants reported that they had known their online friends for 2.8 years, $SD = 2.20$ (casual friendship: $M= 2.10, SD=2.08$; close friendship: $M = 3.48, SD = 2.11$); the Chinese participants reported to have known their online friends for 1.47 years, $SD =1.41$ (casual friendship: $M= 1.41, SD=1.50$; close friendship: $M = 1.67, SD = 1.30$). Among the American sample, 54 identified a male friend, 78 identified a female friend; among the Chinese sample, 57 identified a male friend, 73 identified a female friend, and 5 reported that they were not sure about the gender of their online friends.

The participants reported that they had known their offline friends in such contexts as school or workplace. For the American participants, the average length of friendship was 3.16 years, $SD = 2.88$ (casual friendship: $M = 2.10$, $SD = 2.13$; close friendship: $M = 4.43$, $SD = 3.46$); for the Chinese participants, the average length of friendship was 3.15 years, $SD = 3.03$ (casual friendship: $M = 1.82$, $SD = 1.63$; close friendship: $M = 4.30$, $SD = 3.22$). Among the American sample, 49 identified a male friend, 84 identified a female friend, 2 failed to identify the gender of their offline friends; among the Chinese sample, 61 identified a male friend, 71 identified a female friend, and 4 did not report the gender of their offline friends.

Data Normality

ANOVA and MANOVA require the data to meet the assumption of data normality, which means that dependent measures are normally distributed within groups. Tests of data normality were conducted on the prosocial relational maintenance strategies and antisocial relational maintenance strategies in both online and face-to-face friendships across the two national groups.

According to Mardia (1985), a skewness or kurtosis value of a variable greater than 2 or smaller than -2 is considered non-normally distributed. In online friendships, all dependent variables fit the assumed distribution of multivariate except for deception (Chinese, skewness=1.53, Kurtosis=2.78; Americans, skewness=2.07, Kurtosis=4.67). The distribution of online deception was positively skewed in the American sample and the scores of Kurtosis were high in both national groups. Logarithmic transformation was performed on online deception. After the transformation, the distribution was much closer to normal (Chinese, skewness= .37, Kurtosis=1.27; Americans, skewness=-.74,

Kurtosis=.72). Logarithmic transformation results were used for future MANOVA and ANOVA tests.

In face-to-face friendships, deception was also the only variable that violated the assumption of data normality (Chinese, skewness=1.89, Kurtosis=3.69; Americans, skewness=1.65, Kurtosis=2.02). Similarly, logarithmic transformation was performed on face-to-face deception to improve the normality of the distribution (Chinese, skewness=.93, Kurtosis = -.28; Americans, skewness = 1.13, Kurtosis = -.10). Thus, logarithmic transformation results were used for future MANOVA and ANOVA tests.

Research Question 1

The first research question explores the differences in relational maintenance between Chinese and American samples in both offline and online contexts. To answer this question, 2 (culture) × 2 (friendship status) × 2 (friendship type) repeated measure MANOVA tests were utilized³. The means and standard deviations for the relational maintenance strategies across friendship types and friendship status are reported in Table 2.

The MANOVA test on prosocial relational maintenance strategies showed significant main effects for friendship type, Wilks's Lambda = .91, $F(4, 240) = 5.52, p < .001$; culture, Wilks's Lambda = .76, $F(4, 240) = 8.04, p < .001$; and friendship status, Wilks's Lambda = .70, $F(4, 240) = 24.80, p < .001$. The analysis also showed significant a interaction between friendship status and friendship type, Wilks's Lambda = .94, $F(4, 240) = 3.24, p < .01$.

In terms of the friendship type main effect, univariate test results showed that the frequency of prosocial maintenance strategies in offline friendships was higher than that

of online friendships on all four scales: positivity, $F(1, 243) = 25.92, p < .001$; openness, $F(1, 243) = 13.76, p < .001$; interaction, $F(1, 243) = 63.84, p < .001$; and supportiveness, $F(1, 243) = 11.18, p < .001$. However, the main effects of friendship type and friendship status were qualified by the interaction effects between these two variables. A significant interaction was found on positivity, $F(1, 243) = 5.96, p < .05$; openness, $F(1, 243) = 6.98, p < .001$; and interaction, $F(1, 243) = 4.49, p < .05$. Supportiveness was the only prosocial maintenance strategy that was insignificant in terms of interaction effect, $F(1, 243) = 0.41, p = .53$. The patterns of interaction were similar across the prosocial relational maintenance measures (See Figure 1, 2, and 3). Specifically, for casual friendships, participants reported much more frequent prosocial maintenance behaviors in offline friendships than in those in online friendships; for close friendships, differences between the two types of friendships diminished.

The MANOVA test on antisocial relational maintenance strategies showed significant a main effect for friendship type, Wilks's Lambda = .89, $F(3, 237) = 9.15, p < .001$. The following univariate test results also showed that the frequency of coercion/criticism was higher in offline friendship ($M = 2.28$) than in online friendships ($M = 1.98$), $F(1, 244) = 18.01, p < .001$. On the other hand, the frequency of deception was higher in online friendships ($M = 1.82$) than in offline friendships ($M = 1.68$), $F(1, 244) = 4.07, p < .05$. The frequency of withdrawal did not differ significantly across the two types of friendships.

Table 2

Relational Maintenance Means for Offline and Online Friendships

Friendship Maintenance	Casual Friendship		Close Friendship	
	Offline M (SD)	Online M (SD)	Offline M (SD)	Online M (SD)
Prosocial Maintenance Strategies				
Positivity	5.21 (1.26)	4.54 (1.17)	5.87 (.93)	5.61 (1.00)
Openness	4.63 (1.51)	3.94 (1.28)	5.45 (1.26)	5.30 (1.13)
Interaction	4.47 (1.45)	3.40 (1.39)	5.45 (1.13)	4.85 (1.20)
Supportiveness	5.54 (1.30)	5.16 (1.31)	6.07 (.95)	5.80 (1.03)
Antisocial Maintenance Strategies				
Coercion/criticism	2.14 (1.20)	1.88 (1.01)	2.41 (1.43)	2.10 (1.01)
Deception	1.61 (.94)	1.84 (1.06)	1.71 (1.41)	1.79 (1.20)
Withdrawal	2.07 (1.20)	2.24 (1.19)	2.08 (1.28)	1.93 (.98)

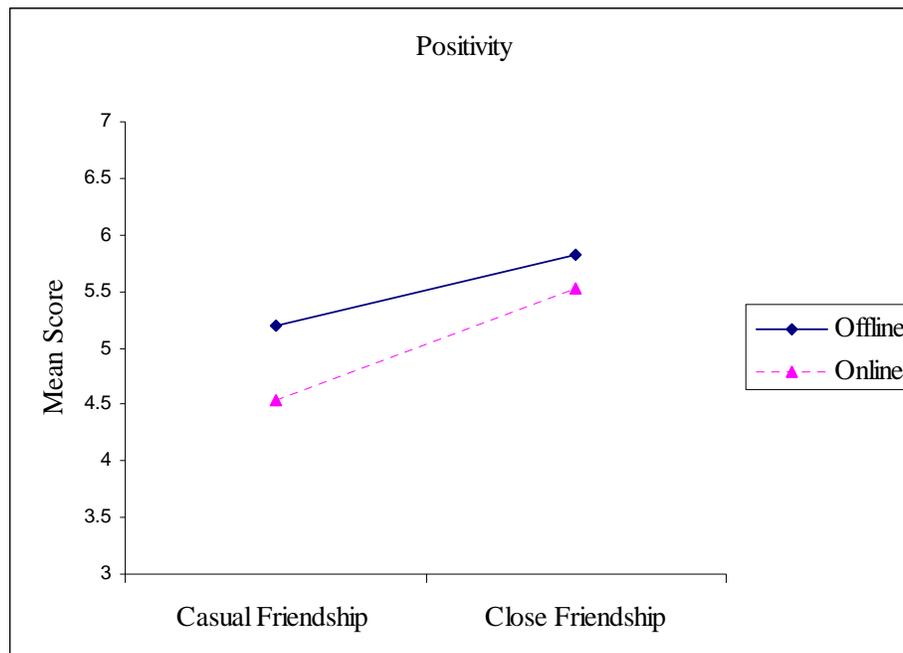


Figure 1. Means for positivity for casual and close offline and online friendships

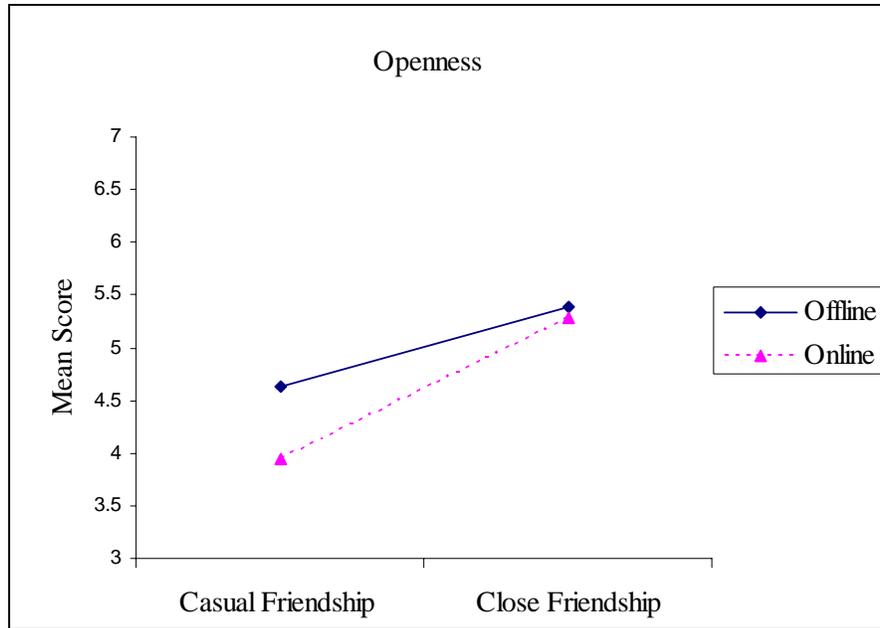


Figure 2. Means for openness for casual and close offline and online friendships

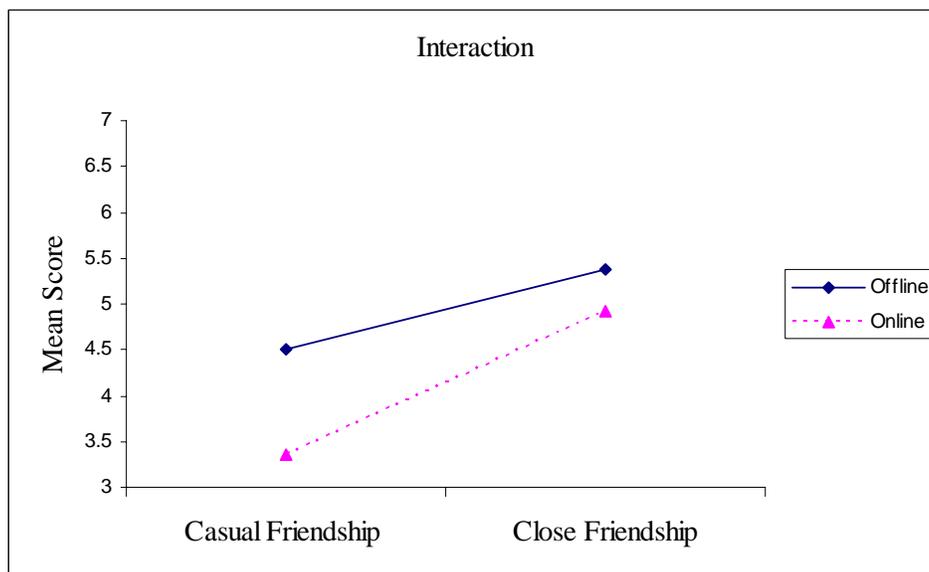


Figure 3. Means for interaction for casual and close offline and online friendships

Research Question 2a,b

Research Question 2a asked whether Chinese and American samples differ in the use of relational maintenance strategies in offline friendships at different levels of friendship status. Research question 2b asked whether cultural differences in the use of relational

maintenance strategies exist in online friendships at different levels of friendship status. MANOVA tests were used to examine the effects of culture and friendship status on the two clusters of relational maintenance strategies for online and offline friendships separately. Table 3 displays the means and standard deviations on each of the relational maintenance strategies by culture and friendship type. Tables 4 and 5 display the means and standard deviations on the relational maintenance strategies by culture and friendship status for offline and online friendships.

Separate 2 (culture: China vs. the U.S.) \times 2 (friendship status: casual friend vs. close friend) MANOVA tests on prosocial relational maintenance strategies showed main effects of culture and friendship status for both types of friendship (offline friendship: Wilks's Lambda = .69, $F(7, 244) = 2.72, p < .05$; friendship status, Wilks's Lambda = .85, $F(7, 244) = 9.933, p < .001$; online friendship: Wilks's Lambda = .69, $F(7, 244) = 8.04, p < .001$; friendship status, Wilks's Lambda = .68, $F(7, 244) = 16.63, p < .001$). To answer research 2a, b, follow-up univariate tests were utilized to test the cultural differences in friendship maintenance for each type of friendships.

