IDENTIFYING CROSS-CULTURAL DIFFERENCES OF EMOTICONS IN

COMPUTER-MEDIATED COMMUNICATION:

A COMPARISON OF NORTH AMERICAN (U.S.) AND SOUTH KOREAN EMOTIONAL

RESPONSES TO EMOTICONS

Young-Joo Cha

Accepted by the Faculty of Indiana University,
in partial fulfillment of the requirements for the degree of Master of Science
in Human-Computer Interaction.

**Master's Thesis
Committee**

_____

Anthony Faiola, Ph.D.., Chair

_____

Joseph Defazio, Ph.D.

_____

Josette Jones, Ph.D.

Dedicated to my parents

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

This thesis would not have been possible without the support of many people. First of all, I would like to express my deepest gratitude to Dr. Anthony Faiola, who read my numerous revisions and helped make some sense of the confusion. Next, I would like to express my sincere thanks to my committee members, Dr. Joseph Defazio and Dr. Josette Jones who offered guidance and support.

I would express my special gratitude to Dr. Tae-Kyung Lee and my special friend, Sangpyeong Kim, who have constantly encouraged me and inspired me with sincere advices to successfully finish this study.

My deepest and special thanks should go to my parents since they always have loved me, believed in me, and encouraged me in my study. I am also grateful to my brothers, my sisters, brothers-in-law, and sisters-in-law for their encouragement and prayer.

ABSTRACT

Young-Joo Cha

IDENTIFYING CROSS-CULTURAL DIFFERENCES OF EMOTICONS IN
COMPUTER-MEDIATED COMMUNICATION:
A COMPARISON OF NORTH AMERICAN AND SOUTH KOREAN EMOTIONAL
RESPONSES TO EMOTICONS

The lack of physical communication cues, such as facial expressions, in text-only communication has prompted the creation of emoticons to represent feelings. Moreover, the emoticon has become a new "cultural" language adopted by a community of users who find emoticons useful for expressing an emotional state during their online communication. Using emoticons in computer-mediated communication (CMC), which includes any means of communication on the Internet, especially instant messaging (IM) programs, helps users convey and enhance the underlying emotional aspects of their communication facilitating user communication by providing non-verbal cues and clues to clarify a message. Although many researchers have studied the differences in the use of emoticons between males and females and different age groups and some even report cross-cultural differences and similarities between CMC and face-to-face (FTF) communication such research is not sufficient to understand the effective use of emoticons. The current research explores three categories of emoticons - textual, pictorial, and animated emoticons – to ask the broad question: Do North Americans and South Koreans use emoticons differently? The research examines the cross-cultural differences involved in using emoticons, focusing on the visual aspect of online communication that provides emotional cues to understand the differences in their use. Textual emoticons and pictorial emoticons of MSN messenger are used in this study's questionnaires. The results indicate the cross-cultural differences of emoticon use and recognition between North Americans and South Koreans.

CHAPTER ONE: INTRODUCTION

Introduction to Computer-Mediated Communication

Instant messaging (IM), an Internet communication tool that enables individuals to exchange text messages, transfer files, and track in real-time the status of other users on their list, has grown rapidly to involve numerous users, especially among the younger generations. The service has quickly moved into the mainstream as many home and business users found IM to be an easy, fast, and convenient way to communicate with family members, friends, and colleagues (Isaacs, Walendowski, Whittaker, Schiano & Kamm, 2002; Nardi, Whittaker & Bradner, 2000).

In 2004, Embrain[1] surveyed 2,000 people in their teens and older about the usage status of IM over a period of four days. The results indicated that 91.3 percent of the respondents used IM; those in their teens and twenties used it even more (98.3 and 97.3 percent, respectively). In the profession categories, students (98.8 percent) and businessmen/experts (94.2 percent) showed the highest rate of IM usage. Altogether, 62.9 percent of all netizens[2] use IM, each using two or three messenger different programs together on average; 33.3 percent responded they use one messenger program, while 3.5 percent responded they use over four IM programs.

In addition, the Pew Internet and American Life Project's May-June 2004 Tracking Survey revealed that 53 million American adults (42 percent of respondents) use IM; its appeal was especially apparent among young adults and technology enthusiasts. The results also indicated that significant numbers of IM users are turning to IM more often than they do email; and 21 percent of IM users (approximately 11 million North American adults) use IM at work while 77 percent use IM at home (Pew Internet & American Life Project, 2004). These facts

---

[1] Embrain is an online research company: http://www.embrain.com
[2] *Netizen* means network citizens on the Internet service (network + citizen).

strongly suggest that the majority of people use IM programs for useful and immediate interactions with others. In addition, IM programs, as computer-mediated communication (CMC), effectively facilitate and enhance the operational efficiency and exchanging of information in people's daily lives and business affairs.

IM poses interesting challenges as a form of CMC such as how to ensure that users are able to communicate effectively even without audio and video channels and how to employ IM as a form of self-expression that maintains and expands users' social circles. Generally, CMC is a text-based communication tool, often compared with letters and telecommunications in terms of contacting without face-to-face (FTF) communication. FTF communication is exchanged through verbal and non-verbal channels or expressions through paralinguistic communication cues assuming person-to-person contacts. Therefore, creating and establishing personal relationships are more important in FTF communication. In contrast, CMC does not require the establishment of physical relationships between senders and receivers because CMC can be accomplished through the medium of computers.

Although CMC excludes non-verbal factors, it makes available simultaneous and non-simultaneous communications. General CMC lacks available channels and cues for effective communications because of an absence of applied social context cues theory, social presence theory, and media richness theory in that it does not provide for immediate feedback or enough non-verbal cues and can only use natural language. Therefore, some past researchers have concluded that CMC is not suitable for social and emotional communication. However, users of CMC have developed non-verbal cues, such as paralanguage expressions calling *emotext* and emoticons to overcome such limitations; as a result, many users or netizens use these in Internet communications. Ferris (1996) defines "*emotext* as "closely related to emoticons in that text is

distorted in order to create emphasis" (p.34). Simply, Ferris (1996) suggests that emotext consists of lexical substitutes for non-verbal cues while emoticons are visual arrangements of text characters to symbolize emoticons.

Sanderson (1993) describes emoticons (or smiley faces) as "a sequence of ordinary printable characters, such as :−), ;o), t(*_*t), ^_^ or :−(, or a small image, intended to represent a human facial expression and convey an emotion" (p. 1). In recent years, emoticons have developed as a new language and symbol; the various emoticon designs provide new communication styles and methods for users. As emoticon usage increases, some emoticon designers and common users continuously create new and unique characters to convey and present their feelings and understandings more effectively and in greater detail. Using emoticons in CMC is a familiar cultural phenomenon, providing numerous advantages in CMC such as avoiding misunderstandings due to the lack of contextual information and helping express emotional status without text messages.

Importance of Emoticon Use in CMC

Emoticons have developed over the years in CMC standing in for facial expressions and other physical cues found lacking in text-only communication. Many users find emoticons useful for expressing an emotional state during their online communication. Using emoticons in CMC, especially in IM programs, helps users convey and enhance the underlying emotional aspects of their communication. Emoticon characters are numerous, but they can be classified into three large categories: textual, pictorial, and animated emoticons. These emoticons facilitate users' communication, providing many non-verbal cues and clues for making sense.

Researchers have studied the differences in emoticon usage between males and females as well as between different age groups. Some report cross-cultural differences and similarities

between CMC and FTF communication (see, for example, the research of Yum & Hara in 2005 has found this). However, such research is not sufficient for determining the effective use of emoticons and how users recognize and interpret emotional expressions in different cultures. In addition, knowing cross-cultural differences of emoticon usage would be helpful for reducing difficulties and misunderstandings encountered in CMC, leading to more effective interactions. Therefore, this research focused on how emoticon use in CMC differs between South Koreans and North Americans. Specifically, the study addressed the following areas: identifying the cross-cultural differences in the types of emoticons; identifying how emoticon use impacts social relationships; and identifying how emoticons impact cognition. The detailed questions ask and prove cultural differences among users' perceptions, satisfaction, subjective norms, and convenience about emoticon use in terms of human-computer interaction (HCI) and social interaction, or the ways people interact with each other virtually.

In addition, emoticon features used in different countries can be classified largely into two categories: Western style and East Asian style (Robb, 2003; Pollack, 1996). The emoticons of these two categories show differences in a shape, especially in textual emoticons. Western textual emoticons, especially North American emoticons, are horizontally oriented, such as :-) and :-b while East Asian textual emoticons, typically South Korean emoticons, are vertically oriented such as ^^ and (^0^). Therefore, this study also provides the opportunity to identify cultural differences and similarities between North Americans and South Koreans through communication comparisons using emoticons. As the first study investigating cross-cultural differences of emoticon use in CMC between North American users and South Korean users, the findings may even contribute to building good intercultural relationships.

CHAPTER TWO: LITERATURE REVIEW

CMC tools and services such as email, IM programs, and mobile messengers are common appealing to users due to their convenience and efficiency. IM in particular is growing rapidly and circulating widely regardless of a person's age, gender, discipline, or position. Research shows that IM is a valuable tool since it is an easy and fast communication tool (Isaacs, Walendowski, Whittaker, Schiano, & Kamm, 2002; Nardi, Whittaker & Bradner, 2000; Czerwinski, Cutrell, & Horvitz, 2000; Rovers & Essen, 2004). The purpose of the current study is to point out some of the cross-cultural differences involved in using emoticons, focusing on the visual aspect of online communication that provides emotional cues to understand the differences in the use of standard emoticons among North American and South Korean users.

The literature review discusses relevant information about CMC and IM as well as the effects of emoticons and the general features of North American and South Korean emoticons to emphasize the considerations and potential advantages of emoticon use in CMC. Thus, this review provides basic information related to the logical and systematic development and understanding of this study.

Computer-Mediated Communication (CMC)

The computer has changed the definition of *communication,* treating it as a different division from traditional communication means. The original meaning of *communication* is defined as "a social interaction through messages" (Gerbner, 1967) and "the transmission of information, ideas, attitudes, or emotion from one person or group to another (or others) primarily through symbols" (Theodorson & Thoedorson, 1969)[3]. In view of these definitions, communication is a necessary way for sharing and understanding information or ideas in our society as well as strengthening and uniting

---

[3] http://www.coursework.info/GCSE/Information_&_Communication_Technology/Communication_L48833.html

social relationships. Such sharing makes use of a variety of technologies, including the telephone, email, voicemail, teleconferencing, cell phones, and even the Internet (Wilkie, 2004).

Early CMC used only text and led to inherent risks and advantages. In the early 1980s, researchers started to compare CMC with FTF communication methods (Lloyd, n.d.). Kiesler, Siegel and McGuire (1984) pointed out the unavailability of expressions for non-verbal cues such as facial expressions as well as gestures and voice tones used in FTF communication during CMC sessions. In addition, more recent research studies indicate that CMC has certain disadvantages in building personal relationships through verbal and nonverbal cues when compared to FTF (Yum & Hara, 2005). The most significant problem is the uncertainty due to the limited physical cues in CMC. During CMC interactions, it is difficult to identify behavioral norms governing relationships and is difficult to interpret certain behaviors (Berger & Calabrese, 1975; Parks & Adelman, 1983; Yum & Hara, 2005). Some recent studies suggest that communicators can use emoticons (facial marks) to facilitate the expression of non-verbal cues in CMC (Walther, 1992; Thompson & Foulger, 1996; Walther & D'Addario, 2001; Yigit, 2005).

Means: E-mail (one-to-one) / IRC (one-to-may) / E-board (many-to-many)
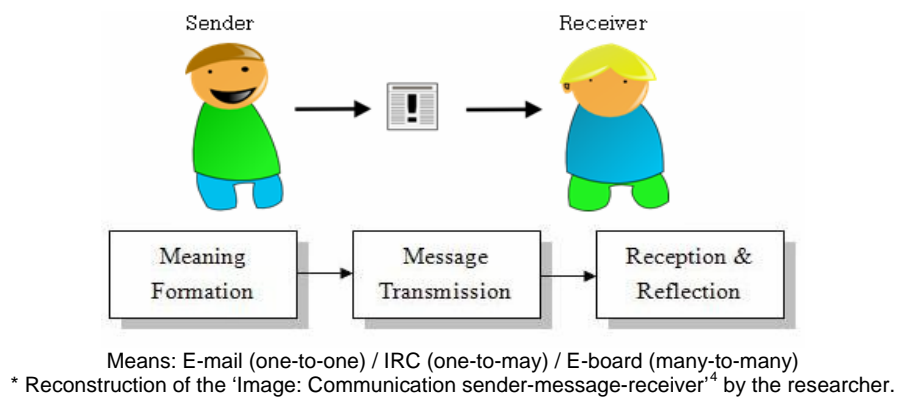* Reconstruction of the 'Image: Communication sender-message-receiver'[4] by the researcher.

Figure1. The basic process of CMC

Two main forms of CMC exist: synchronous and asynchronous. Synchronous CMC features IM (one-to-one communication) as well as computer conferencing (many-to-many

---

[4] http://en.wikipedia.org/wiki/Image:Communication_sender-message-reciever.png

communication) occurring in real time. Meanwhile, asynchronous CMC includes email (one-to-one) as well as blogs and newsgroups (many-to-many) (Baron, 2005). In 1987, Culnan and Markus provided a "cues-filtered-out" CMC model, in which non-verbal cues were filtered out because of the narrow bandwidth in text-based asynchronous CMC. This model can be supported by the media-information richness (MIR) theory of Daft and Lengel (1984), which states that FTF communication environments have the richest information, with all the physical cues being filtered out by the medium; the reduced social cues (RSC) theory presented by Kesler (1986) and Dubrovsky, Kiesler and Sethna (1991), which states that CMC cannot deliver enough social and contextual cues such as facial expressions or gestures and place information in FTF communication (Yigit, 2005); and Short, Williams, and Christie's (1976) theory of social presence which states that CMC allows less communication richness and interpersonal communication than FTF interactions because the former medium allows less social presence (Rice & Love, 1987).