Univariate test results revealed a significant effect on prosocial maintenance strategies (offline friendship: positivity, $F(1, 250) = 5.53$; openness, $F(1, 250) = 2.35, p < .001$; supportiveness, $F(1, 250) = 8.95, p < .001$; online friendship: positivity, $F(1, 250) = 11.05, p < .001$; openness, $F(1, 250) = 28.23, p < .001$; and supportiveness, $F(1, 250) = 40.41, p < .001$). The main effect of culture was not significant on supportiveness statistically (offline friendship: $F(1, 250) = 2.02, p = .35$; online friendship: $F(1, 250) = 1.56, p = .21$). In terms of the main effect of culture, the American sample more frequently

used three of the four prosocial relational maintenance strategies than the Chinese sample regardless of friendship type.

With regard to the friendship status main effect, people more frequently use all prosocial maintenance strategies in close friendships than in casual friendships.

Univariate test results showed a significant main effect of friendship status on these strategies (offline friendship: positivity, $F(1, 250) = 27.56, p < .001$; openness, $F(1, 250) = 14.31, p < .001$; interaction, $F(1, 250) = 22.31, p < .001$; supportiveness, $F(1, 250) = 31.61, p < .001$; online friendship: positivity, $F(1, 250) = 54.05, p < .001$; openness, $F(1, 250) = 83.94, p < .001$; interaction, $F(1, 250) = 25.52, p < .001$; supportiveness, $F(1, 250) = 74.45, p < .001$).

The MANOVA test on antisocial relational maintenance strategies showed a main effect of culture (offline friendship: Wilks's Lambda = .95, $F(3, 248) = 4.13, p < .01$; online friendship: Wilks's Lambda = .79, $F(3, 248) = 21.78, p < .001$). No significant interaction effects were detected. The following univariate tests showed a significant main effect of culture on the each type of antisocial strategies (offline friendship: coercion/criticism, $F(1, 250) = 34.03, p < .001$; deception, $F(1, 250) = 7.27, p < .001$; and withdrawal, $F(1, 250) = 3.98, p < .01$; online friendship: coercion/criticism, $F(1, 250) = 41.71, p < .001$; deception, $F(1, 250) = 59.97, p < .001$; and withdrawal, $F(1, 250) = 8.02, p < .01$). The result revealed that the Chinese participants used all three types of antisocial maintenance strategies more frequently than the American participants regardless of the friendship type.

In sum, to answer research question 2a, b, for both offline and online friendship, Americans used prosocial maintenance strategies more frequently than did Chinese;

conversely, Chinese used antisocial maintenance strategies more frequently than did Americans. This result held true regardless of friendship status.

Table 3

Relational Maintenance Means and Standard Deviations of the Two National Groups in Offline and Online Friendships

Friendship Maintenance	Offline Friendship		Online Friendship	
	Americans M (SD)	Chinese M (SD)	Americans M (SD)	Chinese M (SD)
<i>Prosocial Maintenance Strategies</i>				
Positivity	5.77 (1.14)	5.31 (1.07)	5.37 (1.18)	4.80 (1.12)
Openness	5.24 (1.31)	4.82 (1.50)	5.03 (1.38)	4.23 (1.31)
Interaction	5.02 (1.40)	4.86 (1.34)	5.99 (1.11)	4.99 (1.11)
Supportiveness	5.77 (1.07)	5.61 (1.18)	4.28 (1.56)	3.92 (1.28)
<i>Antisocial Maintenance Strategies</i>				
Coercion/criticism	1.90 (1.26)	2.66 (1.39)	1.60 (.80)	2.48 (1.09)
Deception	1.80 (1.12)	2.39 (1.28)	1.56 (.71)	2.64 (1.15)
Withdrawal	1.51 (.79)	1.83 (1.24)	1.54 (.93)	2.13 (1.21)

Table 4

Relational Maintenance Means and Standard Deviations in Offline Friendships

Friendship Maintenance	Casual Friendship		Close Friendship	
	Americans M (SD)	Chinese M (SD)	Americans M (SD)	Chinese M (SD)
Prosocial Maintenance Strategies				
Positivity	5.38 (1.18)	5.03 (1.32)	6.10 (.85)	5.56 (.95)
Openness	4.82 (1.45)	4.44 (1.54)	5.61 (1.09)	5.18 (1.35)
Interaction	4.58 (1.55)	4.42 (1.37)	5.41 (1.16)	5.37 (1.09)
Supportiveness	5.78 (1.21)	5.22 (1.34)	6.36 (.72)	5.74 (1.10)
Antisocial Maintenance Strategies				
Coercion/criticism	1.85 (1.12)	2.42 (1.20)	2.02 (1.18)	2.98 (1.58)
Deception	1.43 (.76)	1.78 (1.06)	1.54 (.80)	1.95 (1.48)
Withdrawal	1.65 (.76)	2.44 (1.30)	1.91 (1.27)	2.32 (1.27)

Table 5

Relational Maintenance Means and Standard Deviations in Online Friendships

Friendship Maintenance	Casual Friendship		Close Friendship	
	Americans M (SD)	Chinese M (SD)	Americans M (SD)	Chinese M (SD)
Prosocial Maintenance Strategies				
Positivity	4.75 (1.00)	4.46 (1.25)	5.88 (1.10)	5.18 (.95)
Openness	4.19 (1.00)	3.75 (1.25)	5.78 (.96)	4.78 (1.14)
Interaction	3.43 (1.56)	3.56 (1.18)	4.95 (1.24)	4.57 (1.10)
Supportiveness	5.58 (1.28)	4.71 (1.18)	6.33 (.88)	5.28 (.94)
Antisocial Maintenance Strategies				
Coercion/criticism	1.57 (.83)	2.24 (1.04)	1.68 (.81)	2.77 (1.08)
Deception	1.58 (.89)	2.12 (1.13)	1.53 (.98)	2.13 (1.26)
Withdrawal	1.66 (.79)	2.76 (1.20)	1.55 (.79)	2.53 (1.06)

Research Question 3

Research question 3 explored whether the cultural difference is greater in the offline context than in the online context. MANOVA tests were used to examine the effects of culture, friendship status, and friendship type on the two clusters of relational maintenance strategies. These tests did not reveal any interaction effects between culture and friendship type (prosocial: $F(4, 132) = 3.54, p = .74$; antisocial: $F(4, 132) = 2.96, p = .65$). Thus, the cultural differences in relational maintenance did not vary significantly between offline friendships and online friendships.

Hypothesis 1a,b

Hypothesis 1a predicted that partner uncertainty will be negatively associated with prosocial relational maintenance strategies across both national groups. Hypothesis 1b posited that partner uncertainty will be positively associated with antisocial relational maintenance strategies across both national groups. In the tests of these hypotheses, the data in each culture were analyzed separately.

Before testing the hypotheses, t-tests were first conducted to test the differences of uncertainty level across cultures. In general, the result suggested that participants experienced moderate amount of partner and relational uncertainty. Chinese sample showed higher level of uncertainty than did American sample. The means, standard deviations, and t-test results were presented in Table 6.

Table 6

Means, Standard Deviations, and t-Test Results of Uncertainty across Cultures.

Dependent Measures	Americans (N=134)		Chinese (N=136)		t
	M	SD	M	SD	
Partner Uncertainty	2.73	1.27	3.41	1.16	-4.45***
Relational Uncertainty					
Behavioral Norm Uncertainty	2.23	1.11	2.49	1.10	-1.95*
Mutuality Uncertainty	2.40	1.31	3.23	1.34	-5.14***
Definition Uncertainty	2.26	1.22	3.04	1.32	-5.03***
Future Uncertainty	2.61	1.51	3.44	1.37	-4.67***

Note: * $p < .05$; *** $p < .001$

Pearson correlation test revealed that partner uncertainty was negatively related to all four types of prosocial maintenance strategies in both cultures. On the other hand, partner uncertainty was positively related with deception and withdrawal among American sample, and was positively related with deception among the Chinese sample. These positive correlations were all very weak. Fisher's z was further calculated to test correlation differences across the two national groups. These correlations and test statistics are reported in Table 7. In sum, hypothesis 1a was fully supported, but hypothesis 1b was partially supported.

Table 7

*Correlation Coefficient between Relational Maintenance Strategies and Partner**Uncertainty*

Relational Maintenance Strategies	Partner Uncertainty	
	Americans	Chinese
Positivity	-.61** _b	-.44** _a
Openness	-.58** _b	-.30** _a
Interaction	-.54**	-.43**
Supportiveness	-.52** _b	-.31** _a
Coercion/Criticism	.12	.10
Deception	.15*	.14*
Withdrawal	.17*	.05

Note: 1. * $p < .05$; ** $p < .01$

2. Correlations in the same row with different subscripts differ at $p < .05$.

Hypothesis 2a,b

Hypothesis 2a predicted that relational uncertainty will be negatively associated with prosocial relational maintenance strategies across both national groups. Hypothesis 2b predicted that relational uncertainty will be positively associated with antisocial relational maintenance strategies across both national groups. In the tests of this hypothesis, the data in each culture were analyzed separately.

Pearson's Correlation analyses examined the relationships between relational maintenance strategies and each type of relational uncertainty. The follow-up Fisher's z test revealed correlation differences in all four types of relational certainty across the two national groups. These correlations and test statistics are reported in Table 8.

Table 8

Correlation Coefficient between Relational Maintenance Strategies and Relational Uncertainty

Relational Maintenance Strategies \ Relational Uncertainty	Behavioral Norm Uncertainty		Mutuality Uncertainty		Definitional Uncertainty		Future Uncertainty	
	Americans	Chinese	Americans	Chinese	Americans	Chinese	Americans	Chinese
Positivity	-.44** _b	-.05 _a	-.51**	-.42**	-.47**	-.34**	-.51** _b	-.22* _a
Openness	-.36** _b	-.07 _a	-.49**	-.36**	-.44**	-.25**	-.53** _b	-.16* _a
Interaction	-.46** _b	-.17* _a	-.51**	-.34**	-.42**	-.31**	-.57** _b	-.19* _a
Supportiveness	-.34** _b	-.03 _a	-.44**	-.44**	-.36**	-.41**	-.57** _b	-.23** _a
Coercion/Criticism	.35**	.32**	.12	.09	.12	-.04	.03	.03
Deception	.32**	.17*	.09	.07	.12	.17	.15	.22*
Withdrawal	.35**	.24**	.18*	.14	.17*	.25**	.12	.09

Note: 1. * $p < .05$; ** $p < .01$

2. Correlations in the same row with different subscripts differ at $p < .05$ by Fisher's z .

Just as expected, all types of relational uncertainty were negatively related to prosocial maintenance strategies among the American sample. The same correlation patterns held true for the Chinese sample except for behavior uncertainty, which was not significantly correlated with any of the four prosocial maintenance strategies. In addition, the correlations were generally stronger among the American sample as compared to the Chinese sample. Thus, hypothesis 2a was fully supported for the American sample but was partially supported for the Chinese sample. Some positive associations between relational uncertainty and antisocial maintenance strategies were also detected. Specifically, for both national groups, behavioral norm uncertainty was positively related to all antisocial maintenance strategies. Moreover, both mutuality uncertainty and definition uncertainty were positively linked to withdrawal within the American sample. Future uncertainty was positively related to the use of deception of the Chinese sample. Hypothesis 2b was partially supported for both national groups.

Hypothesis 3a,b

Hypothesis 3a predicted that people in an underbenefited online friendship will less frequently use prosocial maintenance strategies than people in an equal or overbenefited online friendship. Hypothesis 3b predicted that people in an underbenefited online friendship will more frequently use antisocial maintenance strategies than people in an equal or overbenefited online friendship.

In each national group, the majority of the participants reported an equitable online friendship. Table 9 summarizes how individuals were grouped by equity level and culture.

Table 9

Number and Percentage of Individuals in Different Equity Level

	Equity Level			X ²
	Underbenefited	Equal	Overbenefited	
Americans (N=134)	12 _a (9.1%)	115 _b (83.1%)	7 _a (3.8%)	113.97***
Chinese (N=136)	16 _a (11.8%)	99 _b (72.8%)	12 _a (8.8%)	172.41***

Note: 1. *** $p < .001$;

2. Numbers in the same row with no subscripts in common subscripts differ at $p < .05$.

To examine the overall effect of relational equity on relational maintenance, 2 (culture) × 3 (relational equity) MANOVA tests were utilized on prosocial maintenance strategies and antisocial maintenance strategies respectively⁴.

For prosocial maintenance strategies, the multivariate main effects for equity and culture were both significant (equity: Wilks's Lambda = .93, $F(8, 486) = 3.23$, $p < .001$; culture: Wilks's Lambda = .97, $F(4, 237) = 1.16$, $p < .001$). However, these main effects were qualified by a significant interaction effect between equity and culture, Wilks's Lambda = .96, $F(8, 486) = 2.42$, $p < .05$.

Follow-up univariate tests were conducted, and a significant interaction between equity and culture was found on positivity, $F(2, 246) = 1.87$, $p < .05$; openness, $F(2, 246) = 2.76$, $p < .05$; interaction, $F(2, 246) = 3.26$, $p < .05$; supportiveness, $F(2, 246) = 4.78$, $p < .01$. Post hoc Scheffe tests indicated that while Chinese sample did not differ significantly in using any prosocial maintenance strategies across different degrees of equity; among American sample, those who were in an underbenefited friendship reported lower level of positivity, openness and supportiveness than those who were in an

equal friendship. Table 10 shows the adjusted means associated with an interaction between relational equity and culture. Hypothesis 3a was generally supported for the American sample but rejected for the Chinese sample.

In terms of the antisocial maintenance strategies, the multivariate tests showed main effects for equity, Wilks's Lambda = .91, $F(6, 470) = 3.35, p < .001$, and culture, Wilks's Lambda = .95, $F(3, 234) = 4.35, p < .001$. The tests did not reveal any interactions between the independent variables.

The following univariate tests showed main effects on coercion/criticism, $F(2, 256) = 6.88, p < .01$, and deception, $F(2, 256) = 9.94, p < .001$. Specifically, people in equitable friendships used less coercion/criticism ($M = 1.96$) than underbenefited individuals ($M = 2.67$) or overbenefited individuals ($M = 2.09$). Likewise, people in equal friendships used less deception ($M = 1.67$) than those in underbenefited friendships ($M = 2.66$) or in overbenefited friendships ($M = 2.31$). However, people in the two types of inequitable relationships did not differ significantly in all three antisocial maintenance strategies. In other words, even though underbenefited individuals tended to use more antisocial maintenance strategies than those in equitable friendships, they did not necessarily use these strategies more frequently than those who were overbenefited. Therefore, Hypothesis 3b was partially supported for both national groups.

Table 10

Adjusted Means Associated with an Interaction Between Relational Equity and Culture.

		Underbenefited	Equal	Overbenefited
Positivity	Americans	4.60 _a	5.43 _b	5.30 _{ab}
	Chinese	5.00 _{ab}	4.71 _{ab}	4.89 _{ab}
Openness	Americans	3.56 _a	5.19 _b	5.06 _{ab}
	Chinese	4.34 _{ab}	4.23 _{ab}	4.06 _{ab}
Interaction	Americans	3.43	4.28	4.95
	Chinese	3.66	3.88	3.81
Supportiveness	Americans	4.88 _a	6.12 _b	5.10 _{ab}
	Chinese	4.40 _a	4.93 _a	4.73 _a
Coercion/Criticism	Americans	2.07 _a	1.58 _a	1.92 _a
	Chinese	3.16 _b	2.45 _a	2.10 _a
Deception	Americans	2.11	1.54	1.83
	Chinese	3.13	2.62	2.58
Withdrawal	Americans	2.08	1.54	1.85
	Chinese	3.07	2.56	2.48

Note: Means in the same row with no subscripts in common differ at $p < .05$.

Hypothesis 4a,b

Hypothesis 4a predicted positive relationships between perceived social presence of the Internet and the use of prosocial maintenance strategies. Hypothesis 4b predicted negative relationships between perceived social presence and the use of antisocial maintenance strategies.

Pearson correlations indicated that perceived social presence was positively related to all four types of prosocial maintenance strategies in both cultures. These correlation coefficients are reported in Table 11. The strength of these correlations did not differ significantly across the two national groups. Thus, hypothesis 4a was supported.

However, no correlations were found between social presence and use of antisocial maintenance behaviors in either national group; therefore, Hypothesis 4b was rejected.

Table 11.

Correlation Coefficients between Relational Maintenance Strategies and Perceived Social Presence

Relational Maintenance Strategies	Perceived Social Presence	
	Americans	Chinese
Positivity	.45***	.45***
Openness	.37***	.39**
Interaction	.32***	.30**
Supportiveness	.39***	.38***
Coercion/Criticism	-.02	-.07
Deception	-.13	-.09
Withdrawal	-.12	-.01

Note: ** $p < .01$; *** $p < .001$

Hypothesis 5a,b

Hypothesis 5a predicted that the anticipation of a face-to-face meeting will be positively related to the use of prosocial maintenance strategies. Hypothesis 5b predicted that the anticipation of a face-to-face meeting will be negatively related to the use of antisocial maintenance strategies.

In general, the American sample ($M=5.05$) was more likely to plan for a face-to-face meeting with their online friends than was the Chinese sample ($M=3.36$), $t(266) = 7.11$, $p < .001$. Unsurprisingly, people in close online friendships ($M= 5.26$) were more likely to plan for a face-to-face meeting with their online friends than did people in casual friendships ($M=3.23$), $t(266) = 8.62$, $p < .001$.

Correlation tests indicated that for both national groups, the more they would plan a face-to-face meeting with their online friends, the more frequently would they use prosocial maintenance strategies. These correlations were stronger among the American sample, particularly for positivity, openness and supportiveness. These correlations and test statistics are reported in Table 12. As far as antisocial maintenance strategies are concerned, anticipation of a face-to-face meeting was negatively related to deception and withdrawal among the American sample, and was negatively related to coercion/criticism among the Chinese sample. Hypothesis 4a was fully supported, while Hypothesis 4b was partially supported.

Table 12

Correlation Coefficients between Relational Maintenance Strategies and Anticipation of a Face-to-Face Meeting.

Relational Maintenance Strategies	Anticipation of a Face-to-Face Meeting	
	Americans	Chinese
Positivity	.49*** _b	.27*** _a
Openness	.42*** _b	.29** _a
Interaction	.28***	.23**
Supportiveness	.46***	.29***
Coercion/Criticism	-.04 _a	-.16* _b
Deception	-.21* _b	-.07 _a
Withdrawal	-.16* _b	-.01 _a

Note: 1. * $p < .05$; ** $p < .01$; *** $p < .001$;

2. Correlations in the same row with different subscripts differ at $p < .05$ by Fisher's z .

Summary

The results of the analyses suggested that prosocial relational maintenance strategies were more frequently used in offline friendships than in online friendships. When friendship status was taken into consideration, the findings showed that people used prosocial maintenance strategies much more frequently in offline friendships than in their online friendships when both relationships were rated as casual. However, the differences between the two types of friendships diminished for close friendships. Regarding antisocial strategies, more coercion/criticism occurred in the offline friendship while more deception occurred in the online friendship. Moreover, for both offline and online friendships, Americans used prosocial maintenance strategies more frequently than did

Chinese, whereas Chinese used antisocial maintenance strategies more frequently than did Americans.

Some relationships were found between relational experiences and the use of relational maintenance strategies in online friendships. Partner uncertainty and relational uncertainty were negatively related to prosocial strategies in both national groups. Behavioral norm uncertainty, one type of relational uncertainty, was positively related to all three types of antisocial strategies. These links were stronger among the American sample than among the Chinese sample.

In addition, among the American sample, those who were in an underbenefited friendship used less positivity, openness, and supportiveness than those in an equal friendship. But the Chinese sample did not differ in using prosocial strategies across different degrees of equity. For both national groups, people in equitable friendships used less coercion/criticism and deception than those in underbenefited friendships.

Finally, in support of the hypotheses concerning the relationships between channel-related factors and the use of relational maintenance strategies, the study found that people used more prosocial maintenance strategies for their online friendships when the perceived social presence of the Internet was higher and when they had more intention to meet their online friends in person. Moreover, anticipation of a face-to-face meeting was negatively related to deception and withdrawal among the American sample, and was negatively related to coercion/criticism among the Chinese sample.

Chapter Five

Discussion

The present study examined relational maintenance strategies in online friendships in comparison to those in offline friendships. In addition, this study explored cultural differences in online friendship maintenance and the links among relational maintenance strategies, relational experiences, and channel-related factors. The results contribute to knowledge about the factors that influence people's use of prosocial and antisocial relational maintenance strategies. The results also help direct future work on cross-cultural research on relational communication on the Internet.

Online vs. Offline Friendship Maintenance

The results suggested that overall people use more prosocial relational maintenance strategies in their offline friendships than in their online friendships. This pattern however was moderated by friendship status. The gap between frequencies of relational maintenance strategies in online and offline friendships was particularly large for casual friendships. However, when both types of friendships were close friendships, even though people still reported higher level of prosocial relational maintenance in offline friendships as compared to online friendships, the gap was lower. This result is consistent with the findings of many prior studies that suggested the quality of both online and offline relationships would improve over time and the differences between two types of relationships become smaller as the relationship progressed (e.g., Chan & Cheng, 2004; Walther, 1995). In other words, the quality of online and offline relationships tends to converge as the relationship moves to a higher level. This is probably because the reduced contextual features of Internet-based communication are a particular

disadvantage for people whose online friendships are still at an early stage (Walther, 1996). As people have more interaction with their friends, their relationships will develop closeness and intimacy significantly faster over the Internet than relationships that begin offline because of the greater ease of self-disclosure (McKenna, Green, & Gleason, 2002).

With regard to antisocial maintenance strategies, participants reported more coercion/criticism in offline friendships but more deception in online friendships. Compared to offline relationships, online relationships are more likely to be constrained by the limited range of visual and verbal sensory information as well as contextual cues (Barnes, 2003b). The coercive communications in an online relationship may lead to a greater potential of relationship destructions or termination since people are relying on these limited verbal cues to judge their partners' attitudes toward a relationship. These features of mediated communication could also explain the reason why more deception exists online than offline. In interpersonal communication, one of the basic principles of interactional act is that individuals typically expect others to tell the truth during conversations (Grice, 1989). Even though scholars have posited that honesty is a critical factor in online relationships, cyberspace obviously can provide greater opportunities for deceptive behaviors. According to Burgoon and Buller (1994), deceptions in communication are often easier to be detected through nonverbal cues such as eye contacts or body movements than verbal messages. With limited nonverbal clues, it is harder to detect deceptive behaviors in the CMC interaction than in the face-to-face interaction. In addition, As Whitty and Carr argue (2003), lying is often expected in relationships developed online. When people are interacting with each other online, they

have to accept the rule of the game that each of them are hiding some information or misrepresenting certain aspects of their identities.

Cultural Differences in Using Friendship Maintenance Strategies

Consistent with the prior findings concerning cultural variations in relational maintenance, the current study found that the American sample more frequently used prosocial maintenance strategies than did the Chinese sample in both online and offline friendships. Just as the cross-cultural literature has suggested, compared to people in individualistic cultures, people in collectivistic cultures tend to see all relationships as phenomena over which one has less control and thus, put less effort into maintaining these relationships (e.g., Chang & Holt, 1991; Goodwin & Finlay, 1997; Yum, 2000). As a typical collectivistic culture, the Chinese society emphasizes the practice of *hanxu*, which involves lack of expressiveness. Base on this principle, Chinese tend to be reluctant to reveal their deep feelings and private ideas.

In addition, the results did not suggest that the cultural differences in relational maintenance strategies greater for offline settings than for online settings. Therefore, it seems to support the assumption that people are deeply influenced by their cultural origins and such influences are reflected in their relational communication behaviors regardless communication environments. Cross-cultural research across different interaction situations has suggested that cultural core ideas and customs are expressed within different systems of a culture as well as through its language and interactional behaviors. These cultural expressions are continuously replayed in an individual's daily interaction at home, school, and workplace (Kashima, Yamaguchi, Kim, Choi, Gelfand,

& Yuki, 1995). The result of the current study extended this proposition to the electronic setting.

Unexpectedly, Chinese participants were more likely to use all types of antisocial maintenance strategies than their American counterparts in both online and offline friendships. It may be understandable that Chinese were more likely to use withdrawal since it is consistent with the nonconfrontational way of life in Chinese culture. Previous studies have indicated that Chinese generally avoid direct confrontation or argument in order to preserve interpersonal harmony (Ting-Toomey, 1988). In face of a conflict or disagreement, withdrawal is often used by Chinese as a strategy to express feelings and intentions. This style of communication not only allows them to achieve their own agenda, but also creates a flexible climate for future negotiation (Gao, Ting-Toomey, & Gudykunst, 1998). However, it may be hard to explain why the Chinese participants used more coercion/criticism and deception.

One plausible interpretation of the use of different levels of deception is that collectivistic cultures differ from individualistic cultures in the notions of morality and social norms (Triandis, 2001). For instance, lying is an acceptable behavior in collectivistic cultures if it saves face or helps the in-group. As Thrilling (1972) asserts, when people have a strong sense that they themselves determine who they are, as it the characteristic of individualistic cultures, they are more likely to seek sincerity and authenticity than when they feel swept up by traditions and obligations, as is more characteristic of collectivistic cultures. His suggestion was supported by one cross-cultural study that found greater tendencies toward deception among people from collectivistic cultures (Triandis et al., 2001). As far as the current study is concerned, it is

possible that Chinese participants viewed deceptive relational behaviors as a way to be indirect and to save or maintain faces for each other.

Similarly, the form and understanding of coercion and criticism may differ across individualistic and collectivistic cultures. For instance, Nomura and Barnlund (1983) found that Japanese preferred passive forms of criticism which involved more ambiguity while Americans were actively aggressive and more insulting in their expression of criticism. The statements in the coercion/criticism measures in the current study were rather general, which may lead to different understandings and perceptions. Particularly, these measures did not differentiate the ways in which coercion/criticism may be expressed. Thus, participants in different cultures may link these terms to their own styles.

Since the antisocial maintenance scale was developed based on a pilot study conducted among the American sample, it is not quite certain whether the measures are applicable among the Chinese sample. Possibly the samples of the two national cultures had different perceptions of the meanings and the behavioral manifestation of these maintenance strategies. In that case, the measures used with the Chinese sample may lack the sensitivity to detect relevant negative relational maintenance behaviors in Chinese friendships.

Partner/Relational Uncertainty and Online Friendship Maintenance

Overall, the results suggested that national culture has a significant impact on the perceived uncertainty in online friendships and the links between the uncertainty and interaction patterns. Chinese participants reported higher level of uncertainty regarding the partner and the online relationship than did their American counterparts. This

outcome may indicate that although certain characteristics of online interaction, such as the reduced social and contextual cues, may cause the feeling of uncertainty of Internet users in different cultures, they are particularly likely to increase uncertainty among people in collectivistic cultures. According to Gao and Gudykunst (1995), Chinese tend to be more confident about their ability to predict other people's behaviors based on indirect expressions in close relationships than do North Americans. Compared to Westerners, Chinese rely more on information that is indirect and nonverbal to reduce their uncertainty about others in personal relationships. However, on the Internet, it would be harder to obtain these indirect information, and therefore, it may lead to more uncertainty feelings among Chinese Internet users.