Researchers have investigated student perceptions and satisfaction in educational areas to justify the advantages of CMC. An and Frick (2006) interviewed students to explore residential student perceptions of CMC and compare the differences between CMC and FTF courses using course management tools such as WebCT and BlackBoard. This study, based on human interaction and communication in online distance learning focused on asynchronous CMC such as email or threaded discussion; the results indicated that CMC helps students improve their learning habits and enhances their willingness and motivation to discuss and learn as well as helps improve students' participation and their contribution to high quality postings. The text-based CMC, however, had some disadvantages in terms of the lack of visual and auditory cues in interactions, as Vrasidas and McIssac (2000) pointed out. However, it also involves many

advantages, such as high flexibility and convenience in terms of place and time (Harasim, 1990). In addition, it provides enough time to analyze contents and compose responses (Kearsley, 2000), and offers opportunities for social learning and interacting with others (Sutton, 2001).

In terms of cultural issues and CMC, Freedman and Liu (1996) discovered different communication patterns between Asian American students and non-Asian American students based on email-use preference. The results showed that Asian American students preferred using email and composing messages more than other participants. In addition, users of CMC in different cultures have some anxieties about communicating in other languages (Kim & Bonk, 2002) because of the limited language proficiency provided by CMC as compared to FTF communication (Beauvois, 1998). However, research has shown that CMC encourages different social interactions and relationships among different language users (Jaffee, 2001; Berge, 1995).
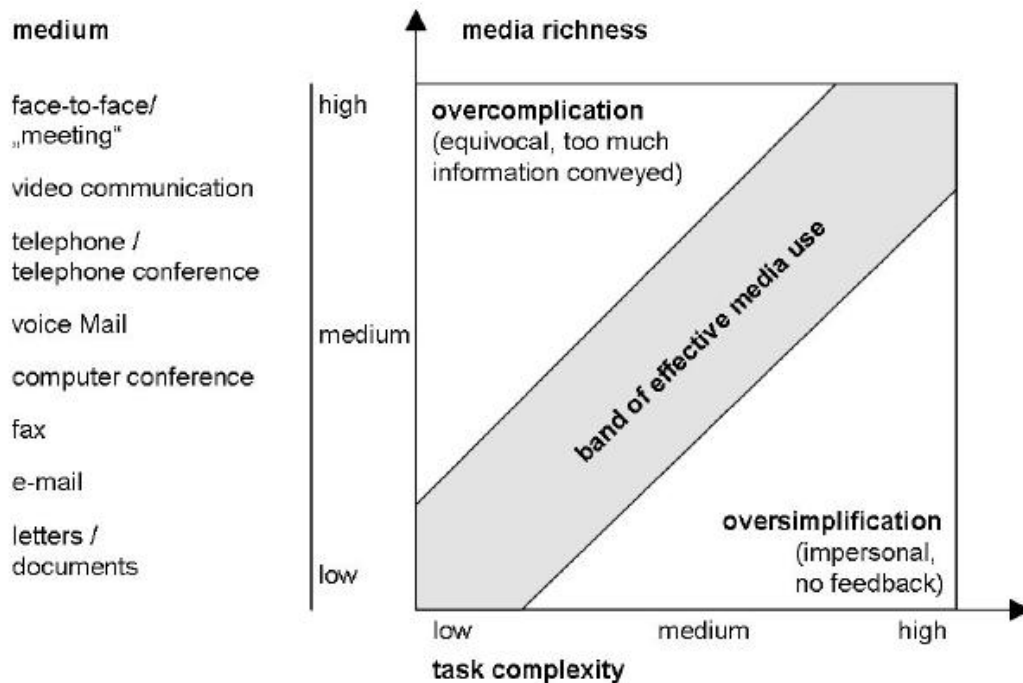

Figure 2. Media richness model (Reichwald et. al., 1998: 57) cited in Meissner's 05/01 WWZ-Discussion paper

Instant Messaging (IM) and Emoticons

FTF communication is "richer" than CMC because of its audio, visual and tactile features as well as its immediate feedback (Daft & Lengel, 1984). Recently, it has been shown that one CMC tool – IM – can partially make up for these disadvantages of CMC with its supporting video, voice services, and various emoticons. In addition, IM has been established as the most popular online communication platform, especially for young people (Rovers & Essen, 2004). IM is "a form of real-time communication between two or more people based on text conveyed via computers connected over the Internet" (Oetting, 2005). IM (or "synchronous communication") involves interesting challenges for interaction designers to ensure that users are able to communicate effectively.

In recent years, IM demand among people of all ages and of both sexes has increased. According to the Pew Internet Teenage Life Survey (2001), 69 percent of teenagers in the United States use IM frequently; the Radicati Group's Instant Messaging Corporate survey (2004) reported that 85 percent of enterprises in North America use IM and 50 percent of individuals polled use IM at work. The results also showed that 80 percent of workers will use IM by the year 2008 (Diana, 2004). Furthermore, the 2004 Pew Internet and American Life surveys revealed that "53 million American adults use instant messaging and its appeal is especially apparent among young adults and technology enthusiasts" (Shiu & Lenhart, 2004, p. 2).

Much research has been done on IM and the presence of awareness systems in many academia disciplines such as cognitive science, psychology, education, and business including research conducted by the Human Computer Interaction (HCI) and the Computer Supported Cooperative Work (CSCW) research groups. However, as the value resulting from such communication increases, the importance of IM as a successful scientific and business tool also

increases.

One HCI research study conducted by Aurell (2005) on the use of IM demonstrated that IM enables high scalability as well as the usability and the reuse for remote controlling devices. The study also proved that controlling and monitoring devices using IM dialogue aid better understanding and performance. In contrast, Schroer and Hatu (2006) believe that IM has led to a lack of rich FTF involvement related to social connectedness in everyday life, such as in athletic activities, social gatherings, and interrelations. Although IM has some disadvantages, including the lack of emotional cues, it also provides better access to and collaboration with colleagues, partners and customers. Sanchez, Kirschning, Palacio and Ostrovskaya (2005) found synchronous text-based communication (IM) to be beneficial since typically users experience difficulties in conveying their emotions through text-based communication.

Isaacs, Walendowski, Whittaker, Schiano and Kamm (2002), and Czerwinski, Cutrell and Horvitz (2000) have shed light on how IM is used in the workplace. Isaacs, Walendowski, Whittaker, Schiano and Kamm (2002) believe that some employers doubt that using IM in the workplace reduces productivity. Czerwinski, Cutrell and Horvitz (2000) state that, although employees appreciate the IM function that enables them to instantaneously communicate with more than one person at the same time, they realize that using IM in the workplace can be disruptive for the completion of tasks. However, IM users (employees) in the workplace who acknowledge the informal and conversational tone used on IM are concerned about ways to reduce misunderstandings. They also acknowledge that the "rapid-fire" nature of users' names is attached to their messages, and the identity of the person initiating communication, as well as his/her requests, are immediately visible (Nardi, Whittaker & Bradner, 2000).

Within the framework of human communication in a computer-mediated environment,

human perception of interactivity is indispensable, and the dimensional characteristics of interactivity remain controversial (Jensen, 1999). Furthermore, Rafaeli (1988) states that interactivity as a process-oriented concept indicates the degree of sequential relatedness among messages. This point of view affirms that communication on the web using tools such as IM should secure a medium for better interaction and faster cognition even among users in different cultures. The emoticons or smileys can play a leading role for better interaction in IM communication.

According to the "History of the Smiley Face" (Article Click.com, 2006[5]), in 1963 artist Harvey Ball created the smiley face: a yellow button with two black dots representing eyes and an upturned thick curve representing a mouth. This image looks like recent basic graphic emoticons. In addition, Scott Fahlman[6] created original ASCII emoticons, such as :-) and :-(which were posted on the computer science general board at Carnegie Mellon University on September 19, 1982 and recovered 20 years later (September 10, 2002) by Jeff Baird.

Internet users have developed considerable interest in online social interactions (Walther & D'Addario, 2001), and the social orientation of CMC is saliently growing (Constantin, Kalyanaraman, Stavrositu, & Wagoner 2002). In Korea, emoticon design is a new profession intended to create unique and various emoticon patterns aimed at generating effective interfaces for users. This profession proves that the use of IM and emoticons is already popular, and IM is being adapted to business marketing and as well as being adapted as an art subject.

Many recent research studies assert that CMC communications have established their own culture and are characterized by abbreviations, acronyms, spelling variations, emoticons, or a combination of some or all of the above (Chenault, 1998; Danet, Ruedenberg-Wright, &

---

[5] http://www.articleclick.com/history-of-the-smiley-face.html
[6] Scott Fahlman' website: http://www.cs.cmu.edu/~sef/sefSmiley.htm

Rosenbaum-Tamari, 1997; Jacobson, 1999; Utz, 2000; Witmer & Katzman, 1997) in order to make up for the lack of FTF communication tools (Constantin, Kalyanaraman, Stavrositu, & Wagoner, 2002). Earlier studies based both on the "cues-filtered-out" perspective and the Social Information Processing theory (Rivera, Cooke, & Bauhs 1996; Utz, 2000; Walther, 1993) also note that emoticon use affects impression positively.

Much research has been conducted on the role of gender in emoticon use. For instance, Wolf (2000) and Witmer and Katzman (1997) have written that women are more likely to use emoticons than men during CMC, such as in email and IM. However, Constantin Constantin, Kalyanaraman, Stavrositu, and Wagoner (2002) reported that this pattern holds true in the analysis of same-gender newsgroups; in addition, males tend to use emoticons as much as females in the case of mixed-gender newsgroups. Moreover, in new media discourses, some research studies have focused on the positive aspects of emoticons. For instance, Walter and D'Addario (2001) point out that emoticons have powerful psychological effects, without resorting to systematic investigation regarding the nature of such effects. Sanchez, Kirschning, Palacio, and Ostrovskaya (2005) found some advantages to emoticons based on mood-orientation interfaces for synchronous interaction that assume that the initial use of IM and an extended IM interface may be affected on a palette of graphical representations; the affective states are sent to others to set a desired mood during a conversation. In their findings, they proved that emoticons represent a specific feeling at one instant during a discussion or even a reaction during conversations. In addition, emoticons enhance and emphasize the meaning of certain text elements.

Overall, the use of emoticons is very useful and effective during IM conversations. However, some disadvantages still exist, including a limited means for expressing emotion in IM

communication. Compared to FTF communication, using emoticons in IM still lacks the spontaneity needed for effective interactions because facial expressions provide an important spontaneous channel for both emotional and social displays (Baron-Cohen, Wheelwright, Hill, Raste, & Plumb 2001; Kaliouby & Robinson, 2004).

The cultural history of visual communication (VC) provides rich evidence of the significance of the image in communication because VC has been thriving since the cave paintings of Lascaux (Voida, 2005). Investigating cultural differences for better interactions with others through online communication (Faiola & Matei, 2005) is a way to find solutions to the complexity and difficulty of cultural cognition in CMC.

A better understanding of the properties of IM that enable it to support informal communication would help in the design of other novel technologies for supporting informal communication. In addition, understanding the cross-cultural differences of emoticon use would support further studies for the improvement of CMC.

Research Question Overview

Information and communication technology changes our daily lives and our societies as we exchange and share mass information at any time and any place by way of computer networks. Electronic communication media transforms language codes and the relationship between time and space, readjusting as well the relationship between recipients and senders. Accordingly, examining the alternation of social relationships by introducing CMC as a foundation technology of the information society provides the basic elements of an information-oriented society.

Many media ecologists emphasize that media is very important for social development and is a driving force in the world; most are especially interested in the tendentious

characteristics of each main medium and the cultural effects of these characteristics (Lee, 2004, p.34). CMC technology is useful as a new communication tool to solve problems in FTF communication, including human and social needs in relation to community, contact, and communication, which brings us to the use of emoticon use in enhancing effective communication through IM conversations.

As stated above, some disadvantages still exist, including a limited means for expressing emotion in IM communication. Also, as noted, when we compare FTF communication to IM and the additional use of emoticons, a degree of spontaneity and the use of facial expressions provide a critical channel for emotional and social interaction. This is especially true when we exam and compare these conditions across cultures. Hence, grasping a better understanding of the cross-cultural differences of emoticon use is needed to improve the social dynamics of CMC.

In sum, CMC can be an effective tool to activate and develop community propensity. World networks that rely on CMC form an electronic public space − a virtual agora used to exchange information, converse, and meet with others. In addition, CMC promotes the expression of various cultural differences, interests and needs. Moreover, much interest has arisen in electronic discourse in the linguistic field, and people's interest in CMC has increased (Baron, 2005). As pointed out by Herring (1996), there are still not enough empirical studies about CMC and there is further need for future examinations and public standardizations based on various data and realistic information.

Purpose of the Study

The purpose of this study is to identify the cross-cultural differences of emoticon use between North American and South Korean users. This study poses the following broad question: Do North Americans and South Koreans use emoticons differently? This research will

examine the cross-cultural differences involved in using emoticons, focusing on the visual aspects of online communication that provide emotional cues to understand the differences in the use of standard emoticons among North American and South Korean users. Therefore, the research questions for this study focus on the effects and influences of using emoticons in CMC to determine cultural communication differences through emoticon use. In addition, the research questions convey two assumptions: using emoticons influences the quality of social relationships, and differences of emoticon recognition and use exist between North Americans and South Koreans. Furthermore, this study, by posing such research questions, intends to suggest and provide helpful information to develop or understand different cultural relationships or expressions through CMC.

RQ1. How do emoticons influence the quality of social relationships via computer-mediated communication when comparing the differences between North Americans and South Koreans? Specifically, in forming:

a. Simple initial impressions and feelings,

b. Initial attractions, and

c. Intimate relationships?

CHAPTER THREE: METHODOLOGY

This study was conducted in North America and South Korea over a one-week period in November 2006.

Treatment: Emoticon Selection

Microsoft's MSN messenger provided 96 basic graphical emoticons and 96 textual emoticons as the treatment of the study. The list of ten basic graphical or pictorial emoticons is introduced below with their descriptions, along with the types of textual emoticons in ASCII glyph form. From this broad list of emoticons, ten textual emoticons were selected for the study to be used with North American and South Korean participants. At the same time, 20 textual emoticons were selected for use for North American participants. The textual emoticons were used in addition to the pictorial emoticons because users frequently use different types of emoticons to express the same emotion. However, sometimes the textual configuration is only as different as the placement of the dash or period (e.g., "_" or "- " or "."). Ultimately, the selection of the textual emoticons was based on those most commonly used.