In interpersonal interactions, people use all kinds of strategies to generate knowledge and explanations to deal with uncertainty involved in a relationship. This study sought to replicate previous studies indicating prosocial relational maintenance behaviors are more likely to be enacted when individuals are certain about their relational partner and their relationships. Correlation results revealed that the more use of positivity, openness, supportiveness and interaction was associated with lower level of partner and relational uncertainty in online friendships in both national cultures. This result is generally consistent with claims about uncertainty and relational maintenance (e.g., Berg & Bradac, 1982; Dainton, 2003b; Douglas, 1994; Parks & Adelman, 1983). But what this study did not test is the causal relationship between uncertainty and relational maintenance. Thus, it is hard to tell whether individuals perform more prosocial maintenance behaviors because of certainty or whether they are more certain about a relationship because they have engaged in prosocial maintenance behaviors. In fact, Berger and Calabrese (1976)

claimed that communication can be both the cause and consequence of uncertainty.

Future research needs to put more attention on the causal links between these factors.

Although similar patterns of results were observed in the two cultures, the correlations between uncertainty and prosocial maintenance strategies were weaker among the Chinese sample than among the American sample. It seems that Chinese Internet users were less motivated to adopt proactive communication strategies to manage uncertainty involved in online friendships. As well documented in cross-cultural research literature, Chinese are higher in uncertainty avoidance rank than Americans, thus their willingness to take the risk and actions to manage uncertainty is lower than those of Americans (Gudykunst, 1995; Triandis, 1995). We may suspect that Chinese Internet users prefer to use more passive or reactive strategies to deal with uncertainty. However, as scholars have argued, passive strategies, such as observation, are not as effective as interactive strategies in reducing uncertainty in online interactions (Tidwell & Walther, 2002). This also helps explaining why the uncertainty level was higher among Chinese participants in this study.

The assumption that uncertainty and antisocial maintenance strategies would be positively linked received only partial support. Behavioral norm uncertainty was the only type of relational uncertainty that positively related to all antisocial maintenance strategies. This type of uncertainty is concerned with the uncertainty over what kinds of behaviors are acceptable in relational interactions. Since these antisocial behaviors do not conform to the behavioral norms that people normally follow, it is understandable that as people use more antisocial maintenance strategies, they increasingly feel unsure about the behavioral norm in their interaction with the online friends.

It appears that American participants who used more withdrawal-oriented maintenance strategies are more uncertain about the definition and mutuality of their online friendships. Specifically, withdrawal was negatively linked to the uncertainty over the current status of the online relationships and the uncertainty over the reciprocity of feelings between individuals involved in the relationship. On the other hand, Chinese participants who used more deception to maintain an online friendship were more uncertain about the future of such a relationship. As the Chinese tend to favor implicit communication styles, the ambiguity and uncertainty involved in interaction probably would not bother them as much as the Americans, who are generally more assertive and explicit in their communication. To Americans, withdrawing from active interaction may be a good response to their uncertainties. However, long-term commitment in a close relationship is more of concern for the Chinese than for the Westerners (Gao & Ting-Toomey, 1998). When the Chinese Internet users are uncertain about the long-range outcome of their online friendships, they probably use deceptive behaviors to protect themselves and to relieve the distress related to the uncertainty.

Relational Equity and Online Friendship Maintenance

The norm of reciprocity is embedded in the belief that social behavior is regulated by a feeling of obligation or indebtedness incurred by accepting a benefit. The key principle in equity theory is that the inputs to outputs from one individual should equal the input/output ratio for the other (Canary and Stanford, 2001). The results of the present study showed that relational equity has some impact on people's use of relational maintenance strategies in online friendships, particularly among Americans. Among the American sample, those who were in an underbenefited friendship were less likely to use

positivity, openness and supportiveness than those who were in an equal friendship. This finding confirmed the assumption of a previous study that people in an equitable state enact more prosocial maintenance strategies (Dainton, 2003b). However, the Chinese sample did not differ significantly in using any prosocial maintenance strategies across different degrees of equity.

The result might be because people in different cultures have different expectations about reciprocity and equity. In American culture, the interactional justice is very important in a relationship. That is, behaviors should communicate benevolence, neutrality and respect to each other (Tyler & Bies, 1990). Relational equity is a main reflection of interactional justice. Thus, when the friendship is deemed as unequal, people are less willing to perform prosocial, friendships-enhancing behaviors. On the other hand, in Chinese culture, close interpersonal relationships, like friendship, are often viewed within a long time frame (Tam & Bond, 2002). Thus reciprocity is evaluated in a more expanded framework. For instance, mutual care is believed to grow over time (Gao & Ting-Toomey, 1998). As a result, their prosocial communication behaviors may be less subject to change due the level of relational equity at a certain time point.

The study lent some support to the hypothesis that more antisocial maintenance strategies would be adopted when people were in an unequal relationship. Specifically, people in equal friendships used less coercion or deception than did people in underbenefited friendships or in overbenefited friendships. These findings are in support of Dainton's (2003b) speculation that the dissatisfaction caused by relational inequity may lead people to get into conflicts. It is also possible that people enact more antisocial behaviors in an attempt to restore equity.

Social Presence and Online Friendship Maintenance

The study examined the links between social presence and online friendship maintenance. Social presence is a sense that people are psychologically present and that communication exchanges are warm, personal, sensitive, and active. The findings of the current study suggested that regardless of national culture, social presence was positively associated with prosocial relational maintenance strategies. The result is largely consistent with the past research that showed that perception of social presence influenced CMC motives and outcomes (Garramone, Harris, & Anderson, 1986; Ma, 2003). When the Internet is perceived as a personalized medium, people are more likely to use it for the purpose of interpersonal communication and are more willing to engage in positive interactive behaviors.

Contrary to the expectation, there were no negative links between perceived social presence and the use of antisocial maintenance strategies. It seems that social presence is important in facilitating positive behaviors but not necessarily in reducing negative behaviors. Even though Rice and Love (1987) have posited that low social presence can lead to more unfriendly and hurtful communication content, their arguments were based on people who just had initial interaction over the Internet. It makes sense that as people built real rich relationships online, their antisocial communication behaviors were less likely to be influenced by the media perception, but were more likely to be influenced by the quality of the relationship itself. The findings concerning the relationships between antisocial maintenance strategies and relational experience seem to confirm this speculation.

Anticipation of a Face-to-Face Meeting and Online Friendship Maintenance

Many relationships developed on the Internet may escalate to face-to-face real-life relationships. This study tested how the anticipation of a face-to-face meeting is associated with online relational maintenance. As expected, for both national groups, those who had a stronger intention to meet their online friends in an offline setting were more likely than others to use prosocial maintenance strategies.

The findings showed that anticipation of a face-to-face meeting was negatively related to the three types of antisocial maintenance strategies, although not all correlations achieved statistical significance. Deception and withdrawal were significantly associated with higher level of anticipation of a face-to-face meeting among the American sample, while coercion/criticism was associated with higher level of anticipation of a face-to-face meeting among the Chinese sample.

According to Berger (1979) when people expect closer interaction with someone in the future, they are more likely to monitor their own communication outputs and the outputs of others. The commitment to future interaction generally motivates people to conform to social norms and decrease norm violator behaviors. In the present case, a face-to-face meeting indicated a higher level of future interaction. When people expect to meet their online friends in person, they may suppress certain behaviors for fear of being evaluated negative. As a result, antisocial relational behaviors decrease as people are more committed to future personal interaction.

Limitations

The current study is among the first attempts to examine cross-cultural differences in online friendship maintenance, and some limitations need to be taken into account when

interpreting the findings. Limitations include aspects of measurement, sample, Internet functions, and same-sex vs. cross-sex friendships.

First, there were limitations in the measurement used in the current study. As noted before, the antisocial maintenance scales were developed based on the result of a pilot study using only American participants. The prosocial maintenance measure used in this study was also established through testing and retesting American samples. Thus, there was a question as to whether the constructs as well as adaptive significance of relational maintenance are different in Chinese and American cultures. Future inquiries to the cultural comparability of this measurement are necessary.

Second, several characteristics of the samples in this study may affect the generalizability of the results. The study used self-selected samples and therefore the representativeness of the sample may be questionable. Usually, self-selected respondents are more likely than randomly selected respondents to participate in online surveys (Walsh, Kiesler, Sproull, & Hesse, 1992). These participants are often more active on the Internet and interested in various forms of messages on the web. For instance, in his examination of online love and cyber romance, Döring (2002) noted that self-selected samples were particularly interested in questions concerning romance and love on the Internet and more motivated to answer the questionnaire.

Furthermore, some obvious differences between the Chinese and American participants may have influenced the findings of the study. Chinese participants were generally younger and had less Internet experience than their American counterparts. These basic differences in the features of the Chinese and American samples have to be carefully considered with assessing the result of this study. More recent documents as

well as empirical studies have suggested that American Internet users have been similar to the general population of developed countries, such as the United States, with the increasing adoption of the Internet (Pew, 2006), but the Internet is still relatively new in China and the users tend to be young, well-educated city-dwellers (Zhu & Wang, 2005). Ideally, future cross-cultural research should use samples that are more randomly selected and have more equivalent biographical features and backgrounds.

Third, the current study did not consider the multimedia functions of the Internet. According to Rabby and Walther (2003), the Internet actually involves different CMC systems. Although so far text-based interaction is still the most common form of communication over the net (Amichai-Hamburger 2005) and most studies on CMC focus on text-based online communication, with the fast development of computer technology, more audio and video communication channels are increasingly made available. With a microphone or webcam, people can use instant messengers to engage in live text and audio/video instant chatting. In addition, many online video rooms, such as CUworld, not only allow people to meet new friends online but also provide multiple chatting or interaction functions including audio/video voice chats, live webcam streaming, and video conferencing. In the future, it is important to scrutinize the different modes of online communication and how they are linked to the communication patterns and relational qualities.

Fourth, this study did not differentiate same-sex and cross-sex online friendships, which may be an important factor in examining relational communication. Chen and Chang (2005) found that the quality of same-sex offline friendships was higher than that of cross-sex offline friendships, whereas cross-sex online friendships were of higher

quality than same-sex online friendships. They suggested that cross-sex friendships seem to be less difficult to develop. Interpersonal relational maintenance studies also showed that differences exist in the two types of friendships. For instance, Oswald, Clark, and Kelly (2004) found that cross-sex friendships reported more supportiveness and openness than male friendships. Future research needs to examine how these two types of online friendships differ in terms of the use of maintenance strategies.

Conclusion

The results of present study highlighted the links of national culture, relational experiences and channel-related factors to relational maintenance of online friendships. The most prominent contribution of this study is that it reveals that national culture has substantial influence on people's online relational behaviors. Chinese participants less frequently used prosocial maintenance strategies but more frequently used antisocial maintenance strategies than did American participants in both online and offline friendships. While the findings concerning prosocial maintenance strategies confirmed the suggestions in prior studies, the results with regard to antisocial maintenance are unexpected and intriguing, as it was contradictory to the Chinese communication styles that favor nonconfrontational ways of behaviors. It is possible that there are qualitative differences in antisocial behaviors as a function of culture. Since very few empirical studies have looked at the cross-cultural differences in the dark side of communication behaviors, the current findings must be interpreted with caution and more explorations are needed in future studies.

Research conducted in Western cultures indicated that varied degrees of relational uncertainty and relational equity are associated with the use of relational maintenance

strategies. Results from the present study suggested these claims generally hold true in online friendships. Interestingly, the links seemed to be stronger among the American sample than among the Chinese sample.

Of course, additional relational maintenance research among persons embedded in their cultures is needed to provide firmer conclusions in this area. A wider base of respondents from collectivistic and individualistic cultures would enhance the generalizability of research findings and help explain some unexpected results. To accomplish this task, future studies need to consider using not only refined measurements of relational maintenance scales, particularly antisocial maintenance scales, but also samples with a variety of biographic backgrounds.

The findings of the current study also have some implications for communication channel-related factors. Particularly, people's use of prosocial maintenance strategies for their online friendships was positively related to perceived social presence of the Internet and the likelihood of a face-to-face meeting with their friends. With the social use of the Internet still expanding, increasing research attention is required in investigating how the usage of the Internet itself may affect online relational behaviors. According to previous studies, when people are using the Internet as a medium to interact with each other, their communication behaviors are influenced not only by relational factors but also by Internet usage factors such as internet self-efficacy (e.g., LaRose, Mastro, & Eastin, 2001) and gratifications of the Internet (e.g., Papacharissi & Rubin, 2000). A study that incorporates these important Internet usage factors into the examination of online relationships would provide a more comprehensive understanding of Internet relational communication pattern.

In sum, cyberspace has functioned as a social environment and people adapt the technologies to fulfill their own needs and desires. The findings of this cross-cultural study lend credence to the view that meaningful relationships are maintained via CMC and that culture influences the strategies employed. This study has contributed to our understanding of CMC within cultural contexts. In addition, this preliminary research has provided avenues for future research for both intercultural communication and computer-mediated communication.

Notes

1. Baidu is the largest and the most popular Chinese search engine. In addition to meet users' information searching needs, Baidu also has different Internet communities in the form of bulletin boards. These communities are classified in terms of topics (e.g., beauty, sports) or regions (e.g., Beijing, Shanghai).
2. Reliability tests showed when the item "give advice to him/her" was deleted for Chinese and American samples, the alpha values increased for both national groups. The reliability increased from .66 to .72 for Chinese and from .68 to .76. Thus, this item was excluded from future analyses.
3. Barlett's tests of sphericity were significant for the analyses of both prosocial strategies ($X^2 = 436.59$, $df = 9$, $p < .0001$) and antisocial strategies ($X^2 = 648.04$, $df = 5$, $p < .0001$). Therefore, MANOVA tests were warranted.
4. Barlett's tests of sphericity were significant for the analyses of both prosocial strategies ($X^2 = 363.32$, $df = 9$, $p < .001$) and antisocial strategies ($X^2 = 592.92$, $df = 5$, $p < .001$), which indicated that MANOVA tests were warranted.

References

- Amant, K. (2002). When cultures and computers collide. *Journal of Business and Technical Communication, 16*, 196--214.
- Anderson, J. (1995). Cybarites, knowledge workers and new creoles on the Superhighway. *Anthropology Today, 11*, 13-15.
- Babbie, E. (1995). *The practice of social research*. Belmont, CA: Wadsworth.
- Bakardjieva, M. (2003). Virtual togetherness: An everyday-life perspective. *Media, Culture & Society, 25*, 291-313.
- Bargh, J., & McKenna, K. (2004). The Internet and social life. *Annual Review of Psychology, 55*, 573-590.
- Barnes, S. B. (2001). *Online connections: Internet interpersonal relationships*. Cresskill, NJ: Hampton Press.
- Barnes, S.B. (2003a). *Computer-mediated communication: Human-to-human communication across the Internet*. Boston, MA: Pearson Education, Inc.
- Barnes, S. B. (2003b). Cyberspace: Creating paradoxes for the ecology of self. In L. Strate, R. Jacobson, & S. Gibson (Eds.), *Communication and cyberspace: Social interaction in an electronic environment* (pp. 229-253). Cresskill, NJ: Hampton Press.
- Bassaro, J.C. (1990). *Making friends, keeping friends*. New Canaan, CN: William Mulvey.
- Baym, N. K. (2001). Interpersonal life online. In S. Livingston & L. Lievrouw (Eds.), *The Handbook of New Media* (pp. 62-76). London: Sage.
- Ben-Ze'ev, A. (2003). Privacy, emotional closeness and openness in cyberspace. *Computer in Human Behaviors, 19*, 451-467.

- Berger, C. R. (1979). Beyond initial interaction: uncertainty, understanding, and the development of interpersonal relationships. In H. Giles & R. Clair (Eds.), *Language and social psychology* (pp. 122-144). Oxford: Blackwell.
- Berger, C. R. (1987). Communicating under uncertainty. In M.E. Roloff & G. R. Miller (Eds.), *Interpersonal processes: New directions in communication research* (pp. 39-62). Newbury Park, CA: Sage.
- Berger, C. R., & Bradac, J. J. (1982). *Language and social knowledge: Uncertainty in interpersonal relationships*. London: Edward Arnold
- Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research, 1*, 99-112.
- Berndt, T. J. (1986). Children's comments about their friendships. In M. Perlmutter (Ed), *Minnesota symposia in child development, Vol. 18: Cognitive perspectives on children's social and behavioral development* (pp. 189-212). Hillsdale, NJ: Erlbaum
- Bond, M. H. (1991). *Beyond the Chinese face*. Hong Kong: Oxford University Press.
- Bond, M. H. (1996). Chinese values. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 208-227). New York: Oxford University Press.
- Bowker, N., & Tuffin, K. (2003). Dicing with deception: People with disabilities' strategies for maintaining safety and identity online. *Journal of Computer-Mediated Communication, 8*(2). Retrieved February 2, 2006, from <http://www.ascusc.org/jcmc/vol8/issue2/bowker.html>
- Bracken, B. A., & Barona, A. (1991). State of the art procedures for translating, validating and using psychoeducational tests in cross-cultural assessment. *School*

Psychology International, 12, 119-132.

Brehm, S.S. (1992). *Intimate relationships*. New York: McGraw-Hill.

Bresnahan, M. J., Shearman, S. M., Lee, S. Y., Park, C. Y., Mosher, D., & Ohashi, R. (2002). Responding to a friend: Perceptions of social appropriateness and liking in Japan, Korea, and the United States. *Journal of Intercultural Communication Research*, 31, 127-145.

Burgoon, J. K. & Buller, D. B. (1994). Interpersonal deception: III. Effects of deceit on perceived communication and nonverbal behavior dynamics. *Journal of Nonverbal Behavior*, 18, 155-184.

Burleson, B.R., & Samter, W. (1994). A social skills analysis of relationship maintenance: How individual differences in communication skills affect the achievement of relationship functions. In D.J. Canary & L.L. Stafford (Eds.), *Communication and relational maintenance* (pp. 61-90). San Diego, CA: Academic Press.

Canary, D. J., & Stafford, L. (1992). Relational maintenance strategies and equity in marriage. *Communication Monographs*, 59, 243-267.

Canary, D. J., & Stafford, L. (1994). Maintaining relationships through strategic and routine interaction. In D. J. Canary & L. Stafford (Eds.), *Communication and relational maintenance* (pp. 3-22). San Diego, CA: Academic Press.

Canary, D.J., & Stafford, L. (2001). Equity in the preservation of close relationships. In J. Harvey & A. Wenzel (Eds.), *Close romantic relationships: Preservation and enhancement* (pp. 133-151). Mahwah, NJ: Erlbaum.

Canary, D.J., Stafford, L., Hause, K., & Wallace, L. (1993). An inductive analysis of

- relational maintenance strategies: A comparison among lovers, relatives, friends, and others. *Communication Research Reports*, 10, 5-14.
- Canary, D. J. Stafford, L., & Semic, B. A. (2002). A panel study of the associations between maintenance strategies and relational characteristics. *Journal of Marriage and the Family*, 64, 395-406.
- Chan, D.K., & Cheng, G.H. (2004). A comparison of offline and online friendship qualities at different stages of relationship development. *Journal of Social and Personal Relationships*, 21, 305-320.
- Chang, H. C. (1992, May). *The concepts of Pao and human emotional debt in Chinese interpersonal relationships and communication*. Paper presented at the Annual International Communication Association Convention, Miami, FL.
- Chen, G. M. (1995). Differences in self-disclosure patterns among Americans versus Chinese: a comparative study. *Journal of Cross-Cultural Psychology*, 26, 84-91.
- Chester, A., & Gwynne, G. (1998). Online teaching: Encouraging collaboration through anonymity. *Journal of Computer-Mediated Communication*, 4(2), Retrieved July 20, 2005 from <http://jcmc.indiana.edu/vol4/issue2/chester.html>.
- China Internet Information Center (2005) *Cyber love can bring joy, regret, grief*. Retrieved October 18, 2005. from <http://www.china.org.cn/english/Life/123507.htm>
- Chu, G., C., & Ju, Y. A. (1993). *The great wall in ruins: Communication and cultural change in China*. Albany: State University of New York Press.
- Cichocki, D.A. (1995). *Maintaining stable friendships: An investigation of strategic and routine communication*. Unpublished master's thesis, Ball State University.
- Clark, M. S., & Grote, N.K. (1998). Why aren't indices of relationship costs always

negatively related to indices of relationship quality? *Personality and Social Psychology Review*, 2, 2-17.

Dainton, M. (2003a). Framing the maintenance of relationships through communication” An epilogue. In D. J. Canary & M. Dainton (Eds.), *Maintaining relationships through communication: Relational, contextual, and cultural variations* (pp. 299-321).

Mahwah, NJ: Erlbaum.

Dainton, M. (2003b). Equity and uncertainty in relational maintenance. *Western Journal of Communication*, 67, 164-186.

Dainton, M., & Aylor, B.A. (2001). A relational uncertainty analysis of jealousy, trust, and the maintenance of long-distance versus geographically-close relationships. *Communication Quarterly*, 49, 172-188.

Dainton, M., Zelle, E., & Langan, E. (2003). Maintaining friendships throughout the lifespan. In D. J. Canary & M. Dainton (Eds.), *Maintaining relationships through communication: Relational, contextual, and cultural variations* (pp. 79-102).

Mahwah, NJ: Erlbaum.

Davis, M. (1973). *Intimate relations*. New York: Free Press.

DePaulo, B. M. & Kashy, D. A. (1998). Everyday lies in close and casual relationships. *Journal of Personality and Social Psychology*, 74, 63-79.

Derlega, V., Metts, S., Petronio, S., & Margulis, S. (1993). *Self-disclosure*. Newbury Park, CA: Sage.

Dindia, K. (2003). Definitions and perspectives on relational maintenance communication. In D. J. Canary & M. Dainton (Eds.), *Maintaining relationships through communication: Relational, contextual, and cultural variations* (pp. 1-28).

- Mahwah, NJ: Erlbaum.
- Dindia, K., & Canary, D. J. (1993). Definitions and theoretical perspectives on maintaining relationships. *Journal of Social and Personal Relationships, 10*, 163-173.
- Dong, Z. (2004, May 6). Beauties and diamond houses on Internet. *China Daily*. Retrieved October 12, 2005 from http://www.chinadaily.com.cn/english/doc/2004-05/06/content_328430.html
- Döring, N. (2002). Studying online love and cyber romance. In B. Batinic, U. Reips, & M. Bosnjak (Eds.). *Online social sciences* (pp. 333-356). Seattle, WA: Hogrefe & Huber Publishers.
- Douglas, W. (1994). The acquaintanceship process: an examination of uncertainty, information seeking, and social attraction during initial conversation. *Communication Research, 21*, 154-176.
- Duck, S.W. (1988). *Relating to others*. Chicago: Dorsey.
- Fehr, B. (1996). *Friendship processes*. Thousand Oaks, CA: Sage.
- Ficara, L.C., & Mongeau, P.A. (2000, November). *Relational uncertainty in long-distance college student dating relationships*. Paper presented at the National Communication Association Annual Conference, Seattle, WA.
- Galushkin, I. (2003). Text messages: A potentially rich medium in distributed organizations. *Prism, 1(1)* Retrieved June 20, 2005 from <http://www.praxis.bond.edu.au/prism/papers/refereed/paper4.pdf>
- Gao, G. (1991). Stability of romantic relationships in China and the United States. In S. Ting-Toomey & F. Korzenny (Eds.), *Cross-cultural interpersonal communication* (pp. 99-115). Newbury Park, CA: Sage.

- Gao, G. (1996). Self and other: A Chinese perspective on interpersonal relationships. In W. Gudykunst, S. Ting-Toomey, & T. Nishida (Eds.), *Communication in personal relationships across cultures* (pp. 81-101). Thousand Oaks, CA: Sage.
- Gao, G. (2001). Intimacy, passion, and commitment in Chinese and US American romantic relationships. *International Journal of Intercultural Relations*, 25, 329-342.
- Gao, G., & Ting-Toomey, S. (1998). *Communicating effectively with the Chinese*. Thousand Oaks, CA: Sage.
- Gao, G., Ting-Toomey, S., & Gudykunst, W. B. (1996). Chinese communication process. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 280-293). Hong Kong: Oxford University Press.
- Garramone, G. M., Harris, A. C., & Anderson, R. (1986). Uses of political computer bulletin boards. *Journal of Broadcasting & Electronic Media*, 30, 325-339.
- Geisinger, K.F. (1994). Cross-cultural normative assessment: translation and adaptation issues influencing the normative interpretation of assessment instruments. *Psychological Assessment*, 6, 304-312.
- Goffman, E. (1967). On facework: An analysis of ritual elements in social interaction. In A. Jaworski & N. Coupland (Eds.) *The discourse reader* (pp. 306-321), London, Routledge.
- Gravetter, F. J. & Wallnau, L. B. (2000). *Statistics for the behavioral sciences* (5th ed.). Belmont, CA: Wadsworth.
- Grice, H. P. (1989). *Studies in the ways of words*. Cambridge, MA: Harvard University Press.

- Gross, E. F., Juvonen, J., & Gable, S. L. (2002). Internet use and well-being in adolescence. *Journal of Social Issues, 58*, 75–90
- Gudykunst, W.B. (1995). Anxiety/uncertainty management (AUM) theory: Current status. In Wiseman, R. (ed.), *Intercultural communication theory* (pp. 8-57). Thousand Oaks, CA: Sage.
- Gudykunst, W. B., & Nishida, T. (1983). Social penetration in Japanese and American close friendships. In R. N. Bostrom (Ed.), *Communication year book* (pp. 592-610). New Brunswick, NJ: International Communication Association.
- Gudykunst, W. B., & Nishida, T. (1986). The influence of cultural variability on perceptions of communication behavior associated with relationship terms. *Human Communication Research, 13*, 147-166.
- Gudykunst, W. B. & Ting-Toomey, S. (1988). Culture and affective communication. *American Behavioral Scientist, 31*, 384-400.
- Guerrero, E. K., Eloy, S. V., & Wabnik, A. I. (1993). Linking maintenance strategies to relationship development and disengagement: A reconceptualization. *Journal of Social and Personal Relationships, 10*, 273-283.
- Gunawardena, C. N., Walsh, S. L., Reddinger, L., Gergory, E., Lake, Y., & Davies, A. (2002). Negotiating “face” in a non-face-to-face learning environment. In F. Sudweeks & C. Ess (Eds.). *Proceedings, cultural attitudes towards technology and Communication 2002* (pp. 89-106). Murdoch, Australia: Murdoch University.
- Hall, E. T. (1976). *Beyond culture*. New York: Doubleday.
- Hanna, B. E. & Nooy, J. (2004). Negotiating cross-cultural difference in electronic discussion. *Multilingua, 23*, 257-281.