In this study, the definitions (meanings) and types of samples are universally used by people and classified as sample sources from the MSN website[7], Muller-godschal[8], and the Korean and North American Emoticonworld[9] websites.

Participants

The participants, consisting of 26 Koreans and 26 North Americans, who were recruited using the IM program MSN Messenger. These same participants completed the questionnaires primarily distributed through email. The sample population for this study was primarily one of convenience.

---

[7] http://messenger.msn.com/Resource/Emoticons.aspx
[8] http://www.muller-godschalk.com/msn60.html
[9] http://www.emoticonworld.co.kr

Table 1. Samples of MSN Basic Emoticons (Smileys) for Emotional Face Expression.

Samples of Emoticons (Smileys)			
Meanings	Pictorial (Graphical)	Textual (ASCII glyph)	
		North American's	Korean's
Smile	🙂	:-) :->	^^ *^^*
Surprised	😲	:-( ) :-O	⊙.⊙ @.@
Sad	🙁	:-(:-<	~_~ '_`
Shy/Embarrassed	😊	:-$ |:-|	^^;; -_-;;
Disappointed	😳	:-| <:-(	>_< 'n`
Crying	😢	:'(:,-(	ㅠ.ㅠ ㅜ.ㅜ
Angry	😡	:-@ >:-<	`o'   `.'
Baring teeth	😬	8o| }: [	*~* `~`
Sleepy	😪	|-) |-O	Z_Z =.=
Wink	😉	;-) ,-)	^.~ ^_-

Table 2. Summary Breakdown of Participants.

North America		South Korea	
Students	20	Students	5
Professionals	6	Professionals	21
Male	16	Male	18
Female	10	Female	8
Total	26	Total	26

The participants consisted of undergraduate and graduate students and professionals, including businessmen, software engineering professionals, database administrators, researchers, and teachers. The South Korean professionals and students came from the Hyundai Motor

Company, Hyundai Heavy Industries Company, Okhyun Elementary School, and Ulsan University, while the North American professionals and students came from the Ohio State University, Indiana University at Bloomington, and Indiana University at Indianapolis. All participants were recruited through email except for the participants from the Indiana University at Indianapolis and Ohio State University. For this study, a primary requirement for selection of the participants was that they regularly use and understand IM services as well as the emoticons listed in the study.

Completing the survey was done anonymously to ensure participant privacy; answering the questions was completely voluntary. The participants did not receive any payment for their participation. Thirty percent of the participants did not complete the questionnaire in its entirety, leaving only those 26 participants from each country outlined above.

Questionnaire Design

The study used a fixed-response and close-ended questionnaire divided into six sections which clarified the questions for the participants and helped them complete the questionnaire more easily. The six parts were: 1) IM experience (five questions), 2) emoticon usage experience (three questions), 3) satisfaction in forming relationships using emoticons (four questions), 4) word/emoticon comparison chart (two questions), 5) common use test (one question), and 6) demographic information (four questions). The questionnaire was not pretested, but the questions were prepared with reference to previous studies related to emoticons.

The criteria of questionnaire were set up based on the purpose of the research question: How do emoticons influence the quality of social relationships via computer-mediated communication, when comparing the differences between specifically North Americans and South Koreans in forming: 1) simple initial impressions and feelings, 2) initial attractions, and 3)

intimate and developing relationships. This cross-cultural study drew upon two main criteria: the cognitive differences between North Americans and South Koreans and social influences regarding emoticon use. The criteria in the questionnaires referred to and conducted the relevant results of this study. In addition, the criteria referred to existing studies related to IM, emoticons (also known as face marks or smileys), and CMC.

For this study, the structured questionnaire used closed-ended questions and fixed-response questions such as scaled questions. The closed-ended questions limited the respondents' answers to a fixed set of responses through dichotomous questions requiring "Yes" or "No" answers as well as several multiple-choice options. This question type was used to ask about IM experience and emoticon use experience and to test the user's preference of emoticon meanings and types. It was also used to determine the impression of each textual emoticon in accord with the impression of each pictorial emoticon.

The fixed-response questions provided opportunities to mark the most appropriate response and register a strong opinion on a five-point Likert scale chart ranging from strongly agree to strongly disagree. The fixed-response questions were used to determine the satisfaction in forming relationships using emoticons. The questionnaires were prepared in both Korean and English version and were cross-checked for translation accuracy. Several assistants collected the data through email or participants directly; the researcher reviewed the questionnaires. All survey data were printed out to avoid any accidental changes.

The results of this research were expected to indicate some common features and differences in the understanding of cross-cultural users regarding emoticons. Hence, the researcher expected to see a difference in the scales and the cultural response among the cross-cultural users of emoticon. In addition, the results were used to verify the information of the

different use and understanding of the two different types of sample emoticons.

Statistical Analysis

The collected data were inputted into a statistical program, Microsoft Excel, as well as a Statistical Package for the Social Sciences (SPSS). The results were then analyzed using the general statistical analysis method, descriptive statistics, and other proper statistical analysis methods to identify the purpose of this study.

The research question "How do emoticons influence the quality of social relationships via CMC when comparing the differences between North Americans and South Koreans?" was answered using descriptive statistics and t-tests. The sub-questions of the research question were also analyzed using the same analysis methods.

The t-test was conducted to identify the differences among the participants from two cultures; an independent sample t-test was appropriate for this study. The t-test was also useful for assessing whether the means of two groups are statistically different from each other. This analysis identified the cultural differences and similarities in emoticon use by studying users' satisfaction and recognition of emoticons.

These analytical methods facilitated a more thorough understanding of the use of special emoticons in the different cultures and served to improve CMC communications. In addition, these statistical methods were helpful for understanding a cross-cultural comparison of the use of emoticons and the users' pleasure and satisfaction in using emoticons through CMC.

CHAPTER FOUR: RESULTS

The purpose of this study was to identify the difference of emoticon use between North American and South Korean participants, specifically in how emoticons are used and understood as emotional cues in influencing the quality of social relationships. The cross-cultural research questions asked how emoticons influence the quality of social relationships via CMC, specifically in the forming of simple initial impressions and feelings, initial attractions, and intimate relationships. As outlined above, the questionnaire was organized into six sections; in this section, the research questions are restated with a summary of the results.

Section 1: IM Experience

Q1. Where do you use IM?

This question asked where participants use IM (e.g., home, work, school, internet café). The results indicated that 24 North Americans and 20 South Koreans use IM at home, 7 North Americans and 20 South Koreans use IM at work, 7 North Americans and 2 South Koreans use IM at school, 1 North American and 4 South Koreans use IM at internet café, and 1 South Korean uses IM at another place. The secondary places included work and school. Many of the South Koreans stated that they use IM at work.

Q2. How long have you been using IM (years)?

Among the North American participant, 46.2 percent indicated they have been using IM for 4 to 6 years; 57.7 percent of the South Korean participants answered the same (see Table 3).

Table 3. Years of IM use among North Americans and South Koreans.

Years	N. Americans	S. Koreans
Under 1	3.80%	11.50%
1~3	11.50%	19.20%
4~6	**46.20%**	**57.70%**
7~9	26.90%	7.70%
9+	11.50%	3.80%

Q3. Why do you use IM? (Select all that apply)

This question allowed participants to select multiple answers. The results shown in Table

4 indicate that most people like to use IM to chat with family or friends.

Table 4. Purpose of IM use.

Aspect of Use	# of N. Americans	# of S. Koreans
To chat with family or friends	**26**	**18**
To share photos	7	4
To share files	9	8
To send celebratory wishes	1	6
To gossip or flirt	4	3
To make and talk to new friends	7	3
To keep in touch with family or friends overseas	9	7
To communicate with others (co-workers or business-related) at work	7	10
Other	0	0

Q4. What functions of IM do you use? (Select all that apply)

Most respondents indicated using file-transferring functions; all South Korean

participants stated that they do not use the games provided by the IM service. (See Table 5.)

Table 5. Participants' preferences of IM functions.

Preferences	# of N. Americans	# of S. Koreans
File transfer functions	**20**	**22**
Emoticons/graphics	18	8
Audio chat	5	5
Video chat	7	6
Games	2	0
Other	2	0

Q5. Do you think IM has helped you form new or stronger social relationships?

This question reflects the central inquiry of this study. The results provide a clue for identifying the differences in opinions and thinking among participants from different cultural backgrounds. More South Koreans believed that communication through IM is helpful in forming new or stronger relationships than North Americans. (See Table 6.)

Table 6. Frequency of forming new or social relationships through IM.

	North Americans	South Koreans
Yes	**80.80%**	**96.20%**
No	19.20%	3.80%

In addition, if the respondents answered yes to Q5, the questionnaire required them to select reasons from the multiple choices offered. (See Table 7.) The results are as follows:

Table 7. Reasons IM has helped.

	# of N. Americans	# of S. Koreans
IM provides communication with others in real time.	**20**	**17**
IM promotes a feeling of intimacy for each other.	5	11
IM is easier to express my emotions to others than face-to-face communication.	5	11
IM provides a way to manage human relationships.	10	7
IM is efficient to save time.	13	**16**
IM promotes the interchange of information with each other.	13	14
IM provides an easy way to feel sympathy each other.	1	4
Others	2	0

Two of the North American respondents provided additional responses as reasons IM has helped form relationships. One respondent stated that IM was a great way to keep in touch with a friend while working throughout the day; the other said that IM is a way to keep in touch with friends overseas. This method of CMC provides an easy way to allow dialogue continue between individuals.

Section 2: Emoticon Usage Experience on IM

In this part, the questions focused on identifying participants' preference and reasoning for emoticon characters and forms in sending messages via IM. In addition, the fourth question asks whether or not emoticons increases understanding each other's message while communicating through IM.

Q1. Do you usually use text messaging only?

For this question, 27 percent of North Americans and 26.9 percent of South Koreans indicated that they use only text messaging when communicating via IM.

Q2. Do you use emoticon(s) when text messaging?

The majority of respondents indicated that they usually incorporate the use of emoticons in text messages; 73 percent of the North American participants and 73.1 percent of the South Korean participants responded affirmatively.

Q3. Which of the following do you prefer to use?

The results indicated that North Americans (57.70%) and South Koreans (61.50%) prefer to use text characters. A smaller percentage of North Americans than South Koreans revealed that they prefer to use graphic characters. (See Table 8.)

Table 8. Preferences in relation to the emoticon type.

	North American	South Korean
Text characters e.g. :-)	57.70%	**61.50%**
Graphic characters e.g.	**42.30%**	38.50%

Q4. Do you think using emoticons with text reduces misunderstanding when communicating via IM?

In response, 77 percent of the North Americans and 76.9 percent of the South Koreans answered that using emoticons reduces misunderstandings while communicating via IM. This indicates that an agreement among these two cultures about the use of text in IM. Table nine contains the reasons participants provided regarding the reduced misunderstandings.

Table 9. The reasons why misunderstandings are reduced by emoticons.

	# of N. American	# of S. Korean
Emoticons facilitate to expressing my straightforward emotional condition to others.	11	11
Emoticons make the atmosphere and tone gentler than only using text.	**12**	**18**
Emoticons simply aid the meaning of my text message, acting like additional explanation.	11	8
Others	1	0

Section 3: Satisfaction in Forming Relationships using Emoticons

This section includes four fixed-response questions on a 5-point Likert scale to determine the characteristics of emoticons according to nominal scales and interval scales. Therefore, the researcher analyzed the reliability of the scale using a Cronbach's coefficient alpha[10] in SPSS. (See Table 10-11.) The results showed to be highly reliable (α= .799 > .7).

Table 10. Reliability Statistics.

Cronbach's Alpha	N of Items
.799	4

* α > 0.8: excellent, α > 0.7: good, α > 0.5: min

Table 11. Item-Total Statistics for the satisfaction questions.

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
A	7.98	4.686	.677	.724
B	7.88	4.143	.716	.695
C	8.04	4.312	.564	.778
D	8.52	4.843	.517	.793

---

[10] Cronbach's alpha measures how well a set of items (or variables) measures a single unidimensional latent construct. Cronbach's alpha is a coefficient of reliability (or consistency).

*A = I feel more emotionally engaged when using emoticons during computer-mediated
    communication.
*B = Using emoticons contributes to easier communication.
*C = Using emoticons allows for better communication.
*D = Using emoticons enhances relationships between communications.

The collected data in this section tested the average of two sample groups throughout the population. The data were also analyzed using SPSS. The results of A, B, C, and D used the Levene's Test for Equality of Variances to determine the p-values to be 0.768, 0.973, 0.743, and 0.901, respectively. The results did not dismiss $p < .05$ if the questions were conducted as hypotheses. Thus, the equal variances assumption indicates no problems. From the t-test statistic, the p-values of questions C and D were 0.008 (sig. (2-tailed) = 0.008) and 0.013 (sig. (2-tailed) = 0.013).

Since the p-values (0.008 and 0.013) are less than 0.05, it can be concluded from the questions about satisfaction in forming relationships and communication using emoticons that there are significant differences in selecting the choice scales between North Americans and South Koreans. However, the frequencies of the questions showed that participants of both cultures indicated in the affirmative. (See Tables 12 through 14)

In addition, the overall p-value (2-tailed) was not dismissed; thus, the results of the satisfaction questions (A, B, C, and D) showed that participants obtained satisfaction in forming relationships using emoticons with no significant problematic differences between North Americans and South Koreans. For both groups, satisfaction questions significantly illustrated the positive agreement of emoticons with social relationships.