- Hardey, M. (2002) Life beyond the screen: Embodiment and identity through the Internet. *The Sociological Review*, 50, 570-585.
- Hartup, W. W. (1978). Children and their friends. In H. McGurk (Ed.), *Childhood social development* (pp. 127-137). London: Methuen.
- Hatfield, E., Utne, M., & Traupmann, J. (1979). Equity theory and intimate relationships. In R. L. Burgess & T. L. Huston (Eds.), *Social exchange in developing relationships* (pp. 99-133). New York: Academic Press.
- Hays, R. B. (1988). Friendship. In S. W. Duck (Ed.), *Handbook of personal relationships: Theory, research, and interventions* (pp.391-408). New York: Wiley.
- Hays, R. B. (1989). The day to day functioning of close versus causal friendships. *Journal of Social and Personal Relationships*, 6, 21-37.
- Henderson, S., & Gilding, M. (2004). "I've never clicked this much with anyone in my Life": Trust and hyperpersonal communication in online friendships. *New Media & Society*, 6, 487-506.
- Hendrick, S. S. (2004). *Understanding close relationships*. Boston, MA: Pearson.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.
- Hofstede, G. (1984). *Culture's consequences*. Beverly Hills, CA: Sage.
- Hu, H. (1944). The Chinese concepts of "face". *American Anthropologist*, 46, 45-64.
- Jones, S. (2002). The Internet goes to college: How students are living in the future with today's technology. Retrieved May 11, 2005, from:
http://www.pewinternet.org/pdfs/PIP_College_Report.pdf

- Kashima, Y., Yamaguchi, S., Kim, U., Choi, S., Gelfand, M., & Yuki, M. (1995). Culture, gender, and self: A perspective from individualism-collectivism research. *Journal of Personality and Social Psychology, 69*, 925-937.
- Kiesler, C. A., Kiesler, S. & Pallak, M. (1967). The effects of commitment to future interaction on reactions to norm violations. *Journal of Personality, 35*, 585-599.
- Kiesler, S., Siegal, J., & McGuire, T. (1984). Social psychological aspects of computer-mediated communication. *American Psychologist, 39*, 1123-1134.
- Kim, M. S., Aune, K., Hunter, J. E., Kim, H. J., & Kim, J. S. (2001). The effect of culture and self-construals on predispositions toward verbal communication. *Human Communication Research, 27*, 382-408.
- Kim, K. J., & Bonk, C. J. (2002). Cross-cultural comparisons of online collaboration. *Journal of Computer-mediated Communication, 8(1)*. Retrieved April 27, 2005, from: <http://www.ascusc.org/jcmc/vol8/issue1/kimandbonk.html>
- King, A. Y. C., & Bond, M. H. (1985). The Confucian paradigm of man: A sociological view. In W. S. Tseng and D. Y. H. Wu (Eds.), *Chinese culture and mental health* (pp. 29-46). Orlando, FL: Academic Press.
- Knapp, M. L. (1984). *Interpersonal communication and human relationships*. Boston, MA: Allyn & Bacon.
- Knobloch, L.K., & Solomon, D. H. (1999). Measuring the sources and content of relational uncertainty. *Communication Studies, 50*, 161-178.
- Korn, C. J. (1993). Friendship formation and development in two cultures: Universal constructs in the United States and Korea. In A. M. Nicotera (Ed.). *Interpersonal communication in friendship and mate relationships* (pp. 61-78). Albany, NY: State

University of New York Press.

- Kowalski, R. M. (2001). Aversive interpersonal behaviors: On being annoying, thoughtless, and mean. In R. M. Kowalski (Ed.), *Behaving badly: Aversive behaviors in interpersonal relationships* (pp. 3-28). Washington, DC: American Psychological Association.
- Lea, M., & Spears, R. (1995). Love at first byte? Building personal relationships over computer networks. In J. T. Wood & S. Duck (Eds.), *Understudied relationships: Off the beaten track* (pp. 197-233). Thousand Oaks, CA: Sage, Publication.
- Leung, K. (1996). The role of beliefs in Chinese culture. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 247-262). Oxford: Oxford University Press.
- Levine, D. (2000). Virtual attraction: What rocks your boat. *CyberPsychology & Behavior*, 3, 565-573.
- Lindlif, T. & Shatzer, M. (1998) Media ethnography in virtual space: Strategies, limits, and possibilities. *Journal of Broadcasting & Electronic Media*, 42, 170-90.
- Lustig, M. W., and Koester, J. (2003). *Intercultural competence: Interpersonal communication across cultures*. Boston, MA: Allyn and Bacon.
- Ma, M. L. (2003). *Unwillingness-to-communication, perception of the Internet and self-disclosure in ICQ*. Unpublished Master's Thesis. The Chinese University of Hong Kong.
- Manitovani, F. (2001). Cyber-attraction: The emergence of computer-mediated communication in the development of interpersonal relationships. In L. Anolli, R. Ciceri, & G. Riva (Eds.), *Say not to say: New perspectives on miscommunication* (pp. 263-250). IOS Press.

- McKenna, K. (1998). *The computers that bind: Relationship formation on the Internet*. Unpublished Doctoral Dissertation. Ohio University.
- McKenna, K., Green A. & Gleason, M. (2002). Relationship formation on the Internet: What's the big attraction? *Journal of Social Issues*, 58, 9-31.
- McLaughlin, M.L., Osborne, K. K., & Smith, C. B. (1995). Standards of conduct on Usenet. In S. Jones (Ed.), *Cybersociety* (pp. 90-111). Thousand Oaks, CA: Sage.
- Metts, S. (1989). An exploratory investigation of deception in close relationships. *Journal of Social and Personal Relationships*, 6, 159-179.
- Miller, E., Neal, D., Roberts, L., Baer, J., Cressler, S., Metrik, J., & Marlatt, G. (2002). Test-retest reliability of alcohol measures: Is there a difference between Internet-based assessment and traditional methods? *Psychology of Addictive Behaviors*, 16, 56-63.
- Miller, G.R. (1983). Telling it like it isn't and not telling it like it is: Some thoughts on deceptive communication. In J. Sisco (Ed.), *The Jensen lectures: Contemporary communication studies*. Tampa, FL: USF Press.
- Morahan-Martin, J., & Schumacher, P. (2003). Loneliness and social uses of the Internet. *Computers in Human Behavior*, 19, 659-671.
- Nix, J. C. (1999). *Addressing friendship transitions in early adulthood: An inductive examination of how individuals manage romantic relationships and close friendships simultaneously*. Unpublished Doctoral Dissertation. Ohio University.
- Nomura, N. & Barnlund, D. (1983). Patterns of interpersonal criticism in Japan and the United States. *International Journal of Intercultural Relations*, 7, 1-18.
- Ohbuchi, K. I., Fukushima, O., & Tedeschi, J.T. (1999). Cultural values in conflict management: Goal orientation, goal attainment, and tactical decision. *Journal of*

Cross-Cultural Psychology, 30, 51-71.

O'Sullivan, P. (1996, May). A match made in cyberspace: Interpersonal communication theory and interpersonal communication technology. Paper presented at the Annual International Communication Association Convention, Chicago, IL.

Oswald, D., Clark, E., & Kelly, C. (2004). Friendship maintenance: An analysis of individual and dyad behaviors. *Journal of Social and Clinical Psychology*, 23, 413-441.

Parks, M., & Adelman, M. (1983). Communication networks and the development of romantic relationships. *Human Communication Research*, 10, 55-79.

Parks, M., & Floyd, K. (1996). Making friends in Cyberspace. *Journal of Communication*, 46(1), 80-97.

Parks, M. R., & Roberts, L. D. (1998). "Making MOOsic": The development of personal relationships on line and a comparison to their offline counterparts. *Journal of Social and Personal Relationships*, 15, 517-537.

Pew Internet & American Life Project (2004). Reports: Online activities and results. Retrieved October 11, 2005 from http://www.pewinternet.org/PPF/r/124/report_display.asp

Pew Internet & American Life Project (2006a). The strength of Internet ties. Retrieved May 12, 2006 from http://www.pewinternet.org/pdfs/PIP_Internet_ties.pdf

Pew Internet & American Life Project (2006b). Internet Penetration and Impact. Retrieved May 12, 2006 from http://www.pewinternet.org/PPF/r/182/report_display.asp

- Poster, M. (1996). *The second media age*. Cambridge: Polity.
- Potter, S. H. (1988). The cultural construction of emotion in rural Chinese social life
Ethos, 16, 181-208.
- Pratt, D. (1991). Conceptions of self within China and the United States: Contrasting foundations for adult education. *International Journal of Intercultural Relations*, 15, 285-310.
- Pruitt, D. G., & Smith, D. L. (1981). Impression management in bargaining: Images of firmness and trustworthiness. In J. T. Tedeschi (Ed.), *Impression management theory and social psychological research* (pp. 247-267). New York: Academic Press.
- Qiu, J., & Chan, J. (2004). China Internet studies: A review of the field. In H. Nissenbaum & M. E. Price (Eds.), *Academy & the Internet* (pp.275-307). New York: Peter Lang.
- Rabby, M. K. (2001). *Commitment and relational maintenance in online and offline romantic relationships*. Unpublished Doctoral Dissertation. Arizona State University.
- Rabby, M. K., & Walther, J. (2003). Computer-mediated communication effects on relationship formation and maintenance. In D. J. Canary & M. Dainton (Eds.), *Maintaining relationships through communication: Relational, contextual, and cultural variations* (pp. 141-162). Mahwah, NJ: Erlbaum.
- Rheingold, H. (1993). *The virtual community: Homesteading on the electronic frontier*. Reading, MA: Addison-Wesley.
- Ribarsky, E., & Hinck, S. (2001, November). *Escalating romantic relationships in Cyberspace*. Paper presented at the annual meeting of the National Communication Association, Atlanta, GA.

- Rice, R. E. (1993). Media appropriateness: Using social presence theory to compare traditional and new organization media. *Human Communication Research, 19*, 451-484.
- Rice, R. E. & Love, G. (1987). Electronic emotion: Socio-emotional content in a computer-mediated communication network. *Communication Research, 14*, 85-108.
- Ridings, C. & Gefen, D. (2004). Virtual community attraction: Why people hang out online. *Journal of Computer-Mediated Communication, 10(1)*, Retrieved October 11, 2005 from http://jcmc.indiana.edu/vol10/issue1/ridings_gefen.html
- Riva, G. (2001). The mind over the web: The quest for the definition of a method for Internet research. *CyberPsychology & Behavior, 4*, 7-16.
- Roberto, K.A., & Scott, J. P. (1986). Equity considerations in the friendships of older adults. *Journal of Gerontology, 41*, 241-247.
- Rohlfing, M. (1995). Doesn't anybody stay in one place anymore? An exploration of the under-studied phenomenon of long-distance relationships. *Understudied relationships: Off the beaten track* (pp. 173-196). Thousand Oaks, CA: Sage.
- Rose, S. M., & Serafica, F. C. (1986). Keeping and ending casual, close, and best friendships. *Journal of Social and Personal Relationships, 3*, 275-288.
- Saarni, C., & Lewis, M. (1993). Deceit and illusion in human affairs. In M. Lewis & C. Saarni (Eds.), *Lying and deception in everyday life* (pp. 1-29). New York: Guilford Press.
- Salem, D.A., Bogat, G.A., & Reid, C. (1997). Mutual help goes on line. *Journal of Community Psychology, 25*, 189-207.
- Schwartz, S. H. & Bilsky, W. (1987). Toward a universal psychological structure of

- human values. *Journal of Personality and Social Psychology*, 53, 550-562.
- Shen, J. J. (2002). Computer-mediated communication: Internet development and new challenges in China. In W. Jia, X. Lu, & D. R. Heisey (Eds.), *Chinese communication theory and research: Reflections, new frontiers, and new directions* (pp. 223-238). Westport, CT: Ablex Publishing.
- Short, J. A., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: Wiley.
- Simon, E. P., & Baxter, L. A. (1993). Attachment-style differences in relationship maintenance strategies. *Western Journal of Communication*, 3, 416-430.
- Sprecher, S. (1986). The relation between equity and emotions in close relationships. *Social Psychology Bulletin*, 49, 309-321.
- Sproull, L., & Keisler, S. (1986). Reducing social context cues: Electronic mail in organizational communication. *Management Science*, 32, 1492-1513.
- Stafford, L. (2003). Maintaining romantic relationships: A summary and analysis of one research program. In D. J. Canary & M. Dainton (Eds.), *Maintaining relationships through communication: Relational, contextual, and cultural variations* (pp. 51-77). Mahwah, NJ: Erlbaum.
- Stafford, L. (2005). *Maintaining long-distance and cross-residential relationships*. Mahwah, NJ: Erlbaum.
- Stafford, L., & Canary, D. (1991). Maintenance strategies and romantic relationship type, gender and relational characteristics. *Journal of Social and Personal Relationships*, 8, 217-242.
- Stafford, L., Dainton, L., & Haas, S. M. (2000). Measuring routine and strategic