Table 12. T-test results of the equality of variances between the two groups.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
A	Equal variances assumed	.088	.768	**-.911**	50	**.367**	-.192	.211	-.616	.232
	Equal variances not assumed			**-.911**	49.904	**.367**	-.192	.211	-.616	.232
B	Equal variances assumed	.001	.973	**.625**	50	**.535**	.154	.246	-.341	.648
	Equal variances not assumed			**.625**	49.323	**.535**	.154	.246	-.341	.648
C	Equal variances assumed	.109	.743	**2.757**	50	**.008**	.692	.251	.188	1.197
	Equal variances not assumed			**2.757**	49.454	**.008**	.692	.251	.188	1.197
D	Equal variances assumed	.016	.901	**-2.586**	50	**.013**	-.577	.223	-1.025	-.129
	Equal variances not assumed			**-2.586**	47.349	**.013**	-.577	.223	-1.026	-.128

28

Table 13. The frequency of North American's opinion for satisfaction questions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid of A	Strongly Disagree	1	3.8	3.8	3.8
	Neutral	6	23.1	23.1	26.9
	Agree	17	65.4	65.4	92.3
	Strongly Agree	2	7.7	7.7	100.0
	Total	26	100.0	100.0	
Valid of B	Strongly Disagree	1	3.8	3.8	3.8
	Neutral	5	19.2	19.2	23.1
	Agree	12	46.2	46.2	69.2
	Strongly Agree	8	30.8	30.8	100.0
	Total	26	100.0	100.0	
Valid of C	Strongly Disagree	1	3.8	3.8	3.8
	Neutral	4	15.4	15.4	19.2
	Agree	11	42.3	42.3	61.5
	Strongly Agree	10	38.5	38.5	100.0
	Total	26	100.0	100.0	
Valid of D	Strongly Disagree	2	7.7	7.7	7.7
	Disagree	4	15.4	15.4	23.1
	Neutral	12	46.2	46.2	69.2
	Agree	8	30.8	30.8	100.0
	Total	26	100.0	100.0	

Table 14. The frequency of South Korean's opinion for satisfaction questions.

Valid of A	Strongly Disagree	1	3.8	3.8	3.8
	Neutral	5	19.2	19.2	23.1
	Agree	15	57.7	57.7	80.8
	Strongly Agree	5	19.2	19.2	100.0
	Total	26	100.0	100.0	
Valid of B	Strongly Disagree	2	7.7	7.7	7.7
	Neutral	5	19.2	19.2	26.9
	Agree	14	53.8	53.8	80.8
	Strongly Agree	5	19.2	19.2	100.0
	Total	26	100.0	100.0	
Valid of C	Strongly Disagree	4	15.4	15.4	15.4
	Neutral	9	34.6	34.6	50.0
	Agree	11	42.3	42.3	92.3
	Strongly Agree	2	7.7	7.7	100.0
	Total	26	100.0	100.0	
Valid of D	Strongly Disagree	2	7.7	7.7	7.7
	Disagree	8	30.8	30.8	38.5
	Neutral	15	57.7	57.7	96.2
	Agree	1	3.8	3.8	100.0
	Total	26	100.0	100.0	

*A = I feel more emotionally engaged when using emoticons during computer-mediated
    communication.
*B = Using emoticons contributes to easier communication.
*C = Using emoticons allows for better communication.
*D = Using emoticons enhances relationships between communications.

This part of the questionnaire provided a table containing textual emoticon samples and emoticon meanings. (See Table 15.) Two questions asked the participants to identify their understanding of the emoticons listed.

Table 15. Provided sample table of textual emoticons and meanings.

Sample of textual emoticons							
1 :-)	2 :->	3 ^^	4 *^^*	5 :-( )	6 :-O	7 ⊙.⊙	8 @.@
9 :-(	10 :-<	11 ~_~	12 '_`	13 :-$	14 |:-|	15 ^^;;	16 -_-;;
17 :-|	18 <:-(	19 >_<	20 'n`	21 :'(	22 :,-(	23 ㅠ.ㅠ	24 ㅜ.ㅜ
25 :-@	26 >:-<	27 `o'	28 `.'	29 8o|	30 }:[	31 *~*	32 `~`
33 |-)	34 |-O	35 Z_Z	36 =.=	37 ;-)	38 ,-)	39 ^.~	40 ^_-
Emoticon meanings							
1 Smile 2 Surprised 3 Sad 4 Shy/Embarrassed 5 Disappointed 6 Crying 7 Angry 8 Baring teeth 9 Sleepy 10 Wink							

Q1. When communicating through IM, which textual emoticons most accurately express each emotion below?

This question sought to determine the differences in the participants' understandings and common uses of textual emoticons when communicating through IM. The results are shown in Tables 16 and 17.

In Table 16, the highlighted numbers indicate where the North Americans chose incorrect emoticons according to the meaning. The South Korean use emoticons numbers 3 and 4 to express "smile," numbers 7 and 8 for surprised, numbers 11 and 12 for sad, numbers 15 and 16

for shy and embarrassed, numbers 19 and 20 for disappointed, numbers 23 and 24 for crying or very sad, numbers 27 and 28 for angry, numbers 31 and 32 to indicate baring teeth, numbers 35 and 36 for sleepy, and numbers 39 and 40 for winking.

Table 16. North Americans' choices in textual emoticons related to each meaning.

Emotions	The selected numbers of textual emoticons by American participants.
Smile	1, 2, 3, 32, 33, 37, 38
Surprised	3, 5, 6,7, 8, 25, 27, 34, 39, 40
Sad	4, 9, 10, 12, 18, 20, 21, 22, 23, 24, 25, 26, 30
Shy/Embarrassed	2, 4, 8, 10, 11, 12, 14, 15, 16, 17, 19, 20, 25, 29, 30, 33, 34, 36
Disappointed	7, 9,10, 11, 12, 13, 14, 16, 17, 18, 19, 21, 23, 26, 29, 30, 31, 32, 36
Crying	4, 15, 16, 19, 21, 22, 23, 24,31
Angry	2, 8, 13, 14, 17, 18, 19, 23, 26, 27, 29, 30, 31, 32, 34
Baring teeth	4, 5, 13, 25, 26, 30, 31, 32
Sleepy	3, 4, 11, 14, 15, 16, 19, 23, 24, 27, 32, 33, 34, 35, 36
Wink	12, 28, 37,38, 39, 40

Furthermore, some of the North American participants had a low understanding of the use of Western emoticons used by those of their own culture. For example, number 2 means smile, but some North Americans suggested it meant angry. The results showed that North American IM users do not clearly understand and distinguish among the textual emoticons.

Table 17 indicates that South Koreans' rate for selecting the wrong emoticons was lower than North Americans' rate. However, some similarities in their preferences became evident. Some South Koreans also chose numbers 15 and 16 to mean crying, similar to the some North Americans' choice. In addition, many Koreans could not exactly match the textual emoticons with the meaning. The reason may be that they were of an age that is not familiar with the use of those emoticons.

Table 17. South Koreans' choices in textual emoticons related to each meaning.

Emotions	The selected numbers of textual emoticons by Korean participants.
Smile	1, 2, 3, 4, 7, 11, 15, 18, 31, 32, 33, 34
Surprised	2, 6, 7, 8, 15, 19, 25, 26, 34
Sad	3, 9, 10, 11, 12, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 26, 30, 31, 32
Shy/Embarrassed	4, 6, 7, 8, 10, 11, 15, 16, 19, 23, 24, 25, 27, 31, 32, 36
Disappointed	5, 8, 9, 10, 11, 12, 13, 14, 16, 18, 19, 21, 22, 26, 32, 34, 35, 36, 39
Crying	6, 9, 15, 18, 19, 21, 23, 24, 28, 29, 36
Angry	2, 7, 11, 16, 18, 19, 24, 26, 27, 28, 30, 31, 32, 36
Baring teeth	8, 10, 13, 17, 18, 19, 25, 26, 30, 31, 32, 36
Sleepy	8, 9, 11, 23, 27, 33, 34, 35, 36, 38
Wink	10, 22, 37, 38, 39, 40

Q2. What are the appropriate meanings of each pictorial emoticon and the matching textual emoticon for each of pictorial emoticon below?

The North American participants almost correctly matched the meaning with the MSN pictorial emoticons. Some did not correctly match the meaning with the pictorial emoticons, while others chose different meanings for numbers 5 and 9, such as stunned or shocked for the number 5 (😳) and exasperated tired or droll for number 9 (😒). Furthermore, MSN named 😳 as disappointed, but several North American participants recognized the emoticon as surprised. Emoticons number 7 (😡) and 8 (😤) were similarly recognized as meaning simply angry; several people seemed not to distinguish between the two as far as the degree of anger.

Among the South Korean participants, most correctly matched the meanings to the MSN pictorial characters. A few Koreans, recognizing the correct meaning of emoticons, also wrote the meaning using their own ideas for some pictorial emoticons. For number 3 (🙁), two respondents wrote that the meaning is sulky; several people chose the emoticon ' 😳 ' (disappointed) to mean surprised as some North Americans did.

33

In the results, the highlighted numbers included totally different meanings according to the North Americans. For instance, the textual emoticon :-> is used by North Americans to mean smile. Some South Koreans also understood the smile expressions ^^ and *^^* to have different meanings, such as sad, disappointed, and shy or embarrassed. (See Table 18 and 19.)

Table 18. South Koreans' choices of matching textual emoticon for each pictorial.

Emotions	Numbers of matching textual emoticons for each of the pictorial emoticons (Select all numbers that apply from the sample table above)
🙂	Textual emoticon(s)#: 1, 2, 3, 4, 7, 11, 15, 31, 32, 33
😲	Textual emoticon(s)#: 2, 6, 7, 8, 19, 25, 34
🙁	Textual emoticon(s)#: 3, 4, 8, 19, 25, 34
😳	Textual emoticon(s)#: 3, 4, 8, 10, 11, 12, 15, 16, 19, 23, 24, 31, 36
😐	Textual emoticon(s)#: 3, 4, 5, 7, 8, 9, 11, 12, 16, 21, 22, 32, 36
😓	Textual emoticon(s)#: 4, 6, 10, 15, 16, 19, 21, 23, 24, 29, 36
😡	Textual emoticon(s)#: 5, 7, 18, 19, 20, 24, 27, 28, 30, 31, 32, 36
😬	Textual emoticon(s)#: 7, 8, 13, 18, 19, 26, 27, 30, 31, 32, 36
😒	Textual emoticon(s)#: 4, 10, 38, 39, 40
😜	Textual emoticon(s)#: 4, 10, 38, 39, 40

Table 19. North Americans' choices of matching textual emoticons for each pictorial.

Emotions	Numbers of matching textual emoticons for each of the pictorial emoticons (Select all numbers that apply from the sample table above)
🙂	Textual emoticon(s)#: 1, 2, 3, 32, 33, 37, 38
😲	Textual emoticon(s)#: 3, 5, 6, 7, 8, 27, 34, 39, 40
🙁	Textual emoticon(s)#: 4, 9, 10, 12, 18, 20, 21, 22, 23, 24, 26, 30
😳	Textual emoticon(s)#: 2, 4, 8, 10, 11, 12, 14, 15, 16, 17, 19, 20, 25, 30, 31, 32, 33, 34, 36
😐	Textual emoticon(s)#: 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 21, 24, 29, 31, 32, 39, 40
😓	Textual emoticon(s)#: 4, 15, 16, 19, 21, 22, 23, 24, 31
😡	Textual emoticon(s)#: 2, 13, 14, 17, 18, 19, 23, 26, 27, 29, 30, 31, 32, 34
😬	Textual emoticon(s)#: 4, 5, 13, 14, 15, 17, 23, 24, 32, 33, 34, 35, 36
😒	Textual emoticon(s)#: 3, 4, 11, 14, 15, 17, 23, 24, 32, 33, 34, 35, 36
😜	Textual emoticon(s)#: 12, 28, 37, 38, 39, 40

Many of North American respondents put the textual emoticons into completely different pictorial emoticons. For instance, they matched the Korean textual emoticon of smile with meanings such as surprised, sad, disappointed, and sleepy. Some North Americans also indicated their Western emoticon for shy or embarrassed meant disappointed and angry or baring teeth. (See Figures 3 and 4.)
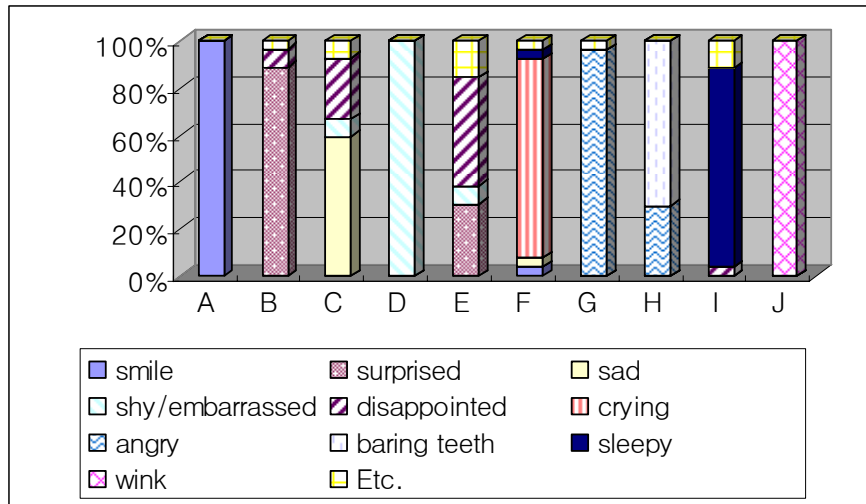

Figure 3. The rate of selected correct meanings for each MSN pictorial emoticon among South Koreans.
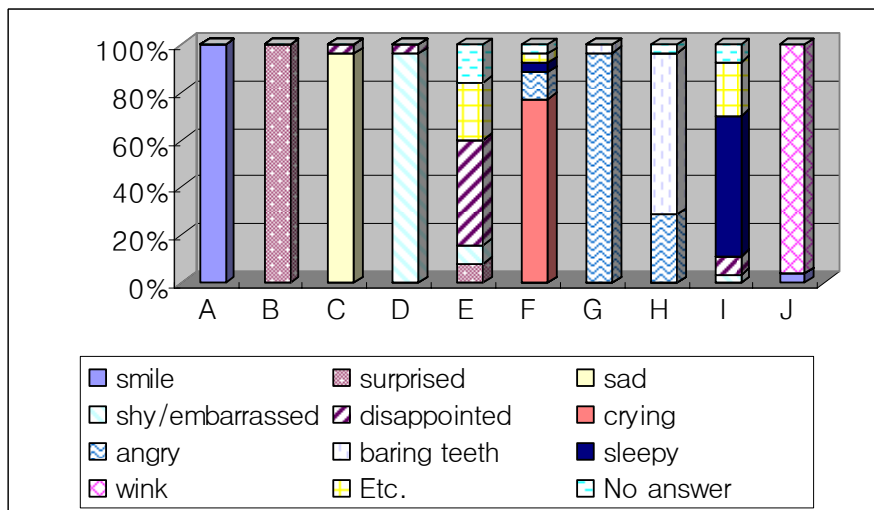
Figure 4. Rate of selected correct meanings for MSN pictorial emoticons among North Americans.

Overall, the results indicated some difficulties and differences in the understanding the textual emoticons by language structure between English and Korean.

Section 5: Common Use Test Question

Q1. Which emoticon is the most commonly used when you are communicating through IM?

Both North Americans and South Koreans preferred the smile and wink emoticons. However, the results showed that South Koreans did not like to use emoticons that denote negative meanings. (See Table 20.)

Table 20. Frequency of the favorite emoticon in common.

	N. American	S. Korean
Smile	**73%**	**73%**
Shy/Embarrassed	4%	8%
Baring teeth	4%	-
Angry	4%	-
Wink	**15%**	**19%**
Total	100%	100%

Section 6: Demographic Information

The results showed that, of the 26 South Korean participants, 69.2 percent were male and 30.8 percent female; among the 26 North American participants, 65.4 percent were male and 34.6 percent female. The ages of the main South Korean participants ranged from 26 to 39 years old, while the ages of the main North American participants ranged from 18 to 25 years old. The occupations of the participants varied greatly; 80 percent of the North American participants consisted of students, including undergraduates and graduates, while 53.8 percent of the Korean participants consisted of employees including officers, businessmen, software engineers and database administrators. Among the

participants, 88.5 percent of the South Koreans and 61.5 percent of the North Americans indicated that they were undergraduates, which contained both current undergraduate students and those having a bachelor's degree. The section focusing on the results of the demographic information indicated that South Korean participants were in the older age group.

The analysis of the research questions for this study actually excluded the age, sex, education, and occupation of participants; however, these results should not be ignored as potential variables in the results. (See Table 21.)

Table 21. The results of Demographic Information of North American and South Korean participants.

		Frequency		Percent (%)		Cumulative Percent	
		K	A	K	A	K	A
Sex	Male	18	17	69.2	65.4	69.2	65.4
	Female	8	9	30.8	34.6	100.0	100.0
	Total	26	26	100.0	100.0		
Age	18-25	2	19	7.7	73.1	7.7	73.1
	26-39	17	5	65.4	19.2	73.1	92.3
	40-59	7	2	26.9	7.7	100.0	100.0
	Total	26	26	100.0	100.0		
Occupation	student	2	21	7.7	80.0	7.7	80.8
	researcher	2	1	7.7	3.8	15.4	84.6
	employee	14	4	19.2	15.4	69.2	100.0
	teacher	5		15.4		88.5	
	nurse	3		11.5		100.0	
	Total	26		100.0	100.0		
Education	Undergraduate	23	16	88.5	61.5	88.5	61.5
	Graduate	3	10	11.5	38.5	100.0	100.0
	Total	26	26	100.0	100.0		

* K= South Korean   A= North American

* Researcher, employee, teacher, and nurse can be united as one word 'professional.'

CHAPTER FIVE: DISCUSSION

This study investigated the cross-cultural differences of emoticon use between South Koreans and North Americans. The effects of social relationships and cognition were identified through their use of emoticons in CMC.

The findings from this study show that there are similarities and differences in emoticon recognition between North Americans and South Koreans. Moreover, Instant Messaging (IM) provides many advantages in people's lives regardless of cultural background and gender.

Section1: IM Experience

The purpose of Section One was to get general information on users' IM experiences and to learn users' opinions for forming new or stronger social relationships through using IM. The findings from this section indicated that North Americans and South Koreans use IM primarily at home. The secondary place for IM use for North Americans was at work and school, and for South Koreans it was at work. The main cause of difference between the two cultures in the secondary place of use may be related to age and occupation. For example, the age frequency of South Korean participants was the highest in the age range, being 26-39, as compared with the highest age frequency of North American participants, being 18-25. The occupation also showed that most North American participants were students, while most South Korean participants were professionals.

A majority of participants from both cultures indicated IM was a great communication tool with which to chat or keep in touch with family and friends. In addition, many IM users from North America and South Korea revealed that among the available IM functions they primarily use file transfer functions and emoticons. The findings showed that there was strong opinion that using IM facilitates the formation of new and stronger social relationships, since

80.80 percent of the North Americans and 96.20 percent of the South Koreans agreed that communication through IM is helpful in forming such relationships. Their reasons, as indicated from the multiple choice questionnaire, suggested that IM provides communication in real time, promotes a feeling of intimacy, provides a way to manage human relationships, and is an easy way to express emotions. Moreover, Korean participants emphasized that they focus on emotions and feelings in order to form social relationships, followed by providing communication in real time through IM. At the same time, American participants emphasized more the matter of managing relationships and exchanging information, followed by IM's importance in providing communication in real time.

The overall findings do not include any other large differences between North Americans and South Koreans, even though there was a strong contrast between the two groups in age and occupation.

Section 2: Emoticon Usage Experience on IM

The purpose of Section Two of the questionnaire was to identify participants' emoticon preferences and the merit of emoticon use while communicating via IM.

Seventy-three percent of the North American participants and 73.1 percent of the South Korean participants indicated that they usually incorporate the use of emoticons in text messages while communicating via IM. Sixty-one percent of the South Koreans and nearly 58 percent of North Americans prefer to use text characters when communicating though IM. In addition, 3.8 percent more North Americans prefer to use graphic characters than South Koreans.

Seventy-seven percent of the North Americans and 76.9 percent of the South Koreans agreed that using emoticons reduces misunderstandings while communicating via IM. Participants indicated the reasons for reduced misunderstandings are that emoticons make the

atmosphere and tone gentler than using text alone, that they facilitate the expression of straightforward emotional condition to others, and that they simply aid the meaning of text messages, acting like additional explanation. The findings in this section provide clues to the significance for using emoticons via IM, and showed that emoticons are valuable for preventing misunderstandings in CMC. The survey results from both cultures also showed that the use of emoticons on IM provides a way for easy and efficient communication. In addition, this author's findings about emoticon usage indicate significant differences in the preference of emoticon types between North Americans and South Koreans, even though both North Americans and South Koreans like to use emoticons with text messages when they communicate through IM; Koreans are significantly more likely to use text emoticons, while Americans are likely to use graphic emoticons more.

Overall, the findings from this section provide positive support for the research questions for this study.

Section 3: Satisfaction in Forming Relationships with Emoticons

Section Three verifies the central purpose of this study by identifying the research questions: How do emoticons influence the quality of social relationships via computer-mediated communication when comparing the differences between North Americans and South Koreans, specifically, in forming simple initial impressions and feelings, initial attractions, and intimate relationships?

The findings in this section suggested that participants of both cultures are in significant agreement about the positive nature of emoticons within social relationships. The 5-point Likert-scaled statements, "I feel more emotionally engaged when using emoticons during computer-mediated communication," "Using emoticons contributes to easier communication," "Using

emoticons allows for better communication," and "Using emoticons enhances relationships between communications," showed that participants obtained satisfaction in forming relationships using emoticons, with no significant problematic differences between North Americans and South Koreans. The reliability of the questions was high enough, as the Cronbach's Alpha (α) = .799 > .7, to investigate the cross-cultural differences of emoticon use between North American and South Korean users. The p-values from the results of the t-test did not dismiss $p < .05$, and the results of the satisfaction questions (A, B, C, and D) proved that participants obtained satisfaction in forming relationships using emoticons with no significant problematic differences between North Americans and South Koreans. (See Table 12.)

The results also indicated that there were slight differences between North Americans and South Koreans in the intensity of opinion about the emoticon role. However, the important point is that both of the groups agreed that using emoticons on IM influences the quality of social relationships. (See Tables 13 and 14.) South Koreans' rate for selecting the wrong emoticons was lower than North Americans' rate. However, some similarities in participants' emoticon preferences became evident. Moreover, the results suggested that one underlying cause of some difficulties and differences in understanding the textual emoticons was the differences of the language structure between English and Korean.

Section 4: Word/Emoticon Comparison Chart

The purpose of Section Four was to investigate how differently the participants of the two cultures understand the Western style emoticon lists and Korean style emoticon lists. The findings showed that the North American and the South Korean participants almost always matched the meaning with the MSN pictorial emoticons. (See Figures 4 and 5.) However, some of the North American participants were not very familiar with the use of Western emoticons

primarily used by North Americans in IM. For example, emoticon number two means "smile," but some North Americans suggested it meant "angry." Thus, North American IM users do not always clearly understand and distinguish among the textual emoticons. (See Tables 17 and 20.)

The findings from Section Three indicated that participants believe that using emoticons aids in forming stronger relationships and contributes to easier and clearer communication. However, there are some significant difficulties to using emoticons in cross-cultural communication. The findings obtained from the survey indicate that some people misunderstand the basic MSN emoticons' meanings and characters, even though MSN provides meanings for them; these people may not have much experience with IM and emoticon use. In addition, many participants indicated that it is difficult to infer the meanings of emoticons with which they are not familiar, especially if the language structures of the different cultures are highly unfamiliar.

During the survey, most North American participants revealed that they cannot clearly understand what the South Korean emoticons' meanings are, and most South Korean participants revealed that they do not clearly understand the Western style emoticons' meanings. The reason for this could be in the language structure because Western alphabets are one byte, compared to Korean two bytes, in the computer. However, the combination of a letter in Korean can be written in various directions with some letters' combinations going only from left to right and others from up to down or from left to right. (See Figure 5.) Also, many Korean emoticons use the special key list with consonants and vowels, so Korean emoticons have vertical and horizontal shapes such as ^_^ and *^^* for "smile", while North American's emoticons have only horizontal shapes, e.g. :-). (See Figure 6.)
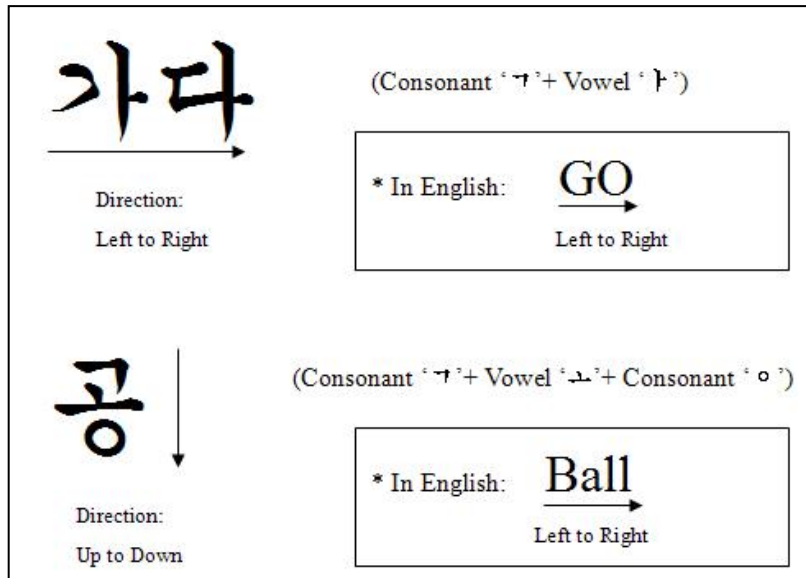
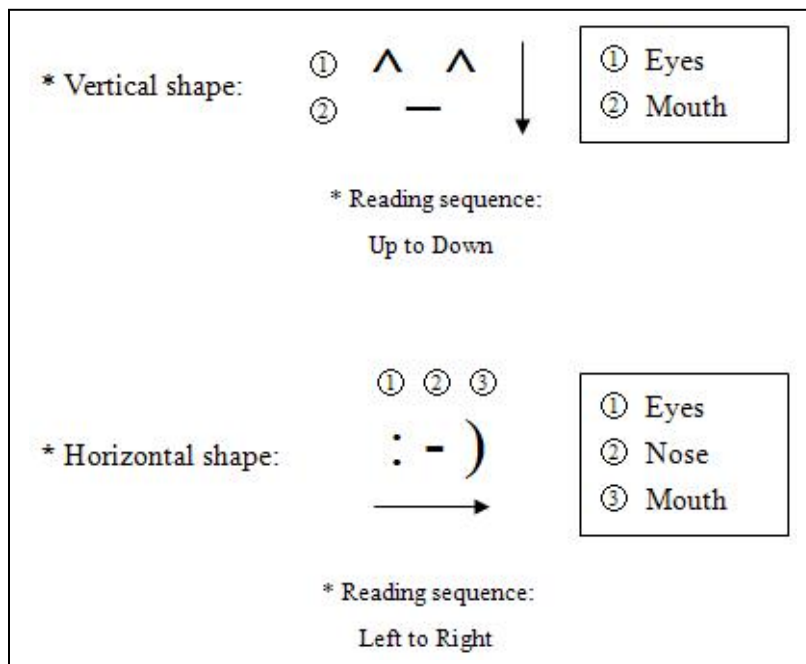Figure 5. Examples of Korean letter combinations

Figure 6. Comparisons of shapes and sequences of emotexts (textual emoticons)

Section 5: Common-Use Test Question

The findings from Section Five asking participants to select their favorite emoticon shows that Koreans are more likely to use and like the "smile" and the "wink" emoticon. The data also showed that the Korean participants did not select any emoticons to express negative feelings. Americans are also more likely to use "smile" and "wink," but they also like to use emoticons showing negative feelings such as the "angry" and the "barring teeth" emoticons.

Sixl-Daniel and Williams (n.d.) found that "the use of the wink as the second most popular emoticon is significant in the context of a multicultural communication setting because it guards against the possibility of misinterpreted irony." They also described how emoticons for negative feelings are also useful to express humility in the event of misunderstandings or in an attempt to diffuse a potential conflict. However, the author found that South Korean users do not like to use emoticons to express their negative emotions to others in IM conversations in any case.