- relational maintenance: Scale revision, sex versus gender roles, and the prediction of relational characteristics. *Communication Monographs*, 3, 306-323.
- Stritzke, W. G. K., Nguyen, A., & Durkin, K. (2004). Shyness and computer-mediated communication: A self-presentational theory perspective. *Media Psychology*, 6, 1-22.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics* (3rd ed.). New York: HarperCollins.
- Tedeschi, J. & Bond, M. H. (2001). Aversive behavior and aggression in cultural perspective. In R. M. Kowalski (Ed.), *Behaving badly: Aversive behaviors in interpersonal relationships* (pp. 275-293). Washington, DC: American Psychological Association.
- Thompsen, P. A., & Ahn, D. K. (1992). To be or not to be: An exploration of E-prime, copula deletion and flaming in electronic mail. *ETC: A Review of General Semantics*, 49, 146-164.
- Tidwell, L. C., & Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research*, 28, 317-348.
- Ting-Toomey, S. (1986). Interpersonal ties in intergroup communication. In W. B. Gudykunst (Ed.), *Intergroup communication* (pp. 114-126). London, Edward Arnold.
- Ting-Toomey, S. (1988). Intercultural conflict styles: A face negotiation theory. In Y. Y. Kim & W. B. Gudykunst (Eds.), *Theories in intercultural communication* (pp. 213-238). Newbury Park, CA: Sage.
- Ting-Toomey, S. (1991). Intimacy expressions in three cultures: France, Japan, and

- the United States. *International Journal of Intercultural Communication*, 15, 29-46.
- Ting-Toomey, S., Gao, G., Trubishky, P., Yang, Z. Z., Kim, H.S., Lin, S. L., & Nishida, T. (1991). Culture, face maintenance, and styles of handling interpersonal conflict: A study in five cultures. *International Journal of Conflict Management*, 2, 275-296.
- Triandis, H. C. (1995). *Individualism & collectivism*. Boulder, CO: Westview Press.
- Tu, C. (2002). The measurement of social presence in an online learning environment. *International Journal on E-learning*, 2, 34-45.
- Turkle, S. (1995). *Life on the screen: Identity in the age of the Internet*. New York: Simon & Schuster.
- Ulijin, J. M., & Verweij, M. J. (2000). Questioning behavior in monocultural and intercultural technical business negotiations: the Dutch-Spanish connection. *Discourse Studies*, 2, 217-248.
- Valacich, J. S., Paranka, D., George, J. F. & Nunamaker, J. F., Jr. (1993). Communication concurrency and the new media. A new dimension for media richness. *Communication Research*, 20, 249-276.
- Vogl-Bauer, S., Kalbfleisch, P. J., & Beatty, M. J. (1999). Perceived equity, satisfaction, and relational Maintenance strategies in parent–adolescent dyads. *Journal of Youth and Adolescence*, 28, 27–49.
- Walther, J. B. (1994). Anticipated ongoing interaction versus channel effects on relational communication in computer-mediated interaction. *Human Communication Research*, 20, 473-501.

- Walther, J. B. (1996). Computer-mediated communication: Impersonal, Interpersonal and Hyperpersonal Interaction. *Communication Research*, 23, 3-43.
- Walther, J. B., & Burgoon, J.K. (1992). Relational communication in computer-mediated interaction. *Human Communication Research*, 19, 50-88.
- Walther, J. B., & Tidwell, L. C. (1996). When is mediated communication not interpersonal? In K. M. Galvin & P. J. Cooper (Eds.), *Making connections: Readings in relational communication* (pp. 300-307). Los Angeles: Roxbury.
- Walther, J. B., & Tidwell, L. C. (2001). Is a picture worth a thousand words? Photographic image in long-term and short-term computer-mediated communication. *Communication Research*, 28, 105-134.
- Warschauer, M. (1996). Comparing face-to-face and electronic discussion in the second language classroom. *CALICO Journal*, 12, 7-26.
- Wellman, B., & Guila, M. (1999). Virtual communities as communities: net surfers don't ride alone. In M. Smith & P. Kollock (Eds.), *Communities in Cyberspace* (pp. 167-194). New York: Routledge.
- Wellman, B., & Wortley, S. (1990). Different strokes from different folks: Community ties and social support. *American Journal of Sociology*, 96, 558-588.
- Whitty, M. T. (2002). Liar, Liar! An examination of how open, supportive and honest people are in Chat Rooms. *Computers in Human Behavior*, 18, 343-352.
- Whitty, M. T. & Carr, A. N. (2003). Cyberspace as potential space: Considering the web as a playground to cyber-flirt. *Human Relations*, 56, 861-891.
- World Internet Project (2003). First release of findings from the UCLA World Internet Project shows significant 'digital gender gap' in many countries. Retrieved October

- 11, 2005 from http://www.digitalcenter.org/downloads/World_Internet_Project.doc
- Wright, K. (2004). On-line relational maintenance strategies and perceptions of partners with exclusively Internet-based and primarily Internet-based relationships. *Communication Studies, 55*, 239-253.
- Wright, K. (2005). Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication, 10*(3), Retrieved November 25, 2005 from <http://jcmc.indiana.edu/vol10/issue3/wright.html>
- Wright, P.H. (1984). Self-referent motivation and the intrinsic quality of friendship. *Journal of Social and Personal Relationships, 1*, 115-130.
- Yang, K. S. (1981). Social orientation and individual modernity among Chinese students in Taiwan. *Journal of Social Psychology, 113*, 159-170.
- Yum, Y. (2000). *Cross-cultural comparisons of links among relational maintenance behaviors, exchange factors, and individual characteristics in close relationships*. Unpublished doctoral dissertation, Pennsylvania State University.
- Yum, Y., & Canary, D. J. (1997, July). *The role of culture in the perception of maintenance behaviors and relational characteristics: A comparison between the U.S. and South Korea*. Paper presented at the International Network on Personal Relationships Conference, Oxford, OH.
- Yum, Y., & Canary, D. J. (2003). Maintaining relationships in Korea and the United States: Features of Korean culture that affect relational maintenance beliefs and behaviors. In D. J. Canary & M. Dainton (Eds.), *Maintaining relationships through communication: Relational, contextual, and cultural variations* (pp. 277-296).

Mahwah, NJ: Erlbaum.

Zhu, J. J. H., & Wang, E. (2005). Diffusion, use, and effect of the Internet in China.

Communications of the ACM, 48, 49-53.

Appendix A

Georgia State University Department of Communication Informed Consent Form

Title: **Antisocial Interactional Behaviors on the Internet for Friendship Maintenance**

Principle Investigator: Jaye L. Atkinson

Student Principle Investigator: **Jiali Ye**

Purpose and Procedures: This research is intended to examine antisocial behaviors that people may perform on the Internet when interacting with their friends in order to keep the friendship in a status that they desire. This is a pilot study for a project. The purpose of this study is to develop a scale measuring online antisocial behaviors for friendship maintenance. If you agree to participate, you will be asked to complete a questionnaire. Questions include multiple choices and open-ended questions. It should take you about 10-15 minutes to complete. There are no right and wrong answers. We would like you to share your experience honestly and completely.

Risks and Benefits: You may experience some mild, temporary discomfort relating to taking a test, as some questions concern some unpleasant interpersonal experiences. If you experience great discomfort, you will be referred to a counselor, and you will be responsible for any costs of such counseling. You will probably not receive any direct benefits from participating in this **research**. However, your participation may help researchers understand more about people's online relational interactions.

Voluntary Participation and Withdrawal: **your participation is voluntary. You may refuse to participate, you may choose to stop at any time, and you may decline to answer any specific question without penalty.**

Confidentiality: We will keep your records private to the extent allowed by law. We will use a "subject number" rather than your name on the questionnaire. Your name and other facts that might point to you will not appear when we present this study or publish its results. The findings will be summarized and reported in group form. You will not be identified personally. Your signed consent form will be collected separately from your questionnaire and placed in a different envelope.

Contact Persons: If you have any questions about this study, you may contact Jiali Ye of the Department of Communication at 404-463-0570 and by email joujyyx@langate.gsu.edu, or Dr. Jaye Atkinson at 404-651-3491 and by email jla@gsu.edu. If you have questions about your rights as a participant in research, you can contact Susan Vogtner in the Office of Research Integrity at Georgia State University at 404-463-0674 and by email svogtner1@gsu.edu.

You must be at least 18 years old. A copy of this consent form will be given to you to keep. If you agree to participate in the study, please sign below. Thank you!

I have read this form, and I volunteer to participate in this research study.

Signature of Participant

Date

Signature of Principal Investigator

Date

Signature of Student Principal Investigator

Date

Appendix B

Pilot Study Questionnaire

Instructions: Think of a friendship that you have developed on the Internet. This friendship should be exclusively maintained through computer-mediated methods (e.g., emails, instant messengers, chat rooms).

*** * If you do not have such a friendship, think of a friendship that was formed in a face-to-face context, but currently is maintained through computer-mediated methods.**

1. Is the friendship that you start to think of (choose **only one** please)
 - ___ a). a friendship that was initiated online and also maintained exclusively online.
 - ___ b). a friendship that was initiated in a face-to-face context, but is currently maintained primarily online.
2. Is this person: _____ (0) male _____ (1) female
3. Is this friendship: _____ (1) casual friendship _____ (2) close friendship
4. How long have you known each other? _____ year(s) _____ month(s)

Please indicate the extent to which you agree or disagree with the following statements that describes this friendship?

	Strongly Disagree						Strongly Agree
5. In general, I am satisfied with this relationship.	0	1	2	3	4	5	6
6. This relationship is good, compared to most.	0	1	2	3	4	5	6
7. I think I can trust this person.	0	1	2	3	4	5	6
8. There are few problems in my relationship.	0	1	2	3	4	5	6

People can do a variety of things to maintain their friendships at a status that they are satisfied with. For instance, they may behave in a certain way to avoid escalating a friendship to a relationship with greater intimacy, or to obtain rewards by imposing their position on another. Sometimes these behaviors are considered antisocial or against acceptable social norms. The following items concern things that you do to maintain the friendship that you have identified at a desired state.

Please keep in mind that you have selected a friendship that is maintain via the Internet. Thus, please focus on your online interaction when answering these questions.

How often do you

	Never				Frequently		
9. act in a rude way toward him/her?	1	2	3	4	5	6	7
10. initiate a fight or argument with him/her?	1	2	3	4	5	6	7
11. not try to make things better when there's conflict?	1	2	3	4	5	6	7
12. lie about your personal information to him/her?	1	2	3	4	5	6	7
13. force him/her to accept your ideas?	1	2	3	4	5	6	7
14. act impolitely to him/her?	1	2	3	4	5	6	7
15. break off contact with the other for a while when this friendship is having a problem?	1	2	3	4	5	6	7
16. create a false impression of yourself?	1	2	3	4	5	6	7
17. act in a stubborn way, refusing to give in or compromise when you disagree?	1	2	3	4	5	6	7
18. act unfriendly to him/her?	1	2	3	4	5	6	7
19. give him/her "the silent treatment"?	1	2	3	4	5	6	7
20. tell him/her something that is not actually true purposely?	1	2	3	4	5	6	7
21. act unkindly to him/her?	1	2	3	4	5	6	7
22. criticize him/her when you have disagreement?	1	2	3	4	5	6	7
23. give him/her "the cold shoulder"?	1	2	3	4	5	6	7
24. give inaccurate information about yourself?	1	2	3	4	5	6	7

Do you have any question about the scale on page 2? Please write down any questions below.

If there are any items in the scale on page 2 that you feel confusing, please write down their item numbers and the reasons why you feel they are confusing.

If you think the antisocial relational behaviors listed in the scale are not complete, please provide antisocial behaviors that are unavailable in this measure but have actually been used by you to maintain a friendship at a status that you desire.

Are you a: _____ (0) male _____ (1) female

With which race/ethnicity do you identify? (Check all that apply)

- | | |
|----------------------------------|---------------------------|
| _____ (1) Asian/Pacific Islander | _____ (4) Native American |
| _____ (2) Black/African American | _____ (5) White/Caucasian |
| _____ (3) Hispanic/Latino(a) | _____ (6) Other _____ |
- (Please specify)

Your age (in years) _____

Thank you for your participation!

Appendix C

Georgia State University Department of Communication Informed Consent Form

Title: Relational Maintenance of Online Friendships

Principal Investigator: Dr. Jaye L. Atkinson

Student Principal Investigator: Jiali Ye

Purpose and Procedures: This research is intended to examine people's maintenance behaviors for online friendships and their links to various relational and media factors. The purpose of this study is to discover how people feel about their friendships initiated and developed on the Internet and the types of behavior that they use to keep these relationships in a satisfactory condition. Questions include multiple choices and open-ended questions. It should take you about 20-25 minutes to complete. There are no right and wrong answers. We would like you to share your experience honestly and completely.

Risks and Benefits: There are no risks in participating in this study. You may experience some mild, temporary discomfort relating to taking the test, as some questions concern some unpleasant interpersonal experiences. If you experience great discomfort, you will be referred to a counselor, and you will be responsible for any costs of such counseling. Although you will probably not receive any direct benefits from participating in this research, your participation may help researchers understand more about people's online relational interactions.

Voluntary Participation and Withdrawal: your participation is voluntary. You may refuse to participate, you may choose to stop at any time, and you may decline to answer any specific question without penalty. Whatever you decide, you will not lose any benefits to which you are otherwise entitled. You can acquire a copy of the consent form by printing off the form from the web page.

Confidentiality: Your responses will be confidential. The questionnaire will be identified by number (no IP address will be tracked). The raw data will be protected by using a password. Only the researchers will have access to the original data. In addition, the numerical data will be presented in aggregate form, and no identifying information will be reported.

Contact Persons: If you have any questions about this study, you may contact Jiali Ye of the Department of Communication at 404-463-0570 and by email joujyyx@langate.gsu.edu, or Dr. Jaye Atkinson at 404-651-3491 and by email jla@gsu.edu. If you have questions about your rights as a participant in research, you can contact Susan Vogtner in the Office of Research Integrity at Georgia State University at 404-463-0674 and by email svogtner1@gsu.edu.