Section 6: Demographic Information

Section Six provided demographic information on participants in order to illuminate further the findings of the other sections. Demographic data found 73.1 percent of the North American participants in the age range of 18-25 years old, and 65.4 percent of the South Korean participants in the age range of 26-39 years old. In addition, 80 percent of the North American participants consisted of students, while 53.8 percent of the Korean participants consisted of employees. (See Table 21.) Thus, South Korean participants tended to be older. Although the demographic collected did not include the age, sex, education, and occupation of participants, the demographic information that was collected should not be ignored as potential variables in the results.

Internet technologies that enable person-to-person communication, such as email and IM, use primarily textual messages and so are not able to express non-verbal communication cues such as facial expression and gestures. Rovers & Essen (2004) observed that additional information, such as emoticons and hapticons[11] must be contributed to an IM to overcome the inevitable loss of subtle non-verbal communication cues. In CMC, emoticons can fill in the gaps left by the lack of emotional facial expressions, even though some difficulties exist in understanding and translating the meaning of emoticons across different cultural backgrounds.

Many researchers (e.g., Wolf, 2000; Witmer & Katzman, 1997; Constantin Constantin, Kalyanaraman, Stavrositu, & Wagoner, 2002); and Baron, 2005) have focused on gender or age to investigate differences in the use of IM and emotional expression through text messages. Emoticons are used to support the easy transformation of ambiguous expressions in text messages for clearer communication on the internet. The data in this study has shown that using emoticons can reduce misunderstanding on IM. In addition, subjects who participated in this survey strongly agreed that emoticons make the atmosphere and tone gentler than using only text on IM. The findings also showed that emoticons facilitate the straightforward expression of one's emotional condition to others and aid in the meaning of one's text message, acting like additional explanation.

The findings indicated that there are some differences in emoticon preference and recognition between North Americans and South Koreans. In addition, the meanings of some emoticons are differently defined in North America's[12] and South Korea's[13] MSN websites. For example, MSN's North American website explains that the emoticon ' ' meaning is as

---

[11] Hapticons are defined by Rovers &Essen (2004) "as small programmed force patterns that can be used to communicate a basic notion in a similar manner as ordinary icons are used in graphical user interfaces."
[12] http://messenger.msn.com/Resource/Emoticons.aspx
[13] http://blog.naver.com/suksworld?Redirect=Log&logNo=80010895785

"embarrassed," but South Korea's MSN explains the meaning of the emoticon is as "shy". Although the emoticon '😵' was not used in this study, North America's MSN website defines it as "confused," but the South Korea's MSN website defines it as "dizzy."

To limit potential problems in terms of cognitive emoticon design, emoticons need to be incorporated into the design and the usability of IM systems to support a wide and detailed modality for users. The characters of existing ambiguous emoticons should be redesigned or re-addressed to the appropriate meanings. Only then will all participants, regardless of generations and cultures, be able to recognize the patterns and associate the emoticons with their proper meanings.

Overall, the findings showed that participants of both cultures agreed that emoticons influence the quality of social relationships through forming initial impressions and feelings, initial attractions, and intimate relationships on IM communication.

CHAPTER SIX: CONCLUSION

This study investigated the cross-cultural differences between South Koreans and North Americans in the types of emoticons used, as well as the effects of emoticon use on social relationships and the level of cognition achieved by using emoticons in CMC. Responses to the survey questions showed that there are cultural differences in relation to users' perception, satisfaction, subjective norm, and convenience in emoticon use in terms of human-computer interaction (HCI) and social interaction, or the ways people interact with each other virtually.

These days, many people use IM programs, especially the younger generation. IM programs allow for effective and efficient interaction with others and, as a CMC tool, effectively facilitate an effective exchange of information in personal lives, as well as for business affairs. However, IM poses interesting challenges to ensure that users are able to communicate clearly and effectively, even without audio and video channels, since users employ IM programs not only as a way to expand and remain connected to a social circle, but also to communicate various forms of self-expression. Communication tools, like IM programs, are not able to express non-verbal communication cues, such as facial expressions and gestures, and the limited physical cues in CMC can make it difficult to identify and interpret the behavioral norms and behaviors that traditionally govern relationships (Berger & Calabrese, 1975; Parks & Adelman, 1983; Yum & Hara, 2005).

IM communication still remains a limited means to express emotion, because of the different cognitive types of communication, different cultures, and a lack of emotional expressions for graphical or textual emotions. However, emoticons enhance and emphasize the meaning of certain text elements, becoming very useful and effective during IM conversations, as shown in this research. Also, as mentioned by Jaffee (2001) and Berge (1995), this study

suggested through its findings, that CMC encourages different social interactions and relationships among different language users. This study also affirmed the findings of Sanchez, Kirschning, Palacio and Ostrovskaya (2005) that users experienced difficulties in conveying their emotions through solely text-based communication on IM. Based on the findings of this study, both cultures' participants agreed with those of the study conducted by Sanchez, Kirschning, Palacio and Ostrovskaya, that emoticons represent a specific feeling at any given instant during a discussion or even a reaction during a conversation. Moreover, the participants of this study suggested that emoticons enhance and emphasize the meaning of certain text elements.

Therefore, this study showed that from the point of view of North American and South Korean users, emoticons facilitate the understanding of communication, make social relationships stronger through IM communication, and aid in conveying non-verbal expressions to others. The study also showed the significance of emoticons for efficient IM communication in the highlighting of differences between cultures in understanding and recognizing emoticons.

Summary of Research

The research questions for this study are related to emoticon use by North Americans and South Koreans. This research provided qualitative information about the emoticon influence on social relationships related to the effect and utility of CMC. The results of Sections Two and Three sufficiently answered the research questions and showed that emoticons influence the quality of social relationships through forming initial impressions and feelings, initial attractions, and intimate relationships on IM communication. For example, 77 percent of the North Americans and 76.9 percent of the South Koreans answered that using emoticons reduces misunderstandings while communicating via IM. In addition, from the results of the t-test, p-values were not dismissed in $p < .05$ as 0.768, 0.973, 0.743, and 0.901, respectively. The overall

p-value (2-tailed) was not dismissed; thus, the results of the satisfaction questions (A, B, C, and D) were that participants obtained satisfaction in forming relationships using emoticons, Lastly, both groups agreed that emoticon use influences forming social relationships.

Limitations of the Research

This study attempted to identify the differences in intercultural communication by focusing on the influence of emoticon use on social relationships. Although the questions were designed with the intent to gather the appropriate data, the format was too complex for colleting and analyzing the data. Moreover, a number of questions were too long and complicated. In addition, during the survey, the researcher realized that the results may be affected by the factors of age, group, and occupation. If the questionnaire was slightly larger and more balanced, more accurate results could have resulted.

Directions for Future Research

As pointed out by Herring (1996), there is still a need for far more empirical research in the area of CMC. CMC studies should be conducted for public standardization based on a variety of data and realistic information. There are several directions in which emoticon research for IM communications can be developed in the future.

First, this study identified the cross-cultural differences in recognizing and understanding the emoticons between North Americans and South Koreans. However, future research could compare the differences in recognizing and understanding emoticons between different cross-cultural users to improve the intercultural social relationships between Europeans and East Asians, and between North Americans and Europeans. Furthermore, comparing differences and preferences of emoticon use between genders in different cultures will prove both interesting and

useful. As stated by Kim and Bonk (2002), comparative research is needed within additional cultures, situations, and content areas. Therefore, the author suggests that finding the common features of emoticons is necessary to compare effectively the differences of the emoticon's influence or effects between various cultures. Such a study could also identify such differences through respondents' reactions or reflection in each circumstance by a task scenario that requires participants to create a text message with emoticons. The findings of collected and analyzed data will provide useful information on how using emoticons influences users' relationships and the quality of relationships.

Second, it will be important to conduct further research on the psychological consequences of computer-mediated relationships using emoticons. Emoticons seem to play an important role in building and maintaining of online relationships through a less superficial discourse and more efficient interaction between individuals on IM or email service. Therefore, future empirical research could examine users in order to identify the problems and effects of online interactions and collaborations through use of emoticons on communication between colleagues in the workplace, or between instructors and students on online communication tools.

Third, the pictorial emoticons and textual emoticons used in this study are already somewhat outdated. Now, most netizens use Flashcon (known "Wink" in MSN), which provides animated emoticons. Flashcons conveys more detailed emotional expressions to others, as well as wit and humor. Therefore, a further study that interests the author is the efficiency of a combined framework of textual messages with early-version emoticons and flashcons. Such a study could provide a demonstration of better interaction and faster cognition by investigating how the different user groups apply the emoticons to CMC and how the emoticons can affect or influence online interaction efficiency.

This study may also prove valuable in the doing a future cultural study to investigate whether electronic communication leads to different linguistic experiences that transfigure social relationships through unexpected differences in emoticon recognition. Many media ecologists have emphasized that the media is important as a global driving force and is valuable for social development. Therefore, future research regarding emoticons in human-computer interaction will need to focus on media ecology and social science to achieve complete success in being valuable to the CMC discipline.

REFERENCES

An, Y. J., & Frick, T. (2006). Student perceptions of asynchronous computer-mediated communication in face-to-face courses. *Journal of Computer-Mediated Communication*, 11 (2), article 5.

Aurell, S. (2005). Remote controlling devices using instant messaging: Building an intelligent gateway in Erlang. OTP. Retrieved September 20, 2006 from http://www.erlang-consulting.com/thesis/remote_controlling_instant_messaging.html

Baron, N.S. (2004). See you online: Gender issues in college student use of instant messaging. *Journal of Language and Social Psychology*, Vol. 23, No. 4, 397-423

Baron, N.S. (2005). Discourse structures in instant messaging. In Herring S. (ed.). *Computer-mediated conversation*. Cresskill, NJ: Hampton Press.

Baron, N.S. (2005). Instant Messaging by American College Students: A Case Study in Computer-Mediated Communication. *American Association for the Advancement of Science.* 17-21.

Baron-Cohen, S., Wheelwright, S., Hill, J., Raste, Y., & Plumb, I. (2001). The "Reading the Mind in the Eyes" Test Revised Version: A Study with Normal Adults, and Adults with Asperger Syndrome or High-functioning Autism. *Journal of Child Psychology and Psychiatry*, 42 (2), 241-251.

Beauvois, M. (1998). Conversations in slow motion: Computer-mediated communication in the foreign language classroom. The Canadian Modern Language Review, 54 (2), 198-217.

Berge, Z. L. (1995). Facilitating computer conferencing: Recommendations from the field. *Educational Technology*, 15 (1), 22-30

Chenault, B. G. (1998). Developing personal and emotional relationships via computer mediated

communication. *Computer-Mediated Communication Magazine*, 5(5). Retrieved
September 14, 2006 from http://www.december.com/cmc/mag/1998/may/chenault.html

Constantin, C., Kalyanaraman, S., Stavrositu, C., & Wagoner, N. (2002). To be or not to be
emotional: Impression formation effects of emoticons in moderated chatrooms.
Retrieved September 20, 2006 from
http://www.psu.edu/dept/medialab/research/AEJMC.htm

Czerwinski, M., Cutrell, E., & Horvitz, E. (2000). Instant messaging: Effects of relevance and
timing, Human-Computer Interaction, Retrieved August 20, 2006 from
http://portal.acm.org/results.cfm?coll=portal&dl=ACM&CFID=1864665&CFTOKEN=
68472698

Daft, R. L., & Lengel, R. H. (1984). Information richness: a new approach tomanagerial behavior
and organizational design. *Research in organizational behavior*, 6, 191-233.

Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness
and structural design. *Management Science*, 32 (5), 554-571.

Danet, B., Reudenberg-Wright, L., & Rosenbaum-Tamari, Y. (1997). "Hmmm...where's that
smoke coming from?" Writing, play and performance on Internet Relay Chat. *Journal
of Computer-Mediated Communication*, 2(4) Retrieved September 14, 2006 from
http://www.ascusc.org/jcmc/vol2/issue4/danet.html

Diana, A (2004). Omnipod CEO gideon stein speaks on IM networks. E-commerce Times,
Retrived September 20, 2006 from http://www.ecommercetimes.com/story/38215.html

Dubrovsky, V. J., Kiesler, S., and Sethna, B. N. (1991). The equalization phenomenon: Status
effects in computer-mediated and face-to-face decision-making groups. *Human-
Computer Interaction*, 6, 119-146.

Faiola, A., & Matei, S. A. (2005). Cultural cognitive style and web design: Beyond a behavioral

    inquiry into computer-mediated communication. Retrieved September 14, 2006 from

    http://jcmc.indiana.edu/vol11/issue1/faiola.html

Ferris, S. P. (1996). Women on-line: Cultural and relational aspects of women'scommunication

    in on-line discussion groups. Retrieved September 6, 2006 from

    http://www.emoderators.com/ipct-j/1996/n3/ferris.txt

Freedman, K., & Liu, M.(1996). The importance of computer experience, learning processes, and

    communication patterns in multicultural networking. *Educational Technology Research*

    and Development, 44(1), 43-59.

Gerbner, G. (1967). Mass media and human communication theory. *Human communication*

    theory. New York: Holt, Rinehart and Winston. 40-57.

Harasim, L. (1990). Online education: An environment for collaboration and intellectual

    amplification. In L. Harasim (Ed.), *Online Education: Perspective on a New*

    Environment. (pp. 39-64), New York: Praeger.

Isaacs, E., Walendowski, A., Whittaker, S., Schiano, D. J. & Kamm, C. (2002). The character,

    functions, and styles of instant messaging in the workplace. In Proceedings of

    CSCW'02, 11-20.

Jacobson, D. (1999). Impression formation in Cyberspace: Online expectations and offline

    experiences in text-based virtual communities. *Journal of Computer-Mediated*

    Communication, 5(1). Retrieved August 20, 2006 from

    http://www.ascusc.org/jcmc/vol5/issue1/jacobson.html

Jaffee, D. (2001). Asynchronous learning: Technology and pedagogical strategy in a distance

    learning course. *Teaching Sociology*, 25 (4), 262-277.

Jensen, J. F. (1999). 'Interactivity': Tracking a new concept in media and communication studies.

    In P. A. Meyer (Ed.), *Computer Media and Communication* (pp. 160-187). Oxford:

    Oxford University Press.

Kaliouby, E. K. & Robinson, P. (2004). FAIM: Integrating automated facial affect analysis in

    instant messaging. Retrieved August 30, 2006 from

    http://www.cl.cam.ac.uk/~re227/publications/FAIM-

    IUI2004.pdf#search='FAIM%3A%20Integrating%20Automated%20Facial%20Affect'

Kiesler, S., Siegel, J. & McGuire, T. (1984). Social psychological aspects of computer-mediated

    communication. *American Psychologist*, 39, 1123-1134.

Kim, K. J., & Bonk, C. J. (2002). Cross-cultural comparisons of online collaboration. Retrieved

    September 1, 2006 from http://jcmc.indiana.edu/vol8/issue1/kimandbonk.html

Lloyd, D. J. Don't Kill the Messenger: Communication on IM. Retrieved August 22, 2006, from

    http://www.dlloyd.net/files/capstonefinal.pdf#search='Isaacs%20et%20al.%2C%20200

    2%3B%20Nardi%20et%20al.%2C%202000'

Nardi, B. A., Whittaker, S. & Bradner, E. (2000). Interaction and outeraction: Instant messaging

    in action. In Proceedings of *CSCW'00*, 79-88.

Oetting, M. (2005). Navigating the world of technology one gadget at a time. Retrieved

    November 10, 2006 from

    http://blogs.northstarnet.org/techtalk/archives/2005/09/instant_messagi.php

Park, S. H. (n.d.). A change of social relationship by CMC introduction. Retrieved November 10,

    2006 from

    http://cafe.naver.com/soscview.cafe?iframe_url=/ArticleRead.nhn%3Farticleid=119

Parks, M. R., & Adelman, M. B. (1983). Communication networks and the development of

romantic relationships: An expansion of uncertainty reduction theory. *Human Communication Research*, 10, 55-79.

Pollack, A. (1996, August 12). Happy in the East (^_^) or smiling in the West :). *The New York Times*, p. D5.

Rafaeli, S. (1988). Interactivity: From new media to communication. In R.P. Hawkins, & J. M. Wiemann (Eds.), *Advancing Communication Science: Merging Mass and Interpersonal Process.* 110-134. Newbury Park, CA: Sage.

Rice, R.E., & Love, G. (1987). Electronic emotion: Socioemotional content in a computer-mediated communication network. *Communication Research*, 14, 85-108.

Robb, T. (2003). e-mail emoticons in a cultural context. *Dorothy Zemach's From A to Z column, "uve got mail,"* Essential Teacher, Winter 2003 (pp. 19-21)

Rovers, A. F., & Essen, H. A. (2004). HIM: A framework for haptic instant messaging. *Proceedings of CHI*, ACM, 1313-1316.

Sanchez, J. A., Kirschning, I., Palacio, J. C., & Ostrovskaya, Y. (2005). Towards mood-oriented interfaces for synchronous interaction. *CLIHC*, October 23-25, 2005.

Sanderson, D. (1993). Smileys. Sebastopol, CA: O'Reilly & Associates, Inc.

Schroer, D., & Hatu, J. (2006). Instant messaging, inhibition of social involvement. Retrived September 21, 2006 from http://www.stfrancis.edu/acca/accaweb06/abstracts/psych/hatu_psych.pdf#search='rich%20facetoface%20involvement%20%28Bryant%20%26%20Bryant%2C%202005%29

Short, J. S., Williams, E., Christie, B. (1976). The social psychology of telecommunications. *London: John Wiley & Sons*.

Sixl-Daniell, K., & Williams, J. (n.d.). Paralinguistic discussion in an online educational setting:

A preliminary study. Retrieved November 20, 2006 from

http://www.jeremybwilliams.net/Sixl-DaniellWilliamsFinal.pdf

Sui, E., & Lenhart, A. (2004). How Americans use instant messaging. Retrieved August 23,

2006, from

http://www.pewinternet.org/pdfs/PIP_Instantmessage_Report.pdf#search='report%20of
%20instant%20messaging%20program%20usage'

Sutton, L. A. (2001). The principle of vicarious interaction in computer-mediated

communications. *International Journal of Educational Telecommunications*, 7 (3), 223-

242.

Thompson, P.A., & Fougler, D. A. (1996). Effects of pictographs and quoting on flaming in

electronic mail. *Computers in Human Behavior*, 12, 225-243.

Utz, S. (2000). Social information processing in MUDs: The development of friendships in

virtual worlds. *Journal of Online Behavior*, 1(1). Retrieved September 14, 2006 from

http://behavior.net/JOB/v1n1/utz.html

Voida, A., & Mynatt, E. D. (2005). Six themes of the communicative appropriation of

photographic images. *ACM*.

Vrasidas, C., & McIssac, M. S. (2000). Principles of pedagogy and evaluation for web-based

learning. *Educational Media International*, 37 (2), 105-111

Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: a relational

respective. *Communication Research*, 19, 52-90.

Walther, J. B., & D'Addario, K. P. (2001). The impacts of emoticons on message interpretation

in computer-mediated communication. *Social Science Computer Review*, 19(3) 324-

347.

Wilkie, H. (2004). Communication technology gets in the way of communication. Retrieved

    September 10, 2006 from

    http://www.mhwcom.com/pages/communicationtechnology.html

Witmer, D. F., & Katzman, S. L. (1997). On-line smiles: Does gender make a difference in the

    use of graphic accents? *Journal of Computer-Mediated Communication*, 2(4). Retrieved

    September 14, 2006 from

    http://wotan.liu.edu/docis/dbl/comeco/1997_2_4__OSDGMA.htm

Wolf, A. (2000). Emotional expression online: Gender differences in emoticon use. *Cyber*

    psychology and Behavior, 3 (5): 827-833.

Yigit, O. T. (2005). Emoticon usage in task-oriented and socio-emotional contexts in online

    discussion boards. Retrieved August 22, 2006 from

    http://etd.lib.fsu.edu/theses/available/etd-07082005-

    145007/unrestricted/Thesis_Yigit.pdf#search='psychology%2C%20emoticon'

Yuasa, M., Saito, K., & Mukawa, N. (2006). Emoticons convey emotions without cognition of

    faces: An fMRI study. *ACM.*

Yum, Y. O., & Hara, K. (2005). Computer-mediated relationship development: A cross-cultural

    comparison. Retrieved August 20, 2006 from

    http://jcmc.indiana.edu/vol11/issue1/yum.html

Appendix A: Questionnaire in English

Thesis Research Questionnaire

Indiana University-Purdue University at Indianapolis (IUPUI)
Advisor: Anthony Faiola, PhD
Student: Young-Joo Cha
E-mail: 14Hyocha@indiana.edu
Phone #: 1-317-777-8354

This study is part for a thesis for a Master's degree in the School of Informatics, Human Computer Interaction, at IUPUI. This questionnaire investigates the cross-cultural differences of emoticon use between North Americans and South Koreans, focusing on their instant messaging experience, emoticon use experience, and satisfaction with and recognition of emoticons.

All the information provided will only be used for this study.

Thank you very much for your effort and time~!

Please complete the survey by providing answer to the following items. For each   question, please select one appropriate answer.

Instant Messenger (IM) Experience

1. Where do you use IM? (Select all that apply)
   ☐ At home ☐ At work ☐ At school ☐ At an internet café ☐ Other _____

2. How long have you been using IM (years)?
   ☐ Under 1 ☐ 1-3 ☐ 4-6 ☐ 7-9 ☐ 9 +

3. Why do you use IM? (Select all that apply)
   ☐ To chat with family or friends ☐ To share photos ☐ To share files
   ☐ To send celebratory wishes ☐ To gossip or flirt
   ☐ To make and talk to new friends
   ☐ To keep in touch with family or friends overseas
   ☐ To communicate with others (co-workers or business-related) at work
   ☐ Other _____

4. What functions of IM do you use? (Select all that apply)

   ☐ File transfer functions ☐ Emoticons/graphics ☐ Audio chat
   ☐ Video chat ☐ Games ☐ Other _____

5. Do you think IM has helped you form new or stronger social relationships?
   ☐ Yes ☐ No

   If YES, why? (Select all that apply)

   ☐ IM provides communication with others in real time.
   ☐ IM promotes a feeling of intimacy for each other.
   ☐ IM is easier to express my emotions to others than face-to-face communication.
   ☐ IM provides a way to manage human relationships.
   ☐ IM is efficient to save time.
   ☐ IM promotes the interchange of information with each other.
   ☐ IM provides an easy way to feel sympathy each other.
   ☐ Others_____

Emoticon Use on IM Experience

1. Do you usually use only text messaging?

   ☐ Yes   ☐ No

2. Do you use emoticon(s) when text messaging?
   ☐ Yes   ☐ No

3. Which of the following do you prefer to use?

   ☐ Text characters e.g. :-)   ☐ Graphic characters e.g.

4. Do you think using emoticons with text reduces misunderstanding when communicating via IM?

   ☐ Yes   ☐ No

  If YES, why? (Select all that apply)
☐ Emoticons facilitate to express my straightforward emotional condition to others.
☐ Emoticons make the atmosphere and tone gentler than only using text.
☐ Emoticons simply aid the meaning of my text message as like additional explanation.
☐ Others_____

In this section, please choose whether you -Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree.

Satisfaction to form relationships with emoticons	
Questions	SA A N D SD
I feel more emotionally engaged when using emoticons during computer-mediated communication	
Using emoticons contributes to easier communication	
Using emoticons allows for better communication	
Using emoticons enhances relationships between communications	

Sample of textual emoticons							
1 :-)	2 :->	3 ⌒⌒	4 *⌒⌒*	5 :-()	6 :-O	7 ⊙.⊙	8 @.@
9 :-(	10 :-<	11 ~_~	12 '_'	13 :-$	14 |:-|	15 ⌒⌒;;	16 -_-;;
17 :-|	18 <:-(	19 >_<	20 'n`	21 :'(	22 :,-(	23 ㅠ.ㅠ	24 ㅜ.ㅜ
25 :-@	26 >:-<	27 `o'	28 `.'	29 8o|	30 }: [	31 *~*	32 `~`
33 |-)	34 |-O	35 Z_Z	36 =.=	37 ;-)	38 ,-)	39 ^.~	40 ^_-
Emoticon meanings							
1 Smile 2 Surprised 3 Sad 4 Shy/Embarrassed 5 Disappointed 6 Crying							
7 Angry 8 Baring teeth 9 Sleepy 10 Wink							

For the questions below, please select the choice you deem most understandable from the sample table.

Question / Emotions	When communicating through IM, which textual emoticons most accurately express each emotion below? (Select all numbers that apply from the above the sample table.)
Smile	
Surprised	
Sad	
Shy/Embarrassed	
Disappointed	
Crying	
Angry	
Baring teeth	
Sleepy	
Wink	

Question Emotions	What are the appropriate **meanings** of each pictorial emoticon and matching **textual emoticons** for each of the pictorial emoticon below? (Select all numbers that apply from the above the sample table)	
😃	Meaning#:	Textual emoticon(s)#:
😲	Meaning#:	Textual emoticon(s)#:
🙁	Meaning#:	Textual emoticon(s)#:
😳	Meaning#:	Textual emoticon(s)#:
😐	Meaning#:	Textual emoticon(s)#:
😢	Meaning#:	Textual emoticon(s)#:
😡	Meaning#:	Textual emoticon(s)#:
😬	Meaning#:	Textual emoticon(s)#:
😒	Meaning#:	Textual emoticon(s)#:
😉	Meaning#:	Textual emoticon(s)#:

Question	Which emoticon is the most commonly used when you are communicating on IM?
Selection	① Smile ② Surprised ③ Sad ④ Shy/Embarrassed ⑤ Disappointed ⑥ Crying ⑦Angry ⑧Barring teeth ⑨ Sleepy ⑩ Wink

Demographic Information
Age   ☐ Under 18 ☐ 18-25 ☐ 26-39 ☐ 40-59 ☐ 60-75 ☐ 75 or Over Sex   ☐ Male   ☐ Female Occupation: Education:

연구 논문 설문지

Indiana University-Purdue University at Indianapolis (IUPUI)
지도교수: Anthony Faiola, PhD
연 구 자: 차 영 주
E-mail: 15Hyocha@indiana.edu
16Hzuzu99@daum.net

Phone # : 1-317-777-8354

이 연구는 미국 IUPUI 의 Informatics 대학원 Human Computer Interaction 전공의 석사 졸업 논문입니다. 본 설문조사는 인스턴트 메신저 (Instant Messenger; IM) 사용 경험과 이모티콘 사용 경험, 그리고 이모티콘 사용상의 만족도와 인지도를 알아보는 문항들로 이루어져 있습니다. 또한, 이 연구의 목적은 설문조사의 결과를 통해 미국 사용자들과 한국 사용자들의 이모티콘 이해도와 사용성의 차이점들을 알아보고자 하는 것이 이 연구의 목적입니다.

여러분께서 제공해주신 소중한 정보들은 오직 이 연구를 위해서만 쓰여질 것이며, 다른 용도로는 절대 쓰여지질 않을 것입니다.

설문에 참여해 주셔서 대단히 감사합니다.

아래 각각의 질문에 대한 적절한 답변을 골라 주십시오.

인스턴트 메신저 (IM) 사용경험

1. 인스턴트 메신저 (IM) 를 주로 사용하는 장소를 모두 골라 주십시오.

　　□ 집　□ 직장　□ 학교　□ 인터넷 카페　□ 기타 _____

2. 귀하의 IM 을 사용한 기간은 어느 정도입니까?

　　□ 1년 이하　　□ 1-3년　　　　□ 4-6년　　□ 7-9년　　　　□ 9년 이상

3. 귀하가 IM 을 사용하는 목적을 모두 골라주십시오.