You must be at least 18 years old. If you agree to participate in the study, please click the button “I accept.” Thank you!

Appendix D

Recruiting Message

Greetings!

My name is Jiali Ye, and I am a doctoral student in the Department of Communication at Georgia State University.

As part of my dissertation research, I am conducting a survey on the maintenance of friendships developed on the Internet. To explore this issue, your help is requested. The website below links to a brief online survey. If you are currently having a friendship (not romantic relationship) initiated and exclusively maintained online, you are welcome to participate in the study. In addition to the questions on this online friendship, there are some questions concerning your personality, your real-life friendships, and your perception of the Internet. Your responses will be confidential. The survey will take about fifteen to twenty minutes.

Please go to the site below to learn more about the research and to link to the survey. Feel free to contact me at joujyyx@langate.gsu.edu if you have any questions. Thank you in advance for your participation!

<http://www.gsu.edu/~wwwjou>

Jiali Ye
Department of Communication
Georgia State University

Appendix E

Questionnaire

People tend to hold different values as their guiding principle in life. First of all, please judge the following value items on the extent to which they constituted a guiding principle in your life on the following scale ranging from not at important (1) to very important (7).

	Not at all Important				Very Important		
	1	2	3	4	5	6	7
1. Social order (stability of society)	1	2	3	4	5	6	7
2. Creativity (uniqueness, imagination)	1	2	3	4	5	6	7
3. Being daring (seeking adventure, risk)	1	2	3	4	5	6	7
4. Politeness (courtesy, good manners)	1	2	3	4	5	6	7
5. Freedom (freedom of action and thought)	1	2	3	4	5	6	7
6. An exciting life (stimulating experiences)	1	2	3	4	5	6	7
7. Obedience (fulfilling duties, meeting obligations)	1	2	3	4	5	6	7
8. Pleasure (gratification of desires)	1	2	3	4	5	6	7
9. Self-discipline (self-restraint, resistance to temptation)	1	2	3	4	5	6	7
10. Honor of parents and elders (showing respect)	1	2	3	4	5	6	7
11. A varied life (filled with challenge, novelty, and change)	1	2	3	4	5	6	7
12. National security (protection of my own nation from enemies)	1	2	3	4	5	6	7
13. Independence (choice of own goals and interests)	1	2	3	4	5	6	7

Now, please think of a friendship that you've formed and developed on the Internet. This friendship should be exclusively maintained through the computer-mediated methods (e.g., emails, instant messengers, chat rooms, web-supported short message service).

The majority of the questions in the questionnaire will focus on your relationship with this online friend. Therefore, you need to consider this friendship as you answer these questions.

The following questions ask about some basic information about this friend and this friendship.

14. Is this person male or female? ____ male(0) ____ female (1) ____ unknown (2)

15. How long have you known this person? ____ year(s) ____ month(s)

16. where did you first "meet" online? _____

17. Please briefly describe this online friend.

18. Is this friendship: ____ (1) casual friendship ____ (2) close friendship

19. At this point in your relationship, to what extent do you plan to arrange a face-to-face meeting with this friend?

Definitely will not

Definitely will

1 2 3 4 5 6 7

20. Please indicate to what extent you have used the following Internet communication tools for interacting with this online friend.

	Never					A great deal	
	1	2	3	4	5	6	7
a. Text-based communication	1	2	3	4	5	6	7
b. Audio/voice chat/voice messages	1	2	3	4	5	6	7
c. Video chat	1	2	3	4	5	6	7

21. How often do you currently interact with your online friend (select one please)?

Every day _____ A few times a week _____
 Once a week _____ A few times a month _____
 Once a month _____ A few times a year _____
 Once a yearly or less often _____

People can do a variety of things to maintain their friendships in a status that they are satisfied with. The following items concern things that you do to maintain the online friendship that you have just now identified.

Please indicate how often you

	Never				Frequently			
22. express thanks when him/her does something nice for you.	1	2	3	4	5	6	7	
23. try to make the him/her "feel good" about who he/she is.	1	2	3	4	5	6	7	
24. initiate a argument with him/her.	1	2	3	4	5	6	7	
25. make an effort to spend time together even when you are busy.	1	2	3	4	5	6	7	
26. try to make him/her laugh.	1	2	3	4	5	6	7	
27. break off contact with him/her for a while when this friendship is having a problem.	1	2	3	4	5	6	7	
28. force him/her to accept your ideas.	1	2	3	4	5	6	7	
29. lie about your personal information to him/her.	1	2	3	4	5	6	7	
30. let this person know you accept him/her for who he/she is.	1	2	3	4	5	6	7	
31. purposely delay responding to his/her messages.	1	2	3	4	5	6	7	
32. share your private thoughts with him/her.	1	2	3	4	5	6	7	
33. do online activities together.	1	2	3	4	5	6	7	
34. show signs of affection toward him/her.	1	2	3	4	5	6	7	
35. try to be upbeat and cheerful when together.	1	2	3	4	5	6	7	
36. support him/her when he/she is going through a difficult time.	1	2	3	4	5	6	7	
	Never				Frequently			

	Never			Frequently			
37. create a false impression of yourself.	1	2	3	4	5	6	7
38. act in a stubborn way, refusing to give in or compromise when you disagree.	1	2	3	4	5	6	7
39. do favors for him/her.	1	2	3	4	5	6	7
40. reminisce about things you did together in the past.	1	2	3	4	5	6	7
41. act cold to him/her.	1	2	3	4	5	6	7
42. provide him/her with emotional support.	1	2	3	4	5	6	7
43. Purposely tell him/her something that is not actually true.	1	2	3	4	5	6	7
44. give advice to him/her.	1	2	3	4	5	6	7
45. give an inaccurate self-description.	1	2	3	4	5	6	7
46. celebrate special occasions with him/her.	1	2	3	4	5	6	7
47. blame him/her for bad things that happen?	1	2	3	4	5	6	7
48. return his/her messages promptly.	1	2	3	4	5	6	7
49. give him/her "the silent treatment".	1	2	3	4	5	6	7
50. not tell him/her your real idea or opinion.	1	2	3	4	5	6	7
	Never			Frequently			

This section of questions pertains to how you feel about the friendship you identified in the above questions. Please remember to keep the same online friendship in mind.

Now read the following two questions and please select the number that best represents your evaluation of this friendship.

51. Considering what you put into this friendship compared to what you get out of it and what your friend puts in compared to what he/she gets out of it, how does your friendship “stack up”?

- _____ 1= *My friend is getting a much better deal*
 _____ 2= *My friend is getting a better deal*
 _____ 3= *My friend is getting a somewhat better deal*
 _____ 4= *We are both getting an equally good or bad deal*
 _____ 5= *I am getting a somewhat better deal than my friend*
 _____ 6= *I am getting a better deal than my friend*
 _____ 7= *I am getting a much better deal than my friend*

52. Consider all the times when your friendship has become unbalanced and one partner has contributed more for a time. When this happens, who is more likely to contribute more?

- _____ 1= *My partner is much more likely to be the one to contribute more*
 _____ 2= *My partner is more likely to be the one to contribute more*
 _____ 3= *My partner is somewhat more likely to be the one to contribute more*
 _____ 4= *We contribute equally*
 _____ 5= *I am somewhat more likely to be the one to contribute more*
 _____ 6= *I am more likely to be the one to contribute more*
 _____ 7= *I am much more likely to be the one to contribute more*

**At this point we address issues concerned with your beliefs about this friendship.
 How certain are you about**

	Completely Uncertain				Completely Certain		
53. what you can or cannot say to each other in this friendship?	1	2	3	4	5	6	7
54. whether or not you and your friend feel the same way about each other?	1	2	3	4	5	6	7
55. the definition of this relationship?	1	2	3	4	5	6	7

	Completely Uncertain				Completely Certain		
56. whether or not you and your friend will keep this friendship?	1	2	3	4	5	6	7
57. how you and your friend would describe this relationship?	1	2	3	4	5	6	7
58. the current status of this friendship?	1	2	3	4	5	6	7
59. the boundaries for appropriate and/or inappropriate behavior in this friendship?	1	2	3	4	5	6	7
60. the future of this friendship?	1	2	3	4	5	6	7
61. the norms for this friendship?	1	2	3	4	5	6	7
62. how you and your friend view this friendship?	1	2	3	4	5	6	7
63. whether or not this friendship will end soon?	1	2	3	4	5	6	7
64. how you can or cannot behave when you are interacting with this friend?	1	2	3	4	5	6	7
65. whether or not your partner will see this relationship as a friendship?	1	2	3	4	5	6	7
66. where this friendship is going?	1	2	3	4	5	6	7
67. whether or not your friend likes you as much as you like him or her?	1	2	3	4	5	6	7
	Completely Uncertain				Completely Certain		

At this point we address issues concerned with your beliefs about this online friend. To what extent do you agree or disagree with the following statements?

	Strongly Disagree				Strongly Agree		
68. I am very uncertain about what this person is really like.	1	2	3	4	5	6	7
69. I can accurately predict how this person will respond to me in most situations.	1	2	3	4	5	6	7

	Strongly Disagree				Strongly Agree		
70. I do not know this person very well.	1	2	3	4	5	6	7
71. I can usually tell what this person is feeling inside.	1	2	3	4	5	6	7
72. I can accurately predict what this person's attitudes are	1	2	3	4	5	6	7

Thank you for your patience. There are only a few more sections of questions.

The following section needs you to think of a friendship that you have developed in face-to-face context. If you previously chose a casual online friend, please choose a casual face-to-face friend; if you chose a close online friend, please choose a close face-to-face friend. You need to consider this face-to-face friendship as you answer the following questions.

The first few questions are about some basic information about this friend and this friendship.

73. Is this person male or female? ____ male(0) ____ female (1)

74. How long have you known this person? ____ year(s) ____ month(s)

75. Please briefly describe this friend.

76. How often do you interact with this friend (including face-to-face interaction, phonecall, email, etc.; select one answer please)?

Every day _____ A few times a week _____

Once a week _____ A few times a month _____

Once a month _____ A few times a year _____

Once a yearly or less often _____

As noted before, people can do a variety of things to maintain their friendships in a status that they are satisfied with. The following items concern things that you do to maintain the online friendship that you have just now identified.

Please indicate how often you

	Never				Frequently		
77. express thanks when him/her does something nice for you.	1	2	3	4	5	6	7

	Never			Frequently			
78. try to make the him/her “feel good” about who he/she is.	1	2	3	4	5	6	7
79. initiate a argument with him/her.	1	2	3	4	5	6	7
80. make an effort to spend time together even when you are busy.	1	2	3	4	5	6	7
81. break off contact with him/her for a while when this friendship is having a problem.	1	2	3	4	5	6	7
82. try to make him/her laugh.	1	2	3	4	5	6	7
83. force him/her to accept your ideas.	1	2	3	4	5	6	7
84. lie about your personal information to him/her.	1	2	3	4	5	6	7
85. let this person know you accept him/her for who he/she is.	1	2	3	4	5	6	7
86. purposely delay responding to his/her messages.	1	2	3	4	5	6	7
87. share your private thoughts with him/her.	1	2	3	4	5	6	7
88. do activities together.	1	2	3	4	5	6	7
89. show signs of affection toward him/her.	1	2	3	4	5	6	7
90. try to be upbeat and cheerful when together.	1	2	3	4	5	6	7
91. support him/her when he/she is going through a difficult time.	1	2	3	4	5	6	7
92. create a false impression of yourself.	1	2	3	4	5	6	7
93. act in a stubborn way, refusing to give in or compromise when you disagree.	1	2	3	4	5	6	7
94. do favors for him/her.	1	2	3	4	5	6	7
95. reminisce about things you did together in the past.	1	2	3	4	5	6	7
	Never			Frequently			

	Never			Frequently			
96. act cold to him/her.	1	2	3	4	5	6	7
97. provide him/her with emotional support.	1	2	3	4	5	6	7
98. Purposely tell him/her something that is not actually true.	1	2	3	4	5	6	7
99. give advice to him/her.	1	2	3	4	5	6	7
100. give an inaccurate self-description.	1	2	3	4	5	6	7
101. celebrate special occasions with him/her.	1	2	3	4	5	6	7
102. criticize him/her when we have disagreement.	1	2	3	4	5	6	7
103. return his/her messages promptly.	1	2	3	4	5	6	7
104. give him/her "the silent treatment."	1	2	3	4	5	6	7
105. not tell him/her your real idea or opinion.	1	2	3	4	5	6	7

You are almost done. The final section will ask you about your demographic information. Please answer each item.

106. Are you a male or female? _____ (0) male _____ (1) female

107. With which race/ethnicity do you identify? (Check all that apply)

- _____ (1) Asian/Pacific Islander _____ (4) Native American
 _____ (2) Black/African American _____ (5) White/Caucasian
 _____ (3) Hispanic/Latino(a) _____ (6) Other _____
 (Please specify)

108. Your age (in years) _____

109. How many years have you used the Internet? _____

110. How many friends have you made on the Internet so far? _____

Finally, please indicate to what extent the Internet as a communication means possesses the following qualities.

	Not at all					Very much	
111. Sociability	1	2	3	4	5	6	7
112. Personalization	1	2	3	4	5	6	7

	Not at all					Very much	
113. Sensitivity	1	2	3	4	5	6	7
114. Warmth	1	2	3	4	5	6	7
115. Activity	1	2	3	4	5	6	7

Thank you for your participation!