　　□ 가족 또는 친구들과 대화하기 위해서　□ 사진을 공유하기 위해　□ 파일공유를 위해

　　□ 축하메시지를 보내기 위해　　　　　　□ 남의 얘기나 잡담을 위해

　　□ 새로운 친구를 만들거나 그들과 대화하기 위해

　　□ 해외에 있는 가족 또는 친구들과 교신하기 위해

　　□ 직장에서 동료와 대화하거나 비즈니스를 위한 목적으로

　　□ 기타_____

4. 귀하는 IM 기능들 중에서 주로 사용하는 기능들을 모두 골라주십시오.

　　□ 파일 전송 기능　　□ 이모티콘 또는 그래픽기능　　□ 음성대화

　　□ 화상대화　　　□ 게임　　　　　　　　　　□ 기타 _____

5. IM 사용이 새로운 대인 관계 형성 또는 기존의 대인 관계를 돈독히 하는데 도움이 된다고 생각하십니까?

　　□ 예　　　□ 아니오

　　만약 그렇다면 그 이유가 될 수 있는 사항을 모두 선택해 주십시오.

　　□ IM 은 실시간으로 다른 사람들과 커뮤니케이션을 제공하기 때문에

　　□ IM 을 사용함으로써 서로에게 친밀감을 주는데 도움이 되기 때문에

　　□ IM 사용은 면대면 커뮤니케이션 보다 상대방에게 나의 감정을 표현하기가 더 쉽기 때문에

　　□ IM 사용은 대인 관계를 관리하기 위한 하나의 효율적 방법이기 때문에

　　□ IM 사용은 서로의 시간을 절약하기에 효율적이기 때문에

　　□ IM 사용은 서로의 정보 교환에 유용하기 때문에

　　□ IM 사용은 서로의 공감대를 쉽게 형성하는데 도움이 되기 때문에

　　□ 기타_____

이모티콘 사용 경험
1. 귀하는 대체로 IM 사용시 텍스트 메시지만 사용하십니까? 　　☐ 예　☐ 아니오. (이모티콘도 사용시) 2. 귀하는 어느것을 더 선호합니까? 　　☐ 텍스트 이모티콘 e.g. ^^　☐ 그래픽 이모티콘 e.g. 🙂 3. 귀하는 IM (으)로 대화시 이모티콘을 사용하는 것이 상대방의 오해를 줄일 수 있다고 생각하십니까? 　　☐ 예　　　☐ 아니오 　　**만약에 '예'를 선택했다면, 그 이유에 해당하는 사항을 모두 선택해 주십시오.** 　　☐ 이모티콘은 상대방에게 솔직한 감정 표현을 충분히 도울 수 때문에 　　☐ 이모티콘 사용은 텍스트(문자)만 사용하는 것 보다 대화의 분위기와 어감을 조금 더 부드럽게 또는 　　　친근하게 하기 때문에 　　☐ 이모티콘 사용은 텍스트 메시지에서 부가적인 의미를 부여하는 역할을 하기 때문에 　　☐ 기타＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

아래의 만족도에 관한 질문에 대해 '강한 긍정(SA), 긍정(A), 보통 (N), 부정(D), 강한 부정 (SD)' 중에서 선택해 주십시오.

이모티콘 사용에 의한 대인 관계 형성의 만족도					
질문 문항	SA	A	N	D	SD
나는 채팅하는 동안에 이모티콘을 사용함으로써 감정적 교류가 더 잘된다고 느낀다.	①	②	③	④	⑤
이모티콘의 사용 또는 삽입은 의사소통을 더 쉽게 만든다.	①	②	③	④	⑤
메신저 대화시, 이모티콘 사용이 그 의미를 더 명백히 전달한다.	①	②	③	④	⑤
메신저 대화시, 이모티콘의 사용은 대인 관계를 더욱 돈독히 만들어준다.	①	②	③	④	⑤

텍스트 이모티콘의 예제							
1　:-)	2　:->	3　^^	4　*^^*	5　:-()	6　:-O	7　⊙.⊙	8　@.@
9　:-(	10　:-<	11~_~	12　'_'	13　:-$	14|:-|	15　^^;;	16 -_-;;
17　:-|	18 <:-(	19　>_<	20　'n'	21　:'(	22　:,-(	23 ㅠ.ㅠ	24 ㅜ.ㅜ
25　:-@	26 >:-<	27　`o'	28　`.'	29　8o|	30　}:[	31　*~*	32 `~'
33　|-)	34 |-O	35　Z_Z	36　=.=	37 ;-)	38　,-)	39　^.~	40　^_-

각 이모티콘의 의미

1 미소　2 놀라운　3 슬픈　4 부끄러운/당황스런　5 실망한　6 우는/울음　7 화난
8 이를 악문　9 졸리는 (잠오는)　10 윙크

질문 감정 상태	IM을 통해 대화시, 예제표에서 아래의 각각의 감정을 표현하기에 가장 적절한 텍스트 이모티콘의 <u>번호</u>를 모두 골라 주십시오.
미소	
놀라운	
슬픈	
부끄러운/당황스런	
실망한	
우는/울음	
화난	
이를 악문	
졸리는 (잠오는)	
윙크	

질문 이모티콘	예제 테이블에서 아래 각각의 그래픽 이모티콘에 적절한 **의미**와 그에 상응하는 **텍스트 이모티콘**을 모두 골라 그 번호를 적어 주십시오.	
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:
	의미#:	텍스트 이모티콘#:

질 문	IM 대화시, 귀하는 어떤 의미의 이모티콘을 가장 자주 사용하는지 선택해 주십시오.
선택 항목	① 미소　②놀라운　③슬픈　④부끄러운/당황스러운　⑤실망한 ⑥우는 (울음)　⑦화난　⑧이를 악문　⑨졸리는(잠오는)　⑩윙크

인구 통계학적 특성 정보

나이　　□ 18 세 이상　□ 18-25 세　□ 26-39 세　□ 40-59 세　□ 60-75 세　□ 75 세 이상

성별　　□ 남　　　　　　□ 여

직업:

학력:

이상 설문에 참여해 주셔서 대단히 감사합니다.

Instant Messenger (IM) Experience

Where do you use Instant Messenger? (Select all that apply)				
Choices	Response Total (#)		Response Percent	
	N.A	S.K	N.A	S.K
At home	**24**	**20**	92.3%	76.9%
At work	7	14	26.9%	53.8%
At school	7	2	26.9%	7.7%
At an internet cafe	1	4	3.8%	15.4%
Other	-	1	-	3.8%

* N.A: North American   * S.K: South Korean

How long have you been using IM (years)?				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Under 1	1	3	3.8%	11.5%
1-3	3	5	11.5%	19.2%
4-6	**12**	**15**	46.2%	57.7%
7-9	7	2	26.9%	7.7%
9+	3	1	11.5%	3.8%

Why do you use IM? (Select all that apply)				
Choices	Response Total (#)		Response Percent	
	N.A	S.K	N.A	S.K
To chat with family or friends	**26**	**18**	100%	69.2%
To share photos	7	4	26.9%	15.4%
To share files	9	8	34.6%	30.8%
To send celebratory wishes	1	6	3.8%	23.1%
To gossip or flirt	4	3	15.4%	11.5%
To make and talk to new friends	7	3	26.9%	11.5%
To keep in touch with family or friends overseas	9	7	34.6%	26.9%
To communicate with others (co-workers or business-related) at work	7	10	26.9%	38.5%
Other	-	-	-	-

What functions of your IM do you use? (Select all that apply)				
Choices	Response Total (#)		Response Percent	
	N.A	S.K	N.A	S.K
File transfer functions	**20**	**22**	76.9%	84.6%
Emoticons/graphics	18	8	69.2%	30.8%
Audio chat	5	5	19.2%	19.2%
Video chat	7	6	26.9%	23.1%
Games	2	-	7.7%	-
Other	2	-	7.7%	-

Do you think that the use of IM has helped you form new or stronger social relationships?				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Yes	**21**	**25**	80.8%	96.2%
No	5	1	19.2%	3.8%

If YES, why? (Select all that apply)				
Choices	Response Total (#)		Response Percent	
	N.A	S.K	N.A	S.K
IM provides communication with others in real time.	**20**	**17**	76.9%	65.4%
IM promotes a feeling of intimacy for each other.	5	11	19.2%	42.3%
IM is easier to express my emotions to others than face-to-face communication.	5	11	19.2%	42.3%
IM provides a way to manage human relationships.	10	7	38.5%	26.9%
IM is efficient to save time.	13	16	50.0%	61.5%
IM promotes the interchange of information with each other.	13	14	50.0%	53.8%
IM provides an easy way to feel sympathy each other.	1	4	3.8%	15.4%
Others	2	0	7.7%	-

Emoticon Usage Experience

Do you usually use only text messaging?				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Yes	7	7	26.9%	26.9%
No	**19**	**19**	73.1%	73.1%

Do you use emoticon(s) when text messaging?				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Yes	**19**	**19**	73.1%	73.1%
No	7	7	26.9%	26.9%

Which of the following do you prefer to use?				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Text characters e.g. :-)	**15**	**20**	57.7%	61.5%
Graphic characters e.g. 😊	11	6	42.3%	38.5%

Do you think using emoticons with text reduces misunderstanding when communicating via IM?				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Yes	**20**	**20**	76.9%	76.9%
No	6	6	23.1%	23.1%

If YES, why? (Select all that apply)				
Choices	Response Total (#)		Response Percent	
	N.A	S.K	N.A	S.K
Emoticons facilitate to express my straightforward emotional condition to others.	11	11	42.3%	42.3%
Emoticons make the atmosphere and tone gentler than only using text.	**12**	**18**	46.2%	69.2%
Emoticons simply aid the meaning of my text message as like additional explanation.	11	8	42.3%	30.8%
Others	1	-	3.8%	-

Satisfaction in Forming Relationships using Emoticons

I feel more emotionally engaged when using emoticons during computer-mediated communication.				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Strongly Agree	2	5	7.7%	19.2%
Agree	**17**	**15**	65.4%	57.7%
Neutral	6	5	23.1%	19.2%
Disagree	-	1	-	3.8%
Strongly Disagree	1	-	3.8%	-

Using emoticons contributes to easier communication.				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Strongly Agree	8	5	30.8%	19.2%
Agree	**12**	**14**	46.2%	53.8%
Neutral	5	5	19.2%	19.2%
Disagree	-	2	-	7.7%
Strongly Disagree	1	-	3.8%	-

Using emoticons allows for better communication.				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Strongly Agree	10	3	38.5%	11.5%
Agree	**11**	**11**	42.3%	42.3%
Neutral	4	9	15.4%	34.6%
Disagree	-	3	-	11.5%
Strongly Disagree	1	-	3.8%	-

Using emoticons enhances relationships between communications.				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Strongly Agree	-	1	-	3.8%
Agree	8	**15**	30.8%	57.7%
Neutral	**11**	8	42.3%	30.8%
Disagree	5	2	19.2%	7.7%
Strongly Disagree	2	-	7.7%	-

Which emoticon is the most commonly used when you are communicating on IM?				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Smile	**19**	**19**	73.1%	73.1%
Surprised	-	**-**	-	-
Sad	**-**	-	-	-
Shy / Embrassed	1	2	3.8%	7.7%
Disappointed	-	-	-	-
Crying	-	-	-	-
Angry	1	-	3.8%	-
Barring teeth	1	-	3.8%	-
Sleepy	-	-	-	-
Wink	4	5	15.4%	19.2%

Demographic Information

Age				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Under 18	-	-	-	-
18-25	**18**	2	69.2%	7.7%
26-39	6	**17**	23.1	65.4%
40-59	2	7	7.7%	26.9%
60-75	-	-	-	-
75 or Over	-	-	-	-

Occupation				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Student	**21**	2	80.0	7.7
Researcher	1	2	3.8	7.7
Employee	4	**14**	15.4	19.2
Teacher	-	5	-	15.4
Nurse	-	3	-	11.5

Education				
Choices	Response Total (#)		Response Percent	
	N.A (26)	S.K (26)	N.A	S.K
Undergraduate	**16**	**23**	61.5%	88.5%
Graduate	10	3	38.5%	11.5%

VITA

Young-Joo Cha

yocha@indiana.edu / starcounty@gmail.com
(317) 777-8354
4400 Mobile Dr. # 317
Columbus, OH 43220
USA

Education

Master of Science in Human Computer Interaction, Expected graduation: Dec., 2006
School of Informatics, Indiana University Purdue University at Indianapolis (IUPUI)
Advisor: Anthony Faiola
Thesis:
Identifying cross-cultural differences of emoticons in computer-mediated communication:
A comparison of North American and South Korean emotional responses to emoticons

Master of Science in Information & Interface Design, Graduated in Feb., 2001
School of Information & Communication Technology, University of Ulsan
Ulsan, Republic of Korea
Advisor: Tae-Kyung Lee
Thesis: A study on shopping site design; How a shopping site design affects a customer's purchase decision (Dec., 2000)

Bachelor of Business Administration, Graduated in Feb., 1999
College of Humanities & Social Sciences, Kyungil University
Kyungsan, Republic of Korea

Experiences

Part-time Lecturer, School of General Education at Youngsan University
Yangsan, Republic of Korea
Lecture Title & Period**:** Introduction to Computer I (March ~ August , 2002)

Part-time Lecturer, Ulsan College
Ulsan, Republic of Korea
Lecture Title & Period: Internet Information Retrieval (June ~ July, 2002; Summer class)
Introduction to Excel (June ~ July, 2002; Summer class)
Practice of Data Processing (March ~ June, 2002)
Computer Information Communication (II) (August ~ February, 2001)
Web based Programming I (August ~ February, 2001)

Part-time Lecturer, Multimedia department at Choonhae College
Ulsan, Republic of Korea
Lecture Title & Period: Production of Digital Imagination (September ~ February, 2002)
Practice of CAD (September ~ February, 2002)

Part-time Lecturer, Kyungbuk Foreign Language Techno College
Kyungsan, Republic of Korea
Lecture Title & Period: Internet Basic (March ~ August, 2001)

Research Interests

Interface design for web applications and devices
Haptic interface design
Visual communication and web application design
Marketing in electronic commerce